MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2010

ation1 CITY: STATE:
0 ft LAT: 38° 12' 00" N LONG: 85° 54' 00" W

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	38.5	41.1	5:00p	35.8	8:00a	26.5	0.0	0.00	1.1	7.0	8:30a	WNW
2	36.6	43.3	4:30p	31.2	12:00m	28.4	0.0	0.00	2.6	17.0	3:30p	W
3	34.0	38.5	5:30p	29.6	6:30a	31.0	0.0	0.00	3.6	13.0	4:00p	NW
4	37.8	48.2	5:30p	29.2	7:30a	27.2	0.0	0.00	3.5	16.0	3:00p	NW
5	37.7	52.6	4:30p	24.4	6:30a	27.3	0.0	0.00	1.0	10.0	2:30p	WNW
6	37.9	52.6	5:00p	25.7	7:30a	27.1	0.0	0.00	1.3	13.0	12:00p	WNW
7	43.7	60.3	4:00p	26.5	6:30a	21.3	0.0	0.01	1.5	14.0	3:30p	SSE
8	51.0	64.9	6:00p	37.3	7:30a	14.0	0.0	0.00	0.9	9.0	3:00p	WNW
9	52.6	65.1	4:00p	37.5	6:30a	12.4	0.0	0.00	2.3	21.0	4:30p	SSE
10	61.3	72.0	4:30p	55.1	7:30a	5.0	1.3	0.00	4.9	18.0	11:00a	SSE
11	57.8	67.9	1:30p	51.6	12:00m	7.4	0.1	0.00	3.1	20.0	2:00p	SSE
12	50.6	55.1	4:30p	45.4	5:30a	14.4	0.0	0.23	1.2	14.0	9:00p	SE
13	47.0	50.0	3:30p	44.9	10:30p	18.0	0.0	0.00	2.5	13.0	2:00a	W
14	43.9	45.5	12:30a	40.6	12:00p	20.2	0.0	0.05	3.0	15.0	5:00p	WNW
15	45.1	48.8	6:30p	42.5	12:30a	19.9	0.0	0.00	4.0	14.0	4:00p	WNW
16	50.6	59.3	2:30p	44.8	7:00a	14.4	0.0	0.00	1.9	9.0	2:00p	NW
17	52.4	62.2	7:00p	47.4	8:30a	12.6	0.0	0.00	0.6	7.0	3:00p	NW
18	54.7	68.5	5:30p	37.2	8:00a	10.7	0.4	0.00	2.2	16.0	3:00p	NW
19	54.4	69.5	4:30p	38.7	8:30a	11.3	0.7	0.00	1.9	17.0	3:30p	SE
20	53.8	69.0	6:00p	38.6	8:30a	11.9	0.6	0.00	1.9	21.0	2:30p	S
21	54.0	63.9	2:00p	47.3	8:30a	11.0	0.0	0.53	1.5	10.0	8:30p	WNW
22	44.3	53.2	1:00a	41.0	6:30a	20.7	0.0	0.21	4.0	24.0	1:00a	S
23	49.0	62.2	7:00p	39.2	8:30a	16.0	0.0	0.00	3.4	16.0	3:00p	WNW
24	54.0	69.2	3:30p	37.7	8:00a	11.6	0.6	0.00	1.8	18.0	3:30p	SSE
25	53.3	59.8	10:00a	44.0	12:00m	11.7	0.0	0.26	3.4	27.0	11:30a	SSE
26	41.5	51.6	5:00p	33.4	8:30a	23.5	0.0	0.07	3.5	18.0	2:30a	W
27	49.4	66.5	6:00p	32.6	8:30a	15.7	0.1	0.00	3.9	23.0	12:00m	SE
28	54.2	61.6	12:30a	48.2	12:00m	10.8	0.0	0.24	6.1	22.0	6:30a	SSE
29	46.1	57.6	6:30p	38.7	8:00a	18.9	0.0	0.00	3.9	15.0	12:30a	NW
30	48.5	64.0	6:00p	33.9	7:00a	16.5	0.0	0.01	1.1	14.0	3:00p	SSE
31	58.7	78.3	5:00p	37.9	8:00a	10.0	3.7	0.00	3.6	20.0	3:00p	SSE
	48.2	78.3	31	24.4	5	527.4	7.5	1.61	2.6	27.0	25	WNW

Max >= 90.0: 0
Max <= 32.0: 0
Min <= 32.0: 6
Min <= 0.0: 0
Max Rain: 0.53 ON 03/21/10
Days of Rain: 7 (>.01 in) 5 (>.1 in) 0 (>1 in)
Heat Base: 65.0 Cool Base: 65.0 Method: Integration

Beckmar
ENVIROMENTAL LABORATORY

Jeffersontown Business Park
3251 Ruckriegel Parkway
Jeffersontown, KY 40299
502.266.6533
Fax: 502.266.6446
www.beckmarlab.com

Maverick Republic Conduit
7301 Logistics Drive
Louisville, KY 40258

Beckmar Certificate of Analysis BMSG100322-017

BMSG100322-017A **Collection Date** 3/22/2010 10:00:00 AM **Sampled By:** T. R. McClellan
Sample Description: **Republic Conduit - Stormwater: East Stream** **Sample Type:** Wastewater

Parameter	Result	Unit	MDL	Type	Method	Analyzed Date/Time	Analyst
Biochemical Oxygen Demand	**5**	mg/L	4	Grab	SM 5210B	3/24/2010 4:30:00 PM	DKL
Nitrate as N	**0.02**	mg/L	0.01	Grab	SM 4110B	3/23/2010 3:12:00 PM	LJ
Nitrite as N	**<0.01**	mg/L	0.01	Grab	SM 4110B	3/23/2010 3:12:00 PM	LJ
pH	**6.70**	S.U.		Grab	EPA 150.1	3/22/2010 10:00:00 AM	TJM
Total Nitrogen	**1.52**	mg/L		Grab		3/30/2010 4:20:00 PM	LJ
Total Suspended Solids	**10**	mg/L	2	Grab	EPA 160.2	3/23/2010 4:30:00 PM	DKL

#2

BMSG100322-017B **Collection Date** 3/22/2010 10:00:00 AM **Sampled By:** T. R. McClellan
Sample Description: **Republic Conduit - Stormwater: ~~West~~ East Stream** **Sample Type:** Wastewater

Parameter	Result	Unit	MDL	Type	Method	Analyzed Date/Time	Analyst
Chemical Oxygen Demand	**61**	mg/L	10	Grab	EPA 410.4	3/29/2010 4:30:00 PM	DKL
Oil and Grease	**<4**	mg/L	4	Grab	EPA 1664	3/26/2010 2:00:00 PM	MRC
Total Kjeldahl Nitrogen	**1.5**	mg/L	0.2	Grab	EPA 351.3	3/29/2010 9:30:00 AM	LJ
Total Phosphorus	**0.20**	mg/L	0.03	Grab	EPA 365.2	3/25/2010 4:30:00 PM	MDC

BMSG100322-017C **Collection Date** 3/22/2010 10:00:00 AM **Sampled By:** T. R. McClellan
Sample Description: **Republic Conduit - Stormwater: ~~West~~ Stream** **Sample Type:** Wastewater

Parameter	Result	Unit	MDL	Type	Method	Analyzed Date/Time	Analyst
Biochemical Oxygen Demand	**4**	mg/L	4	Grab	SM 5210B	3/24/2010 4:30:00 PM	DKL
Nitrate as N	**0.50**	mg/L	0.01	Grab	SM 4110B	3/23/2010 3:12:00 PM	LJ
Nitrite as N	**<0.01**	mg/L	0.01	Grab	SM 4110B	3/23/2010 3:12:00 PM	LJ
pH	**7.10**	S.U.		Grab	EPA 150.1	3/22/2010 10:00:00 AM	TJM
Total Nitrogen	**2.20**	mg/L		Grab		3/30/2010 4:20:00 PM	LJ
Total Suspended Solids	**44**	mg/L	2	Grab	EPA 160.2	3/23/2010 4:30:00 PM	DKL

#2

BMSG100322-017D **Collection Date** 3/22/2010 10:00:00 AM **Sampled By:** T. R. McClellan
Sample Description: **Republic Conduit - Stormwater: West Stream** **Sample Type:** Wastewater

Parameter	Result	Unit	MDL	Type	Method	Analyzed Date/Time	Analyst
Chemical Oxygen Demand	**61**	mg/L	10	Grab	EPA 410.4	3/29/2010 4:30:00 PM	DKL
Oil and Grease	**<4**	mg/L	4	Grab	EPA 1664	3/26/2010 2:00:00 PM	MRC
Total Kjeldahl Nitrogen	**1.7**	mg/L	0.2	Grab	EPA 351.3	3/29/2010 9:30:00 AM	LJ
Total Phosphorus	**0.18**	mg/L	0.03	Grab	EPA 365.2	3/25/2010 4:30:00 PM	MDC

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Maverick Republic Conduit
7301 Logistics Drive

Louisville, KY 40258

Beckmar Certificate of Analysis BMSG100322-017

Thank You,

Bradley W. Kouns
Quality Control Officer

BmSC100322-017

Republic Conduit Sampling Chain of Custody

SAMPLE #	DATE	TIME	SAMPLE LOCATION	GRAB / COMPOSITE	CONTAINER	CONTENTS	PRESERVATIVE	SAMPLED BY	TEST FOR:
1	22-Mar-10	10:00	EAST STREAM	GRAB	PLASTIC	STORM	NONE	MCCLELLAN	TSS PH= 6.7 BOD NO2
						WATER			NO3 T.N.
2	22-Mar-10	10:00	EAST STREAM	GRAB	GLASS	STORM	SULFURIC	MCCLELLAN	O & G TKN TP COD
						WATER			
3	22-Mar-10	10:00	WEST STREAM	GRAB	PLASTIC	STORM	NONE	MCCLELLAN	TSS PH= 7.1 BOD NO2
						WATER			NO3 T.N.
4	22-Mar-10	10:00	WEST STREAM	GRAB	GLASS	STORM	SULFURIC	MCCLELLAN	O & G TKN TP COD
						WATER			

SAMPLE(S) RELEASED BY:	REPRESENTATIVE PRINT:	T. R. McClellan, HazMat Handler	DATE: March 22, 2010
REPUBLIC CONDUIT	SIGN:	T. R. McClellan	TIME:
SAMPLE(S) ACCEPTED BY:	REPRESENTATIVE PRINT:	Matt Conway	DATE: March 22, 2010
BECKMAR LABS	SIGN:	Matt	TIME: 1356
SAMPLE(S) RELEASED BY:	REPRESENTATIVE PRINT:	Matt Conway	DATE: 3-22-10
	SIGN:	Matt	TIME: 1440
SAMPLE(S) ACCEPTED BY:	REPRESENTATIVE PRINT:		DATE:
	SIGN:		TIME:
SAMPLE(S) RELEASED BY:	REPRESENTATIVE PRINT:		DATE:
	SIGN:		TIME:
SAMPLE(S) ACCEPTED BY:	REPRESENTATIVE PRINT:		DATE:

Form # CHAIN OF CUSTODY Mar 22 2010.xls
Created on 04OCT05, 0815 hrs
version 1.01

Beckmar

Date of Issue: April 20, 2009

Maverick Republic Conduit c/o Mr. Bruce Gaylord
7301 Logistics Dive
Louisville, KY 40258

RE: Analysis results for: West Stream.

BECKMAR CERTIFICATE OF ANALYSIS # BMSG090403-006
Sample Date: 4/3/2009
Sample Time: 8:25
Sampled by: T.R. McClellan

Parameter	Results	Units	Type	Method	Analyzed Date / Time		Analyst
Chromium, Hex	*< 0.001*	mg/l	G	SM3500Cr-d	4/3/2009	12:00	ALS

Remarks:

If you have any questions please call.

Thank you,

Bradley W. Kouns
Quality Control Officer

BWK:dwt

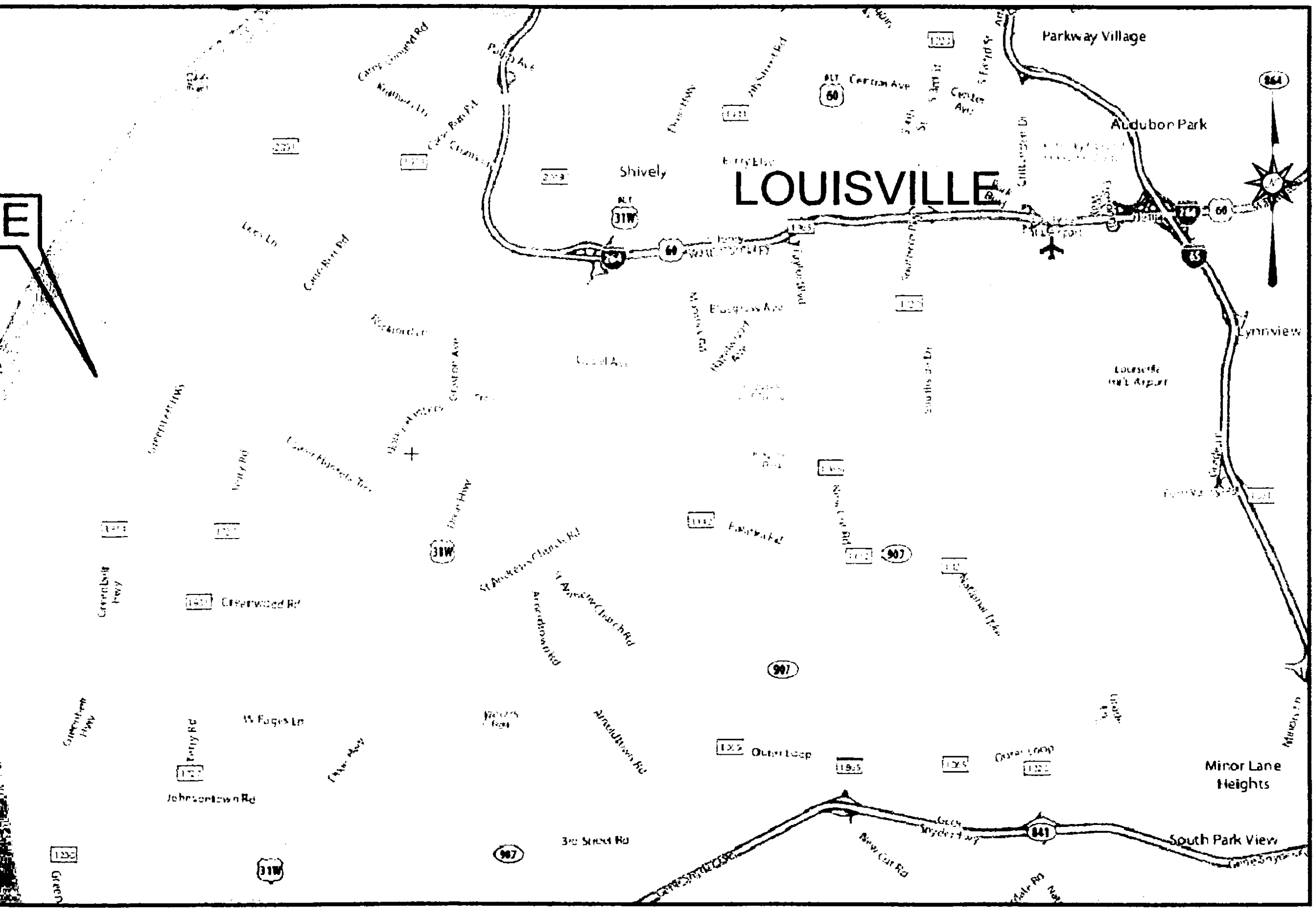
ENVIRONMENTAL
LABORATORY

Jeffersontown Business Park
3251 Ruckriegel Parkway
J. .sontown, KY 40299
502.266.6533
FAX 502.266.6446

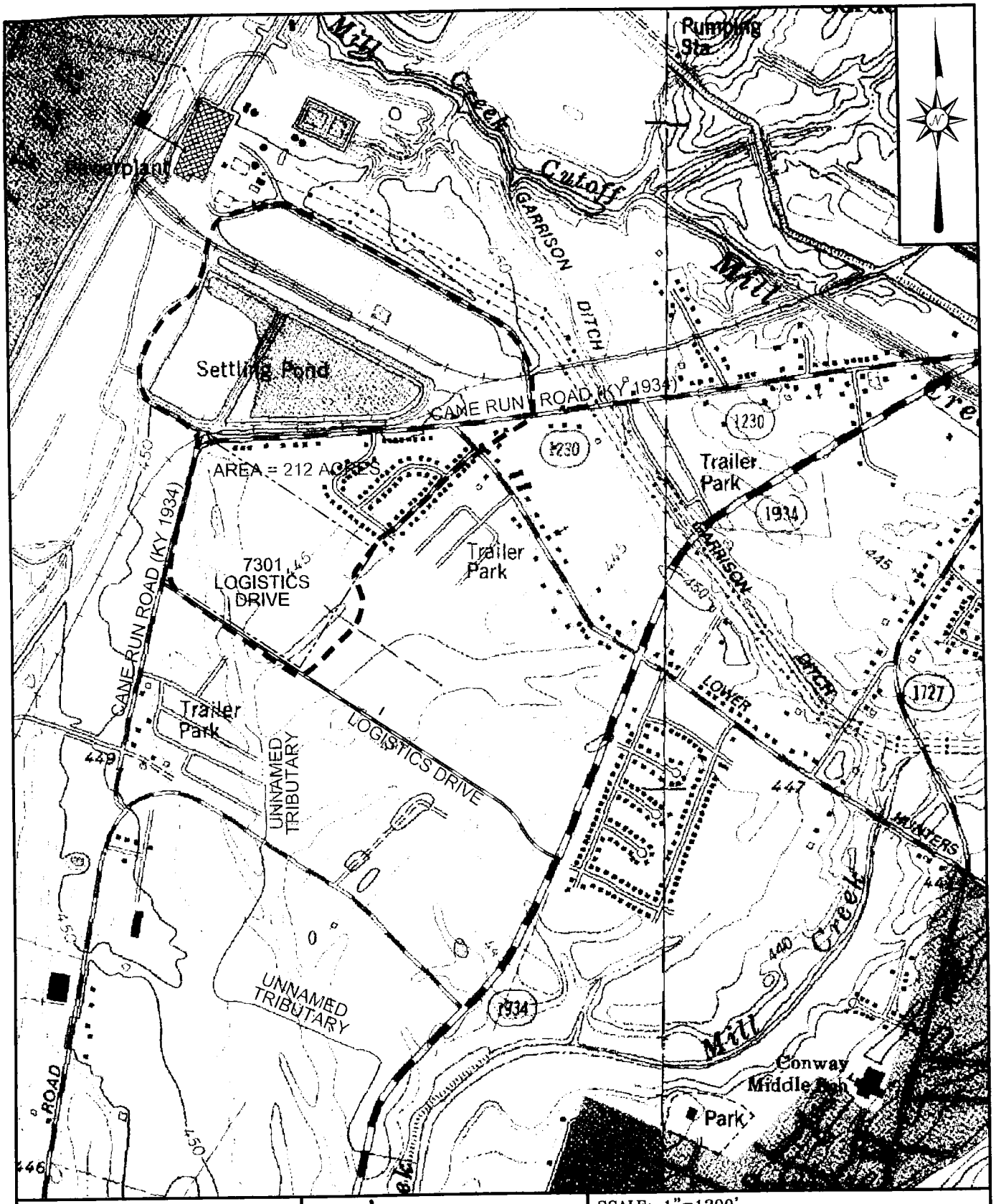
DATE	TIME	RECORDED PRECIP IN INCHES	WEATHER CONDITIONS	DAILY FACILITY RUN OFF IN GALLONS EAST	DAILY FACILITY RUN OFF IN GALLONS WEST	DAILY TOTAL RUN OFF	MONTHLY AVERAGE RUN OFF EAST	MONTHLY AVERAGE RUN OFF WEST	DAILY MAXIMUM RUN OFF EAST	DAILY MAXIMUM RUN OFF WEST
							003	002	003	002
01-Apr-09		0.15	CLEAR	6,566	108,361	114,928				
02-Apr-09		0.00	CLEAR	0	0	0				
03-Apr-09		1.25		54,720	903,012	957,732				
04-Apr-09				0	0	0				
05-Apr-09				0	0	0				
06-Apr-09		0.45	CLOUDY	19,699	325,084	344,784				
07-Apr-09		0.03	CLEARING	1,313	21,672	22,986				
08-Apr-09		0.00	SUNNY	0	0	0				
09-Apr-09		0.00	CLEAR	0	0	0				
10-Apr-09		0.40	LIGHT RAIN	17,510	288,964	306,474				
11-Apr-09				0	0	0				
12-Apr-09				0	0	0				
13-Apr-09		0.70	RAIN	30,643	505,687	536,330				
14-Apr-09		0.30	RAIN	13,133	216,723	229,856				
15-Apr-09		0.00	CLOUDY	0	0	0				
16-Apr-09		0.10	CLOUDY	4,378	72,241	76,619				
17-Apr-09		0.00	PARTLY CLOUDY	0	0	0				
18-Apr-09				0	0	0				
19-Apr-09				0	0	0				
20-Apr-09		1.50	LIGHT RAIN	65,664	1,083,615	1,149,279				
21-Apr-09		0.25	CLEARING	10,944	180,602	191,546				
22-Apr-09		0.10	CLOUDY	4,378	72,241	76,619				
23-Apr-09		0.00	CLEAR	0	0	0				
24-Apr-09		0.00	CLEAR	0	0	0				
25-Apr-09				0	0	0				
26-Apr-09				0	0	0				
27-Apr-09		0.00	CLEAR	0	0	0	MGD			
28-Apr-09		0.00	CLOUDY	0	0	0	8.7	142.8	65.7	1,083.6
29-Apr-09		0.50	RAIN	21,888	361,205	383,093	Gal/Day			
30-Apr-09		0.20	LIGHT RAIN	8,755	144,482	153,237	8,653	142,796	65,664	1,083,615

7301 LOGISTIC DRIVE

Louisville, Kentucky



VICINITY MAP



SHIELD

ENVIRONMENTAL ASSOCIATES, INC.
2456 FORTUNE DRIVE, SUITE 100
LEXINGTON, KENTUCKY 40509

TELEPHONE: 859/294-5155
FAX: 859/294-5255

V.E VISION ENGINEERING

Water Resources, Environmental, Civil & GIS Consultant
3399 Tates Creek Road Ste 250
Lexington, KY 40502
Ph.(859)333-8015
Fax: (859)559-0523
www.visionengr.com

SCALE: 1"=1200'

DATE: FEBRUARY 04, 2009

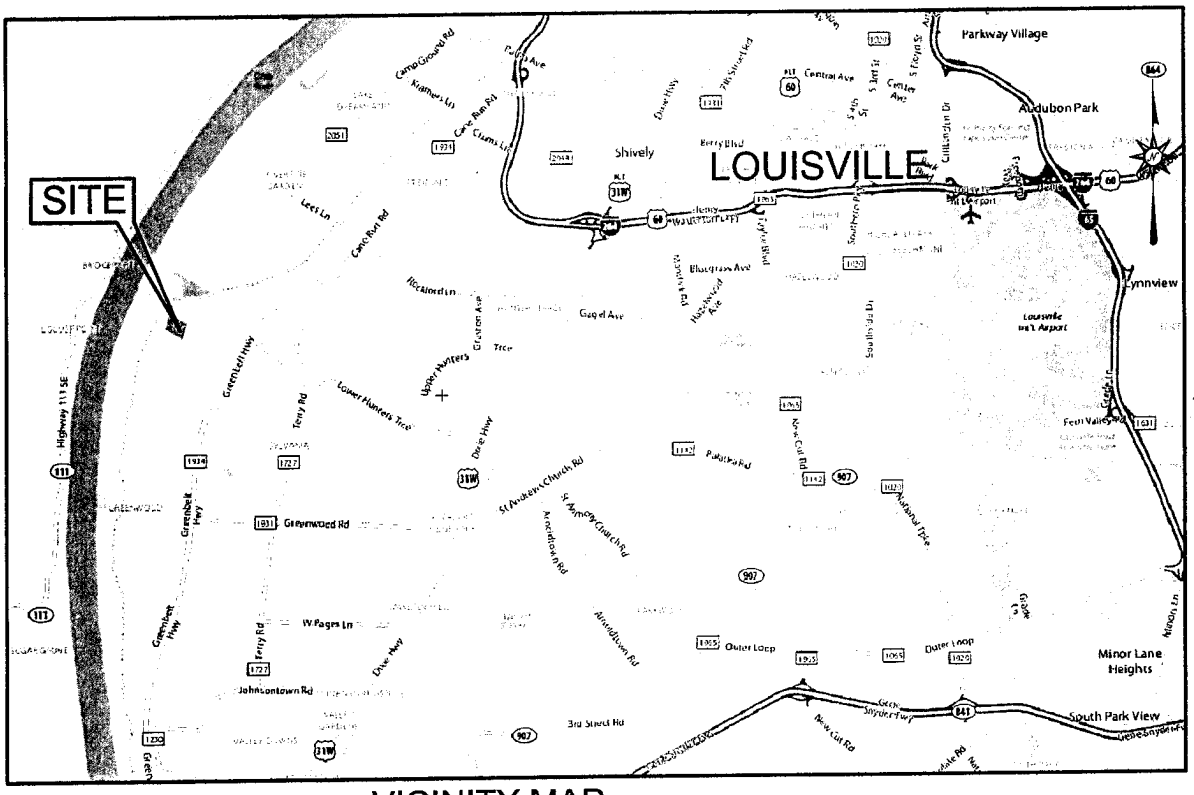
FIGURE 1

REPUBLIC CONDUIT

DRAINAGE STUDY

7301 LOGISTIC DRIVE

Louisville, Kentucky



VICINITY MAP
SCALE: 1"=10,000'

February, 2009

STATE OF KENTUCKY
JIHAD A. HALLANY
22838
LICENSED PROFESSIONAL ENGINEER
02/04/2009

VISION ENGINEERING

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Lexington, KY 40502
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Narrative Drainage Analysis for
Republic Conduit
7301 Logistics Drive, Louisville, Kentucky **February 04, 2009**

The purpose of this drainage study is to determine the number of Equivalent Service Units (ESUs) for the property located at 7301 Logistics Drive, Louisville, Kentucky.

The study consists of determine the changes in the landuse and peak discharge from the pre-development to the post-development condition. The site is located at the intersection of Cane Run Road (KY-1937) and Logistics Drive and drains though a 6 feet concrete flume to unnamed tributary of Mill Creek. (Figure 1)

Pre-development Condition:

The drainage area consists of approximately 50.3 acres, with only 1% of impervious area. The peak flow for 2, 10, & 100 year events are presented (Table 3A,"W-1/Pre").

Post-development Condition:

The drainage area for the post development condition has been subdivided into 2 sub-watersheds. Sub-watershed A drains to the detention basin along Logistics Drive and Sub-watershed B drains to the concrete channel along Cane Run Road and Logistics Drive.

Post development watershed consists approximately of 50.3 acres with 30% weighted impervious area between sub-watershed A & B. The peak flow for 2, 10, & 100 year events are presented in Table 3A and 3B. Table 3 C presents the peak flow for the 2, 10, & 100 year events for the pre-development condition and post-development with and without detention basin.

Storm Water Utility Charge Credit:

The calculation of the Storm Water Utility Charge are based on Section 4 of MSD storm water utility charge credit instruction manual. Table A presents the peak flow for the pre-development and post-development condition with and without detention basin. Table B presents the different criteria to evaluate the storm water credit. An additional 10 points is added to reflect the water quality criteria for the total containment of all the runoff volume generated from the roads and parking areas within the site area.
Table C presents the calculated adjusted service charge and the associated number of Equivalent Service Units (ESU's).

Based on the above calculations the evaluated number of ESU's is 134.

HYDRAULIC ANALYSIS, DP# 1

PROJECT: Republic Conduit
7301 Logistics Drive, Louisville, Kentucky

PRE/ POST Development	CN
Pervious Grass	69
Pervious Gravel	74
Impervious	98

Table 1- Post Development Subwatershed

Land Use	Area (Square Feet)			
Type	W-1/Pre	W-1A/Post	W-1B/Post	W-1/Post[A]
Building	0	172,925	256,805	429,730
Side Walk	0	3,900	0	3,900
Concrete Flume	24,000	0	44,300	44,300
Roads & Parking	0	170,162	2,200	172,362
Total Impervious	24,000	346,987	303,305	650,292
Pervious-Gravel	0	0	153,695	153,695
Pervious-Grass	2,167,900	213,313	1,328,295	1,541,608
Total	2,191,900	560,300	1,631,600	2,191,900

W-1/Post[A] = W-1A/Post +W-1B/Post

Table 2- Watershed Characteristics

Watershed	Area	Percent of	Curve Number	Time of Conc
	(acres)	Impervious Area	CN	T_c (min)
W-1/Pre	50.3	1	69.3	57.5
W-1A/Post	12.9	62	87.0	9.9
W-1B/Post	37.5	19	81.3	52.7
W-1/ Post	50.3	30	82.8	

Table 3A- Summary for the 24 Hour-Event for Pre & Post without Control

Return Period	Peak Flow (cfs)			
(Year-24 Hour)	W-1/ Pre	W-1A/Post	W-1B/Post	W-1/Post[B]
2	18.9	35.6	33.7	50.2
10	43.3	56.8	59.2	84.1
100	81.2	84.9	94.6	130.5

W-1/Post[B] Represent the post development flow without detention

Table 3B- Summary for the 24 Hour-Event for Post Development with Control

Return Period	Peak Flow (cfs)			
(Year-24 Hour)	W-1A/Post	W-1A/Post[C]	W-1B/Post	W-1/Post[D]
2	35.6	0.0	33.7	33.7
10	56.8	0.0	59.2	59.2
100	84.9	2.2	94.6	94.6

W-1/Post[c] Represent the dischrage out of the Existing Detention Basin

W-1/Post[D] Represent the post development flow with detention

Table 3C- Summary for the 24 Hour-Event for The Pre /Post Development with Control

Return Period	Peak Flow (cfs)			
(Year-24 Hour)	W-1/ Pre	W-1/Post [B]	W-1/Post[D]	Credit Ratio
2	18.9	50.2	33.7	0.53
10	43.3	84.1	59.2	0.61
100	81.2	130.5	94.6	0.73

W-1/Post[B] Represent the post development flow without detention basin

W-1/Post[D] Represent the post development flow with detention basin

Table 4-Stage-Area-Capacity for DP # 1

Stage (ft)	Area (ft^2)	Area (acre)	Capacity (ft^3)	Capacity (acre-ft)
436.0	12,792	0.29	0	0
436.5	37,121	0.85	12,478	0.29
437.0	61,450	1.41	37,121	0.85
437.5	66,175	1.52	69,027	1.58
438.0	70,900	1.63	103,296	2.37
438.5	74,383	1.71	139,617	3.21
439.0	77,865	1.79	177,679	4.08
439.5	80,983	1.86	217,390	4.99
440.0	84,100	1.93	258,661	5.94
440.5	87,300	2.00	301,511	6.92
441.0	90,500	2.08	345,961	7.94

Table 5-Stage-Area-Discharge

	Discharge (cfs)		
Stage (ft)	**Area (ft^2)**	**Emergency Spillway 10 feet Wide@ 50:1 Elevation: 439.0**	**Total Discharge (cfs)**
436.0	12792	0.0	0.0
436.5	37121	0.0	0.0
437.0	61450	0.0	0.0
437.5	66175	0.0	0.0
438.0	70900	0.0	0.0
438.5	74383	0.0	0.0
439.0	77865	0.0	0.0
439.5	80983	46.0	46.0
440.0	84100	130.0	130.0
440.5	87300	238.8	238.8
441.0	90500	367.7	367.7

Stormwater Utility Credit Calculation

PROJECT: Republic Conduit
7301 Logistics Drive, Louisville, Kentucky

Table A- Summary for the 24 Hour-Event for The Pre /Post Development with Control

Return Period	Peak Flow (cfs)			
(Year-24 Hour)	W-1/ Pre	W-1/Post [B]	W-1/Post[D]	Credit Ratio
2	18.9	50.2	33.7	0.53
10	43.3	84.1	59.2	0.61
100	81.2	130.5	94.6	0.73

W-1/Post[B] Represent the post development flow without detention basin

W-1/Post[D] Represent the post development flow with detention basin

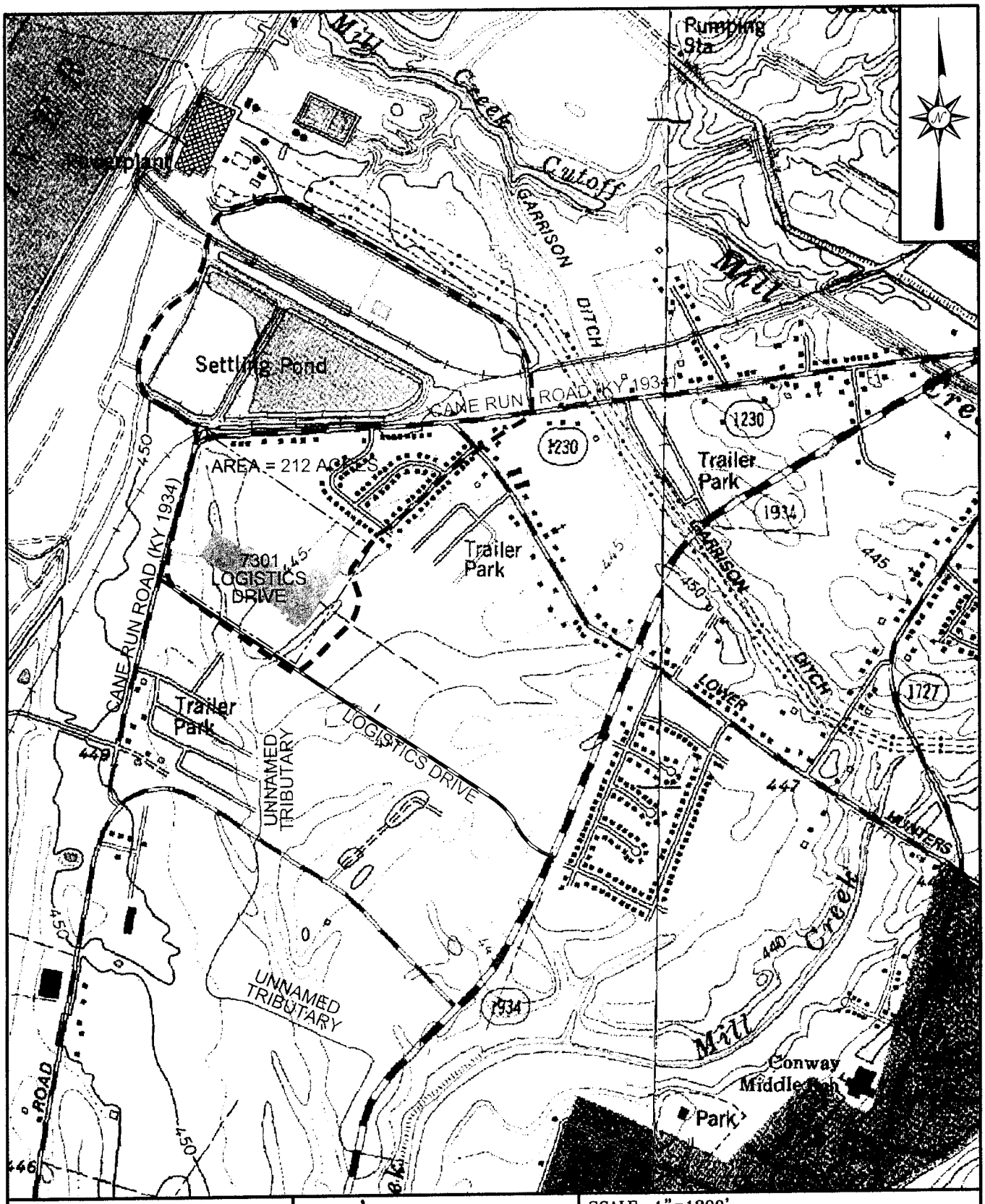
Table B- Credit Breakdown

Criteria	Maximum Allowable Credit (%)	Requested Credit (%)
100 yr. Storm	20	11
10 yr. Storm	30	18
2 yr. Storm	20	15
Oversizing	15	0
Location	15	0
Downstream	15	0
Other* (Water Quality)	15	5
Total (82% Max)		**48%**

Represent the additional Credit for infiltration and treatment of Post development Runoff from Parking area

Table C: Adjusted Service Charge Base

Impervious Area (sq ft)	**650,292**
Credit Base Percentage	**52%**
Adjusted Service Charge Base (Sq.ft)	**335,941**
# of Equivalent Service Unit (ESUs)	**135**



SHIELD

ENVIRONMENTAL ASSOCIATES, INC.
2456 FORTUNE DRIVE, SUITE 100
LEXINGTON, KENTUCKY 40509

TELEPHONE: 859/294-5155
FAX: 859/294-5255

VE VISION ENGINEERING

Water Resources, Environmental, Civil & GIS Consultant
3399 Tates Creek Road Ste 250
Lexington, KY 40502
Ph.(859)333-8015
Fax: (859)559-0523
www.visionengr.com

SCALE: 1"=1200'

DATE: FEBRUARY 04, 2009

FIGURE 1

Hydrograph Return Period Recap

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	SCS Runoff	------	------	18.87	------	------	43.28	------	------	81.17	W-1/Pre
2	SCS Runoff	------	------	35.56	------	------	56.75	------	------	84.93	W-1A/Post
3	SCS Runoff	------	------	33.74	------	------	59.21	------	------	94.62	W-1B/Post
4	Reservoir	2	------	0.000	------	------	0.000	------	------	2.193	EX-POND- DB# 1
5	Combine	3, 4	------	33.74	------	------	59.21	------	------	94.62	W-1/POSTC

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	18.87	2	752	144,970	----	------	------	W-1/Pre
2	SCS Runoff	35.56	2	720	92,470	----	------	------	W-1A/Post
3	SCS Runoff	33.74	2	746	204,349	----	------	------	W-1B/Post
4	Reservoir	0.000	2	n/a	0	2	437.85	92,470	EX-POND- DB# 1
5	Combine	33.74	2	746	204,349	3, 4	------	------	W-1/POSTC

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 1

W-1/Pre

Hydrograph type	= SCS Runoff	Peak discharge	= 18.87 cfs
Storm frequency	= 2 yrs	Time to peak	= 752 min
Time interval	= 2 min	Hyd. volume	= 144,970 cuft
Drainage area	= 50.300 ac	Curve number	= 69.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 57.5 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

(Printed values >= 60.00% of Qp.)

Hydrograph Discharge Table

Time -- (min	Outflow cfs)
734	11.64
736	12.75
738	13.85
740	14.93
742	15.97
744	16.93
746	17.76
748	18.40
750	18.77
752	18.87 <<
754	18.76
756	18.57
758	18.34
760	18.09
762	17.80
764	17.48
766	17.13
768	16.76
770	16.36
772	15.94
774	15.49
776	15.02
778	14.53
780	14.02
782	13.50
784	12.96
786	12.41
788	11.84

...End

TR55 Tc Worksheet

Hyd. No. 1

W-1/Pre

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.100	0.011	0.011	
Flow length (ft)	= 300.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.20	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
Travel Time (min)	**= 29.70 +**	**0.00 +**	**0.00 =**	**29.70**
Shallow Concentrated Flow				
Flow length (ft)	= 2400.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 1.44	0.00	0.00	
Travel Time (min)	**= 27.83 +**	**0.00 +**	**0.00 =**	**27.83**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00 +**	**0.00 +**	**0.00 =**	**0.00**

Total Travel Time, Tc ..... **57.50 min**

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 2

W-1A/Post

Hydrograph type	= SCS Runoff	Peak discharge	= 35.56 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 92,470 cuft
Drainage area	= 12.900 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.9 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time -- (min	Outflow cfs)
714	23.50
716	28.70
718	33.15
720	35.56 <<
722	34.97
724	31.62
726	26.70
728	21.46

...End

TR55 Tc Worksheet

Hyd. No. 2

W-1A/Post

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.050	0.011	0.011	
Flow length (ft)	= 130.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.20	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
Travel Time (min)	**= 8.74 +**	**0.00 +**	**0.00 =**	**8.74**
Shallow Concentrated Flow				
Flow length (ft)	= 100.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 1.44	0.00	0.00	
Travel Time (min)	**= 1.16 +**	**0.00 +**	**0.00 =**	**1.16**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00 +**	**0.00 +**	**0.00 =**	**0.00**

Total Travel Time, Tc ..... **9.90 min**

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 3

W-1B/Post

Hydrograph type	= SCS Runoff	Peak discharge	= 33.74 cfs
Storm frequency	= 2 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Drainage area	= 37.500 ac	Curve number	= 81.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.7 min
Total precip.	= 3.20 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

(Printed values >= 60.00% of Qp.)

Hydrograph Discharge Table

Time (min	Outflow cfs)
728	21.32
730	23.30
732	25.23
734	27.08
736	28.82
738	30.41
740	31.78
742	32.86
744	33.55
746	33.74 <<
748	33.45
750	32.84
752	32.09
754	31.28
756	30.43
758	29.54
760	28.60
762	27.63
764	26.62
766	25.57
768	24.49
770	23.39
772	22.26
774	21.10

...End

TR55 Tc Worksheet

Hyd. No. 3

W-1B/Post

Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.080	0.011	0.011	
Flow length (ft)	= 300.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.20	0.00	0.00	
Land slope (%)	= 0.50	0.00	0.00	
Travel Time (min)	**= 24.85 +**	**0.00 +**	**0.00 =**	**24.85**
Shallow Concentrated Flow				
Flow length (ft)	= 2400.00	0.00	0.00	
Watercourse slope (%)	= 0.50	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 1.44	0.00	0.00	
Travel Time (min)	**= 27.83 +**	**0.00 +**	**0.00 =**	**27.83**
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	**= 0.00 +**	**0.00 +**	**0.00 =**	**0.00**

Total Travel Time, Tc ..... **52.70 min**

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 4

EX-POND- DB# 1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - W-1A/Post	Reservoir name	= DB# 1
Max. Elevation	= 437.85 ft	Max. Storage	= 92,470 cuft

Storage Indication method used.

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

Monday, Apr 6, 2009

Hyd. No. 5

W-1/POSTC

Hydrograph type	= Combine	Peak discharge	= 33.74 cfs
Storm frequency	= 2 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 37.500 ac

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 4 = (cfs)	Outflow (cfs)
728	21.32	0.000 <<	21.32
730	23.30	0.000 <<	23.30
732	25.23	0.000 <<	25.23
734	27.08	0.000 <<	27.08
736	28.82	0.000 <<	28.82
738	30.41	0.000 <<	30.41
740	31.78	0.000 <<	31.78
742	32.86	0.000 <<	32.86
744	33.55	0.000 <<	33.55
746	33.74 <<	0.000 <<	33.74 <<
748	33.45	0.000 <<	33.45
750	32.84	0.000 <<	32.84
752	32.09	0.000 <<	32.09
754	31.28	0.000 <<	31.28
756	30.43	0.000 <<	30.43
758	29.54	0.000 <<	29.54
760	28.60	0.000 <<	28.60
762	27.63	0.000 <<	27.63
764	26.62	0.000 <<	26.62
766	25.57	0.000 <<	25.57
768	24.49	0.000 <<	24.49
770	23.39	0.000 <<	23.39
772	22.26	0.000 <<	22.26
774	21.10	0.000 <<	21.10

...End

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	43.28	2	750	296,468	----	------	------	W-1/Pre
2	SCS Runoff	56.75	2	720	149,648	----	------	------	W-1A/Post
3	SCS Runoff	59.21	2	746	353,166	----	------	------	W-1B/Post
4	Reservoir	0.000	2	n/a	0	2	438.64	149,648	EX-POND- DB# 1
5	Combine	59.21	2	746	353,166	3, 4	------	------	W-1/POSTC

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 1

W-1/Pre

Hydrograph type	= SCS Runoff	Peak discharge	= 43.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 750 min
Time interval	= 2 min	Hyd. volume	= 144,970 cuft
Drainage area	= 50.300 ac	Curve number	= 69.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 57.5 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

(Printed values >= 60.00% of Qp.)

Hydrograph Discharge Table

Time -- (min	Outflow cfs)
732	27.38
734	29.76
736	32.10
738	34.37
740	36.53
742	38.55
744	40.34
746	41.81
748	42.83
750	43.28 <<
752	43.16
754	42.64
756	41.95
758	41.20
760	40.38
762	39.51
764	38.58
766	37.59
768	36.56
770	35.48
772	34.36
774	33.19
776	31.99
778	30.75
780	29.49
782	28.19
784	26.87

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 2

W-1A/Post

Hydrograph type	= SCS Runoff	Peak discharge	= 56.75 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 92,470 cuft
Drainage area	= 12.900 ac	Curve number	= 87
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 9.9 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time -- (min	Outflow cfs)
714	38.72
716	46.70
718	53.37
720	56.75 <<
722	55.43
724	49.87
726	41.92

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Monday, Apr 6, 2009

Hyd. No. 3

W-1B/Post

Hydrograph type	= SCS Runoff	Peak discharge	= 59.21 cfs
Storm frequency	= 10 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Drainage area	= 37.500 ac	Curve number	= 81.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.7 min
Total precip.	= 4.50 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min	Outflow cfs)
726	35.69
728	39.15
730	42.53
732	45.78
734	48.86
736	51.72
738	54.30
740	56.48
742	58.13
744	59.09
746	59.21 <<
748	58.52
750	57.30
752	55.86
754	54.33
756	52.73
758	51.05
760	49.32
762	47.52
764	45.67
766	43.76
768	41.80
770	39.81
772	37.77
774	35.70

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1

Monday, Apr 6, 2009

Hyd. No. 4

EX-POND- DB# 1

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 10 yrs	Time to peak	= n/a
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - W-1A/Post	Reservoir name	= DB# 1
Max. Elevation	= 438.64 ft	Max. Storage	= 149,648 cuft

Storage Indication method used.

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 5

W-1/POSTC

Hydrograph type	= Combine	Peak discharge	= 59.21 cfs
Storm frequency	= 10 yrs	Time to peak	= 746 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 37.500 ac

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 4 = (cfs)	Outflow (cfs)
726	35.69	0.000 <<	35.69
728	39.15	0.000 <<	39.15
730	42.53	0.000 <<	42.53
732	45.78	0.000 <<	45.78
734	48.86	0.000 <<	48.86
736	51.72	0.000 <<	51.72
738	54.30	0.000 <<	54.30
740	56.48	0.000 <<	56.48
742	58.13	0.000 <<	58.13
744	59.09	0.000 <<	59.09
746	59.21 <<	0.000 <<	59.21 <<
748	58.52	0.000 <<	58.52
750	57.30	0.000 <<	57.30
752	55.86	0.000 <<	55.86
754	54.33	0.000 <<	54.33
756	52.73	0.000 <<	52.73
758	51.05	0.000 <<	51.05
760	49.32	0.000 <<	49.32
762	47.52	0.000 <<	47.52
764	45.67	0.000 <<	45.67
766	43.76	0.000 <<	43.76
768	41.80	0.000 <<	41.80
770	39.81	0.000 <<	39.81
772	37.77	0.000 <<	37.77
774	35.70	0.000 <<	35.70

...End

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.1

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph description
1	SCS Runoff	81.17	2	750	532,049	----	------	------	W-1/Pre
2	SCS Runoff	84.93	2	720	228,317	----	------	------	W-1A/Post
3	SCS Runoff	94.62	2	744	564,701	----	------	------	W-1B/Post
4	Reservoir	2.193	2	928	51,456	2	439.06	181,935	EX-POND- DB# 1
5	Combine	94.62	2	744	616,157	3, 4	------	------	W-1/POSTC

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 1

W-1/Pre

Hydrograph type	= SCS Runoff	Peak discharge	= 81.17 cfs
Storm frequency	= 100 yrs	Time to peak	= 750 min
Time interval	= 2 min	Hyd. volume	= 144,970 cuft
Drainage area	= 50.300 ac	Curve number	= 69.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 57.5 min
Total precip.	= 6.22 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

(Printed values >= 60.00% of Qp.)

Hydrograph Discharge Table

Time -- (min	Outflow cfs)
730	50.24
732	54.58
734	58.84
736	62.96
738	66.91
740	70.61
742	74.01
744	76.94
746	79.25
748	80.73
750	81.17 <<
752	80.61
754	79.37
756	77.83
758	76.19
760	74.44
762	72.60
764	70.67
766	68.66
768	66.56
770	64.39
772	62.15
774	59.85
776	57.49
778	55.08
780	52.62
782	50.12

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 3

W-1B/Post

Hydrograph type	= SCS Runoff	Peak discharge	= 94.62 cfs
Storm frequency	= 100 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Drainage area	= 37.500 ac	Curve number	= 81.3
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 52.7 min
Total precip.	= 6.22 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min	Outflow cfs)
726	59.03
728	64.46
730	69.73
732	74.77
734	79.50
736	83.86
738	87.75
740	90.98
742	93.34
744	94.62 <<
746	94.57
748	93.28
750	91.19
752	88.74
754	86.17
756	83.50
758	80.72
760	77.84
762	74.88
764	71.83
766	68.71
768	65.52
770	62.27
772	58.97

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 — Monday, Apr 6, 2009

Hyd. No. 4

EX-POND- DB# 1

Hydrograph type	= Reservoir	Peak discharge	= 2.193 cfs
Storm frequency	= 100 yrs	Time to peak	= 928 min
Time interval	= 2 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - W-1A/Post	Reservoir name	= DB# 1
Max. Elevation	= 439.06 ft	Max. Storage	= 181,935 cuft

Storage Indication method used.

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
880	2.634	439.05	-----	-----	-----	-----	1.356	-----	-----	-----	-----	1.356
882	2.616	439.05	-----	-----	-----	-----	1.411	-----	-----	-----	-----	1.411
884	2.598	439.05	-----	-----	-----	-----	1.469	-----	-----	-----	-----	1.470
886	2.580	439.05	-----	-----	-----	-----	1.557	-----	-----	-----	-----	1.556
888	2.561	439.05	-----	-----	-----	-----	1.634	-----	-----	-----	-----	1.634
890	2.543	439.05	-----	-----	-----	-----	1.706	-----	-----	-----	-----	1.705
892	2.525	439.06	-----	-----	-----	-----	1.769	-----	-----	-----	-----	1.769
894	2.507	439.06	-----	-----	-----	-----	1.827	-----	-----	-----	-----	1.827
896	2.489	439.06	-----	-----	-----	-----	1.879	-----	-----	-----	-----	1.879
898	2.471	439.06	-----	-----	-----	-----	1.925	-----	-----	-----	-----	1.925
900	2.453	439.06	-----	-----	-----	-----	1.967	-----	-----	-----	-----	1.967
902	2.435	439.06	-----	-----	-----	-----	2.004	-----	-----	-----	-----	2.003
904	2.416	439.06	-----	-----	-----	-----	2.036	-----	-----	-----	-----	2.036
906	2.398	439.06	-----	-----	-----	-----	2.064	-----	-----	-----	-----	2.065
908	2.380	439.06	-----	-----	-----	-----	2.090	-----	-----	-----	-----	2.090
910	2.362	439.06	-----	-----	-----	-----	2.111	-----	-----	-----	-----	2.111
912	2.344	439.06	-----	-----	-----	-----	2.130	-----	-----	-----	-----	2.130
914	2.325	439.06	-----	-----	-----	-----	2.145	-----	-----	-----	-----	2.146
916	2.307	439.06	-----	-----	-----	-----	2.160	-----	-----	-----	-----	2.159
918	2.289	439.06	-----	-----	-----	-----	2.169	-----	-----	-----	-----	2.170
920	2.271	439.06	-----	-----	-----	-----	2.177	-----	-----	-----	-----	2.178
922	2.253	439.06	-----	-----	-----	-----	2.184	-----	-----	-----	-----	2.185
924	2.234	439.06	-----	-----	-----	-----	2.189	-----	-----	-----	-----	2.189
926	2.216	439.06	-----	-----	-----	-----	2.192	-----	-----	-----	-----	2.192
928	2.198	439.06 <<	-----	-----	-----	-----	2.194	-----	-----	-----	-----	2.193 <<
930	2.180	439.06	-----	-----	-----	-----	2.192	-----	-----	-----	-----	2.193
932	2.161	439.06	-----	-----	-----	-----	2.190	-----	-----	-----	-----	2.191
934	2.143	439.06	-----	-----	-----	-----	2.189	-----	-----	-----	-----	2.188
936	2.125	439.06	-----	-----	-----	-----	2.184	-----	-----	-----	-----	2.184
938	2.107	439.06	-----	-----	-----	-----	2.179	-----	-----	-----	-----	2.179
940	2.088	439.06	-----	-----	-----	-----	2.173	-----	-----	-----	-----	2.172
942	2.070	439.06	-----	-----	-----	-----	2.164	-----	-----	-----	-----	2.165
944	2.052	439.06	-----	-----	-----	-----	2.156	-----	-----	-----	-----	2.157
946	2.033	439.06	-----	-----	-----	-----	2.148	-----	-----	-----	-----	2.148
948	2.015	439.06	-----	-----	-----	-----	2.139	-----	-----	-----	-----	2.139
950	1.997	439.06	-----	-----	-----	-----	2.129	-----	-----	-----	-----	2.128
952	1.978	439.06	-----	-----	-----	-----	2.117	-----	-----	-----	-----	2.118
954	1.960	439.06	-----	-----	-----	-----	2.106	-----	-----	-----	-----	2.106
956	1.942	439.06	-----	-----	-----	-----	2.095	-----	-----	-----	-----	2.094
958	1.924	439.06	-----	-----	-----	-----	2.082	-----	-----	-----	-----	2.082
960	1.905	439.06	-----	-----	-----	-----	2.069	-----	-----	-----	-----	2.069
962	1.887	439.06	-----	-----	-----	-----	2.056	-----	-----	-----	-----	2.055

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EX-POND- DB# 1

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
964	1.870	439.06	-----	-----	-----	-----	2.041	-----	-----	-----	-----	2.042
966	1.854	439.06	-----	-----	-----	-----	2.028	-----	-----	-----	-----	2.028
968	1.840	439.06	-----	-----	-----	-----	2.014	-----	-----	-----	-----	2.014
970	1.828	439.06	-----	-----	-----	-----	2.001	-----	-----	-----	-----	2.000
972	1.818	439.06	-----	-----	-----	-----	1.986	-----	-----	-----	-----	1.986
974	1.809	439.06	-----	-----	-----	-----	1.973	-----	-----	-----	-----	1.973
976	1.801	439.06	-----	-----	-----	-----	1.960	-----	-----	-----	-----	1.960
978	1.794	439.06	-----	-----	-----	-----	1.947	-----	-----	-----	-----	1.947
980	1.787	439.06	-----	-----	-----	-----	1.936	-----	-----	-----	-----	1.935
982	1.781	439.06	-----	-----	-----	-----	1.923	-----	-----	-----	-----	1.924
984	1.774	439.06	-----	-----	-----	-----	1.912	-----	-----	-----	-----	1.912
986	1.768	439.06	-----	-----	-----	-----	1.902	-----	-----	-----	-----	1.901
988	1.761	439.06	-----	-----	-----	-----	1.891	-----	-----	-----	-----	1.891
990	1.755	439.06	-----	-----	-----	-----	1.881	-----	-----	-----	-----	1.881
992	1.748	439.06	-----	-----	-----	-----	1.871	-----	-----	-----	-----	1.871
994	1.742	439.06	-----	-----	-----	-----	1.861	-----	-----	-----	-----	1.861
996	1.735	439.06	-----	-----	-----	-----	1.852	-----	-----	-----	-----	1.851
998	1.729	439.06	-----	-----	-----	-----	1.842	-----	-----	-----	-----	1.842
1000	1.722	439.06	-----	-----	-----	-----	1.834	-----	-----	-----	-----	1.833
1002	1.716	439.06	-----	-----	-----	-----	1.824	-----	-----	-----	-----	1.824
1004	1.709	439.06	-----	-----	-----	-----	1.816	-----	-----	-----	-----	1.816
1006	1.703	439.06	-----	-----	-----	-----	1.808	-----	-----	-----	-----	1.807
1008	1.696	439.06	-----	-----	-----	-----	1.800	-----	-----	-----	-----	1.799
1010	1.690	439.06	-----	-----	-----	-----	1.790	-----	-----	-----	-----	1.791
1012	1.683	439.06	-----	-----	-----	-----	1.782	-----	-----	-----	-----	1.783
1014	1.677	439.06	-----	-----	-----	-----	1.775	-----	-----	-----	-----	1.775
1016	1.670	439.06	-----	-----	-----	-----	1.767	-----	-----	-----	-----	1.767
1018	1.664	439.06	-----	-----	-----	-----	1.759	-----	-----	-----	-----	1.759
1020	1.657	439.06	-----	-----	-----	-----	1.751	-----	-----	-----	-----	1.752
1022	1.651	439.06	-----	-----	-----	-----	1.745	-----	-----	-----	-----	1.744
1024	1.644	439.06	-----	-----	-----	-----	1.737	-----	-----	-----	-----	1.737
1026	1.638	439.06	-----	-----	-----	-----	1.730	-----	-----	-----	-----	1.729
1028	1.631	439.06	-----	-----	-----	-----	1.722	-----	-----	-----	-----	1.722
1030	1.625	439.05	-----	-----	-----	-----	1.715	-----	-----	-----	-----	1.715
1032	1.618	439.05	-----	-----	-----	-----	1.707	-----	-----	-----	-----	1.707
1034	1.612	439.05	-----	-----	-----	-----	1.701	-----	-----	-----	-----	1.700
1036	1.605	439.05	-----	-----	-----	-----	1.693	-----	-----	-----	-----	1.693
1038	1.599	439.05	-----	-----	-----	-----	1.686	-----	-----	-----	-----	1.686
1040	1.592	439.05	-----	-----	-----	-----	1.680	-----	-----	-----	-----	1.679
1042	1.586	439.05	-----	-----	-----	-----	1.672	-----	-----	-----	-----	1.672
1044	1.579	439.05	-----	-----	-----	-----	1.665	-----	-----	-----	-----	1.665
1046	1.572	439.05	-----	-----	-----	-----	1.659	-----	-----	-----	-----	1.658
1048	1.566	439.05	-----	-----	-----	-----	1.652	-----	-----	-----	-----	1.651
1050	1.559	439.05	-----	-----	-----	-----	1.644	-----	-----	-----	-----	1.645
1052	1.553	439.05	-----	-----	-----	-----	1.638	-----	-----	-----	-----	1.638
1054	1.546	439.05	-----	-----	-----	-----	1.631	-----	-----	-----	-----	1.631
1056	1.540	439.05	-----	-----	-----	-----	1.625	-----	-----	-----	-----	1.624
1058	1.533	439.05	-----	-----	-----	-----	1.618	-----	-----	-----	-----	1.617
1060	1.527	439.05	-----	-----	-----	-----	1.610	-----	-----	-----	-----	1.611
1062	1.520	439.05	-----	-----	-----	-----	1.604	-----	-----	-----	-----	1.604
1064	1.514	439.05	-----	-----	-----	-----	1.597	-----	-----	-----	-----	1.597
1066	1.507	439.05	-----	-----	-----	-----	1.591	-----	-----	-----	-----	1.591
1068	1.501	439.05	-----	-----	-----	-----	1.584	-----	-----	-----	-----	1.584
1070	1.494	439.05	-----	-----	-----	-----	1.578	-----	-----	-----	-----	1.577
1072	1.488	439.05	-----	-----	-----	-----	1.571	-----	-----	-----	-----	1.571
1074	1.481	439.05	-----	-----	-----	-----	1.563	-----	-----	-----	-----	1.564

Continues on next page...

EX-POND- DB# 1

Hydrograph Discharge Table

Time (min)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
1076	1.474	439.05	-----	-----	-----	-----	1.557	-----	-----	-----	-----	1.557
1078	1.468	439.05	-----	-----	-----	-----	1.550	-----	-----	-----	-----	1.551
1080	1.461	439.05	-----	-----	-----	-----	1.544	-----	-----	-----	-----	1.544
1082	1.455	439.05	-----	-----	-----	-----	1.537	-----	-----	-----	-----	1.537
1084	1.448	439.05	-----	-----	-----	-----	1.531	-----	-----	-----	-----	1.531
1086	1.442	439.05	-----	-----	-----	-----	1.524	-----	-----	-----	-----	1.524
1088	1.435	439.05	-----	-----	-----	-----	1.518	-----	-----	-----	-----	1.517
1090	1.429	439.05	-----	-----	-----	-----	1.511	-----	-----	-----	-----	1.511
1092	1.422	439.05	-----	-----	-----	-----	1.505	-----	-----	-----	-----	1.504
1094	1.415	439.05	-----	-----	-----	-----	1.498	-----	-----	-----	-----	1.498
1096	1.409	439.05	-----	-----	-----	-----	1.492	-----	-----	-----	-----	1.491
1098	1.402	439.05	-----	-----	-----	-----	1.484	-----	-----	-----	-----	1.484
1100	1.396	439.05	-----	-----	-----	-----	1.477	-----	-----	-----	-----	1.478
1102	1.389	439.05	-----	-----	-----	-----	1.471	-----	-----	-----	-----	1.471
1104	1.383	439.05	-----	-----	-----	-----	1.464	-----	-----	-----	-----	1.465
1106	1.376	439.05	-----	-----	-----	-----	1.458	-----	-----	-----	-----	1.458
1108	1.370	439.05	-----	-----	-----	-----	1.452	-----	-----	-----	-----	1.452
1110	1.363	439.05	-----	-----	-----	-----	1.448	-----	-----	-----	-----	1.448
1112	1.356	439.05	-----	-----	-----	-----	1.445	-----	-----	-----	-----	1.445
1114	1.350	439.05	-----	-----	-----	-----	1.440	-----	-----	-----	-----	1.441
1116	1.343	439.05	-----	-----	-----	-----	1.437	-----	-----	-----	-----	1.437
1118	1.337	439.05	-----	-----	-----	-----	1.433	-----	-----	-----	-----	1.433
1120	1.330	439.05	-----	-----	-----	-----	1.428	-----	-----	-----	-----	1.428
1122	1.324	439.05	-----	-----	-----	-----	1.424	-----	-----	-----	-----	1.424
1124	1.317	439.05	-----	-----	-----	-----	1.419	-----	-----	-----	-----	1.419
1126	1.310	439.05	-----	-----	-----	-----	1.415	-----	-----	-----	-----	1.415
1128	1.304	439.05	-----	-----	-----	-----	1.410	-----	-----	-----	-----	1.410
1130	1.297	439.05	-----	-----	-----	-----	1.406	-----	-----	-----	-----	1.406
1132	1.291	439.05	-----	-----	-----	-----	1.401	-----	-----	-----	-----	1.401
1134	1.284	439.05	-----	-----	-----	-----	1.396	-----	-----	-----	-----	1.396
1136	1.278	439.05	-----	-----	-----	-----	1.391	-----	-----	-----	-----	1.391
1138	1.271	439.05	-----	-----	-----	-----	1.386	-----	-----	-----	-----	1.386
1140	1.264	439.05	-----	-----	-----	-----	1.381	-----	-----	-----	-----	1.381
1142	1.258	439.05	-----	-----	-----	-----	1.376	-----	-----	-----	-----	1.376
1144	1.251	439.05	-----	-----	-----	-----	1.370	-----	-----	-----	-----	1.371
1146	1.245	439.05	-----	-----	-----	-----	1.365	-----	-----	-----	-----	1.365
1148	1.238	439.05	-----	-----	-----	-----	1.360	-----	-----	-----	-----	1.360
1150	1.231	439.05	-----	-----	-----	-----	1.354	-----	-----	-----	-----	1.355
1152	1.225	439.05	-----	-----	-----	-----	1.349	-----	-----	-----	-----	1.349
1154	1.218	439.05	-----	-----	-----	-----	1.344	-----	-----	-----	-----	1.344
1156	1.212	439.05	-----	-----	-----	-----	1.338	-----	-----	-----	-----	1.338
1158	1.205	439.05	-----	-----	-----	-----	1.332	-----	-----	-----	-----	1.333
1160	1.199	439.05	-----	-----	-----	-----	1.327	-----	-----	-----	-----	1.327
1162	1.192	439.05	-----	-----	-----	-----	1.322	-----	-----	-----	-----	1.321

...End

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.1 Monday, Apr 6, 2009

Hyd. No. 5

W-1/POSTC

Hydrograph type	= Combine	Peak discharge	= 94.62 cfs
Storm frequency	= 100 yrs	Time to peak	= 744 min
Time interval	= 2 min	Hyd. volume	= 204,349 cuft
Inflow hyds.	= 3, 4	Contrib. drain. area	= 37.500 ac

Hydrograph Discharge Table

(Printed values >= 60.00% of Qp.)

Time (min)	Hyd. 3 + (cfs)	Hyd. 4 = (cfs)	Outflow (cfs)
726	59.03	0.000	59.03
728	64.46	0.000	64.46
730	69.73	0.000	69.73
732	74.77	0.000	74.77
734	79.50	0.000	79.50
736	83.86	0.000	83.86
738	87.75	0.000	87.75
740	90.98	0.000	90.98
742	93.34	0.000	93.34
744	94.62 <<	0.000	94.62 <<
746	94.57	0.000	94.57
748	93.28	0.000	93.28
750	91.19	0.000	91.19
752	88.74	0.000	88.74
754	86.17	0.000	86.17
756	83.50	0.000	83.50
758	80.72	0.000	80.72
760	77.84	0.000	77.84
762	74.88	0.000	74.88
764	71.83	0.000	71.83
766	68.71	0.000	68.71
768	65.52	0.000	65.52
770	62.27	0.000	62.27
772	58.97	0.000	58.97

...End