STORMWATER DESIGN CALCULATIONS

PROPOSED WALMART
STORE NO. 3873-00

US 441/I-75
Alachua, Florida

Prepared for:
CITY OF ALACHUA, FLORIDA

June 18, 2010

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EXECUTIVE SUMMARY

INTRODUCTION

The proposed development is located in the City of Alachua in Alachua County, Florida. The 36.47 ac ± site is bounded to the west by Interstate 75, to the north by NW 158th Lane, U.S. Highway 441 and commercial development, to the south by undeveloped land, and to the east by currently-undeveloped land, a stormwater pond identified as "TK Basin" and residential areas. The site lies in Section 15/16, Township 8 South and Range 18 East. At this time, the site is undeveloped and used as pasture land. The project involves the construction of a Walmart Supercenter building, site access roads and associated stormwater facilities and infrastructure. For these calculations, "on-site area" will refer to land associated with the construction of the Walmart development (i.e., the entire Walmart-owned property, access roads and proposed stormwater facilities; "off-site area" will refer to the surrounding land that contributes stormwater runoff to the on-site area due to natural topography. The proposed access roads will eventually serve the adjacent undeveloped land as well.

Presently, stormwater runoff from on-site and off-site areas discharges to the U.S Highway 441 stormwater management system and the I-75 stormwater management system. A by-pass system is proposed to collect runoff from off-site areas and pipe it to the existing "TK Basin" or the U.S. Highway 441 stormwater management system. Limited portions of the proposed site will continue to sheet flow to the I-75 stormwater management system. Proposed site stormwater runoff will be collected through on-site inlets and piped into two (2) dry retention ponds. One (1) dry retention pond, Pond 1, will be located on the northern portion of the Walmart property; one (1) dry retention pond, Pond 2, will be located east of Pond 1 on property owned by The First Street Group. The proposed ponds will discharge runoff in excess of the required treatment volume to the U.S 441 stormwater system—all runoff discharged from the site will be less than pre-development rates and volumes.

EXISTING STORMWATER DRAINAGE FACILITIES

The site is undeveloped and covered predominantly by grass. Existing grades range from a high of 154 ft (at the southernmost off-site basin) to a low of 78 ft (along the northern edge of the site). Three (3) drainage basins are considered in the pre-development condition.

Two (2) boundaries will be modeled in the pre-development condition. Basin 1 drains north to the U.S. Highway 441 stormwater system, "Boundary North". Basin 2 drains west to the I-75 stormwater system, "Boundary West". Basin 3 drains to an existing depression area, "Depression 1", located near the northeast corner of the site adjacent to U.S. Highway 441. Stormwater discharging from Depression 1 enters the U.S. Highway 441 stormwater system. Both boundary conditions reach Mill Creek Sink located on the north side of US 441.

Please refer to Appendix D for node diagram information and Appendix E for drainage basin information.

Based on information taken from the SCS *Soil Survey for Alachua County, Florida* and the geotechnical report dated November 2009 provided by Universal Engineering Services, Inc. the on-site Walmart property is composed of approximately four (4) types of soils: Lochloosa fine sand, 2 to 5 percent slopes, Norfolk loamy fine sand, 2 to 5 percent slopes, Arredondo fine sand, 0 to 5 percent slopes, Millhopper sand, 5 to 8 percent slopes and Blichton sand, 2 to 5 percent slopes.
The sands are classified as soil Group C, B, A and D, respectively, in the AASHTO classification system. Please refer to the enclosed geotechnical soil report for additional soil details and boring/soil profile information.

STORMWATER MANAGEMENT SYSTEM DESIGN METHODOLOGY AND CRITERIA

Hydraulic soil characteristics have been used to develop runoff curve numbers by the methodology outlined in the SCS TR-55 publication. The times of concentration for the drainage basins were estimated by delineating flow characteristics as overland sheet flow, shallow concentrated flow or open channel flow in accordance with the accepted methods presented in the SCS TR-55 publication.

Per SRWMD requirements, the 100-year storm event with durations of 1, 2, 4, 8, 24, 72, 168 and 240 hours were applied using rainfall totals from the Suwannee River Water Management District Critical Duration Analysis for Alachua County information.

Runoff hydrographs were generated for each storm using the SCS Unit Hydrograph method; due to the steep topography of the site, a peak factor of 484 was used. All storm events were flood routed applying the continuity equation through the assistance of the Interconnected Channel and Pond Routing computer program (ICPR), version 3.10. Water quality requirements will be per SJRWMD permit information manual.

PROPOSED STORMWATER MANAGEMENT SYSTEM –FULL DEVELOPMENT

Eleven (11) drainage basins will be considered in the post-development condition as well as two (2) dry retention ponds. The peak post-development discharge rate must be less than or equal to the pre-development rate for each storm frequency. No increase in runoff volume over the pre-development runoff volume is permitted for each storm event.

Please refer to Appendix H for node diagram information and Appendix I for drainage basin information.

Basin 1A includes the off-site area directly south of the Walmart property that naturally flows north toward the rear of the proposed Walmart building. Runoff from Basin 1A will be conveyed via stormwater inlets and pipe to the existing TK Basin stormwater pond constructed by others (TK BASIN).

Basin 1B includes the majority of the Walmart development, a major portion of the proposed access roadway, the Walmart-owned Out Parcel 1 and the Park & Ride. Runoff from Basin 1B will be conveyed via storm pipe to Pond 1 for treatment and attenuation. Excess stormwater runoff is discharged via Drop Structure 1 to the US 441 stormwater system (BNDY NORTH).

Basins 2 & 3 include on-site area at the western Walmart property line. Due to natural and proposed grading, runoff from these pervious basins discharges directly into the existing I-75 stormwater system (BNDY WEST).

Basin 4A includes on-site area at the northern Walmart property line. Due to natural and proposed grading, runoff from this pervious basin discharges to the existing US 441stormwater system (BNDY NORTH).

Basin 4B includes on-site area at the northeast corner of the Walmart property as well as the limits of Pond 2, located east of the Walmart property. Runoff from these pervious areas will be treated and attenuated by Pond 2; excess runoff will be discharged via Drop Structure 2 to the US 441 stormwater system (BNDY NORTH).

Basins 5 & 6 include off-site area that naturally flows onto the proposed access roadway. Runoff from these pervious basins will be collected and conveyed to the TK Basin stormwater pond (TK BASIN).

Basin 7 includes the northern portion of the proposed access roadway. This area cannot be conveyed to Pond 1 due to grade restrictions; as a result, this area is conveyed to Pond 2 for

treatment and attenuation. Excess runoff will be discharged via Drop Structure 2 to the US 441 stormwater system (BNDY NORTH).

Basin 8 includes off-site area that naturally flows onto the proposed access roadway. Runoff from this pervious basin will be collected and conveyed to the US 441 stormwater system (BNDY NORTH).

Basin 9 includes the easternmost portion of the proposed access roadway and the area directly to the south. Runoff from this basin is conveyed to the TK Basin stormwater pond (TK BASIN).

Pond 1 is proposed at the north end of the Walmart property. Pond 1 will have a bottom elevation of 80.0 feet and a top berm elevation of 86.0 feet. Pond 2 is proposed east of the Walmart property and will have a bottom elevation of 71.0 feet and a top berm elevation of 79.0 feet. The TK Basin stormwater pond has been constructed by others east of the development and will eventually serve development adjacent to the Walmart property.

The proposed ponds' top and bottom elevations are as follows:

Pond	Top Elevation (ft)	Bottom Elevation (ft)
Pond 1	86.0	80.0
Pond 2	79.0	71.0

The proposed Drop Structures summary is as follows:

Proposed Drop Structure 1 – Connecting Pond 1 to Bndy North
Type H inlet; Control Elevation: 84.0
One (1) 24 in. weir; Elevation: 83.0

Proposed Drop Structure 2 – Connecting Pond 2 to Bndy North
Type E inlet; Control Elevation: 78.0
One (1) 24 in. weir; Elevation: 77.5

HYDROLOGIC CALCULATIONS
PRE-DEVELOPMENT

PRE-DEVELOPMENT DRAINAGE BASIN CHARACTERISTICS

The project includes three (3) pre-development drainage basins.

The basins are summarized below:

Table 1: Pre-Development Drainage Basin Area Summary

Basin	Area (ac)	Impervious Area (ac)	DCIA (%)	T_c (min)	CN
1	38.13	0.00	0.0	53.34	51
2	3.72	0.00	0.0	38.33	68
3	17.84	0.41	2.3	49.30	39
Total	59.69	0.41	--	--	

Please refer to Appendix F "Pre-Development adICPR Modeling Input" and Appendix G "Pre-Development adICPR Modeling Output" for computer modeling information.

PRE-DEVELOPMENT TIME OF CONCENTRATION DETERMINATION

Sheet, shallow and open channel flow equations were used to determine the time of concentration. Runoff from Basin 1 after leaving the site enters a swale before sheet flowing over a paved parking area to the U.S. 441 stormwater system--a minimum ten (10) minute time of concentration is included to account for this situation.

Sheet Flow:

$$T_c = \frac{0.007(nxL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

Where T_c = Time of concentration in hours

L = The distance traveled in feet

s = The slope of the hydraulic grade line (land slope)

P_2 = The 2 year 24 hour rainfall volume in inches

n = The roughness coefficient as provided in Table 3.1 of SCS TR-55

Shallow Concentrated Flow:

$$T_c = \frac{L}{(16.1345)s^{0.5}}$$

Where T_c = Time of concentration in seconds

L = The distance traveled in feet

s = The slope of the hydraulic grade line (land slope)

Open Channel Flow:

$$T_c = \frac{L}{60 * V}$$

Where: T_c = Time of concentration in minutes

L = The distance traveled in feet

V = average velocity in ft/sec.

The average velocity is determined by using Manning's equation,

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Where: r = hydraulic radius (ft) and is equal to a/p_w

a = cross sectional flow area (ft^2)

p_w = wetted perimeter (ft)

s= slope of the hydraulic grade line (channel slope, ft/ft)

n= Manning's roughness coefficient for open channel flow

The following tables summarize the time of concentration calculations for all three (3) Basins.

Table 2A: Pre-Development Basin 1					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.005	4.7	33.90
Shallow Concentrated Flow					
2	140	0.15	0.021	4.7	0.99
3	200	0.15	0.055	4.7	0.88
4	350	0.15	0.071	4.7	1.35
5	250	0.15	0.056	4.7	1.09
6	540	0.15	0.035	4.7	2.97
7	120	0.15	0.033	4.7	0.68
8	40	0.15	0.075	4.7	0.15
Open Channel Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
9	180	0.02	0.004	2.25	1.33
Minimum Sheet Flow (Parking Lot)					
10	---	---	---	---	10.00
Total					**53.34**

Table 2B: Pre Development Basin 2					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	150	0.15	0.013	4.7	13.29
2	150	0.15	0.007	4.7	17.02
Shallow Concentrated Flow					
3	350	0.15	0.013	4.7	3.93
4	70	0.15	0.018	4.7	0.42
5	130	0.15	0.032	4.7	1.07
6	185	0.15	0.005	4.7	2.60
Total					**38.33**

Table 2C: Pre Development Basin 3					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.003	4.7	39.87
Shallow Concentrated Flow					
2	490	0.15	0.016	4.7	1.56
3	300	0.15	0.057	4.7	1.30
4	1200	0.15	0.048	4.7	5.64
5	170	0.15	0.035	4.7	0.93
Total					**49.30**

PRE-DEVELOPMENT CURVE NUMBER DETERMINATION

Based on information taken from the SCS *Soil Survey for Alachua County, Florida* and the geotechnical report dated November 2009 provided by Universal Engineering Services, Inc. the on-site Walmart property is composed of approximately four (4) types of soils: Lochloosa fine sand, 2 to 5 percent slopes, Norfolk loamy fine sand, 2 to 5 percent slopes, Arredondo fine sand, 0 to 5 percent slopes, Millhopper sand, 5 to 8 percent slopes and Blichton sand, 2 to 5 percent slopes.

The remaining site area, based on information taken from the SCS *Soil Survey for Alachua County, Florida*, is composed of approximately seven (7) types of soils: Arredondo fine sand, 0 to 5 percent slopes, Arredondo-Urban land complex, 0 to 5 percent slopes, Millhopper sand, 5 to 8 percent slopes, Lochloosa fine sand, 5 to 8 percent slopes, Kendrick sand, 5 to 8 percent slopes, Norfolk loamy fine sand, 5 to 8 percent slopes and Gainesville.

Composite curve numbers were determined for each basin based on the HSG classification as follows:

Table 3A: Pre-Development Basin 1 CN Determination

Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Arredondo fine sand, 0 to 5 % slopes	A	39	0.74	28.86
Arredondo-Urban land complex, 0 to 5 % slopes	A	39	2.60	101.40
Millhopper sand, 0 to 5 % slopes	A	39	4.97	193.83
Millhopper sand, 5 to 8 % slopes	A	39	5.85	228.15
Lochloosa fine sand, 5 to 8 % slopes	C	74	5.88	435.12
Kendrick sand, 5 to 8 % slopes	A	39	2.23	86.97
Norfolk loamy fine sand, 2 to 5 % slopes	B	61	4.69	286.09
Norfolk loamy fine sand, 5 to 8 % slopes	B	61	6.71	409.31
Gainesville	A	39	4.46	173.94

Composite CN = $\frac{\text{Total Product}}{\text{Total Area}} = \frac{1943.7}{38.13} = 51.0$; Use CN = **51**

Table 3B: Pre-Development Basin 2 CN Determination

Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Lochloosa fine sand, 2 to 5 % slopes	C	74	1.74	128.76
Blichton sand, 2 to 5 % slopes	D	80	0.18	14.40
Norfolk loamy fine sand, 5 to 8 % slopes	B	61	1.80	109.80

Composite CN = $\frac{\text{Total Product}}{\text{Total Area}} = \frac{253.0}{3.72} = 68.0$; Use CN = **68**

Table 3C: Pre-Development Basin 3 CN Determination				
Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Arredondo fine sand, 0 to 5 % slopes	A	39	6.92	269.88
Arredondo-Urban land complex, 0 to 5 % slopes	A	39	1.33	51.87
Millhopper sand, 0 to 5 % slopes	A	39	0.78	30.42
Millhopper sand, 5 to 8 % slopes	A	39	1.11	43.29
Kendrick sand, 5 to 8 % slopes	A	39	3.24	126.36
Gainesville	A	39	4.46	173.94

Composite CN = $\frac{\text{Total Product}}{\text{Total Area}} = \frac{695.7}{17.84} = 39.0$; Use CN = **39**

PRE-DEVELOPMENT SUMMARY

Table 4A: Pre-Development Maximum Runoff Rates (cfs)		
Boundary	Storm	Rate (cfs)
NORTH	100-year 1-hour	17.698
NORTH	100-year 2-hour	31.313
NORTH	100-year 4-hour	46.734
NORTH	100-year 8-hour	68.338
NORTH	100-year 24-hour	102.324
NORTH	100-year 72-hour	85.863
NORTH	100-year 168-hour	56.560
NORTH	100-year 240-hour	49.157
WEST	100-year 1-hour	7.675
WEST	100-year 2-hour	9.803
WEST	100-year 4-hour	12.545
WEST	100-year 8-hour	14.055
WEST	100-year 24-hour	14.804
WEST	100-year 72-hour	9.808
WEST	100-year 168-hour	5.508
WEST	100-year 240-hour	4.475

Table 4B: Pre-Development Maximum Volumes (ac-ft)		
Boundary	Storm	Volume (ac-ft)
NORTH	100-year 1-hour	0.3
NORTH	100-year 2-hour	1.7
NORTH	100-year 4-hour	4.9
NORTH	100-year 8-hour	8.5
NORTH	100-year 24-hour	17.7
NORTH	100-year 72-hour	27.0
NORTH	100-year 168-hour	35.0
NORTH	100-year 240-hour	42.6
WEST	100-year 1-hour	0.2
WEST	100-year 2-hour	0.5
WEST	100-year 4-hour	0.9
WEST	100-year 8-hour	1.3
WEST	100-year 24-hour	2.1
WEST	100-year 72-hour	2.9
WEST	100-year 168-hour	3.5
WEST	100-year 240-hour	4.1

HYDROLOGIC CALCULATIONS
POST-DEVELOPMENT

POST-DEVELOPMENT DRAINAGE BASIN CHARACTERISTICS

The project includes eleven (11) post-development drainage basins.

The basins are summarized below:

Table 5: Post-Development Drainage Basin Area Summary

Basin	Area (ac)	Impervious Area (ac)	DCIA (%)	T_c (min)	CN
1A	5.48	0.00	0.0	41.75	49
1B	32.66	18.86	57.7	10.00	39
2	0.11	0.00	0.0	10.00	39
3	0.59	0.00	0.0	10.00	39
4A	0.97	0.00	0.0	16.62	39
4B	1.11	0.00	0.0	10.00	39
5	5.90	0.00	0.0	17.78	41
6	6.29	0.00	0.0	25.95	39
7	1.57	1.19	75.8	10.00	39
8	1.37	0.00	0.0	21.29	39
9	2.55	0.37	14.5	10.00	39
Total	58.60	20.42			

Please refer to Appendix J "Post-Development adICPR Modeling Input" and Appendix K "Post-Development adICPR Modeling Output" for computer modeling information.

POST-DEVELOPMENT TIME OF CONCENTRATION

The post-development on-site area has been modeled as fully developed. The minimum allowed time of concentration of ten (10) minutes has been used for Basin 1B, Basin 2, Basin 3, Basin 4B, and Basin 7.

The off-site portions of Basin 1A, Basin 4A, Basin 5, Basin 6, Basin 8 and Basin 9 will remain undeveloped, therefore sheet, shallow, pipe and open channel flow equations were used to determine the time of concentration.

Sheet Flow:

$$T_c = \frac{0.007(nxL)^{0.8}}{(P_2)^{0.5} s^{0.4}}$$

Where T_c = Time of concentration in hours

L = The distance traveled in feet

s = The slope of the hydraulic grade line (land slope)

P_2 = The 2 year 24 hour rainfall volume in inches

n = The roughness coefficient as provided in Table 3.1 of SCS TR-55

Shallow Concentrated Flow:

$$T_c = \frac{L}{(16.1345)s^{0.5}}$$

Where T_c = Time of concentration in seconds

L = The distance traveled in feet

s = The slope of the hydraulic grade line (land slope)

Pipe Flow:

$$T_c = \frac{L}{60 * V}$$

Where T_c = Time of concentration in hours

L = The distance traveled in feet

V = Average velocity in ft/s (where the travel time is based on a flow velocity of 5 ft/s)

Open Channel Flow:

$$T_c = \frac{L}{60 * V}$$

Where T_c = Time of concentration in minutes

L = The distance traveled in feet

V = average velocity in ft/sec.

The average velocity is determined by using Manning's equation,

$$V = \frac{1.49 r^{2/3} s^{1/2}}{n}$$

Where: r = hydraulic radius (ft) and is equal to a/p_w

a = cross sectional flow area (ft^2)

p_w = wetted perimeter (ft)

s= slope of the hydraulic grade line (channel slope, ft/ft)

n= Manning's roughness coefficient for open channel flow

The following tables summarize the time of concentration calculations:

Table 6A: Post-Development Basin 1A					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.006	4.7	30.21
Shallow Concentrated Flow					
2	250	0.15	0.028	4.7	1.54
Pipe Flow					
4	Minimum				10.00
Total					**41.75**

Table 6B: Post-Development Basin 4A					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	120	0.15	0.083	4.7	5.29
Open Channel Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
4	180	0.02	0.004	2.25	1.33
Minimum Sheet Flow (Parking Lot)					
5	---	---	---	---	10.00
Total					**16.62**

Table 6C: Post-Development Basin 5					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.033	4.7	15.87
Shallow Concentrated Flow					
2	180	0.15	0.028	4.7	1.12
Pipe Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
3	238	-	-	5	0.79
Total					**17.78**

Table 6D: Post-Development Basin 6					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.017	4.7	20.94
Shallow Concentrated Flow					
2	800	0.15	0.065	4.7	3.24
Pipe Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
3	531	-	-	5	1.77
Total					**25.95**

Table 6E: Post-Development Basin 8					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.020	4.7	19.47
Shallow Concentrated Flow					
2	80	0.15	0.009	4.7	0.52
Pipe Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
3	391	-	-	5	1.30
Total					**21.29**

Table 6F: Post-Development Basin 9					
Section	**Length (ft)**	**N**	**Slope**	**P_2 (in.)**	**T_c (min.)**
Sheet Flow					
1	300	0.15	0.053	4.7	13.15
Shallow Concentrated Flow					
2	65	0.15	0.031	4.7	0.38
Pipe Flow					
Section	**Length (ft)**	**N**	**Slope**	**Velocity (ft/s)**	**T_c (min.)**
3	391	-	-	5	0.62
Total					**14.15**

POST-DEVELOPMENT CURVE NUMBER DETERMINATION

Based on information taken from the SCS *Soil Survey for Alachua County, Florida* and the geotechnical report dated November 2009 provided by Universal Engineering Services, Inc. the on-site Walmart property is composed of approximately four (4) types of soils: Lochloosa fine sand, 2 to 5 percent slopes, Norfolk loamy fine sand, 2 to 5 percent slopes, Arredondo fine sand, 0 to 5 percent slopes, Millhopper sand, 5 to 8 percent slopes and Blichton sand, 2 to 5 percent slopes.

The remaining site area, based on information taken from the SCS *Soil Survey for Alachua County, Florida*, is composed of approximately seven (7) types of soils: Arredondo fine sand, 0 to 5 percent slopes, Arredondo-Urban land complex, 0 to 5 percent slopes, Millhopper sand, 5 to 8 percent slopes, Lochloosa fine sand, 5 to 8 percent slopes, Kendrick sand, 5 to 8 percent slopes, Norfolk loamy fine sand, 5 to 8 percent slopes and Gainesville.

In the post-developed condition, the on-site area will be considered open space in good condition (grass cover > 75%). From SCS TR-55, a curve number (CN) of 39 is assigned to open space, in good condition, with a hydrologic classification of A. Basin 1B, Basin 2, Basin 3, Basin 4A, Basin 4B, and Basin 7 are each assigned a CN of 39.

Basin 1A, Basin 5, Basin 6, Basin 8, and Basin 9 each contain undeveloped, off-site areas. The on-site, developed, pervious areas of each basin are considered open space, in good condition and are assigned a CN of 39. Composite CN's were determined for each of these basins to account for the undeveloped areas.

Composite CNs were determined for each basin based on the HSG classification as follows:

Table 7A: Post-Development Basin 1A CN Determination

Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Millhopper sand, 0 to 5 % slopes	A	39	3.85	150.15
Lochloosa fine sand, 5 to 8 % slopes	C	74	1.63	120.62

Composite CN = $\frac{\text{Total Product}}{\text{Total Area}} = \frac{270.8}{5.48} = 49.4$; Use CN = **49**

Table 7B: Post-Development Basin 5 CN Determination

Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Open Space	A	39	1.23	47.97
Arredondo fine sand, 0 to 5 % slopes	A	39	2.87	111.93
Millhopper sand, 5 to 8 % slopes	A	39	1.04	40.56
Kendrick sand, 5 to 8 % slopes	A	39	0.11	4.29
Norfolk loamy fine sand, 2 to 5 % slopes	B	61	0.65	39.65

Composite CN = $\frac{\text{Total Product}}{\text{Total Area}} = \frac{244.4}{5.90} = 41.4$; Use CN = **41**

Table 7C: Post-Development Basin 6 CN Determination				
Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Open Space	A	39	0.53	20.67
Arredondo fine sand, 0 to 5 % slopes	A	39	1.60	62.40
Millhopper sand, 5 to 8 % slopes	A	39	1.96	76.44
Kendrick sand, 5 to 8 % slopes	A	39	2.20	85.80

Composite CN = Total Product = 245.3= 39.0; Use CN = **39**
Total Area 6.29

Table 7D: Post-Development Basin 8 CN Determination				
Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Open Space	A	39	0.25	9.75
Arredondo fine sand, 0 to 5 % slopes	A	39	1.12	43.68

Composite CN = Total Product = 53.4 = 39.0; Use CN = **39**
Total Area 1.37

Table 7E: Post-Development Basin 9 CN Determination				
Name	HSG Class.	CN	Area (ac.)	Product (ac.)
Arredondo fine sand, 0 to 5 % slopes	A	39	2.18	85.02

Composite CN = Total Product = 85.0 = 39.0; Use CN = **39**
Total Area 2.18

POST-DEVELOPMENT SUMMARY

Table 8A: Post-Development Maximum Runoff Rates (cfs)		
Boundary	Storm	Rate (cfs)
NORTH	100-year 1-hour	0.441
NORTH	100-year 2-hour	0.797
NORTH	100-year 4-hour	1.633
NORTH	100-year 8-hour	2.595
NORTH	100-year 24-hour	4.092
NORTH	100-year 72-hour	4.822
NORTH	100-year 168-hour	6.873
NORTH	100-year 240-hour	12.673
WEST	100-year 1-hour	0.147
WEST	100-year 2-hour	0.295
WEST	100-year 4-hour	0.687
WEST	100-year 8-hour	1.022
WEST	100-year 24-hour	1.458
WEST	100-year 72-hour	1.004
WEST	100-year 168-hour	0.596
WEST	100-year 240-hour	0.520

Table 8B: Post-Development Maximum Volumes (ac-ft)		
Boundary	Storm	Volume (ac-ft)
NORTH	100-year 1-hour	0.0
NORTH	100-year 2-hour	0.0
NORTH	100-year 4-hour	0.1
NORTH	100-year 8-hour	0.2
NORTH	100-year 24-hour	2.5
NORTH	100-year 72-hour	10.6
NORTH	100-year 168-hour	17.5
NORTH	100-year 240-hour	23.1
WEST	100-year 1-hour	0.0
WEST	100-year 2-hour	0.0
WEST	100-year 4-hour	0.0
WEST	100-year 8-hour	0.1
WEST	100-year 24-hour	0.2
WEST	100-year 72-hour	0.3
WEST	100-year 168-hour	0.3
WEST	100-year 240-hour	0.4

Table 8C: Post-Development Maximum Pond Stages (ft)		
Pond	Storm	Max Stage (ft)
1	100-year 240-hour	84.14
2	100-year 240-hour	77.94

Pond 1 provides 1.86 feet of freeboard at the maximum design stage.

Pond 2 provides 1.06 feet of freeboard at the maximum design stage.

STORMWATER QUANTITY TREATMENT/ FLOOD ROUTING

STORM WATER QUANTITY TREATMENT / FLOOD ROUTING

Table 9A: Maximum Runoff Rate Comparison (cfs)			
Boundary	Storm	Pre-Development Rate (cfs)	Post-Development Rate (cfs)
NORTH	100-year 1-hour	17.698	0.441
NORTH	100-year 2-hour	31.313	0.797
NORTH	100-year 4-hour	46.734	1.633
NORTH	100-year 8-hour	68.338	2.595
NORTH	100-year 24-hour	102.324	4.092
NORTH	100-year 72-hour	85.863	4.822
NORTH	100-year 168-hour	56.560	6.873
NORTH	100-year 240-hour	49.157	12.673
WEST	100-year 1-hour	7.675	0.147
WEST	100-year 2-hour	9.803	0.295
WEST	100-year 4-hour	12.545	0.687
WEST	100-year 8-hour	14.055	1.022
WEST	100-year 24-hour	14.804	1.458
WEST	100-year 72-hour	9.808	1.004
WEST	100-year 168-hour	5.508	0.596
WEST	100-year 240-hour	4.475	0.520

Table 9B: Maximum Volume Comparison (ac-ft)			
Boundary	Storm	Pre-Development Volume (ac-ft)	Post-Development Volume (ac-ft)
NORTH	100-year 1-hour	0.3	0.0
NORTH	100-year 2-hour	1.7	0.0
NORTH	100-year 4-hour	4.9	0.1
NORTH	100-year 8-hour	8.5	0.2
NORTH	100-year 24-hour	17.7	2.5
NORTH	100-year 72-hour	27.0	10.6
NORTH	100-year 168-hour	35.0	17.5
NORTH	100-year 240-hour	42.6	23.1
WEST	100-year 1-hour	0.2	0.0
WEST	100-year 2-hour	0.5	0.0
WEST	100-year 4-hour	0.9	0.0
WEST	100-year 8-hour	1.3	0.1
WEST	100-year 24-hour	2.1	0.2
WEST	100-year 72-hour	2.9	0.3
WEST	100-year 168-hour	3.5	0.3
WEST	100-year 240-hour	4.1	0.4

STORMWATER QUALITY TREATMENT

WATER QUALITY VOLUME

The proposed storm water system will have two (2) retention ponds for runoff treatment. For surface water management systems, SRWMD defines the design treatment volume for projects in a stream-to-sink watershed, as the first two (2) inches of runoff from the design storm. Basin 1B contributes runoff to Pond 1. Basin 4B and Basin 7 contribute runoff to Pond 2. Both, Pond 1 and Pond 2 discharge to the U.S 441 stormwater system. Water quality volume calculations and results are summarized as follows:

Pond 1:

Table 10A: Pond 1 - Required Water Quality Volume			
	Area (ac.)	**Requirement (in.)**	**Volume (cf.)**
Basin 1B	32.66	2	237,112
Total	32.66	--	**237,112**

Pond 1 provides the following volume at weir elevation 83.0 feet:

Table 10B: Pond 1 - Provided Water Quality Volume				
Stage (ft)	**Area (sf)**	**Volume (cf)**	**Cum. Vol. (cf)**	**Cum. Vol. (ac-ft)**
80	204,679.4	0	0	0.00
81	213,436.5	209,058	209,058	4.80
82	222,301.7	217,869	426,927	9.80
83	231,271.3	226,787	**653,714**	**15.01**
84	240,341.6	235,806	889,520	20.42
85	249,514.4	184,556	1,134,448	26.04
86	258,788.9	254,152	1,388,600	31.88

The total water quality volume provided at the weir elevation is **653,714 cf (15.01 ac-ft)**. This is an additional 416,602 cf of water quality volume that will be provided by Pond 1.

Pond 2:

Table 11A: Pond 2 - Required Water Quality Volume			
	Area (ac.)	**Requirement (in.)**	**Volume (cf.)**
Basin 4B	1.11	2	8,059
Basin 7	1.57	2	11,398
Total	2.68	--	**19,457**

Pond 2 provides the following volume at weir elevation 77.5 feet:

Table 11B: Pond 2 - Provided Water Quality Volume				
Stage (ft)	**Area (sf)**	**Volume (cf)**	**Cum. Vol. (cf)**	**Cum. Vol. (ac-ft)**
71	3,725	0	0	0.00
72	4,848	4,287	4,287	0.10
73	6,072	5,460	9,747	0.22
74	7,397	6,734	16,481	0.38
75	8,822	8,109	24,591	0.56
76	10,347	9,584	34,175	0.78
77	11,973	11,160	45,335	1.04
77.50	12,837	6,202	**51,537**	**1.18**
78	13,700	6,634	58,171	1.34
79	15,527	14,613	72,785	1.67

The total water quality volume provided at the weir elevation is **51,537 cf (1.18 ac-ft)**. This is an additional 32,080 cf of water quality volume that will be provided by Pond 2.

POND RECOVERY

POND ANALYSIS & RECOVERY

For retention systems, SRWMD requires that the total treatment volume be fully recovered within 72 hours following the end of the design storm event (100-year critical duration). Also, storage volumes designed into retention systems to meet SRWMD water quality requirements must be available as follows:

1) One-half of the total volume within seven (7) days following the end of the design storm event
2) The total volume within thirty (30) days following the end of the design storm event

Based on the information in the geotechnical report provided by Universal Engineering Sciences, Inc., a recovery analysis has been performed for Pond 1 and Pond 2.

A horizontal conductivity rate (K_h) of 6.0 ft/day has been recommended by the geotechnical engineer for the Pond 1 area. Due to the close proximity to Pond 1 and well-draining soils present in the Pond 2 area, a horizontal conductivity rate (K_h) of 6.0 ft/day has been used for the Pond 2 area as well.

The attached recovery analyses for the proposed ponds are summarized as follows:

	Required Treatment Vol. (cf)	Recovery Time (hrs)
Pond 1	237,112	24
Pond 2	19,457	6

Pond 1 will recover the treatment volume of 237,112 cubic feet within 24 hours.

Pond 2 will recover the treatment volume of 19,457 cubic feet within 6 hours.

	½ Total Max Design Stage Vol. (cf)	Recovery Time (hrs)
Pond 1	461,905	72
Pond 2	28,701	24

Pond 1 will recover one-half of the total maximum design stage volume of 461,905 cubic feet within 3 days.

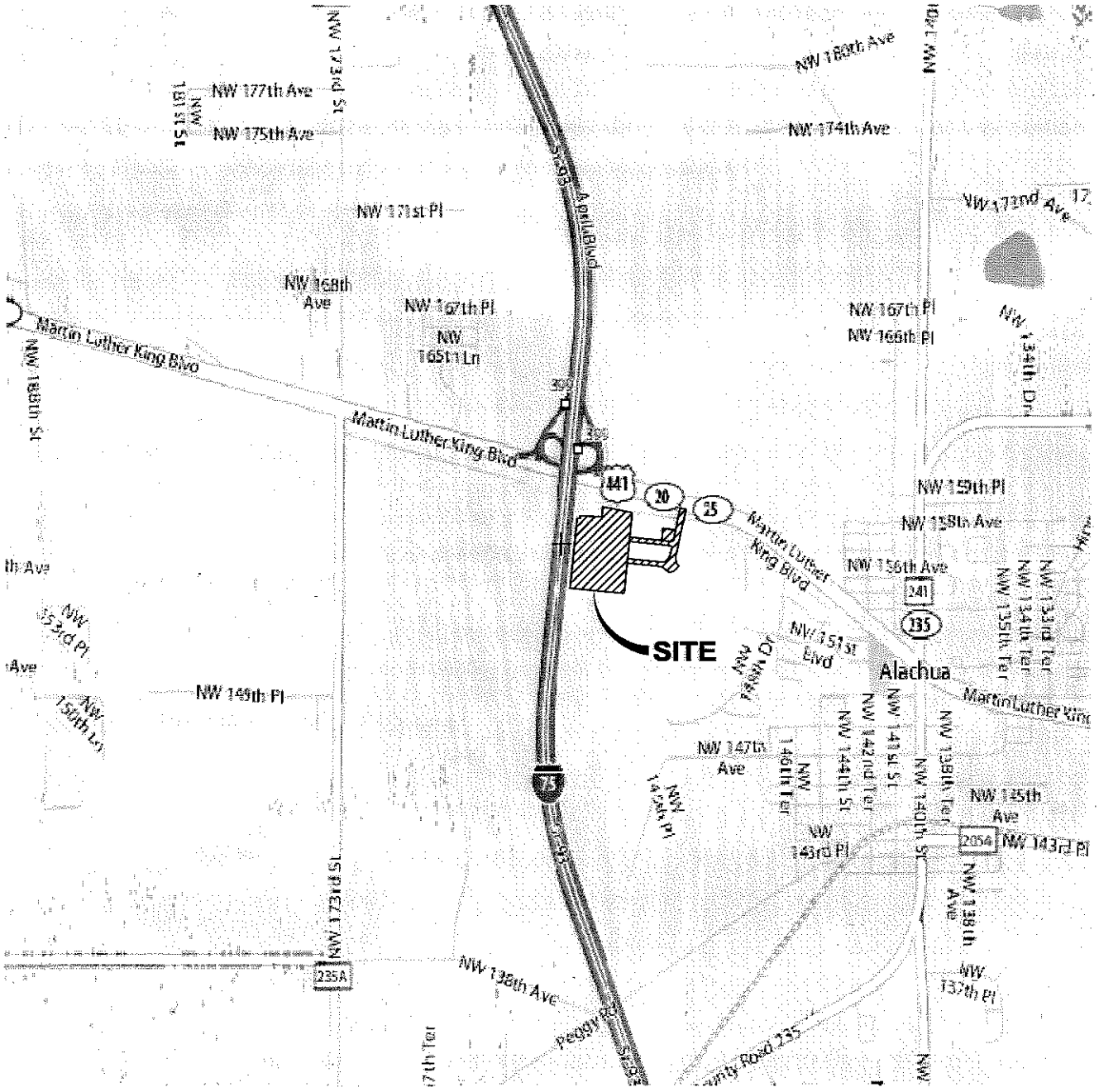
Pond 2 will recover one-half of the total maximum design stage volume of 28,701 cubic feet within 1 day.

	Total Max Design Stage Vol. (cf)	Recovery Time (hrs)
Pond 1	923,810	240
Pond 2	57,401	60

Pond 1 will recover the total maximum design volume of 923,810 cubic feet within 10 days.

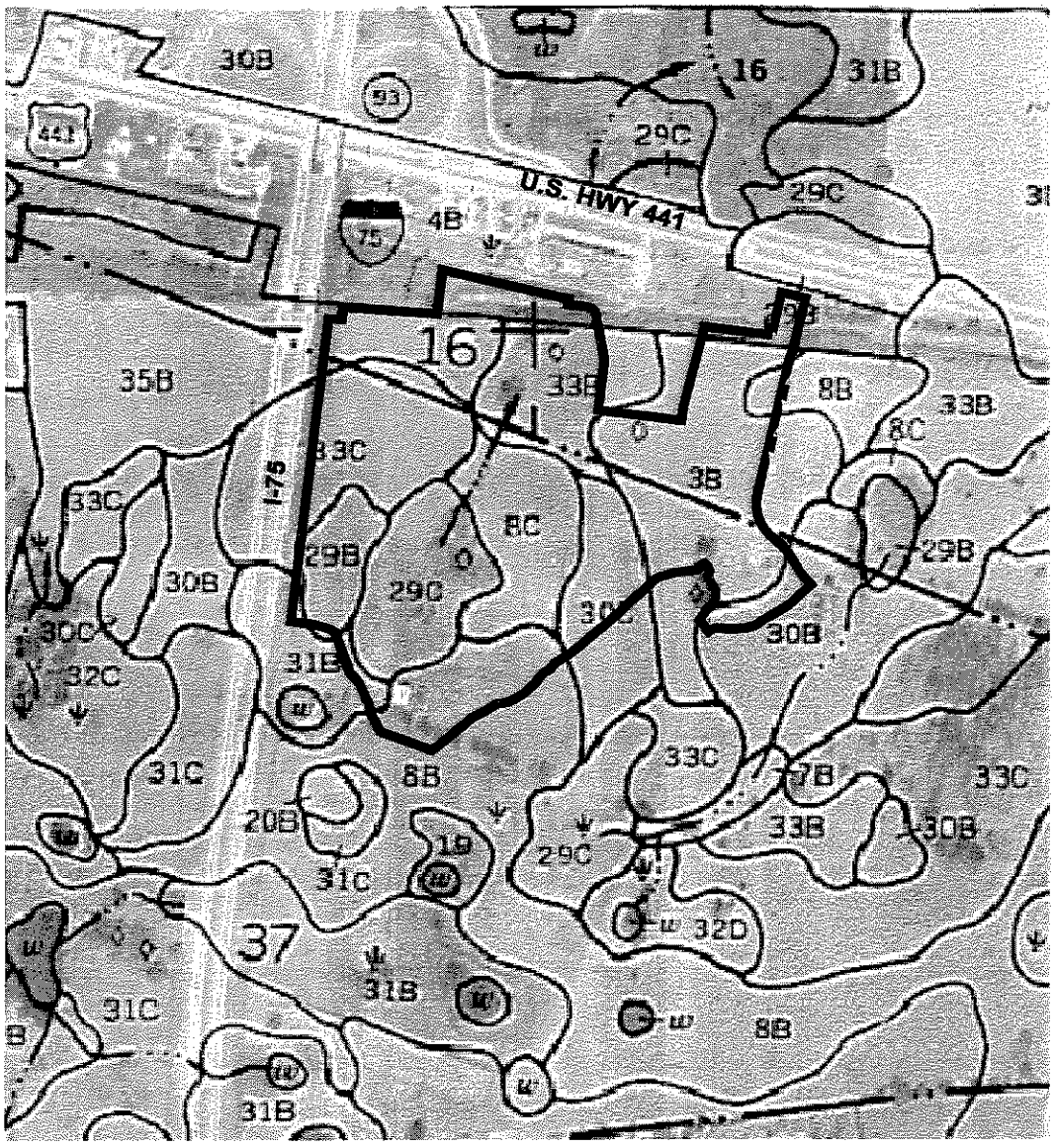
Pond 2 will recover the total maximum design volume of 57,401 cubic feet within 2.5 days.

APPENDIX A
SITE LOCATION MAP



cph	*Engineers Architects Surveyors* *Planners Landscape Architects* *Environmental Scientists* *Construction Management* *Design / Build* *500 West Fulton Street* *Sanford, FL 32771* *Phone: 407.322.6841* *Fax: 407.330.0639*	Date: 6/18/10 Job No. W13392.1 Scale: 1" = 3,000' File: VICINITY MAP *Certificate of Authorization No. 3215*	**VICINITY MAP** Walmart STORE NO. 3873-00, ALACHUA, FLORIDA	**EXHIBIT A** © 2010

APPENDIX B
SCS SOILS MAP



N

cph

SOILS TYPE LEGEND

3B	Arredondo fine sand, 0 to 5 % slopes
4B	Arredondo-Urban land complex, 0 to 5 % slopes
8B	Millhopper sand, 0 to 5 % slopes
8C	Millhopper sand, 5 to 8 % slopes
29B	Lochloosa fine sand, 2 to 5 % slopes
29C	Lochloosa fine sand, 5 to 8 % slopes
30C	Kendrick sand, 5 to 8 % slopes
31B	Blichton sand, 2 to 5 % slopes
33B	Norfolk loamy fine sand, 2 to 5 % slopes
33C	Norfolk loamy fine sand, 5 to 8 % slopes
35B	Gainesville

cph
Engineers Architects Surveyors
Planners Landscape Architects
Environmental Scientists
Construction Management
Design / Build
500 West Fulton Street
Sanford, FL 32771
Phone: 407.322.6841
Fax: 407.330.0639

Date: 6/18/10
Job No. W13392.1
Scale: 1" = 750'
File: VICINITY MAP
Certificate of Authorization No. 3215

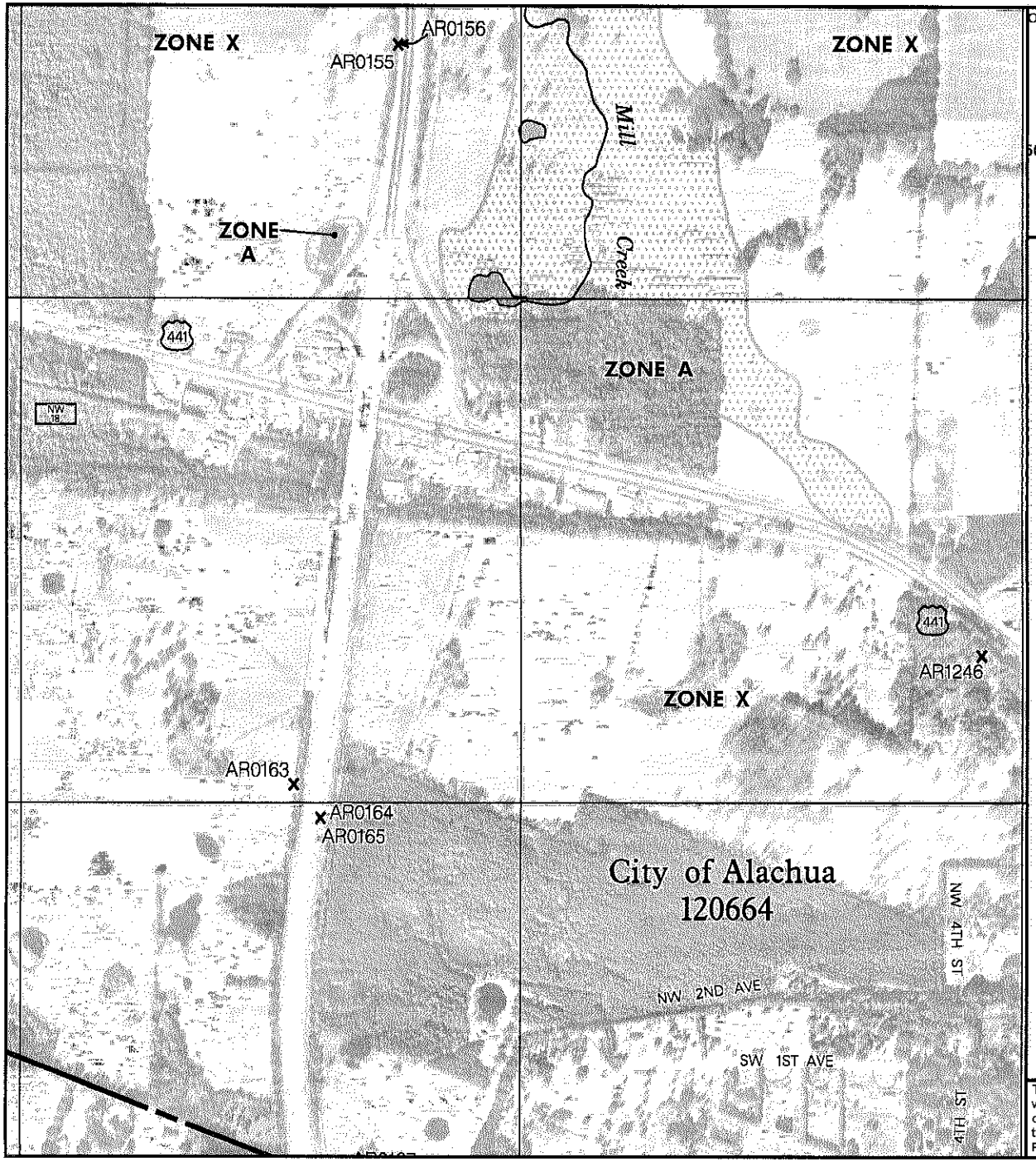
SOILS MAP

Walmart

STORE NO. 3873-00, ALACHUA, FLORIDA

EXHIBIT B

APPENDIX C
FLOOD INSURANCE RATE MAP



onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 1000'

500 0 1000 2000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0120D

FIRM

FLOOD INSURANCE RATE MAP

ALACHUA COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 120 OF 640

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALACHUA, CITY OF	120664	0120	D
ALACHUA COUNTY	120001	0120	D
HIGH SPRINGS, CITY OF	120669	0120	D

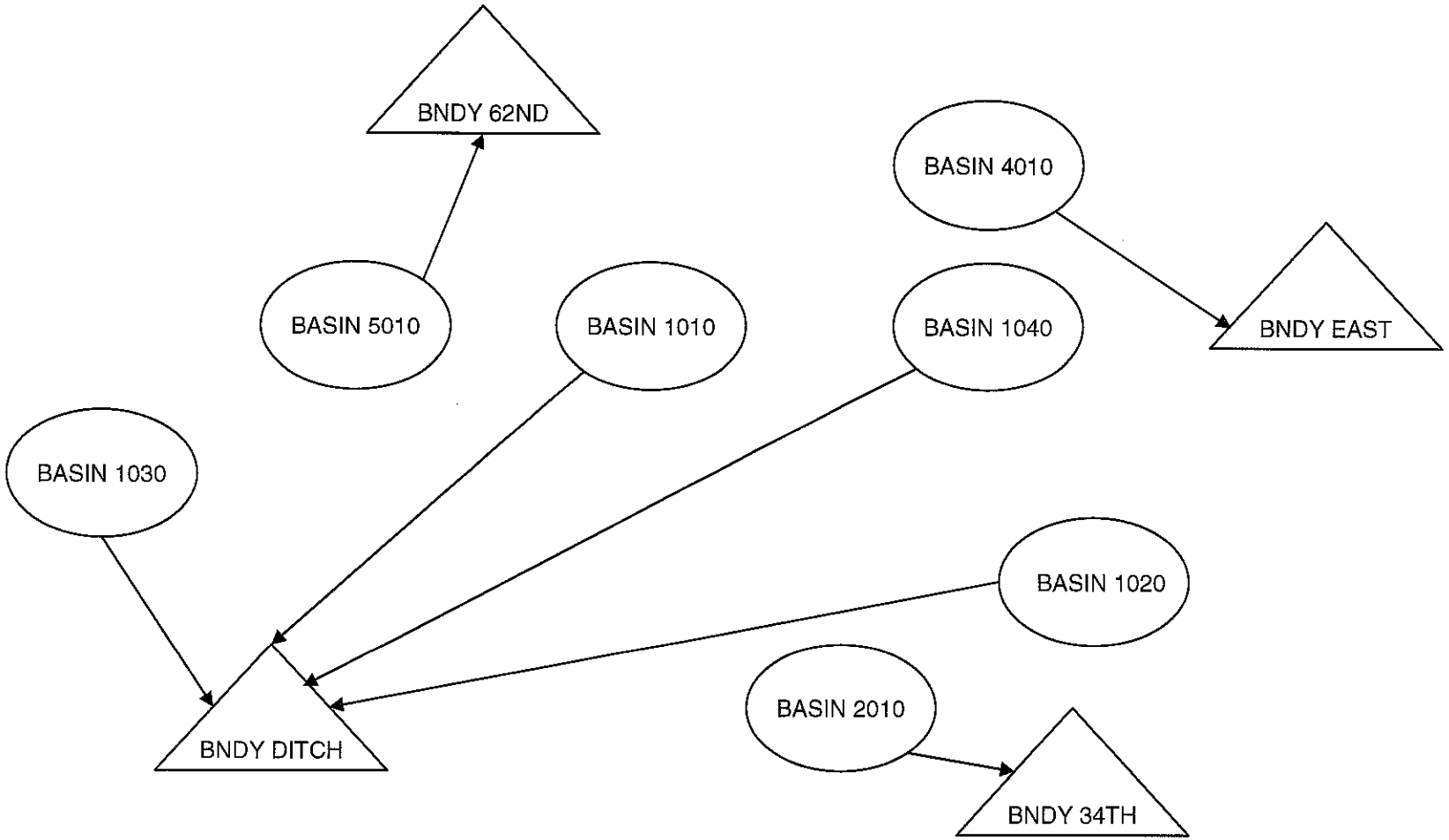
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12001C0120D

EFFECTIVE DATE
JUNE 16, 2006

Federal Emergency Management Agency

APPENDIX D
PRE-DEVELOPMENT NODE DIAGRAM



PRE-DEVELOPMENT NODE DIAGRAM

APPENDIX E
PRE-DEVELOPMENT DRAINAGE BASIN MAP

INTERSTATE HWY. NO. 75

BASIN 2
3.72 Ac.

TC ROUTE 2

BASIN 1
38.13 Ac.

TC ROUTE 1

TC ROUTE 3

BASIN 3
17.84 Ac.

U.S. HWY. NO. 441

N

cph

500 West Fulton Street
Sanford, Florida 32771
P. O. Box 2868
Sanford, Florida 32772-2868
Phone 407 322-4441
Fax 407 320-0839

Certificate of
Authorization No. 3215
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Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction
Management
Design / Build

No	Date	Revision	By

Designed by:	J.B.
Drawn by:	N.J.H.
Checked by:	G.D.T.
Approved by:	H.L.W.
Scale:	1"=100'
Date:	6/16/10
Job No:	W15302
File:	Jwalmaala

PRE-DEVELOPMENT DRAINAGE BASIN MAP

Walmart

STORE NO. 3972-00, ALACHUA (SEC I-75 HWY 441), FLORIDA

APPENDIX F
PRE-DEVELOPMENT adICPR MODELING INPUT

==== Basins ====

Name: BASIN 1 | Node: BNDY NORTH | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 | Peaking Factor: 484.0
Rainfall File: Flmod | Storm Duration(hrs): 24.00
Rainfall Amount(in): 11.040 | Time of Conc(min): 53.30
Area(ac): 38.130 | Time Shift(hrs): 0.00
Curve Number: 51.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN 2 | Node: BNDY WEST | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 | Peaking Factor: 484.0
Rainfall File: Flmod | Storm Duration(hrs): 24.00
Rainfall Amount(in): 11.040 | Time of Conc(min): 38.30
Area(ac): 3.720 | Time Shift(hrs): 0.00
Curve Number: 68.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN 3 | Node: DEPR 1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 | Peaking Factor: 484.0
Rainfall File: Flmod | Storm Duration(hrs): 24.00
Rainfall Amount(in): 11.040 | Time of Conc(min): 49.30
Area(ac): 17.840 | Time Shift(hrs): 0.00
Curve Number: 39.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 2.30

==== Nodes ====

Name: BNDY NORTH | Base Flow(cfs): 0.000 | Init Stage(ft): 70.500
Group: BASE | Warn Stage(ft): 74.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	70.500
12.00	73.200
240.00	72.500

Name: BNDY WEST | Base Flow(cfs): 0.000 | Init Stage(ft): 121.000
Group: BASE | Warn Stage(ft): 125.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	121.000
12.00	123.200
240.00	124.000

Name: DEPR 1 | Base Flow(cfs): 0.000 | Init Stage(ft): 74.000
Group: BASE | Warn Stage(ft): 78.000
Type: Stage/Area

Stage(ft)	Area(ac)
74.000	0.0500
75.000	0.0800
76.000	0.1100
77.000	0.1400
78.000	0.1800

==== Weirs ====

Name: WEIR 1 | From Node: DEPR 1
Group: BASE | To Node: BNDY NORTH
Flow: Both | Count: 1
Type: Vertical: Mavis | Geometry: Trapezoidal

Bottom Width(ft): 50.00
Left Side Slope(h/v): 100.00
Right Side Slope(h/v): 100.00
Invert(ft): 78.000
Control Elevation(ft): 78.000
Struct Opening Dim(ft): 9999.00
TABLE
Bottom Clip(ft): 0.000
Top Clip(ft): 0.000

Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

==== Hydrology Simulations ====

Name: 002-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.25

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 002-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 2.60

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 002-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.20

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 002-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.16

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 002-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 002-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 5.70

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 002-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 7.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 002-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00

Rainfall File: Fdot-240
Rainfall Amount(in): 7.70

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 005-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.80

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 005-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 005-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 005-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.60

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 005-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 6.48

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 005-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 7.15

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 005-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 9.30

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 005-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240

Rainfall Amount(in): 10.10

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 010-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.20

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 010-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 010-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.80

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 010-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.84

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 010-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 7.92

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 010-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 8.90

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 010-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 010-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 12.50

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 025-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 3.60

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 025-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 025-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 5.28

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 025-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 6.56

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 025-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 8.54

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 025-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 025-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 13.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 025-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 050-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 050-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.80

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 050-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 6.00

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 050-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.00

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 050-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.60

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 050-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 11.60

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 050-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 050-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 16.00

Time(hrs) Print Inc(min)

260.000	5.00

Name: 100-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 100-YR 001-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Flmod
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 100-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 100-YR 002-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Flmod
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 100-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 6.72

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 100-YR 004-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Flmod
Rainfall Amount(in): 6.72

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 100-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100-YR 008-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Flmod
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)

12.000	5.00

Name: 100-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 11.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-YR 024-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 11.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.80

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 100-YR 072-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Flmod
Rainfall Amount(in): 13.80

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 100-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 16.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 100-YR 168-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Flmod
Rainfall Amount(in): 16.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 100-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 18.00

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 100-YR 240-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Flmod
Rainfall Amount(in): 18.00

Time(hrs)	Print Inc(min)
260.000	5.00

```
==========================================================================
==== Routing Simulations ================================================
==========================================================================

        Name: 002-YR 001-HR       Hydrology Sim: 002-YR 001-HR
    Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 001-HR.I32

     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 1.00
    Min Calc Time(sec): 0.5000             Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           10.000

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

--------------------------------------------------------------------------------
        Name: 002-YR 002-HR       Hydrology Sim: 002-YR 002-HR
    Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 002-HR.I32

     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000             Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           10.000

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

--------------------------------------------------------------------------------
        Name: 002-YR 004-HR       Hydrology Sim: 002-YR 004-HR
    Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 004-HR.I32

     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 4.00
    Min Calc Time(sec): 0.5000             Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           10.000

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

--------------------------------------------------------------------------------
        Name: 002-YR 008-HR       Hydrology Sim: 002-YR 008-HR
    Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 008-HR.I32

     Execute: No          Restart: No           Patch: No
 Alternative: No

       Max Delta Z(ft): 1.00                   Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                   End Time(hrs): 8.00
    Min Calc Time(sec): 0.5000             Max Calc Time(sec): 60.0000
      Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          10.000

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

--------------------------------------------------------------------------------
        Name: 002-YR 024-HR       Hydrology Sim: 002-YR 024-HR
    Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 024-HR.I32

     Execute: No          Restart: No           Patch: No
```

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 072-HR Hydrology Sim: 002-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 168-HR Hydrology Sim: 002-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
190.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 240-HR Hydrology Sim: 002-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 001-HR Hydrology Sim: 005-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 002-HR Hydrology Sim: 005-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 004-HR Hydrology Sim: 005-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 008-HR Hydrology Sim: 005-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 008-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 024-HR Hydrology Sim: 005-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 072-HR Hydrology Sim: 005-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 168-HR Hydrology Sim: 005-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 240-HR Hydrology Sim: 005-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 001-HR Hydrology Sim: 010-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 002-HR Hydrology Sim: 010-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           10.000

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

-------------------------------------------------------------------------------------------------------------
         Name: 010-YR 004-HR       Hydrology Sim: 010-YR 004-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 004-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           10.000

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

-------------------------------------------------------------------------------------------------------------
         Name: 010-YR 008-HR       Hydrology Sim: 010-YR 008-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 008-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          10.000

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

-------------------------------------------------------------------------------------------------------------
         Name: 010-YR 024-HR       Hydrology Sim: 010-YR 024-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 024-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          10.000

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

-------------------------------------------------------------------------------------------------------------
         Name: 010-YR 072-HR       Hydrology Sim: 010-YR 072-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 072-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


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

90.000 10.000

Group	Run
BASE	Yes

Name: 010-YR 168-HR Hydrology Sim: 010-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 240-HR Hydrology Sim: 010-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 001-HR Hydrology Sim: 025-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 002-HR Hydrology Sim: 025-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 004-HR Hydrology Sim: 025-YR 004-HR

Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 008-HR Hydrology Sim: 025-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 008-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 024-HR Hydrology Sim: 025-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 072-HR Hydrology Sim: 025-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 168-HR Hydrology Sim: 025-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000

Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 240-HR Hydrology Sim: 025-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 001-HR Hydrology Sim: 050-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 002-HR Hydrology Sim: 050-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 004-HR Hydrology Sim: 050-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run

BASE	Yes

Name: 050-YR 008-HR Hydrology Sim: 050-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 008-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 024-HR Hydrology Sim: 050-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 072-HR Hydrology Sim: 050-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 168-HR Hydrology Sim: 050-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 240-HR Hydrology Sim: 050-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 240-HR.I32

Execute: No Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 001-HR Hydrology Sim: 100-YR 001-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 001-HR W Hydrology Sim: 100-YR 001-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 002-HR Hydrology Sim: 100-YR 002-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 002-HR W Hydrology Sim: 100-YR 002-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 004-HR Hydrology Sim: 100-YR 004-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 004-HR W Hydrology Sim: 100-YR 004-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 008-HR Hydrology Sim: 100-YR 008-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 008-HR W Hydrology Sim: 100-YR 008-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 024-HR Hydrology Sim: 100-YR 024-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 024-HR W Hydrology Sim: 100-YR 024-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 072-HR Hydrology Sim: 100-YR 072-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 072-HR W Hydrology Sim: 100-YR 072-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 168-HR Hydrology Sim: 100-YR 168-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 168.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 168-HR W     Hydrology Sim: 100-YR 168-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR W.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 168.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 240-HR       Hydrology Sim: 100-YR 240-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 240-HR W     Hydrology Sim: 100-YR 240-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR W.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         10.000

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

APPENDIX G
PRE-DEVELOPMENT adICPR MODELING OUTPUT

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BNDY NORTH		BASE100-YR 001-HR W	1.00	70.725	74.000	0.0037	0	1.00	17.698	0.00	0.000
BNDY NORTH		BASE100-YR 002-HR W	2.00	70.950	74.000	0.0037	0	1.67	31.313	0.00	0.000
BNDY NORTH		BASE100-YR 004-HR W	4.01	71.401	74.000	0.0038	0	2.87	46.734	0.00	0.000
BNDY NORTH		BASE100-YR 008-HR W	8.00	72.300	74.000	0.0038	0	4.68	68.338	0.00	0.000
BNDY NORTH		BASE100-YR 024-HR W	12.00	73.200	74.000	0.0038	0	12.50	102.324	0.00	0.000
BNDY NORTH		BASE100-YR 072-HR W	12.02	73.200	74.000	0.0038	0	36.25	85.863	0.00	0.000
BNDY NORTH		BASE100-YR 168-HR W	12.02	73.200	74.000	0.0038	0	84.08	56.560	0.00	0.000
BNDY NORTH		BASE100-YR 240-HR W	12.02	73.200	74.000	0.0038	0	120.08	49.157	0.00	0.000
BNDY WEST		BASE100-YR 001-HR W	1.00	121.183	125.000	0.0030	0	1.00	7.675	0.00	0.000
BNDY WEST		BASE100-YR 002-HR W	2.00	121.367	125.000	0.0030	0	1.42	9.803	0.00	0.000
BNDY WEST		BASE100-YR 004-HR W	4.01	121.734	125.000	0.0031	0	2.42	12.545	0.00	0.000
BNDY WEST		BASE100-YR 008-HR W	8.00	122.467	125.000	0.0031	0	4.42	14.055	0.00	0.000
BNDY WEST		BASE100-YR 024-HR W	24.01	123.242	125.000	0.0031	0	12.25	14.804	0.00	0.000
BNDY WEST		BASE100-YR 072-HR W	72.00	123.411	125.000	0.0031	0	36.09	9.808	0.00	0.000
BNDY WEST		BASE100-YR 168-HR W	168.00	123.747	125.000	0.0031	0	84.00	5.508	0.00	0.000
BNDY WEST		BASE100-YR 240-HR W	240.00	124.000	125.000	0.0031	0	120.00	4.475	0.00	0.000
DEPR 1		BASE100-YR 001-HR W	1.00	75.103	78.000	0.0050	3620	1.00	3.372	0.00	0.000
DEPR 1		BASE100-YR 002-HR W	2.00	77.460	78.000	0.0050	6901	1.75	5.975	0.00	0.000
DEPR 1		BASE100-YR 004-HR W	2.91	78.122	78.000	0.0050	8054	2.67	9.429	2.91	8.183
DEPR 1		BASE100-YR 008-HR W	4.71	78.157	78.000	0.0050	8115	4.58	12.889	4.71	12.469
DEPR 1		BASE100-YR 024-HR W	12.51	78.221	78.000	0.0050	8225	12.50	22.415	12.51	22.367
DEPR 1		BASE100-YR 072-HR W	36.27	78.209	78.000	0.0050	8205	36.25	20.424	36.27	20.397
DEPR 1		BASE100-YR 168-HR W	84.11	78.170	78.000	0.0050	8137	84.10	14.245	84.11	14.241
DEPR 1		BASE100-YR 240-HR W	120.08	78.160	78.000	0.0050	8119	120.08	12.825	120.08	12.820

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 001-HR W	BNDY NORTH	BASE	0.83	70.688	74.000	0	10.058	0.000	0.1	0.0
100-YR 001-HR W	BNDY NORTH	BASE	1.00	70.725	74.000	0	17.698	0.000	0.3	0.0
100-YR 001-HR W	BNDY NORTH	BASE	1.00	70.725	74.000	0	17.698	0.000	0.3	0.0
100-YR 001-HR W	BNDY WEST	BASE	0.83	121.153	125.000	0	6.893	0.000	0.1	0.0
100-YR 001-HR W	BNDY WEST	BASE	1.00	121.183	125.000	0	7.674	0.000	0.2	0.0
100-YR 001-HR W	BNDY WEST	BASE	1.00	121.183	125.000	0	7.674	0.000	0.2	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 002-HR W	BNDY NORTH	BASE	1.83	70.913	74.000	0	30.066	0.000	1.3	0.0
100-YR 002-HR W	BNDY NORTH	BASE	2.00	70.950	74.000	0	25.868	0.000	1.7	0.0
100-YR 002-HR W	BNDY NORTH	BASE	2.00	70.950	74.000	0	25.868	0.000	1.7	0.0
100-YR 002-HR W	BNDY WEST	BASE	1.83	121.336	125.000	0	5.517	0.000	0.5	0.0
100-YR 002-HR W	BNDY WEST	BASE	2.00	121.367	125.000	0	4.193	0.000	0.5	0.0
100-YR 002-HR W	BNDY WEST	BASE	2.00	121.367	125.000	0	4.193	0.000	0.5	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 004-HR W	BNDY NORTH	BASE	3.84	71.364	74.000	0	20.097	0.000	4.7	0.0
100-YR 004-HR W	BNDY NORTH	BASE	4.01	71.401	74.000	0	18.073	0.000	4.9	0.0
100-YR 004-HR W	BNDY NORTH	BASE	4.01	71.401	74.000	0	18.073	0.000	4.9	0.0
100-YR 004-HR W	BNDY WEST	BASE	3.84	121.704	125.000	0	1.917	0.000	0.9	0.0
100-YR 004-HR W	BNDY WEST	BASE	4.01	121.734	125.000	0	1.724	0.000	0.9	0.0
100-YR 004-HR W	BNDY WEST	BASE	4.01	121.734	125.000	0	1.724	0.000	0.9	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 008-HR W	BNDY NORTH	BASE	7.83	72.263	74.000	0	10.463	0.000	8.3	0.0
100-YR 008-HR W	BNDY NORTH	BASE	8.00	72.300	74.000	0	10.022	0.000	8.5	0.0
100-YR 008-HR W	BNDY NORTH	BASE	8.01	72.300	74.000	0	10.022	0.000	8.5	0.0
100-YR 008-HR W	BNDY WEST	BASE	7.83	122.436	125.000	0	1.013	0.000	1.3	0.0
100-YR 008-HR W	BNDY WEST	BASE	8.00	122.467	125.000	0	0.948	0.000	1.3	0.0
100-YR 008-HR W	BNDY WEST	BASE	8.01	122.467	125.000	0	0.948	0.000	1.3	0.0

Output - #3873-00 Alachua, FL - Pre Development Volume

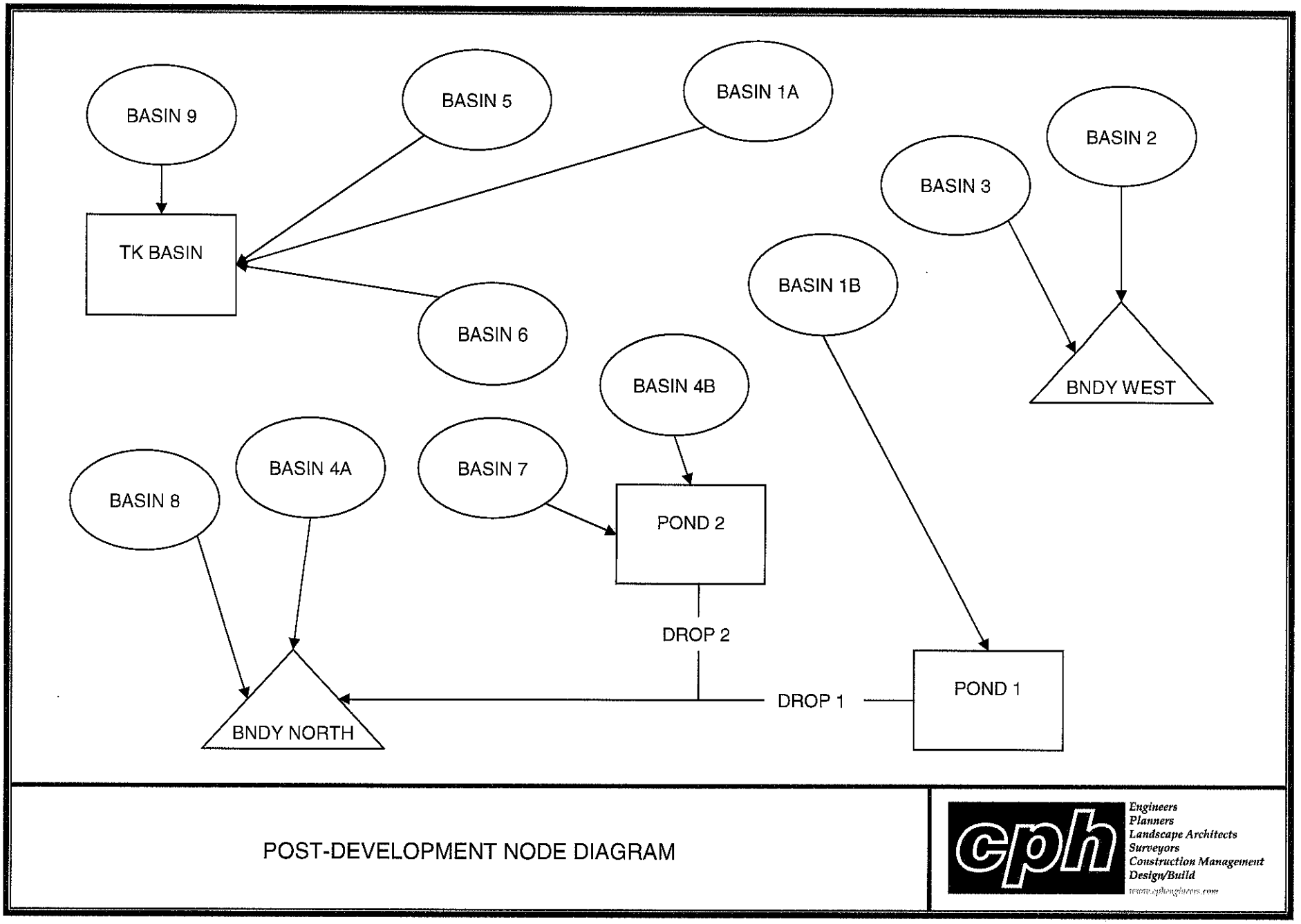
Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 024-HR W	BNDY NORTH	BASE	23.84	73.164	74.000	0	5.001	0.000	17.6	0.0
100-YR 024-HR W	BNDY NORTH	BASE	24.01	73.163	74.000	0	4.786	0.000	17.7	0.0
100-YR 024-HR W	BNDY NORTH	BASE	24.02	73.163	74.000	0	4.786	0.000	17.7	0.0
100-YR 024-HR W	BNDY WEST	BASE	23.84	123.242	125.000	0	0.424	0.000	2.1	0.0
100-YR 024-HR W	BNDY WEST	BASE	24.01	123.242	125.000	0	0.396	0.000	2.1	0.0
100-YR 024-HR W	BNDY WEST	BASE	24.02	123.242	125.000	0	0.396	0.000	2.1	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 072-HR W	BNDY NORTH	BASE	71.85	73.016	74.000	0	1.977	0.000	27.0	0.0
100-YR 072-HR W	BNDY NORTH	BASE	72.01	73.016	74.000	0	1.949	0.000	27.0	0.0
100-YR 072-HR W	BNDY WEST	BASE	71.85	123.410	125.000	0	0.160	0.000	2.9	0.0
100-YR 072-HR W	BNDY WEST	BASE	72.01	123.411	125.000	0	0.158	0.000	2.9	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 168-HR W	BNDY NORTH	BASE	167.85	72.722	74.000	0	1.023	0.000	35.0	0.0
100-YR 168-HR W	BNDY NORTH	BASE	168.00	72.721	74.000	0	1.018	0.000	35.0	0.0
100-YR 168-HR W	BNDY WEST	BASE	167.85	123.747	125.000	0	0.081	0.000	3.5	0.0
100-YR 168-HR W	BNDY WEST	BASE	168.00	123.747	125.000	0	0.080	0.000	3.5	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 240-HR W	BNDY NORTH	BASE	239.85	72.500	74.000	0	0.835	0.000	42.6	0.0
100-YR 240-HR W	BNDY NORTH	BASE	240.01	72.500	74.000	0	0.831	0.000	42.6	0.0
100-YR 240-HR W	BNDY WEST	BASE	239.85	123.999	125.000	0	0.064	0.000	4.1	0.0
100-YR 240-HR W	BNDY WEST	BASE	240.01	124.000	125.000	0	0.063	0.000	4.1	0.0

APPENDIX H
POST-DEVELOPMENT NODE DIAGRAM



POST-DEVELOPMENT NODE DIAGRAM

APPENDIX I
POST-DEVELOPMENT DRAINAGE BASIN MAP

BASIN 3
INTERSTATE HWY. I-75

BASIN 2
0.11 Ac.

Walmart
C-159-SGL-NO
F.F. ELEV. 144.0

BASIN 1B
32.06 Ac.

BASIN 1A
5.48 Ac.

PROPOSED RETENTION AREA

PROPOSED RETAIL PARCEL

BASIN 4A
0.97 Ac.

BASIN 4B
1.11 Ac.

SELLER PROPOSED TRACT 1

BASIN 6
6.29 Ac.

BASIN 5
5.90 Ac.

SELLER PROPOSED TRACT 2

SELLER PROPOSED TRACT 3

OUT PARCEL 1

BASIN 8
1.37 Ac.

BASIN 9
2.55 Ac.

BASIN 7
1.57 Ac.

SELLER PROPOSED TRACT 4

U.S. HIGHWAY 441 (S.R. 25)

S.E. HWY. 441

N

cph

cph
100 West Fulton Street
Sanford, Florida 32771
P. O. Box 2850
Sanford, Florida 32773-2850
Phone 407 323-0041
Fax 407 330-0039
Certificate of Authorization No. 3215

Engineers
Surveyors
Architects
Planners
Landscape Architects
Environmental Scientists
Construction Management
Design/Build

No.	Date	By	Revision

Designed by:	J.B.	
Drawn by:	N.J.H.	
Checked by:	C.D.T.	
Approved by:	H.L.W.	
Scale:	1"=100'	
Date:	6/15/10	
Job No.:	W15392	
File:	Formasaw	

POST DEVELOPMENT DRAINAGE BASIN MAP

Walmart

STORE NO. 3872-00, ALACHUA (SEC I-75 HWY 441), FLORIDA

APPENDIX J
POST-DEVELOPMENT adICPR MODELING INPUT

Basins

Name: BASIN 1A
Group: BASE
Node: TK BASIN
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 5.480
Curve Number: 49.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 41.75
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 1B
Group: BASE
Node: POND 1
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 32.660
Curve Number: 39.00
DCIA(%): 57.70
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 2
Group: BASE
Node: BNDY WEST
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 11.040
Area(ac): 0.110
Curve Number: 39.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 24.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 3
Group: BASE
Node: BNDY WEST
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 11.040
Area(ac): 0.590
Curve Number: 39.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 24.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 4A
Group: BASE
Node: BNDY NORTH
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 0.970
Curve Number: 39.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 16.62
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 4B
Group: BASE
Node: POND 2
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 1.110
Curve Number: 39.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 5
Group: BASE
Node: TK BASIN
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 5.900
Curve Number: 41.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 17.78
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: BASIN 6
Group: BASE
Node: TK BASIN
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: Uh484
Rainfall File: Flmod
Rainfall Amount(in): 0.000
Area(ac): 6.290
Curve Number: 39.00
DCIA(%): 0.00
Peaking Factor: 484.0
Storm Duration(hrs): 0.00
Time of Conc(min): 25.95
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

```
---------------------------------------------------------------------------------------------------
        Name: BASIN 7                   Node: POND 2                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

      Unit Hydrograph: Uh484                    Peaking Factor: 484.0
        Rainfall File: Flmod              Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 1.570                   Time Shift(hrs): 0.00
        Curve Number: 39.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 75.80


---------------------------------------------------------------------------------------------------
        Name: BASIN 8                   Node: BNDY NORTH              Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

      Unit Hydrograph: Uh484                    Peaking Factor: 484.0
        Rainfall File: Flmod              Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                Time of Conc(min): 21.29
            Area(ac): 1.370                   Time Shift(hrs): 0.00
        Curve Number: 39.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


---------------------------------------------------------------------------------------------------
        Name: BASIN 9                   Node: TK BASIN                Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

      Unit Hydrograph: Uh484                    Peaking Factor: 484.0
        Rainfall File: Flmod              Storm Duration(hrs): 0.00
  Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 2.550                   Time Shift(hrs): 0.00
        Curve Number: 39.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 14.50


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

      Name: BNDY NORTH          Base Flow(cfs): 0.000          Init Stage(ft): 70.500
     Group: BASE                                              Warn Stage(ft): 74.000
      Type: Time/Stage


     Time(hrs)       Stage(ft)
---------------- ----------------
          0.00           70.500
         12.00           73.200
        240.00           72.500

---------------------------------------------------------------------------------------------------
      Name: BNDY WEST           Base Flow(cfs): 0.000          Init Stage(ft): 121.000
     Group: BASE                                              Warn Stage(ft): 125.000
      Type: Time/Stage


     Time(hrs)       Stage(ft)
---------------- ----------------
          0.00          121.000
         12.00          123.200
        240.00          124.000

---------------------------------------------------------------------------------------------------
      Name: POND 1              Base Flow(cfs): 0.000          Init Stage(ft): 80.000
     Group: BASE                                              Warn Stage(ft): 85.000
      Type: Stage/Area


     Stage(ft)        Area(ac)
---------------- ----------------
         80.000           4.7000
         81.000           4.9000
         82.000           5.1000
         83.000           5.3100
         84.000           5.5200
         85.000           5.7300
         86.000           5.9400

---------------------------------------------------------------------------------------------------
      Name: POND 2              Base Flow(cfs): 0.000          Init Stage(ft): 71.000
     Group: BASE                                              Warn Stage(ft): 78.500
      Type: Stage/Area


     Stage(ft)        Area(ac)
---------------- ----------------
         71.000           0.0900
         72.000           0.1100
         73.000           0.1400
         74.000           0.1700
         75.000           0.2000
         76.000           0.2400
         77.000           0.2700
         78.000           0.3100
```

79.000 0.3600

Name: TK BASIN Base Flow(cfs): 0.000 Init Stage(ft): 75.000
Group: BASE Warn Stage(ft): 84.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.000	6.8800
85.000	10.0700

Drop Structures

Name: DROP1 From Node: POND 1 Length(ft): 1116.00
Group: BASE To Node: BNDY NORTH Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	24.00	30.00	Solution Algorithm:	Automatic
Rise(in):	24.00	30.00	Flow:	Both
Invert(ft):	80.000	70.500	Entrance Loss Coef:	0.500
Manning's N:	0.013000	0.013000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

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

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

*** Weir 1 of 2 for Drop Structure DROP1 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Horizontal Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 79.00 Invert(ft): 84.000
Rise(in): 36.00 Control Elev(ft): 84.000

*** Weir 2 of 2 for Drop Structure DROP1 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 24.00 Invert(ft): 83.000
Rise(in): 12.00 Control Elev(ft): 83.000

Name: DROP2 From Node: POND 2 Length(ft): 1061.00
Group: BASE To Node: BNDY NORTH Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Friction Equation:	Average Conveyance
Span(in):	24.00	30.00	Solution Algorithm:	Automatic
Rise(in):	24.00	30.00	Flow:	Both
Invert(ft):	74.000	70.500	Entrance Loss Coef:	0.500
Manning's N:	0.013000	0.013000	Exit Loss Coef:	1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec:	Use dn
			Solution Incs:	10

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

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

*** Weir 1 of 2 for Drop Structure DROP2 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Horizontal Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 54.00 Invert(ft): 78.000
Rise(in): 36.00 Control Elev(ft): 78.000

*** Weir 2 of 2 for Drop Structure DROP2 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 24.00 Invert(ft): 77.500
Rise(in): 6.00 Control Elev(ft): 77.500

Hydrology Simulations

Name: 002-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.25

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 002-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 2.60

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 002-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 3.20

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 002-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 4.16

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 002-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 5.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 002-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 5.70

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 002-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 7.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 002-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 7.70

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 005-YR 001-HR

Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 2.80

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 005-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 3.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 005-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 005-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 5.60

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 005-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 6.48

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 005-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 7.15

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 005-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 9.30

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 005-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 10.10

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 010-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 001-HR.R32

```
      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.20

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 002-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 002-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.00

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 004-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 004-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 4.80

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 008-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 008-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 5.84

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 024-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 024-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 7.92

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

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 072-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 072-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 8.90

Time(hrs)       Print Inc(min)
--------------- ---------------
90.000          5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 168-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 168-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 11.00

Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         5.00

-------------------------------------------------------------------------------------------------------
         Name: 010-YR 240-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 240-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 12.50

Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         5.00

-------------------------------------------------------------------------------------------------------
         Name: 025-YR 001-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 001-HR.R32
```

```
      Override Defaults: Yes
    Storm Duration(hrs): 1.00
          Rainfall File: Fdot-1
    Rainfall Amount(in): 3.60

Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 002-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 002-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 2.00
          Rainfall File: Fdot-2
    Rainfall Amount(in): 4.40

Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 004-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 004-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 4.00
          Rainfall File: Fdot-4
    Rainfall Amount(in): 5.28

Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 008-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 008-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 8.00
          Rainfall File: Fdot-8
    Rainfall Amount(in): 6.56

Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 024-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 024-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 8.54

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

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 072-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 072-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Fdot-72
    Rainfall Amount(in): 11.00

Time(hrs)       Print Inc(min)
--------------- ---------------
90.000          5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 168-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 168-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 168.00
          Rainfall File: Fdot-168
    Rainfall Amount(in): 13.00

Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         5.00

-------------------------------------------------------------------------------------------------------------
         Name: 025-YR 240-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 240-HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 240.00
          Rainfall File: Fdot-240
    Rainfall Amount(in): 15.00

Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         5.00

-------------------------------------------------------------------------------------------------------------
         Name: 050-YR 001-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 001-HR.R32

      Override Defaults: Yes
```

Storm Duration(hrs): 1.00
Rainfall File: Fdot-1
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 050-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 4.80

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 050-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 6.00

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 050-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 7.00

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 050-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.60

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 050-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 11.60

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 050-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 050-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 16.00

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 100-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 001-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00

Rainfall File: Fdot-1
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 100-YR 001-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Flmod
Rainfall Amount(in): 4.40

Time(hrs)	Print Inc(min)
2.000	5.00

Name: 100-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 002-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Fdot-2
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 100-YR 002-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Flmod
Rainfall Amount(in): 5.40

Time(hrs)	Print Inc(min)
4.000	5.00

Name: 100-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 004-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Fdot-4
Rainfall Amount(in): 6.72

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 100-YR 004-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 4.00
Rainfall File: Flmod
Rainfall Amount(in): 6.72

Time(hrs)	Print Inc(min)
8.000	5.00

Name: 100-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 008-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Fdot-8
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100-YR 008-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 8.00
Rainfall File: Flmod
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 024-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24

Rainfall Amount(in): 11.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-YR 024-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 11.04

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 072-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Fdot-72
Rainfall Amount(in): 13.80

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 100-YR 072-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Flmod
Rainfall Amount(in): 13.80

Time(hrs)	Print Inc(min)
90.000	5.00

Name: 100-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 168-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Fdot-168
Rainfall Amount(in): 16.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 100-YR 168-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 168.00
Rainfall File: Flmod
Rainfall Amount(in): 16.00

Time(hrs)	Print Inc(min)
175.000	5.00

Name: 100-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\100-YR 240-HR.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Fdot-240
Rainfall Amount(in): 18.00

Time(hrs)	Print Inc(min)
260.000	5.00

Name: 100-YR 240-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR W.R32

Override Defaults: Yes
Storm Duration(hrs): 240.00
Rainfall File: Flmod
Rainfall Amount(in): 18.00

Time(hrs)	Print Inc(min)
260.000	5.00

==========

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

==========

Name: 002-YR 001-HR Hydrology Sim: 002-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 001-HR.I32

Execute: No Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 002-HR Hydrology Sim: 002-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 004-HR Hydrology Sim: 002-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 008-HR Hydrology Sim: 002-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 008-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 024-HR Hydrology Sim: 002-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 072-HR Hydrology Sim: 002-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 168-HR Hydrology Sim: 002-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
190.000	10.000

Group	Run
BASE	Yes

Name: 002-YR 240-HR Hydrology Sim: 002-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\002-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 005-YR 001-HR Hydrology Sim: 005-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

```
---------------------------------------------------------------------------------------------
         Name: 005-YR 002-HR       Hydrology Sim: 005-YR 002-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 002-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                      End Time(hrs): 2.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
     . Boundary Stages:                           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           10.000

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


---------------------------------------------------------------------------------------------
         Name: 005-YR 004-HR       Hydrology Sim: 005-YR 004-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 004-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                      End Time(hrs): 4.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
8.000           10.000

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


---------------------------------------------------------------------------------------------
         Name: 005-YR 008-HR       Hydrology Sim: 005-YR 008-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 008-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                      End Time(hrs): 8.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
12.000          10.000

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


---------------------------------------------------------------------------------------------
         Name: 005-YR 024-HR       Hydrology Sim: 005-YR 024-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 024-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
   Time Step Optimizer: 10.000
      Start Time(hrs): 0.000                      End Time(hrs): 24.00
    Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                           Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          10.000

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


---------------------------------------------------------------------------------------------
         Name: 005-YR 072-HR       Hydrology Sim: 005-YR 072-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 072-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
```

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
90.000          10.000

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

-------------------------------------------------------------------------------------------------
         Name: 005-YR 168-HR       Hydrology Sim: 005-YR 168-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 168-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 168.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         10.000

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

-------------------------------------------------------------------------------------------------
         Name: 005-YR 240-HR       Hydrology Sim: 005-YR 240-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\005-YR 240-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         10.000

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

-------------------------------------------------------------------------------------------------
         Name: 010-YR 001-HR       Hydrology Sim: 010-YR 001-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 001-HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 1.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           10.000

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

-------------------------------------------------------------------------------------------------
         Name: 010-YR 002-HR       Hydrology Sim: 010-YR 002-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 002-HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


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

4.000 10.000

Group	Run
BASE	Yes

Name: 010-YR 004-HR Hydrology Sim: 010-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 004-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 008-HR Hydrology Sim: 010-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 008-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 024-HR Hydrology Sim: 010-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 024-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 072-HR Hydrology Sim: 010-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 072-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 010-YR 168-HR Hydrology Sim: 010-YR 168-HR

```
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 168-HR.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 168.00
     Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
175.000         10.000

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

-------------------------------------------------------------------------------------------------
        Name: 010-YR 240-HR       Hydrology Sim: 010-YR 240-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\010-YR 240-HR.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 240.00
     Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
260.000         10.000

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

-------------------------------------------------------------------------------------------------
        Name: 025-YR 001-HR       Hydrology Sim: 025-YR 001-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 001-HR.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 1.00
     Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
2.000           10.000

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

-------------------------------------------------------------------------------------------------
        Name: 025-YR 002-HR       Hydrology Sim: 025-YR 002-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 002-HR.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 2.00
     Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
       Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
4.000           10.000

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

-------------------------------------------------------------------------------------------------
        Name: 025-YR 004-HR       Hydrology Sim: 025-YR 004-HR
     Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 004-HR.I32

      Execute: Yes          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000                Max Calc Time(sec): 60.0000
```

Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 008-HR Hydrology Sim: 025-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 008-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 024-HR Hydrology Sim: 025-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 024-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 072-HR Hydrology Sim: 025-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 072-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 025-YR 168-HR Hydrology Sim: 025-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 168-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run

BASE	Yes

Name: 025-YR 240-HR Hydrology Sim: 025-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\025-YR 240-HR.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 001-HR Hydrology Sim: 050-YR 001-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 002-HR Hydrology Sim: 050-YR 002-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 004-HR Hydrology Sim: 050-YR 004-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 004-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 4.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 008-HR Hydrology Sim: 050-YR 008-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 008-HR.I32

Execute: No Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 8.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 024-HR Hydrology Sim: 050-YR 024-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 024-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 072-HR Hydrology Sim: 050-YR 072-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 072-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 72.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
90.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 168-HR Hydrology Sim: 050-YR 168-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 168-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
175.000	10.000

Group	Run
BASE	Yes

Name: 050-YR 240-HR Hydrology Sim: 050-YR 240-HR
Filename: J:\W13392\C_design_permitting\modeling\icpr\050-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
260.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 001-HR Hydrology Sim: 100-YR 001-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 001-HR W Hydrology Sim: 100-YR 001-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 001-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 1.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
2.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 002-HR Hydrology Sim: 100-YR 002-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

Name: 100-YR 002-HR W Hydrology Sim: 100-YR 002-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 002-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 2.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
4.000	10.000

Group	Run
BASE	Yes

```
---------------------------------------------------------------------------------------------
         Name: 100-YR 004-HR       Hydrology Sim: 100-YR 004-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR.I32

      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)        Print Inc(min)
---------------- ---------------
8.000            10.000

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


---------------------------------------------------------------------------------------------
         Name: 100-YR 004-HR W     Hydrology Sim: 100-YR 004-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 004-HR W.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 4.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)        Print Inc(min)
---------------- ---------------
8.000            10.000

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


---------------------------------------------------------------------------------------------
         Name: 100-YR 008-HR       Hydrology Sim: 100-YR 008-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR.I32

      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)        Print Inc(min)
---------------- ---------------
12.000           10.000

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


---------------------------------------------------------------------------------------------
         Name: 100-YR 008-HR W     Hydrology Sim: 100-YR 008-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 008-HR W.I32

      Execute: Yes         Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 8.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                         Boundary Flows:


Time(hrs)        Print Inc(min)
---------------- ---------------
12.000           10.000

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


---------------------------------------------------------------------------------------------
         Name: 100-YR 024-HR       Hydrology Sim: 100-YR 024-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR.I32

      Execute: No          Restart: No           Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
```

```
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 024-HR W     Hydrology Sim: 100-YR 024-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 024-HR W.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 24.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 072-HR       Hydrology Sim: 100-YR 072-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
90.000          10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 072-HR W     Hydrology Sim: 100-YR 072-HR W
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 072-HR W.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
90.000          10.000

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

------------------------------------------------------------------------------------------------------------
         Name: 100-YR 168-HR       Hydrology Sim: 100-YR 168-HR
     Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                  End Time(hrs): 168.00
     Min Calc Time(sec): 0.5000              Max Calc Time(sec): 60.0000
        Boundary Stages:                        Boundary Flows:


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

175.000 10.000

Group Run
BASE Yes

Name: 100-YR 168-HR W Hydrology Sim: 100-YR 168-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 168-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 168.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
175.000 10.000

Group Run
BASE Yes

Name: 100-YR 240-HR Hydrology Sim: 100-YR 240-HR
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
260.000 10.000

Group Run
BASE Yes

Name: 100-YR 240-HR W Hydrology Sim: 100-YR 240-HR W
Filename: J:\W13392\C_DESIGN_PERMITTING\MODELING\ICPR\100-YR 240-HR W.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 240.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)
260.000 10.000

Group Run
BASE Yes

APPENDIX K
POST-DEVELOPMENT adICPR MODELING OUTPUT

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
BNDY NORTH	BASE100-YR	001-HR W	1.00	70.725	74.000	0.0024	0	1.00	0.441	0.00	0.000
BNDY NORTH	BASE100-YR	002-HR W	2.00	70.950	74.000	0.0024	0	1.33	0.797	0.00	0.000
BNDY NORTH	BASE100-YR	004-HR W	4.00	71.400	74.000	0.0030	0	2.25	1.633	0.00	0.000
BNDY NORTH	BASE100-YR	008-HR W	8.00	72.301	74.000	0.0037	0	4.25	2.595	0.00	0.000
BNDY NORTH	BASE100-YR	024-HR W	12.00	73.200	74.000	0.0038	0	12.17	4.092	0.00	0.000
BNDY NORTH	BASE100-YR	072-HR W	12.02	73.200	74.000	0.0038	0	43.53	4.822	0.00	0.000
BNDY NORTH	BASE100-YR	168-HR W	12.02	73.200	74.000	0.0038	0	85.85	6.873	0.00	0.000
BNDY NORTH	BASE100-YR	240-HR W	12.02	73.200	74.000	0.0038	0	122.59	12.673	0.00	0.000
BNDY WEST	BASE100-YR	001-HR W	1.00	121.183	125.000	0.0019	0	0.83	0.147	0.00	0.000
BNDY WEST	BASE100-YR	002-HR W	2.00	121.367	125.000	0.0019	0	1.17	0.295	0.00	0.000
BNDY WEST	BASE100-YR	004-HR W	4.00	121.733	125.000	0.0024	0	2.17	0.687	0.00	0.000
BNDY WEST	BASE100-YR	008-HR W	8.00	122.468	125.000	0.0030	0	4.08	1.022	0.00	0.000
BNDY WEST	BASE100-YR	024-HR W	24.00	123.242	125.000	0.0031	0	12.00	1.458	0.00	0.000
BNDY WEST	BASE100-YR	072-HR W	72.00	123.411	125.000	0.0031	0	36.00	1.004	0.00	0.000
BNDY WEST	BASE100-YR	168-HR W	168.01	123.747	125.000	0.0031	0	84.00	0.596	0.00	0.000
BNDY WEST	BASE100-YR	240-HR W	240.01	124.000	125.000	0.0031	0	120.00	0.520	0.00	0.000
POND 1	BASE100-YR	001-HR W	1.00	81.350	85.000	0.0019	216495	0.58	304.993	0.00	0.000
POND 1	BASE100-YR	002-HR W	2.00	81.729	85.000	0.0021	219796	1.08	313.050	0.00	0.000
POND 1	BASE100-YR	004-HR W	4.00	82.239	85.000	0.0024	224342	2.08	311.144	0.00	0.000
POND 1	BASE100-YR	008-HR W	8.00	82.745	85.000	0.0025	228967	4.08	261.963	0.00	0.000
POND 1	BASE100-YR	024-HR W	23.65	83.624	85.000	0.0027	237008	12.00	180.967	23.65	3.152
POND 1	BASE100-YR	072-HR W	43.65	83.757	85.000	0.0030	238229	36.00	85.127	43.65	4.216
POND 1	BASE100-YR	168-HR W	87.72	83.918	85.000	0.0031	239703	84.00	44.199	87.72	5.631
POND 1	BASE100-YR	240-HR W	122.62	84.140	85.000	0.0033	241736	120.00	35.797	122.62	10.788
POND 2	BASE100-YR	001-HR W	1.00	74.208	78.500	0.0050	7677	0.58	19.274	0.00	0.000
POND 2	BASE100-YR	002-HR W	2.00	74.903	78.500	0.0050	8586	1.08	19.898	0.00	0.000
POND 2	BASE100-YR	004-HR W	4.00	75.765	78.500	0.0050	10045	2.08	20.124	0.00	0.000
POND 2	BASE100-YR	008-HR W	8.00	76.549	78.500	0.0050	11171	4.08	17.444	0.00	0.000
POND 2	BASE100-YR	024-HR W	18.65	77.652	78.500	0.0050	12897	12.00	12.714	18.65	0.380
POND 2	BASE100-YR	072-HR W	39.05	77.708	78.500	0.0050	12995	36.00	6.261	39.05	0.608
POND 2	BASE100-YR	168-HR W	85.82	77.836	78.500	0.0050	13218	84.00	3.317	85.82	1.248
POND 2	BASE100-YR	240-HR W	120.13	77.939	78.500	0.0050	13397	120.00	2.719	120.13	1.861
TK BASIN	BASE100-YR	001-HR W	1.00	75.037	84.000	0.0002	300211	1.00	6.523	0.00	0.000
TK BASIN	BASE100-YR	002-HR W	2.00	75.107	84.000	0.0004	301173	1.42	9.941	0.00	0.000
TK BASIN	BASE100-YR	004-HR W	4.00	75.232	84.000	0.0006	302913	2.33	16.398	0.00	0.000
TK BASIN	BASE100-YR	008-HR W	8.00	75.377	84.000	0.0007	304933	4.25	23.877	0.00	0.000
TK BASIN	BASE100-YR	024-HR W	24.00	75.787	84.000	0.0010	310623	12.17	36.741	0.00	0.000
TK BASIN	BASE100-YR	072-HR W	72.00	76.216	84.000	0.0011	316584	36.00	30.078	0.00	0.000
TK BASIN	BASE100-YR	168-HR W	168.01	76.582	84.000	0.0014	321671	84.00	18.870	0.00	0.000
TK BASIN	BASE100-YR	240-HR W	240.01	76.927	84.000	0.0017	326464	120.00	16.376	0.00	0.000

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 001-HR W	BNDY NORTH	BASE	0.83	70.688	74.000	0	0.362	0.000	0.0	0.0
100-YR 001-HR W	BNDY NORTH	BASE	1.00	70.725	74.000	0	0.441	0.000	0.0	0.0
100-YR 001-HR W	BNDY NORTH	BASE	1.00	70.725	74.000	0	0.441	0.000	0.0	0.0
100-YR 001-HR W	BNDY WEST	BASE	0.83	121.153	125.000	0	0.147	0.000	0.0	0.0
100-YR 001-HR W	BNDY WEST	BASE	1.00	121.183	125.000	0	0.136	0.000	0.0	0.0
100-YR 001-HR W	BNDY WEST	BASE	1.00	121.183	125.000	0	0.136	0.000	0.0	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 002-HR W	BNDY NORTH	BASE	1.83	70.913	74.000	0	0.544	0.000	0.0	0.0
100-YR 002-HR W	BNDY NORTH	BASE	2.00	70.950	74.000	0	0.485	0.000	0.0	0.0
100-YR 002-HR W	BNDY NORTH	BASE	2.00	70.950	74.000	0	0.485	0.000	0.0	0.0
100-YR 002-HR W	BNDY WEST	BASE	1.83	121.336	125.000	0	0.145	0.000	0.0	0.0
100-YR 002-HR W	BNDY WEST	BASE	2.00	121.367	125.000	0	0.133	0.000	0.0	0.0
100-YR 002-HR W	BNDY WEST	BASE	2.00	121.367	125.000	0	0.133	0.000	0.0	0.0

Simulation	Node	Group	Time	Stage	Warning Stage	Surface Area	Total Inflow	Total Outflow	Total Vol In	Total Vol Out
			hrs	ft	ft	ft2	cfs	cfs	af	af
100-YR 004-HR W	BNDY NORTH	BASE	3.84	71.364	74.000	0	0.431	0.000	0.1	0.0
100-YR 004-HR W	BNDY NORTH	BASE	4.00	71.400	74.000	0	0.398	0.000	0.1	0.0
100-YR 004-HR W	BNDY WEST	BASE	3.84	121.704	125.000	0	0.125	0.000	0.0	0.0
100-YR 004-HR W	BNDY WEST	BASE	4.00	121.733	125.000	0	0.110	0.000	0.0	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 008-HR W	BNDY NORTH	BASE	7.84	72.264	74.000	0	0.290	0.000	0.2	0.0
100-YR 008-HR W	BNDY NORTH	BASE	8.00	72.301	74.000	0	0.268	0.000	0.2	0.0
100-YR 008-HR W	BNDY NORTH	BASE	8.01	72.301	74.000	0	0.268	0.000	0.2	0.0
100-YR 008-HR W	BNDY WEST	BASE	7.84	122.437	125.000	0	0.084	0.000	0.1	0.0
100-YR 008-HR W	BNDY WEST	BASE	8.00	122.468	125.000	0	0.073	0.000	0.1	0.0
100-YR 008-HR W	BNDY WEST	BASE	8.01	122.468	125.000	0	0.073	0.000	0.1	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 024-HR W	BNDY NORTH	BASE	23.85	73.164	74.000	0	3.575	0.000	2.5	0.0
100-YR 024-HR W	BNDY NORTH	BASE	24.01	73.163	74.000	0	3.560	0.000	2.5	0.0
100-YR 024-HR W	BNDY WEST	BASE	23.85	123.242	125.000	0	0.044	0.000	0.2	0.0
100-YR 024-HR W	BNDY WEST	BASE	24.01	123.242	125.000	0	0.043	0.000	0.2	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 072-HR W	BNDY NORTH	BASE	71.83	73.016	74.000	0	2.137	0.000	10.5	0.0
100-YR 072-HR W	BNDY NORTH	BASE	72.00	73.016	74.000	0	2.124	0.000	10.6	0.0
100-YR 072-HR W	BNDY NORTH	BASE	72.01	73.016	74.000	0	2.124	0.000	10.6	0.0
100-YR 072-HR W	BNDY WEST	BASE	71.83	123.410	125.000	0	0.021	0.000	0.3	0.0
100-YR 072-HR W	BNDY WEST	BASE	72.00	123.411	125.000	0	0.021	0.000	0.3	0.0
100-YR 072-HR W	BNDY WEST	BASE	72.01	123.411	125.000	0	0.021	0.000	0.3	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 168-HR W	BNDY NORTH	BASE	167.84	72.722	74.000	0	0.943	0.000	17.4	0.0
100-YR 168-HR W	BNDY NORTH	BASE	168.01	72.721	74.000	0	0.939	0.000	17.5	0.0
100-YR 168-HR W	BNDY NORTH	BASE	168.02	72.721	74.000	0	0.939	0.000	17.5	0.0
100-YR 168-HR W	BNDY WEST	BASE	167.84	123.747	125.000	0	0.011	0.000	0.3	0.0
100-YR 168-HR W	BNDY WEST	BASE	168.01	123.747	125.000	0	0.011	0.000	0.3	0.0
100-YR 168-HR W	BNDY WEST	BASE	168.02	123.747	125.000	0	0.011	0.000	0.3	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
100-YR 240-HR W	BNDY NORTH	BASE	239.84	72.500	74.000	0	0.722	0.000	23.1	0.0
100-YR 240-HR W	BNDY NORTH	BASE	240.01	72.500	74.000	0	0.720	0.000	23.1	0.0
100-YR 240-HR W	BNDY NORTH	BASE	240.02	72.500	74.000	0	0.720	0.000	23.1	0.0
100-YR 240-HR W	BNDY WEST	BASE	239.84	123.999	125.000	0	0.009	0.000	0.4	0.0
100-YR 240-HR W	BNDY WEST	BASE	240.01	124.000	125.000	0	0.009	0.000	0.4	0.0
100-YR 240-HR W	BNDY WEST	BASE	240.02	124.000	125.000	0	0.009	0.000	0.4	0.0

APPENDIX L
POND RECOVERY MODELING INFORMATION

PONDS Version 3.2.0170
Retention Pond Recovery - Refined Method
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Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 1 Req'd TV
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	800.0
Equivalent Pond Width, [W] (ft):	330.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
80.00	204679.4
81.00	213436.5
82.00	222301.7
83.00	231271.3
84.00	240341.6
85.00	249514.4
86.00	258788.9

Detailed Results :: *Scenario 1 :: 237112 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	39518.6700	0.0000	80.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	39518.6700	0.0000	81.129	69.93772	0.00000	237112.0	419.9	0.0	S
2.400	0.0000	0.0000	80.770	6.88732	0.00000	237112.0	76890.8	0.0	S
6.000	0.0000	0.0000	80.528	3.40187	0.00000	237112.0	127834.1	0.0	S
12.000	0.0000	0.0000	80.266	2.10335	0.00000	237112.0	182272.9	0.0	S
24.000	0.0000	0.0000	79.697	0.63471	0.00000	237112.0	237112.0	0.0	S
36.000	0.0000	0.0000	78.785	0.00000	0.00000	237112.0	237112.0	0.0	S
48.000	0.0000	0.0000	78.082	0.00000	0.00000	237112.0	237112.0	0.0	S
60.000	0.0000	0.0000	77.508	0.00000	0.00000	237112.0	237112.0	0.0	S
72.000	0.0000	0.0000	77.022	0.00000	0.00000	237112.0	237112.0	0.0	S
84.000	0.0000	0.0000	76.601	0.00000	0.00000	237112.0	237112.0	0.0	S
96.000	0.0000	0.0000	76.230	0.00000	0.00000	237112.0	237112.0	0.0	S
120.000	0.0000	0.0000	75.620	0.00000	0.00000	237112.0	237112.0	0.0	S
144.000	0.0000	0.0000	75.106	0.00000	0.00000	237112.0	237112.0	0.0	S
168.000	0.0000	0.0000	74.663	0.00000	0.00000	237112.0	237112.0	0.0	S
192.000	0.0000	0.0000	74.275	0.00000	0.00000	237112.0	237112.0	0.0	S
216.000	0.0000	0.0000	73.930	0.00000	0.00000	237112.0	237112.0	0.0	S
240.000	0.0000	0.0000	73.621	0.00000	0.00000	237112.0	237112.0	0.0	S
264.000	0.0000	0.0000	73.341	0.00000	0.00000	237112.0	237112.0	0.0	S
288.000	0.0000	0.0000	73.086	0.00000	0.00000	237112.0	237112.0	0.0	S
312.000	0.0000	0.0000	72.852	0.00000	0.00000	237112.0	237112.0	0.0	S
336.000	0.0000	0.0000	72.637	0.00000	0.00000	237112.0	237112.0	0.0	S
360.000	0.0000	0.0000	72.436	0.00000	0.00000	237112.0	237112.0	0.0	S
480.000	0.0000	0.0000	71.681	0.00000	0.00000	237112.0	237112.0	0.0	S
600.000	0.0000	0.0000	71.086	0.00000	0.00000	237112.0	237112.0	0.0	S
720.000	0.0000	0.0000	70.604	---	---	237112.0	237112.0	0.0	N.A.

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Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 1 Half Total
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	800.0
Equivalent Pond Width, [W] (ft):	330.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
80.00	204679.4
81.00	213436.5
82.00	222301.7
83.00	231271.3
84.00	240341.6
85.00	249514.4
86.00	258788.9

Detailed Results :: *Scenario 1 :: 461905 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	76984.1600	0.0000	80.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	76984.1600	0.0000	82.155	74.45940	0.00000	461905.0	447.0	0.0	S
2.400	0.0000	0.0000	81.785	7.39641	0.00000	461905.0	82562.3	0.0	S
6.000	0.0000	0.0000	81.535	3.65554	0.00000	461905.0	137289.7	0.0	S
12.000	0.0000	0.0000	81.266	2.41655	0.00000	461905.0	195828.3	0.0	S
24.000	0.0000	0.0000	80.897	1.62599	0.00000	461905.0	274858.7	0.0	S
36.000	0.0000	0.0000	80.606	1.30454	0.00000	461905.0	336313.6	0.0	S
48.000	0.0000	0.0000	80.360	1.10840	0.00000	461905.0	387571.2	0.0	S
60.000	0.0000	0.0000	80.145	0.86035	0.00000	461905.0	432079.1	0.0	S
72.000	0.0000	0.0000	79.839	0.34521	0.00000	461905.0	461905.0	0.0	S
84.000	0.0000	0.0000	79.262	0.00000	0.00000	461905.0	461905.0	0.0	S
96.000	0.0000	0.0000	78.767	0.00000	0.00000	461905.0	461905.0	0.0	S
120.000	0.0000	0.0000	77.976	0.00000	0.00000	461905.0	461905.0	0.0	S
144.000	0.0000	0.0000	77.319	0.00000	0.00000	461905.0	461905.0	0.0	S
168.000	0.0000	0.0000	76.757	0.00000	0.00000	461905.0	461905.0	0.0	S
192.000	0.0000	0.0000	76.270	0.00000	0.00000	461905.0	461905.0	0.0	S
216.000	0.0000	0.0000	75.839	0.00000	0.00000	461905.0	461905.0	0.0	S
240.000	0.0000	0.0000	75.454	0.00000	0.00000	461905.0	461905.0	0.0	S
264.000	0.0000	0.0000	75.107	0.00000	0.00000	461905.0	461905.0	0.0	S
288.000	0.0000	0.0000	74.792	0.00000	0.00000	461905.0	461905.0	0.0	S
312.000	0.0000	0.0000	74.504	0.00000	0.00000	461905.0	461905.0	0.0	S
336.000	0.0000	0.0000	74.238	0.00000	0.00000	461905.0	461905.0	0.0	S
360.000	0.0000	0.0000	73.992	0.00000	0.00000	461905.0	461905.0	0.0	S
480.000	0.0000	0.0000	73.069	0.00000	0.00000	461905.0	461905.0	0.0	S
600.000	0.0000	0.0000	72.346	0.00000	0.00000	461905.0	461905.0	0.0	S
720.000	0.0000	0.0000	71.760	—	—	461905.0	461905.0	0.0	N.A.

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Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 1 Total
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	800.0
Equivalent Pond Width, [W] (ft):	330.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
80.00	204679.4
81.00	213436.5
82.00	222301.7
83.00	231271.3
84.00	240341.6
85.00	249514.4
86.00	258788.9

Detailed Results :: *Scenario 1 :: 923810 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	153968.3000	0.0000	80.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	153968.3000	0.0000	84.140	83.24799	0.00000	923810.0	499.8	0.0	S
2.400	0.0000	0.0000	83.751	8.40352	0.00000	923810.0	93780.1	0.0	S
6.000	0.0000	0.0000	83.489	4.15768	0.00000	923810.0	155995.1	0.0	S
12.000	0.0000	0.0000	83.204	2.75341	0.00000	923810.0	222657.6	0.0	S
24.000	0.0000	0.0000	82.814	1.85707	0.00000	923810.0	312849.5	0.0	S
36.000	0.0000	0.0000	82.507	1.49244	0.00000	923810.0	383108.3	0.0	S
48.000	0.0000	0.0000	82.247	1.26985	0.00000	923810.0	441796.3	0.0	S
60.000	0.0000	0.0000	82.018	1.11735	0.00000	923810.0	492823.1	0.0	S
72.000	0.0000	0.0000	81.813	1.00490	0.00000	923810.0	538335.4	0.0	S
84.000	0.0000	0.0000	81.625	0.91771	0.00000	923810.0	579646.8	0.0	S
96.000	0.0000	0.0000	81.451	0.84268	0.00000	923810.0	617625.2	0.0	S
120.000	0.0000	0.0000	81.143	0.72874	0.00000	923810.0	684134.9	0.0	S
144.000	0.0000	0.0000	80.865	0.65558	0.00000	923810.0	743551.1	0.0	S
168.000	0.0000	0.0000	80.610	0.59756	0.00000	923810.0	797419.0	0.0	S
192.000	0.0000	0.0000	80.373	0.55021	0.00000	923810.0	846808.9	0.0	S
216.000	0.0000	0.0000	80.153	0.44561	0.00000	923810.0	892495.6	0.0	S
240.000	0.0000	0.0000	79.826	0.18122	0.00000	923810.0	923810.0	0.0	S
264.000	0.0000	0.0000	79.221	0.00000	0.00000	923810.0	923810.0	0.0	S
288.000	0.0000	0.0000	78.700	0.00000	0.00000	923810.0	923810.0	0.0	S
312.000	0.0000	0.0000	78.238	0.00000	0.00000	923810.0	923810.0	0.0	S
336.000	0.0000	0.0000	77.823	0.00000	0.00000	923810.0	923810.0	0.0	S
360.000	0.0000	0.0000	77.445	0.00000	0.00000	923810.0	923810.0	0.0	S
480.000	0.0000	0.0000	76.080	0.00000	0.00000	923810.0	923810.0	0.0	S
600.000	0.0000	0.0000	75.035	0.00000	0.00000	923810.0	923810.0	0.0	S
720.000	0.0000	0.0000	74.204	—	—	923810.0	923810.0	0.0	N.A.

PONDS Version 3.2.0170
Retention Pond Recovery - Refined Method
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Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 2 Req'd TV
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	200.0
Equivalent Pond Width, [W] (ft):	120.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
71.00	3725.0
72.00	4848.0
73.00	6072.0
74.00	7397.0
75.00	8822.0
76.00	10347.0
77.00	11973.0
77.50	12837.0
78.00	13700.0
79.00	15527.0

Detailed Results :: *Scenario 1 :: 19457 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	3242.8330	0.0000	71.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	3242.8330	0.0000	74.379	11.43843	0.00000	19457.0	68.7	0.0	S
2.400	0.0000	0.0000	72.891	0.88628	0.00000	19457.0	10363.5	0.0	S
6.000	0.0000	0.0000	71.848	0.32861	0.00000	19457.0	15895.4	0.0	S
12.000	0.0000	0.0000	70.791	0.10993	0.00000	19457.0	19457.0	0.0	S
24.000	0.0000	0.0000	69.773	0.00000	0.00000	19457.0	19457.0	0.0	S
36.000	0.0000	0.0000	69.120	0.00000	0.00000	19457.0	19457.0	0.0	S
48.000	0.0000	0.0000	68.654	0.00000	0.00000	19457.0	19457.0	0.0	S
60.000	0.0000	0.0000	68.301	0.00000	0.00000	19457.0	19457.0	0.0	S
72.000	0.0000	0.0000	68.020	0.00000	0.00000	19457.0	19457.0	0.0	S
84.000	0.0000	0.0000	67.790	0.00000	0.00000	19457.0	19457.0	0.0	S
96.000	0.0000	0.0000	67.597	0.00000	0.00000	19457.0	19457.0	0.0	S
120.000	0.0000	0.0000	67.305	0.00000	0.00000	19457.0	19457.0	0.0	S
144.000	0.0000	0.0000	67.075	0.00000	0.00000	19457.0	19457.0	0.0	S
168.000	0.0000	0.0000	66.889	0.00000	0.00000	19457.0	19457.0	0.0	S
192.000	0.0000	0.0000	66.736	0.00000	0.00000	19457.0	19457.0	0.0	S
216.000	0.0000	0.0000	66.606	0.00000	0.00000	19457.0	19457.0	0.0	S
240.000	0.0000	0.0000	66.495	0.00000	0.00000	19457.0	19457.0	0.0	S
264.000	0.0000	0.0000	66.399	0.00000	0.00000	19457.0	19457.0	0.0	S
288.000	0.0000	0.0000	66.315	0.00000	0.00000	19457.0	19457.0	0.0	S
312.000	0.0000	0.0000	66.241	0.00000	0.00000	19457.0	19457.0	0.0	S
336.000	0.0000	0.0000	66.176	0.00000	0.00000	19457.0	19457.0	0.0	S
360.000	0.0000	0.0000	66.117	0.00000	0.00000	19457.0	19457.0	0.0	S
480.000	0.0000	0.0000	65.917	0.00000	0.00000	19457.0	19457.0	0.0	S
600.000	0.0000	0.0000	65.775	0.00000	0.00000	19457.0	19457.0	0.0	S
720.000	0.0000	0.0000	65.670	—	—	19457.0	19457.0	0.0	N.A.

PONDS Version 3.2.0170
Retention Pond Recovery - Refined Method

Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 2 Half Total
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	200.0
Equivalent Pond Width, [W] (ft):	120.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
71.00	3725.0
72.00	4848.0
73.00	6072.0
74.00	7397.0
75.00	8822.0
76.00	10347.0
77.00	11973.0
77.50	12837.0
78.00	13700.0
79.00	15527.0

Detailed Results :: *Scenario 1 :: 28701 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	4783.5000	0.0000	71.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	4783.5000	0.0000	75.440	12.74952	0.00000	28701.0	76.5	0.0	S
2.400	0.0000	0.0000	74.030	1.03642	0.00000	28701.0	11996.8	0.0	S
6.000	0.0000	0.0000	73.036	0.42618	0.00000	28701.0	18732.9	0.0	S
12.000	0.0000	0.0000	71.968	0.21202	0.00000	28701.0	24569.5	0.0	S
24.000	0.0000	0.0000	70.658	0.04782	0.00000	28701.0	28701.0	0.0	S
36.000	0.0000	0.0000	69.881	0.00000	0.00000	28701.0	28701.0	0.0	S
48.000	0.0000	0.0000	69.328	0.00000	0.00000	28701.0	28701.0	0.0	S
60.000	0.0000	0.0000	68.909	0.00000	0.00000	28701.0	28701.0	0.0	S
72.000	0.0000	0.0000	68.576	0.00000	0.00000	28701.0	28701.0	0.0	S
84.000	0.0000	0.0000	68.303	0.00000	0.00000	28701.0	28701.0	0.0	S
96.000	0.0000	0.0000	68.075	0.00000	0.00000	28701.0	28701.0	0.0	S
120.000	0.0000	0.0000	67.729	0.00000	0.00000	28701.0	28701.0	0.0	S
144.000	0.0000	0.0000	67.458	0.00000	0.00000	28701.0	28701.0	0.0	S
168.000	0.0000	0.0000	67.238	0.00000	0.00000	28701.0	28701.0	0.0	S
192.000	0.0000	0.0000	67.056	0.00000	0.00000	28701.0	28701.0	0.0	S
216.000	0.0000	0.0000	66.903	0.00000	0.00000	28701.0	28701.0	0.0	S
240.000	0.0000	0.0000	66.771	0.00000	0.00000	28701.0	28701.0	0.0	S
264.000	0.0000	0.0000	66.658	0.00000	0.00000	28701.0	28701.0	0.0	S
288.000	0.0000	0.0000	66.559	0.00000	0.00000	28701.0	28701.0	0.0	S
312.000	0.0000	0.0000	66.471	0.00000	0.00000	28701.0	28701.0	0.0	S
336.000	0.0000	0.0000	66.393	0.00000	0.00000	28701.0	28701.0	0.0	S
360.000	0.0000	0.0000	66.324	0.00000	0.00000	28701.0	28701.0	0.0	S
480.000	0.0000	0.0000	66.087	0.00000	0.00000	28701.0	28701.0	0.0	S
600.000	0.0000	0.0000	65.920	0.00000	0.00000	28701.0	28701.0	0.0	S
720.000	0.0000	0.0000	65.795	—	—	28701.0	28701.0	0.0	N.A.

PONDS Version 3.2.0170
Retention Pond Recovery - Refined Method

Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	Alachua, Florida
Simulation Description:	#3873-00 Walmart - Post Pond 2 Total
Project Number:	W13392
Engineer :	JAB
Supervising Engineer:	HLW
Date:	06-17-2010

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	37.00
Water Table Elevation, [WT] (ft datum):	65.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	6.00
Fillable Porosity, [n] (%):	20.00

Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft):	200.0
Equivalent Pond Width, [W] (ft):	120.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

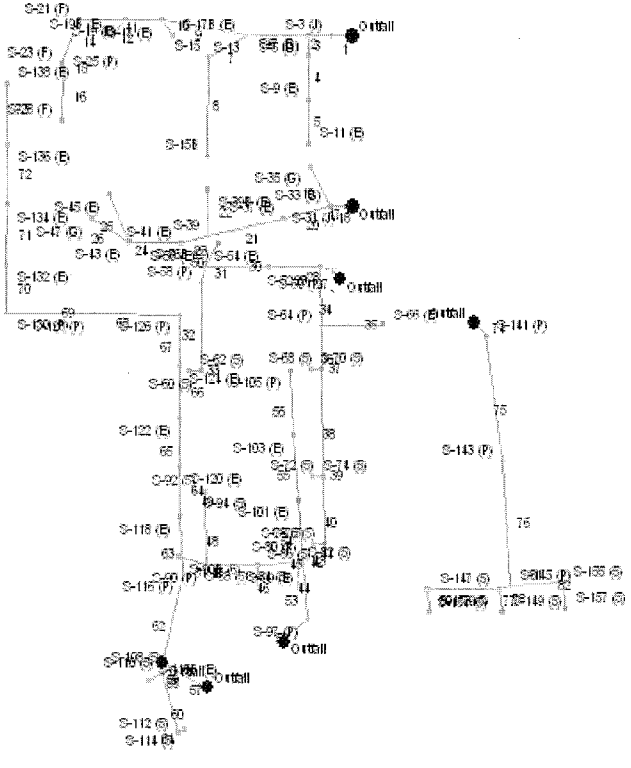
Stage (ft datum)	Area (ft^2)
71.00	3725.0
72.00	4848.0
73.00	6072.0
74.00	7397.0
75.00	8822.0
76.00	10347.0
77.00	11973.0
77.50	12837.0
78.00	13700.0
79.00	15527.0

Detailed Results :: *Scenario 1 :: 57401 ft³ slug load*

Elapsed Time (hours)	Inflow Rate (ft³/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft³/s)	Overflow Discharge (ft³/s)	Cumulative Inflow Volume (ft³)	Cumulative Infiltration Volume (ft³)	Cumulative Discharge Volume (ft³)	Flow Type
0.000	9566.8330	0.0000	71.000	0.00000	0.00000	0.0	0.0	0.0	N.A.
0.002	9566.8330	0.0000	77.937	15.82992	0.00000	57401.0	95.0	0.0	S
2.400	0.0000	0.0000	76.671	1.39566	0.00000	57401.0	15912.0	0.0	S
6.000	0.0000	0.0000	75.775	0.62150	0.00000	57401.0	25512.5	0.0	S
12.000	0.0000	0.0000	74.789	0.36033	0.00000	57401.0	34642.7	0.0	S
24.000	0.0000	0.0000	73.445	0.19159	0.00000	57401.0	44820.3	0.0	S
36.000	0.0000	0.0000	72.378	0.12255	0.00000	57401.0	51196.5	0.0	S
48.000	0.0000	0.0000	71.498	0.07181	0.00000	57401.0	55408.6	0.0	S
60.000	0.0000	0.0000	70.797	0.02306	0.00000	57401.0	57401.0	0.0	S
72.000	0.0000	0.0000	70.298	0.00000	0.00000	57401.0	57401.0	0.0	S
84.000	0.0000	0.0000	69.890	0.00000	0.00000	57401.0	57401.0	0.0	S
96.000	0.0000	0.0000	69.549	0.00000	0.00000	57401.0	57401.0	0.0	S
120.000	0.0000	0.0000	69.035	0.00000	0.00000	57401.0	57401.0	0.0	S
144.000	0.0000	0.0000	68.632	0.00000	0.00000	57401.0	57401.0	0.0	S
168.000	0.0000	0.0000	68.307	0.00000	0.00000	57401.0	57401.0	0.0	S
192.000	0.0000	0.0000	68.038	0.00000	0.00000	57401.0	57401.0	0.0	S
216.000	0.0000	0.0000	67.812	0.00000	0.00000	57401.0	57401.0	0.0	S
240.000	0.0000	0.0000	67.619	0.00000	0.00000	57401.0	57401.0	0.0	S
264.000	0.0000	0.0000	67.451	0.00000	0.00000	57401.0	57401.0	0.0	S
288.000	0.0000	0.0000	67.305	0.00000	0.00000	57401.0	57401.0	0.0	S
312.000	0.0000	0.0000	67.175	0.00000	0.00000	57401.0	57401.0	0.0	S
336.000	0.0000	0.0000	67.061	0.00000	0.00000	57401.0	57401.0	0.0	S
360.000	0.0000	0.0000	66.958	0.00000	0.00000	57401.0	57401.0	0.0	S
480.000	0.0000	0.0000	66.609	0.00000	0.00000	57401.0	57401.0	0.0	S
600.000	0.0000	0.0000	66.361	0.00000	0.00000	57401.0	57401.0	0.0	S
720.000	0.0000	0.0000	66.178	---	---	57401.0	57401.0	0.0	N.A.

APPENDIX M
HYDRAULIC GRADE LINE ANALYSIS

Hydraflow Plan View



Project file: Storm Sewer - 3873 - 06-24-10.stm	No. Lines: 82	06-25-2010

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)	Inlet/ Rim El (ft)	
1	End	61.0	179.9	MH	0.00	0.00	0.00	0.0	80.50	0.66	80.90	48	Cir	0.013	0.15	101.10	S-2
2	1	72.0	0.2	Grate	0.00	0.83	0.77	10.0	86.20	15.00	97.00	48	Cir	0.013	1.50	113.50	S-4
3	2	53.0	-89.9	Grate	0.00	1.00	0.75	10.0	106.80	0.57	107.10	30	Cir	0.013	0.50	113.50	S-6
4	3	119.0	-0.1	Grate	0.00	1.06	0.77	10.0	107.20	0.50	107.80	24	Cir	0.013	0.50	113.50	S-8
5	4	120.0	-0.3	Grate	0.00	0.65	0.78	10.0	107.90	0.50	108.50	18	Cir	0.013	1.00	113.50	S-10
6	2	186.0	0.3	MH	0.00	0.00	0.00	0.0	105.40	0.86	107.00	42	Cir	0.013	0.45	115.90	S-12
7	6	137.0	-26.5	MH	0.00	0.00	0.00	0.0	108.50	1.02	109.90	15	Cir	0.013	0.85	117.60	S-14
8	7	268.0	-63.1	MH	0.00	0.10	0.95	10.0	110.00	1.08	112.90	15	Cir	0.013	1.00	117.45	S-15A
9	6	265.0	8.5	Grate	0.00	0.64	0.60	10.0	107.45	0.51	108.80	42	Cir	0.013	1.50	116.20	S-16
10	9	50.0	-134.7	Grate	0.00	0.92	0.95	10.0	111.70	0.60	112.00	24	Cir	0.013	1.00	117.45	S-17A
11	9	111.0	-7.7	Grate	0.00	0.37	0.58	10.0	108.90	0.54	109.50	42	Cir	0.013	1.10	116.75	S-18
12	11	63.0	-44.7	Grate	0.00	0.91	0.95	10.0	111.60	0.63	112.00	24	Cir	0.013	1.00	117.80	S-19A
13	11	143.0	-1.9	Grate	0.00	0.92	0.51	10.0	109.60	0.56	110.40	42	Cir	0.013	1.25	116.50	S-20
14	13	132.0	-66.1	Grate	0.00	0.30	0.57	10.0	110.50	0.53	111.20	36	Cir	0.013	0.70	116.95	S-22
15	14	24.0	-23.6	MH	0.00	0.10	0.95	10.0	112.00	0.42	112.10	24	Cir	0.013	0.15	117.25	S-24
16	15	125.0	0.7	Grate	0.00	1.01	0.52	10.0	112.20	0.56	112.90	24	Cir	0.013	1.00	116.65	S-27
17	End	25.0	-179.9	MH	0.00	0.00	0.00	0.0	80.50	0.40	80.60	42	Cir	0.013	0.15	93.00	S-30
18	17	40.0	-0.1	Grate	0.00	1.65	0.74	10.0	89.00	15.00	95.00	42	Cir	0.013	1.25	111.35	S-32
19	18	128.0	60.7	Grate	0.00	1.01	0.77	10.0	106.55	0.51	107.20	18	Cir	0.013	1.00	113.20	S-34
20	18	151.0	-12.1	Grate	0.00	0.10	0.75	10.0	106.75	0.50	107.50	36	Cir	0.013	0.50	114.00	S-36
21	20	236.0	-0.2	MH	0.00	0.00	0.00	10.0	107.60	0.51	108.80	36	Cir	0.013	1.00	116.45	S-38

Project File: Storm Sewer - 3873 - 06-24-10.stm | Number of lines: 81 | Date: 06-25-2010

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)	Inlet/ Rim El (ft)	
22	21	127.0	102.4	Grate	0.00	0.75	0.95	10.0	110.25	0.51	110.90	24	Cir	0.013	1.00	117.45	S-39A
23	21	84.0	0.8	Grate	0.00	0.81	0.78	10.0	108.90	0.60	109.40	36	Cir	0.013	0.70	115.60	S-40
24	23	160.0	11.6	Grate	0.00	1.14	0.72	10.0	109.50	0.50	110.30	30	Cir	0.013	1.25	115.80	S-42
25	24	142.0	65.9	Grate	0.00	0.78	0.95	10.0	110.40	1.06	111.90	24	Cir	0.013	1.00	117.40	S-44
26	24	127.0	29.6	Grate	0.00	2.01	0.51	10.0	110.40	0.47	111.00	24	Cir	0.013	1.00	115.90	S-46
27	End	30.0	-135.3	MH	0.00	0.00	0.00	10.0	80.50	0.33	80.60	30	Cir	0.013	0.45	93.50	S-49
28	27	41.0	-29.5	Curb	0.00	0.55	0.74	10.0	80.60	0.49	80.80	30	Cir	0.013	1.50	110.25	S-51
29	28	155.0	-14.9	Grate	0.00	0.42	0.72	10.0	91.00	0.52	91.80	24	Cir	0.013	0.50	114.25	S-53
30	29	199.0	-0.3	Grate	0.00	0.25	0.92	10.0	91.90	0.50	92.90	24	Cir	0.013	1.50	114.95	S-55
31	30	44.0	-76.2	MH	0.00	0.00	0.00	10.0	93.00	0.45	93.20	18	Cir	0.013	0.45	115.90	S-57
32	31	246.0	-13.7	Curb	0.00	0.11	0.95	10.0	93.30	0.49	94.50	18	Cir	0.013	1.50	107.04	S-59
33	32	35.0	90.5	Curb	0.00	0.11	0.95	10.0	103.10	0.57	103.30	15	Cir	0.013	1.00	107.04	S-61
34	28	163.0	-106.6	MH	0.00	0.00	0.00	10.0	80.80	0.31	81.30	30	Cir	0.013	1.00	102.30	S-63
35	34	189.0	-89.6	Grate	0.00	0.58	0.77	10.0	95.00	0.85	96.60	18	Cir	0.013	1.00	100.60	S-65
36	34	118.0	0.3	Curb	0.00	0.11	0.95	10.0	81.30	0.34	81.70	30	Cir	0.013	1.50	96.67	S-67
37	36	35.0	89.4	Curb	0.00	0.11	0.95	10.0	92.30	0.57	92.50	15	Cir	0.013	1.00	96.67	S-69
38	36	296.0	0.0	Curb	0.00	0.14	0.95	10.0	81.70	0.30	82.60	24 38	Ellip	0.013	1.50	91.20	S-71
39	38	35.0	90.3	Curb	0.00	0.14	0.95	10.0	86.90	0.57	87.10	15	Cir	0.013	1.00	91.20	S-73
40	38	186.0	0.0	Curb	0.00	1.24	0.25	10.0	83.30	0.54	84.30	19 30	Ellip	0.013	1.50	88.96	S-75
41	40	35.0	89.8	Curb	0.00	0.37	0.55	10.0	84.40	0.57	84.60	24	Cir	0.013	1.25	88.96	S-77

Project File: Storm Sewer - 3873 - 06-24-10.stm | Number of lines: 81 | Date: 06-25-2010

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)	Inlet/ Rim El (ft)	
42	41	46.0	-56.0	MH	0.00	0.00	0.00	10.0	84.70	0.43	84.90	24	Cir	0.013	0.45	90.05	S-79
43	42	28.0	21.4	Curb	0.00	0.09	0.83	10.0	85.00	0.71	85.20	18	Cir	0.013	1.25	89.79	S-81
44	43	63.0	-55.7	Curb	0.00	0.09	0.69	10.0	85.30	0.48	85.60	18	Cir	0.013	1.00	89.79	S-83
45	43	126.0	35.1	Curb	0.00	0.59	0.72	10.0	85.30	0.95	86.50	18	Cir	0.013	1.50	91.72	S-85
46	45	64.0	-89.7	Curb	0.00	0.25	0.63	10.0	87.00	0.47	87.30	18	Cir	0.013	1.00	91.72	S-87
47	45	155.0	-0.3	MH	0.00	0.00	0.00	10.0	86.50	1.00	88.05	14 23	Ellip	0.013	1.00	96.70	S-89
48	47	205.0	89.8	Curb	0.00	0.14	0.95	10.0	88.05	0.51	89.10	14 23	Ellip	0.013	1.50	97.29	S-91
49	48	35.0	-89.8	Curb	0.00	0.14	0.95	10.0	93.35	3.43	94.55	15	Cir	0.013	1.00	97.29	S-93
50	30	80.0	122.8	Grate	0.00	0.29	0.62	10.0	110.00	2.12	111.70	15	Cir	0.013	1.00	115.00	S-56A
51	47	89.0	17.5	Curb	0.00	0.20	0.75	10.0	88.50	0.56	89.00	15	Cir	0.013	1.00	93.45	S-90A
52	End	79.0	-38.8	MH	0.00	0.00	0.00	10.0	75.00	0.25	75.20	36	Cir	0.013	0.85	89.50	S-96
53	52	149.0	-57.3	Grate	0.00	1.72	0.20	10.0	75.30	0.47	76.00	30	Cir	0.013	0.50	88.00	S-98
54	53	180.0	1.6	Grate	0.00	1.72	0.20	10.0	76.10	0.50	77.00	24	Cir	0.013	0.50	90.10	S-100
55	54	180.0	0.6	Grate	0.00	1.72	0.20	10.0	77.10	2.00	80.70	18	Cir	0.013	0.50	92.31	S-102
56	55	180.0	1.0	Grate	0.00	0.01	0.20	10.0	80.80	2.00	84.40	18	Cir	0.013	1.00	100.70	S-104
57	End	107.0	-155.1	Curb	0.00	0.14	0.75	10.0	75.00	0.56	75.60	54	Cir	0.013	1.25	91.51	S-107
58	57	30.0	-56.7	Curb	0.00	0.20	0.71	10.0	79.00	1.00	79.30	54	Cir	0.013	1.50	91.53	S-109
59	58	48.0	-0.9	Grate	0.00	3.51	0.20	10.0	79.30	1.04	79.80	54	Cir	0.013	1.00	87.00	S-110A
60	58	173.0	-80.0	Curb	0.00	0.05	0.95	10.0	82.00	0.58	83.00	18	Cir	0.013	1.50	87.42	S-111
61	60	23.0	-108.9	Curb	0.00	0.05	0.95	10.0	83.10	0.22	83.15	15	Cir	0.013	1.00	87.42	S-112A

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr line No.	Line length (ft)	Defl angle (deg)	Junc type	Known Q (cfs)	Drng area (ac)	Runoff coeff (C)	Inlet time (min)	Invert El Dn (ft)	Line slope (%)	Invert El Up (ft)	Line size (in)	Line type	N value (n)	J-loss coeff (K)	Inlet/ Rim El (ft)	
62	End	252.0	74.0	MH	0.00	0.00	0.00	10.0	75.00	2.24	80.65	34 53	Ellip	0.013	0.15	96.90	S-115
63	62	161.0	-1.0	Grate	0.00	3.51	0.20	10.0	80.65	2.08	84.00	34 53	Ellip	0.013	0.50	95.02	S-117
64	63	138.0	2.1	Grate	0.00	3.51	0.20	10.0	89.40	1.30	91.20	30	Cir	0.013	0.50	99.70	S-119
65	64	130.0	0.6	Grate	0.00	3.51	0.20	10.0	91.60	3.38	96.00	24	Cir	0.013	0.50	104.12	S-121
66	65	148.0	-1.5	Grate	0.00	3.51	0.20	10.0	96.10	2.97	100.50	24	Cir	0.013	0.50	109.06	S-123
67	66	140.0	1.7	MH	0.00	0.00	0.00	10.0	100.60	3.14	105.00	24	Cir	0.013	1.00	116.00	S-125
68	67	264.0	-90.0	MH	0.00	0.00	0.00	10.0	111.00	1.06	113.80	24	Cir	0.013	0.15	132.10	S-127
69	68	265.0	0.0	MH	0.00	0.00	0.00	10.0	120.00	0.49	121.30	24	Cir	0.013	1.00	149.00	S-129
70	69	134.0	90.0	Grate	0.00	3.51	0.20	10.0	121.40	0.52	122.10	24	Cir	0.013	0.50	144.30	S-131
71	70	166.0	0.3	Grate	0.00	3.51	0.20	10.0	122.20	0.54	123.10	24	Cir	0.013	0.50	139.80	S-133
72	71	165.0	-0.1	Grate	0.00	3.51	0.20	10.0	123.20	0.55	124.10	24	Cir	0.013	0.50	129.00	S-135
73	72	166.0	-0.1	Grate	0.00	3.51	0.20	10.0	124.20	0.48	125.00	24	Cir	0.013	1.00	138.15	S-137
74	End	55.0	44.3	MH	0.00	0.00	0.00	10.0	72.00	0.45	72.25	24	Cir	0.013	0.75	78.50	S-140
75	74	351.0	37.3	MH	0.00	0.00	0.00	10.0	72.25	0.23	73.05	24	Cir	0.013	0.15	82.50	S-142
76	75	347.0	4.4	MH	0.00	0.00	0.00	10.0	73.05	0.22	73.80	24	Cir	0.013	1.00	82.10	S-144
77	76	34.0	88.1	Curb	0.00	0.15	0.81	10.0	75.80	1.47	76.30	18	Cir	0.013	1.50	82.61	S-146
78	77	63.0	-86.5	Curb	0.00	0.18	0.83	10.0	78.00	0.63	78.40	18	Cir	0.013	1.00	82.61	S-148
79	77	222.0	9.5	Curb	0.00	0.75	0.58	10.0	76.40	1.53	79.80	18	Cir	0.013	1.50	85.99	S-150
80	79	63.0	-95.4	Curb	0.00	0.22	0.94	10.0	81.70	0.48	82.00	18	Cir	0.013	1.00	85.99	S-152
81	76	163.0	-86.2	Curb	0.00	0.17	0.82	10.0	73.80	0.21	74.15	14 23	Ellip	0.013	1.50	78.01	S-154

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
1	End	61.0	0.00	8.81	0.00	0.00	6.40	0.0	20.5	7.5	47.94	116.3	7.29	48	0.66	80.90	80.50	82.95	82.60	101.10	0.00	S-2
2	1	72.0	0.83	8.81	0.77	0.64	6.40	10.0	20.2	7.5	48.23	556.3	15.49	48	15.00	97.00	86.20	103.65	87.00	113.50	101.10	S-4
3	2	53.0	1.00	2.71	0.75	0.75	2.07	10.0	11.2	9.3	19.28	30.86	6.51	30	0.57	107.10	106.80	108.57	108.24	113.50	113.50	S-6
4	3	119.0	1.06	1.71	0.77	0.82	1.32	10.0	10.7	9.4	12.47	16.06	4.90	24	0.50	107.80	107.20	109.18	108.89	113.50	113.50	S-8
5	4	120.0	0.65	0.65	0.78	0.51	0.51	10.0	10.0	9.6	4.88	7.43	3.09	18	0.50	108.50	107.90	109.63	109.41	113.50	113.50	S-10
6	2	186.0	0.00	5.27	0.00	0.00	3.69	0.0	19.3	7.7	28.39	93.31	7.45	42	0.86	107.00	105.40	108.63	106.73	115.90	113.50	S-12
7	6	137.0	0.00	0.10	0.00	0.00	0.10	0.0	16.0	8.3	0.78	6.53	2.44	15	1.02	109.90	108.50	110.25	108.92	117.60	115.90	S-14
8	7	268.0	0.10	0.10	0.95	0.10	0.10	10.0	10.0	9.6	0.91	6.72	3.04	15	1.08	112.90	110.00	113.28	110.35	117.45	117.60	S-15A
9	6	265.0	0.64	5.17	0.60	0.38	3.60	10.0	16.5	8.2	29.37	71.81	6.79	42	0.51	108.80	107.45	110.46	109.02	116.20	115.90	S-16
10	9	50.0	0.92	0.92	0.95	0.87	0.87	10.0	10.0	9.6	8.41	17.52	5.32	24	0.60	112.00	111.70	113.03	112.68	117.45	116.20	S-17A
11	9	111.0	0.37	3.61	0.58	0.21	2.34	10.0	15.6	8.3	19.48	73.97	3.06	42	0.54	109.50	108.90	111.45	111.46	116.75	116.20	S-18
12	11	63.0	0.91	0.91	0.95	0.86	0.86	10.0	10.0	9.6	8.31	18.02	5.37	24	0.63	112.00	111.60	113.03	112.55	117.80	116.75	S-19A
13	11	143.0	0.92	2.33	0.51	0.47	1.26	10.0	13.6	8.7	11.02	75.25	2.71	42	0.56	110.40	109.60	111.65	111.67	116.50	116.75	S-20
14	13	132.0	0.30	1.41	0.57	0.17	0.79	10.0	11.5	9.2	7.30	48.57	3.31	36	0.53	111.20	110.50	112.06	111.90	116.95	116.50	S-22
15	14	24.0	0.10	1.11	0.95	0.10	0.62	10.0	11.3	9.3	5.76	14.60	4.36	24	0.42	112.10	112.00	112.97	112.87	117.25	116.95	S-24
16	15	125.0	1.01	1.01	0.52	0.53	0.53	10.0	10.0	9.6	5.05	16.93	4.25	24	0.56	112.90	112.20	113.70	113.02	116.65	117.25	S-27
17	End	25.0	0.00	8.25	0.00	0.00	6.00	0.0	13.4	8.8	52.81	63.63	7.81	42	0.40	80.60	80.50	83.02	82.73	93.00	0.00	S-30
18	17	40.0	1.65	8.25	0.74	1.22	6.00	10.0	13.3	8.8	52.98	389.7	16.74	42	15.00	95.00	89.00	104.53	89.88	111.35	93.00	S-32
19	18	128.0	1.01	1.01	0.77	0.78	0.78	10.0	10.0	9.6	7.48	7.48	4.83	18	0.51	107.20	106.55	108.43	107.78	113.20	111.35	S-34
20	18	151.0	0.10	5.59	0.75	0.08	4.01	10.0	12.7	8.9	35.82	47.00	7.32	36	0.50	107.50	106.75	109.46	108.71	114.00	111.35	S-36
21	20	236.0	0.00	5.49	0.00	0.00	3.93	10.0	11.9	9.1	35.89	47.56	6.90	36	0.51	108.80	107.60	110.71	109.88	116.45	114.00	S-38

Project File: Storm Sewer - 3873 - 06-24-10.stm

Number of lines: 81

Run Date: 06-25-2010

NOTES: Intensity = 134.19 / (Inlet time + 18.20) ^ 0.79; Return period = 100 Yrs.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr	Total		Incr	Total	Inlet	Syst					Size	Slope	Up	Dn	Up	Dn	Up	Dn	
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
22	21	127.0	0.75	0.75	0.95	0.71	0.71	10.0	10.0	9.6	6.85	16.18	3.93	24	0.51	110.90	110.25	111.83	111.60	117.45	116.45	S-39A
23	21	84.0	0.81	4.74	0.78	0.63	3.22	10.0	11.6	9.2	29.65	51.46	4.81	36	0.60	109.40	108.90	111.66	111.60	115.60	116.45	S-40
24	23	160.0	1.14	3.93	0.72	0.82	2.59	10.0	11.0	9.3	24.18	29.00	5.26	30	0.50	110.30	109.50	112.37	111.95	115.80	115.60	S-42
25	24	142.0	0.78	0.78	0.95	0.74	0.74	10.0	10.0	9.6	7.13	23.25	2.99	24	1.06	111.90	110.40	113.07	112.97	117.40	115.80	S-44
26	24	127.0	2.01	2.01	0.51	1.03	1.03	10.0	10.0	9.6	9.86	15.55	3.14	24	0.47	111.00	110.40	113.21	112.97	115.90	115.80	S-46
27	End	30.0	0.00	5.92	0.00	0.00	3.90	10.0	18.7	7.8	30.32	23.68	7.26	30	0.33	80.60	80.50	82.77	82.34	93.50	0.00	S-49
28	27	41.0	0.55	5.92	0.74	0.41	3.90	10.0	18.6	7.8	30.39	28.64	6.19	30	0.49	80.80	80.60	83.30	83.09	110.25	93.50	S-51
29	28	155.0	0.42	1.18	0.72	0.30	0.92	10.0	16.9	8.1	7.45	16.25	4.98	24	0.52	91.80	91.00	92.77	91.95	114.25	110.25	S-53
30	29	199.0	0.25	0.76	0.92	0.23	0.62	10.0	15.0	8.4	5.23	16.03	3.74	24	0.50	92.90	91.90	93.71	92.96	114.95	114.25	S-55
31	30	44.0	0.00	0.22	0.00	0.00	0.21	10.0	14.3	8.6	1.80	7.08	1.36	18	0.45	93.20	93.00	94.17	94.16	115.90	114.95	S-57
32	31	246.0	0.11	0.22	0.95	0.10	0.21	10.0	10.7	9.4	1.97	7.33	2.65	18	0.49	94.50	93.30	95.04	94.18	107.04	115.90	S-59
33	32	35.0	0.11	0.11	0.95	0.10	0.10	10.0	10.0	9.6	1.01	4.88	3.02	15	0.57	103.30	103.10	103.70	103.49	107.04	107.04	S-61
34	28	163.0	0.00	4.19	0.00	0.00	2.57	10.0	17.9	7.9	20.34	22.71	4.14	30	0.31	81.30	80.80	84.59	84.19	102.30	110.25	S-63
35	34	189.0	0.58	0.58	0.77	0.45	0.45	10.0	10.0	9.6	4.30	9.66	4.92	18	0.85	96.60	95.00	97.39	95.70	100.60	102.30	S-65
36	34	118.0	0.11	3.61	0.95	0.10	2.12	10.0	17.3	8.0	17.03	23.88	3.47	30	0.34	81.70	81.30	85.06	84.86	96.67	102.30	S-67
37	36	35.0	0.11	0.11	0.95	0.10	0.10	10.0	10.0	9.6	1.01	4.88	3.02	15	0.57	92.50	92.30	92.90	92.69	96.67	96.67	S-69
38	36	296.0	0.14	3.39	0.95	0.13	1.91	10.0	15.7	8.3	15.91	22.62	3.20	24 38 e	0.30	82.60	81.70	85.79	85.35	91.20	96.67	S-71
39	38	35.0	0.14	0.14	0.95	0.13	0.13	10.0	10.0	9.6	1.28	4.88	3.26	15	0.57	87.10	86.90	87.56	87.34	91.20	91.20	S-73
40	38	186.0	1.24	3.11	0.25	0.31	1.65	10.0	15.0	8.4	13.93	16.07	4.48	19 30 e	0.54	84.30	83.30	86.78	86.03	88.96	91.20	S-75
41	40	35.0	0.37	1.87	0.55	0.20	1.34	10.0	14.9	8.5	11.35	17.10	3.61	24	0.57	84.60	84.40	87.34	87.25	88.96	88.96	S-77

Project File: Storm Sewer - 3873 - 06-24-10.stm

Number of lines: 81

Run Date: 06-25-2010

NOTES: Intensity = 134.19 / (Inlet time + 18.20) ^ 0.79; Return period = 100 Yrs.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
42	41	46.0	0.00	1.50	0.00	0.00	1.14	10.0	14.6	8.5	9.68	14.91	3.08	24	0.43	84.90	84.70	87.67	87.59	90.05	88.96	S-79
43	42	28.0	0.09	1.50	0.83	0.07	1.14	10.0	14.5	8.5	9.70	8.88	5.49	18	0.71	85.20	85.00	87.98	87.74	89.79	90.05	S-81
44	43	63.0	0.09	0.09	0.69	0.06	0.06	10.0	10.0	9.6	0.60	7.25	0.34	18	0.48	85.60	85.30	88.57	88.57	89.79	89.79	S-83
45	43	126.0	0.59	1.32	0.72	0.42	1.00	10.0	14.1	8.6	8.62	10.25	4.88	18	0.95	86.50	85.30	89.42	88.57	91.72	89.79	S-85
46	45	64.0	0.25	0.25	0.63	0.16	0.16	10.0	10.0	9.6	1.51	7.19	0.86	18	0.47	87.30	87.00	89.98	89.97	91.72	91.72	S-87
47	45	155.0	0.00	0.48	0.00	0.00	0.42	10.0	12.9	8.9	3.70	10.20	2.11	14 23 e	1.00	88.05	86.50	90.17	89.97	96.70	91.72	S-89
48	47	205.0	0.14	0.28	0.95	0.13	0.27	10.0	10.6	9.5	2.52	7.30	1.43	14 23 e	0.51	89.10	88.05	90.37	90.24	97.29	96.70	S-91
49	48	35.0	0.14	0.14	0.95	0.13	0.13	10.0	10.0	9.6	1.28	11.96	4.76	15	3.43	94.55	93.35	95.00	93.63	97.29	97.29	S-93
50	30	80.0	0.29	0.29	0.62	0.18	0.18	10.0	10.0	9.6	1.73	9.41	4.67	15	2.12	111.70	110.00	112.23	110.36	115.00	114.95	S-56A
51	47	89.0	0.20	0.20	0.75	0.15	0.15	10.0	10.0	9.6	1.44	4.84	1.18	15	0.56	89.00	88.50	90.25	90.24	93.45	96.70	S-90A
52	End	79.0	0.00	5.17	0.00	0.00	1.03	10.0	290.2	1.5	1.51	33.56	2.47	36	0.25	75.20	75.00	75.66	75.39	89.50	0.00	S-96
53	52	149.0	1.72	5.17	0.20	0.34	1.03	10.0	288.8	1.5	1.51	28.11	2.79	30	0.47	76.00	75.30	76.41	75.73	88.00	89.50	S-98
54	53	180.0	1.72	3.45	0.20	0.34	0.69	10.0	287.3	1.5	1.01	15.99	2.58	24	0.50	77.00	76.10	77.36	76.47	90.10	88.00	S-100
55	54	180.0	1.72	1.73	0.20	0.34	0.35	10.0	285.6	1.5	0.51	14.85	2.12	18	2.00	80.70	77.10	80.97	77.41	92.31	90.10	S-102
56	55	180.0	0.01	0.01	0.20	0.00	0.00	10.0	10.0	9.6	0.02	14.85	0.55	18	2.00	84.40	80.80	84.45	81.01	100.70	92.31	S-104
57	End	107.0	0.14	3.95	0.75	0.11	1.04	10.0	17.6	8.0	8.33	147.3	4.14	54	0.56	75.60	75.00	76.43	75.83	91.51	90.89	S-107
58	57	30.0	0.20	3.81	0.71	0.14	0.94	10.0	16.6	8.1	7.64	196.7	4.94	54	1.00	79.30	79.00	80.10	79.61	91.53	91.51	S-109
59	58	48.0	3.51	3.51	0.20	0.70	0.70	10.0	10.0	9.6	6.75	200.7	2.98	54	1.04	79.80	79.30	80.55	80.47	87.00	91.53	S-110A
60	58	173.0	0.05	0.10	0.95	0.05	0.10	10.0	11.0	9.3	0.89	7.98	2.85	18	0.58	83.00	82.00	83.36	82.34	87.42	91.53	S-111
61	60	23.0	0.05	0.05	0.95	0.05	0.05	10.0	10.0	9.6	0.46	3.01	1.29	15	0.22	83.15	83.10	83.55	83.53	87.42	87.42	S-112A

Project File: Storm Sewer - 3873 - 06-24-10.stm

Number of lines: 81

Run Date: 06-25-2010

NOTES: Intensity = 134.19 / (Inlet time + 18.20) ^ 0.79; Return period = 100 Yrs.

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
62	End	252.0	0.00	28.08	0.00	0.00	5.62	10.0	15.8	8.3	46.64	152.5	5.76	34 53 e	2.24	80.65	75.00	82.78	77.13	96.90	91.53	S-115
63	62	161.0	3.51	28.08	0.20	0.70	5.62	10.0	15.1	8.4	47.38	146.9	5.85	34 53 e	2.08	84.00	80.65	86.13	82.86	95.02	96.90	S-117
64	63	138.0	3.51	24.57	0.20	0.70	4.91	10.0	14.8	8.5	41.78	46.84	10.00	30	1.30	91.20	89.40	93.37	91.24	99.70	95.02	S-119
65	64	130.0	3.51	21.06	0.20	0.70	4.21	10.0	14.5	8.5	36.00	41.61	11.52	24	3.38	96.00	91.60	97.93	94.03	104.12	99.70	S-121
66	65	148.0	3.51	17.55	0.20	0.70	3.51	10.0	14.2	8.6	30.22	39.00	9.76	24	2.97	100.50	96.10	102.37	98.97	109.06	104.12	S-123
67	66	140.0	0.00	14.04	0.00	0.00	2.81	10.0	13.9	8.7	24.38	40.10	8.07	24	3.14	105.00	100.60	106.75	103.13	116.00	109.06	S-125
68	67	264.0	0.00	14.04	0.00	0.00	2.81	10.0	13.3	8.8	24.75	23.29	8.12	24	1.06	113.80	111.00	115.79	112.79	132.10	116.00	S-127
69	68	265.0	0.00	14.04	0.00	0.00	2.81	10.0	12.7	8.9	25.12	15.84	8.00	24	0.49	121.30	120.00	125.27	122.00	149.00	132.10	S-129
70	69	134.0	3.51	14.04	0.20	0.70	2.81	10.0	12.4	9.0	25.31	16.35	8.06	24	0.52	122.10	121.40	127.94	126.27	144.30	149.00	S-131
71	70	166.0	3.51	10.53	0.20	0.70	2.11	10.0	12.0	9.1	19.21	16.65	6.12	24	0.54	123.10	122.20	129.65	128.45	139.80	144.30	S-133
72	71	165.0	3.51	7.02	0.20	0.70	1.40	10.0	11.3	9.3	13.04	16.70	4.15	24	0.55	124.10	123.20	130.49	129.94	129.00	139.80	S-135
73	72	166.0	3.51	3.51	0.20	0.70	0.70	10.0	10.0	9.6	6.75	15.70	2.15	24	0.48	125.00	124.20	130.77	130.62	138.15	129.00	S-137
74	End	55.0	0.00	1.64	0.00	0.00	1.19	10.0	16.4	8.2	9.74	15.25	5.21	24	0.45	72.25	72.00	73.44	73.11	78.50	0.00	S-140
75	74	351.0	0.00	1.64	0.00	0.00	1.19	10.0	14.6	8.5	10.17	10.80	3.90	24	0.23	73.05	72.25	74.59	73.80	82.50	78.50	S-142
76	75	347.0	0.00	1.64	0.00	0.00	1.19	10.0	12.9	8.9	10.61	10.52	3.81	24	0.22	73.80	73.05	75.46	74.71	82.10	82.50	S-144
77	76	34.0	0.15	1.30	0.81	0.12	0.91	10.0	12.0	9.1	8.31	12.73	6.62	18	1.47	76.30	75.80	77.48	76.68	82.61	82.10	S-146
78	77	63.0	0.18	0.18	0.83	0.15	0.15	10.0	10.0	9.6	1.44	8.37	3.33	18	0.63	78.40	78.00	78.86	78.42	82.61	82.61	S-148
79	77	222.0	0.75	0.97	0.58	0.44	0.64	10.0	10.9	9.4	6.02	13.00	4.30	18	1.53	79.80	76.40	80.74	78.20	85.99	82.61	S-150
80	79	63.0	0.22	0.22	0.94	0.21	0.21	10.0	10.0	9.6	1.99	7.25	3.47	18	0.48	82.00	81.70	82.54	82.24	85.99	85.99	S-152
81	76	163.0	0.17	0.34	0.82	0.14	0.28	10.0	11.1	9.3	2.60	4.73	1.48	14 23 e	0.21	74.15	73.80	75.79	75.68	78.01	82.10	S-154

Project File: Storm Sewer - 3873 - 06-24-10.stm

Number of lines: 81

Run Date: 06-25-2010

NOTES: Intensity = 134.19 / (Inlet time + 18.20) ^ 0.79; Return period = 100 Yrs.