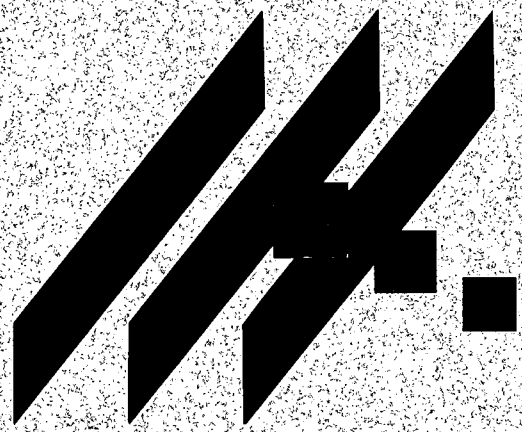
MKEC ENGINEERING CONSULTANTS, INC



JANUARY CALCULATIONS

FOR

REGENCY PARK ADDITION
Wichita, Sedgwick County, Kansas

January 2006

411 N. WEBB ROAD • WICHITA, KS 67206 • 316.684.9600 • FAX 316.684.5100

1/17/2006

Time of Concentration Calculations
Regency Park Addition
Soil Group D

Area Name	C 2-yr	C 5-yr	C 10-yr	C 100-yr	Land Use	Maximum Elevation	Minimum Elevation	Flow Length (L)	T_c 2-yr	T_c 5-yr	T_c 10-yr	T_c 100-yr
Pre-Developed												
Jabara	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	225.0	190.0	3779	88.5	82.9	71.5	48.8
K-96	0.87	0.88	0.90	0.93	Streets - Paved	225.0	190.0	3500	24.5	23.4	21.3	18.1
West Soccer	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	199.0	194.0	1175	64.0	59.9	51.7	35.3
West Reg Park	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	193.0	182.6	1380	57.3	53.6	46.3	31.6
East Soccer	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	199.0	191.0	1210	56.1	52.5	45.3	30.9
Ne Reg Park	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	197.0	189.0	1210	56.1	52.5	45.3	30.9
Se Reg Park	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	195.0	179.0	1600	56.2	52.6	45.4	31.0
Proposed												
Jabara	0.32	0.37	0.47	0.67	Agricultural - Pasture - Slopes 1-4%	225.0	190.0	3779	88.5	82.9	71.5	48.8
K-96	0.87	0.88	0.90	0.93	Streets - Paved	225.0	190.0	3500	24.5	23.4	21.3	18.1
West Soccer	0.30	0.35	0.45	0.65	Urban Lawn - Slopes 1-4%	199.0	194.0	1175	65.6	61.5	53.3	36.9
West Reg Park	0.68	0.69	0.73	0.80	Industrial - Light	193.0	182.6	1380	30.9	30.1	27.2	22.0
East Soccer	0.30	0.35	0.45	0.65	Urban Lawn - Slopes 1-4%	199.0	191.0	1210	57.5	53.9	46.7	32.3
Ne Reg Park	0.68	0.69	0.73	0.80	Industrial - Light	197.0	189.0	1210	30.2	29.5	26.6	21.6
Se Reg Park	0.68	0.69	0.73	0.80	Industrial - Light	195.0	179.0	1600	30.2	29.5	26.6	21.6

6X3 RCB

CURRENT DATE: 01-17-2006 FILE DATE: 01-17-2006
CURRENT TIME: 12:29:51 FILE NAME: K96443

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS	SHAPE	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	182.70	182.20	162.25	1	RCB	6.00	3.00	.012	CONVENTIONAL
2									
3									
4									
5									
6									

SITE DATA
CULVERT SHAPE, MATERIAL, INLET

SUMMARY OF CULVERT FLOWS (cfs) FILE: K96443 DATE: 01-17-2006

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
182.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
183.51	13.0	13.0	0.0	0.0	0.0	0.0	0.0	0.00	1
183.98	26.0	26.0	0.0	0.0	0.0	0.0	0.0	0.00	1
184.38	39.0	39.0	0.0	0.0	0.0	0.0	0.0	0.00	1
184.75	52.0	52.0	0.0	0.0	0.0	0.0	0.0	0.00	1
185.32	65.0	65.0	0.0	0.0	0.0	0.0	0.0	0.00	1
185.64	78.0	78.0	0.0	0.0	0.0	0.0	0.0	0.00	1
185.95	91.0	91.0	0.0	0.0	0.0	0.0	0.0	0.00	1
186.25	104.0	104.0	0.0	0.0	0.0	0.0	0.0	0.00	1
186.54	117.0	117.0	0.0	0.0	0.0	0.0	0.0	0.00	1
186.80	130.0	130.0	0.0	0.0	0.0	0.0	0.0	0.00	1
199.00	342.7	342.7	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: K96443 DATE: 01-17-2006

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
182.70	0.000	0.00	0.00	0.00
183.51	0.000	13.00	0.00	0.00
183.98	0.000	26.00	0.00	0.00
184.38	0.000	39.00	0.00	0.00
184.75	0.000	52.00	0.00	0.00
185.32	0.000	65.00	0.00	0.00
185.64	0.000	78.00	0.00	0.00
185.95	0.000	91.00	0.00	0.00
186.25	0.000	104.00	0.00	0.00
186.54	0.000	117.00	0.00	0.00
186.80	0.000	130.00	0.00	0.00

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 01-17-2006 FILE DATE: 01-17-2006
CURRENT TIME: 12:29:51 FILE NAME: K96443

PERFORMANCE CURVE FOR CULVERT 1 - 1(6.00 (ft) BY 3.00 (ft)) RCB

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	182.70	0.00	0.00	0-NF	0.00	0.00	0.00	0.01	0.00	0.00
13.00	183.51	0.81	0.81	1-S2n	0.52	0.53	0.43	0.80	5.07	0.00
26.00	183.98	1.28	1.28	1-S2n	0.83	0.84	0.74	1.18	5.88	0.00
39.00	184.38	1.68	1.68	1-S2n	1.09	1.10	1.00	1.47	6.52	0.00
52.00	184.75	2.05	2.05	1-S2n	1.32	1.33	1.23	1.71	7.05	0.00
65.00	185.32	2.38	2.62	3-M1t	1.55	1.54	1.93	1.93	5.61	0.00
78.00	185.64	2.69	2.94	3-M1t	1.76	1.74	2.12	2.12	6.13	0.00
91.00	185.95	3.00	3.25	3-M1t	1.96	1.93	2.29	2.29	6.62	0.00
104.00	186.25	3.33	3.55	3-M1t	2.16	2.11	2.45	2.45	7.07	0.00
117.00	186.54	3.67	3.84	3-M1t	2.35	2.28	2.60	2.60	7.50	0.00
130.00	186.80	4.04	4.10	3-M1t	2.54	2.45	2.74	2.74	7.91	0.00

El. inlet face invert 182.70 ft El. outlet invert 182.20 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	182.70 ft
OUTLET STATION	162.25 ft
OUTLET ELEVATION	182.20 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0031
CULVERT LENGTH ALONG SLOPE	162.25 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	BOX
BARREL SPAN	6.00 ft
BARREL RISE	3.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE (30-75 DEG. FLARE)
INLET DEPRESSION	NONE

CURRENT DATE: 01-17-2006 FILE DATE: 01-17-2006
CURRENT TIME: 12:29:51 FILE NAME: K96443

TAILWATER

TAILWATER RATING CURVE

FLOW (cfs)	W.S.E.(ft)	DEPTH (ft)
0	182.21	0.01
13	183.00	0.80
26	183.38	1.18
39	183.67	1.47
52	183.91	1.71
65	184.13	1.93
78	184.32	2.12
91	184.49	2.29
104	184.65	2.45
117	184.80	2.60
130	184.94	2.74

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE	PAVED
EMBANKMENT TOP WIDTH	50.00 ft
CREST LENGTH	199.00 ft
OVERTOPPING CREST ELEVATION	199.00 ft

48" RCP under K-96 Highway

CURRENT DATE: 01-11-2006 FILE DATE: 01-11-2006
CURRENT TIME: 08:38:29 FILE NAME: K9648IN

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

CULVERT NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS	SHAPE	MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1366.30	1362.00	266.03	1	RCP		4.00	4.00	.012	CONVENTIONAL
2										
3										
4										
5										
6										

SUMMARY OF CULVERT FLOWS (cfs) FILE: K9648IN DATE: 01-11-2006

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1366.92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1368.05	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1369.03	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1369.81	60.0	60.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1370.55	80.0	79.1	0.0	0.0	0.0	0.0	0.0	0.74	3
1371.04	100.0	90.8	0.0	0.0	0.0	0.0	0.0	8.85	4
1371.37	120.0	97.6	0.0	0.0	0.0	0.0	0.0	21.51	4
1371.61	140.0	102.8	0.0	0.0	0.0	0.0	0.0	36.67	4
1371.80	160.0	106.6	0.0	0.0	0.0	0.0	0.0	52.96	4
1371.97	180.0	109.7	0.0	0.0	0.0	0.0	0.0	69.70	4
1372.12	200.0	112.5	0.0	0.0	0.0	0.0	0.0	86.93	4
1370.25	71.4	71.4	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: K9648IN DATE: 01-11-2006

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1366.92	0.000	0.00	0.00	0.00
1368.05	0.000	20.00	0.00	0.00
1369.03	0.000	40.00	0.00	0.00
1369.81	0.000	60.00	0.00	0.00
1370.55	-0.005	80.00	0.17	0.21
1371.04	-0.006	100.00	0.37	0.37
1371.37	-0.008	120.00	0.87	0.73
1371.61	-0.004	140.00	0.51	0.36
1371.80	-0.003	160.00	0.49	0.31
1371.97	-0.003	180.00	0.57	0.32
1372.12	-0.003	200.00	0.58	0.29

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 01-11-2006 FILE DATE: 01-11-2006
CURRENT TIME: 08:38:29 FILE NAME: K9648IN

PERFORMANCE CURVE FOR CULVERT 1 - 1(4.00 (ft) BY 4.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1366.92	0.00	0.62	0-NF	0.00	0.00	0.00	4.92	0.00	0.00
20.00	1368.05	1.75	1.75	1-S1f	0.85	1.31	1.50	4.92	4.64	0.00
40.00	1369.03	2.73	2.73	1-S1f	1.22	1.88	2.00	4.92	6.37	0.00
60.00	1369.81	3.51	3.51	1-S1f	1.50	2.33	2.50	4.92	7.27	0.00
79.09	1370.55	4.25	4.25	1-S1f	1.75	2.69	2.80	4.92	8.42	0.00
90.78	1371.04	4.74	4.74	1-S1f	1.90	2.88	3.00	4.92	9.00	0.00
97.61	1371.36	5.06	5.06	1-S1f	1.98	2.98	3.10	4.92	9.36	0.00
102.82	1371.61	5.31	5.31	1-S1f	2.04	3.06	3.20	4.92	9.54	0.00
106.55	1371.80	5.50	5.50	1-S1f	2.09	3.12	3.30	4.92	9.63	0.00
109.73	1371.97	5.67	5.67	1-S1f	2.12	3.16	3.30	4.92	9.92	0.00
112.49	1372.12	5.82	5.82	1-S1f	2.16	3.20	3.40	4.92	9.92	0.00

El. inlet face invert 1366.30 ft El. outlet invert 1362.00 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	1366.30 ft
OUTLET STATION	266.00 ft
OUTLET ELEVATION	1362.00 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0162
CULVERT LENGTH ALONG SLOPE	266.03 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	4.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 01-11-2006 FILE DATE: 01-11-2006
CURRENT TIME: 08:38:29 FILE NAME: K9648IN

TAILWATER

CONSTANT WATER SURFACE ELEVATION
1366.92

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE GRAVEL
EMBANKMENT TOP WIDTH 24.00 ft
***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X ft	Y ft
1	0.00	1386.72
2	45.00	1371.21
3	50.00	1370.25
4	65.00	1371.55
5	75.00	1372.24
6	87.00	1372.48

48" RCP under K-96 Ramp

CURRENT DATE: 01-16-2006 FILE DATE: 01-11-2006
CURRENT TIME: 15:39:54 FILE NAME: K96RAMP

FHWA CULVERT ANALYSIS
HY-8, VERSION 6.1

C U L V	SITE DATA			CULVERT SHAPE, MATERIAL, INLET				
NO.	INLET ELEV. (ft)	OUTLET ELEV. (ft)	CULVERT LENGTH (ft)	BARRELS SHAPE MATERIAL	SPAN (ft)	RISE (ft)	MANNING n	INLET TYPE
1	1366.90	1366.63	100.00	1 RCP	4.00	4.00	.012	CONVENTIONAL
2								
3								
4								
5								
6								

SUMMARY OF CULVERT FLOWS (cfs) FILE: K96RAMP DATE: 01-11-2006

ELEV (ft)	TOTAL	1	2	3	4	5	6	ROADWAY	ITR
1366.92	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1368.91	20.0	20.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1369.87	40.0	40.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1370.74	60.0	60.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1371.77	80.0	80.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1372.93	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1374.08	120.0	120.0	0.0	0.0	0.0	0.0	0.0	0.00	1
1374.49	140.0	123.7	0.0	0.0	0.0	0.0	0.0	14.14	30
1374.54	150.0	120.6	0.0	0.0	0.0	0.0	0.0	28.17	15
1374.61	180.0	118.1	0.0	0.0	0.0	0.0	0.0	60.41	12
1374.64	200.0	115.6	0.0	0.0	0.0	0.0	0.0	82.69	9
1374.26	122.9	122.9	0.0	0.0	0.0	0.0	0.0	OVERTOPPING	

SUMMARY OF ITERATIVE SOLUTION ERRORS FILE: K96RAMP DATE: 01-11-2006

HEAD ELEV (ft)	HEAD ERROR (ft)	TOTAL FLOW (cfs)	FLOW ERROR (cfs)	% FLOW ERROR
1366.92	0.000	0.00	0.00	0.00
1368.91	0.000	20.00	0.00	0.00
1369.87	0.000	40.00	0.00	0.00
1370.74	0.000	60.00	0.00	0.00
1371.77	0.000	80.00	0.00	0.00
1372.93	0.000	100.00	0.00	0.00
1374.08	0.000	120.00	0.00	0.00
1374.49	-0.002	140.00	2.18	1.56
1374.54	-0.001	150.00	1.25	0.83
1374.61	-0.001	180.00	1.45	0.81
1374.64	-0.001	200.00	1.67	0.83

<1> TOLERANCE (ft) = 0.010 <2> TOLERANCE (%) = 1.000

CURRENT DATE: 01-16-2006 FILE DATE: 01-11-2006
CURRENT TIME: 15:39:54 FILE NAME: K96RAMP

PERFORMANCE CURVE FOR CULVERT 1 - 1(4.00 (ft) BY 4.00 (ft)) RCP

DIS-CHARGE FLOW (cfs)	HEAD-WATER ELEV. (ft)	INLET CONTROL DEPTH (ft)	OUTLET CONTROL DEPTH (ft)	FLOW TYPE <F4>	NORMAL DEPTH (ft)	CRIT. DEPTH (ft)	OUTLET DEPTH (ft)	TW DEPTH (ft)	OUTLET VEL. (fps)	TW VEL. (fps)
0.00	1366.92	0.00	0.02	0-NF	0.00	0.00	0.00	0.29	0.00	0.00
20.00	1368.91	1.78	2.01	3-M1t	1.34	1.31	1.42	1.42	4.99	0.00
40.00	1369.87	2.75	2.97	3-M1t	1.98	1.88	2.40	2.40	5.08	0.00
60.00	1370.74	3.54	3.84	3-M1t	2.57	2.33	3.18	3.18	5.60	0.00
80.00	1371.77	4.31	4.87	3-M1t	3.24	2.70	3.92	3.92	6.43	0.00
100.00	1372.93	5.20	6.03	4-FFt	4.00	3.02	4.00	4.41	7.96	0.00
120.00	1374.09	6.27	7.19	4-FFt	4.00	3.28	4.00	4.74	9.55	0.00
123.68	1374.49	6.50	7.59	4-FFt	4.00	3.32	4.00	4.98	9.84	0.00
120.58	1374.54	6.31	7.64	4-FFt	4.00	3.29	4.00	5.17	9.60	0.00
118.14	1374.60	6.17	7.70	4-FFt	4.00	3.26	4.00	5.34	9.40	0.00
115.64	1374.64	6.02	7.74	4-FFt	4.00	3.24	4.00	5.49	9.20	0.00

El. inlet face invert 1366.90 ft El. outlet invert 1366.63 ft
El. inlet throat invert 0.00 ft El. inlet crest 0.00 ft

***** SITE DATA ***** CULVERT INVERT **********

INLET STATION	0.00 ft
INLET ELEVATION	1366.90 ft
OUTLET STATION	100.00 ft
OUTLET ELEVATION	1366.63 ft
NUMBER OF BARRELS	1
SLOPE (V/H)	0.0027
CULVERT LENGTH ALONG SLOPE	100.00 ft

***** CULVERT DATA SUMMARY **********

BARREL SHAPE	CIRCULAR
BARREL DIAMETER	4.00 ft
BARREL MATERIAL	CONCRETE
BARREL MANNING'S n	0.012
INLET TYPE	CONVENTIONAL
INLET EDGE AND WALL	SQUARE EDGE WITH HEADWALL
INLET DEPRESSION	NONE

CURRENT DATE: 01-16-2006
CURRENT TIME: 15:39:54

FILE DATE: 01-11-2006
FILE NAME: K96RAMP

TAILWATER

TAILWATER RATING CURVE

FLOW (cfs)	W.S.E.(ft)	DEPTH (ft)
0	1366.92	0.29
20	1368.05	1.42
40	1369.03	2.40
60	1369.81	3.18
80	1370.55	3.92
100	1371.04	4.41
120	1371.37	4.74
140	1371.61	4.98
150	1371.80	5.17
180	1371.97	5.34
200	1372.12	5.49

ROADWAY OVERTOPPING DATA

ROADWAY SURFACE PAVED
EMBANKMENT TOP WIDTH 50.00 ft

***** USER DEFINED ROADWAY PROFILE

CROSS-SECTION COORD. NO.	X ft	Y ft
1	44990.00	1375.00
2	45000.00	1374.50
3	45200.00	1374.50
4	45400.00	1375.00
5	45600.00	1374.26
6	45800.00	1375.10
7	46000.00	1375.60
8	46200.00	1376.00

Hydrograph Return Period Recap

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	-------	-------	96.54	-------	-------	0.00	244.78	288.87	327.64	Jabara
2	SCS Runoff	-------	-------	9.10	-------	-------	0.00	22.98	27.12	30.76	West Soccer Fld
3	SCS Runoff	-------	-------	21.67	-------	-------	0.00	54.73	64.59	73.26	West Regency Park
4	SCS Runoff	-------	-------	27.76	-------	-------	0.00	50.69	57.18	62.85	K-96
5	Combine	1, 2, 3, 4	-------	133.72	-------	-------	0.00	335.93	395.45	447.78	Flow to 3x6
6	Diversion1	5	-------	115.00	-------	-------	0.00	115.00	115.00	115.00	Through RCB
7	Diversion2	5	-------	18.72	-------	-------	0.00	220.93	280.45	332.78	Over Ditch Plug
8	SCS Runoff	-------	-------	40.11	-------	-------	0.00	101.29	119.54	135.59	East Soccer
9	SCS Runoff	-------	-------	46.57	-------	-------	0.00	117.62	138.81	157.45	NE Regency Park
10	SCS Runoff	-------	-------	36.87	-------	-------	0.00	93.13	109.91	124.66	SE Reg Park
11	Combine	7, 8, 9, 10	-------	142.26	-------	-------	0.00	531.60	646.03	746.58	To 48 inch RCP
12	Reservoir	11	-------	72.84	-------	-------	0.00	117.04	139.41	248.37	Pre-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	96.54	6	744	12.587	----	------	------	Jabara
2	SCS Runoff	9.10	6	738	1.058	----	------	------	West Soccer Fld
3	SCS Runoff	21.67	6	738	2.521	----	------	------	West Regency Park
4	SCS Runoff	27.76	6	720	2.156	----	------	------	K-96
5	Combine	133.72	6	738	18.322	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	726	17.934	5	------	------	Through RCB
7	Diversion2	18.72	6	738	0.389	5	------	------	Over Ditch Plug
8	SCS Runoff	40.11	6	738	4.665	----	------	------	East Soccer
9	SCS Runoff	46.57	6	738	5.417	----	------	------	NE Regency Park
10	SCS Runoff	36.87	6	738	4.289	----	------	------	SE Reg Park
11	Combine	142.26	6	738	14.761	7, 8, 9, 10	------	------	To 48 inch RCP
12	Reservoir	72.84	6	756	14.761	11	184.00	3.092	Pre-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	0.00	6	0	0.000	----	------	------	Jabara
2	SCS Runoff	0.00	6	0	0.000	----	------	------	West Soccer Fld
3	SCS Runoff	0.00	6	0	0.000	----	------	------	West Regency Park
4	SCS Runoff	0.00	6	0	0.000	----	------	------	K-96
5	Combine	0.00	6	0	0.000	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	0.00	6	0	0.000	5	------	------	Through RCB
7	Diversion2	0.00	6	0	0.000	5	------	------	Over Ditch Plug
8	SCS Runoff	0.00	6	0	0.000	----	------	------	East Soccer
9	SCS Runoff	0.00	6	0	0.000	----	------	------	NE Regency Park
10	SCS Runoff	0.00	6	0	0.000	----	------	------	SE Reg Park
11	Combine	0.00	6	0	0.000	7, 8, 9, 10	------	------	To 48 inch RCP
12	Reservoir	0.00	6	0	0.000	11	0.00	0.000	Pre-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	244.78	6	738	31.482	----	------	------	Jabara
2	SCS Runoff	22.98	6	732	2.647	----	------	------	West Soccer Fld
3	SCS Runoff	54.73	6	732	6.304	----	------	------	West Regency Park
4	SCS Runoff	50.69	6	720	4.025	----	------	------	K-96
5	Combine	335.93	6	738	44.458	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	714	32.608	5	------	------	Through RCB
7	Diversion2	220.93	6	738	11.850	5	------	------	Over Ditch Plug
8	SCS Runoff	101.29	6	732	11.668	----	------	------	East Soccer
9	SCS Runoff	117.62	6	732	13.549	----	------	------	NE Regency Park
10	SCS Runoff	93.13	6	732	10.728	----	------	------	SE Reg Park
11	Combine	531.60	6	738	47.795	7, 8, 9, 10	------	------	To 48 inch RCP
12	Reservoir	117.04	6	774	47.796	11	186.52	22.414	Pre-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	288.87	6	738	37.182	----	------	------	Jabara
2	SCS Runoff	27.12	6	732	3.126	----	------	------	West Soccer Fld
3	SCS Runoff	64.59	6	732	7.446	----	------	------	West Regency Park
4	SCS Runoff	57.18	6	720	4.556	----	------	------	K-96
5	Combine	395.45	6	738	52.310	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	714	36.559	5	------	------	Through RCB
7	Diversion2	280.45	6	738	15.751	5	------	------	Over Ditch Plug
8	SCS Runoff	119.54	6	732	13.781	----	------	------	East Soccer
9	SCS Runoff	138.81	6	732	16.002	----	------	------	NE Regency Park
10	SCS Runoff	109.91	6	732	12.670	----	------	------	SE Reg Park
11	Combine	646.03	6	738	58.204	7, 8, 9, 10	------	------	To 48 inch RCP
12	Reservoir	139.41	6	774	58.205	11	187.01	28.968	Pre-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	327.64	6	738	42.238	----	------	------	Jabara
2	SCS Runoff	30.76	6	732	3.552	----	------	------	West Soccer Fld
3	SCS Runoff	73.26	6	732	8.458	----	------	------	West Regency Park
4	SCS Runoff	62.85	6	720	5.021	----	------	------	K-96
5	Combine	447.78	6	738	59.268	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	708	39.920	5	------	------	Through RCB
7	Diversion2	332.78	6	738	19.348	5	------	------	Over Ditch Plug
8	SCS Runoff	135.59	6	732	15.655	----	------	------	East Soccer
9	SCS Runoff	157.45	6	732	18.178	----	------	------	NE Regency Park
10	SCS Runoff	124.66	6	732	14.393	----	------	------	SE Reg Park
11	Combine	746.58	6	738	67.574	7, 8, 9, 10	------	------	To 48 inch RCP
12	Reservoir	248.37	6	768	67.575	11	187.20	32.784	Pre-Proj Nat Pond

Hydrograph Report

Hyd. No. 1

Jabara

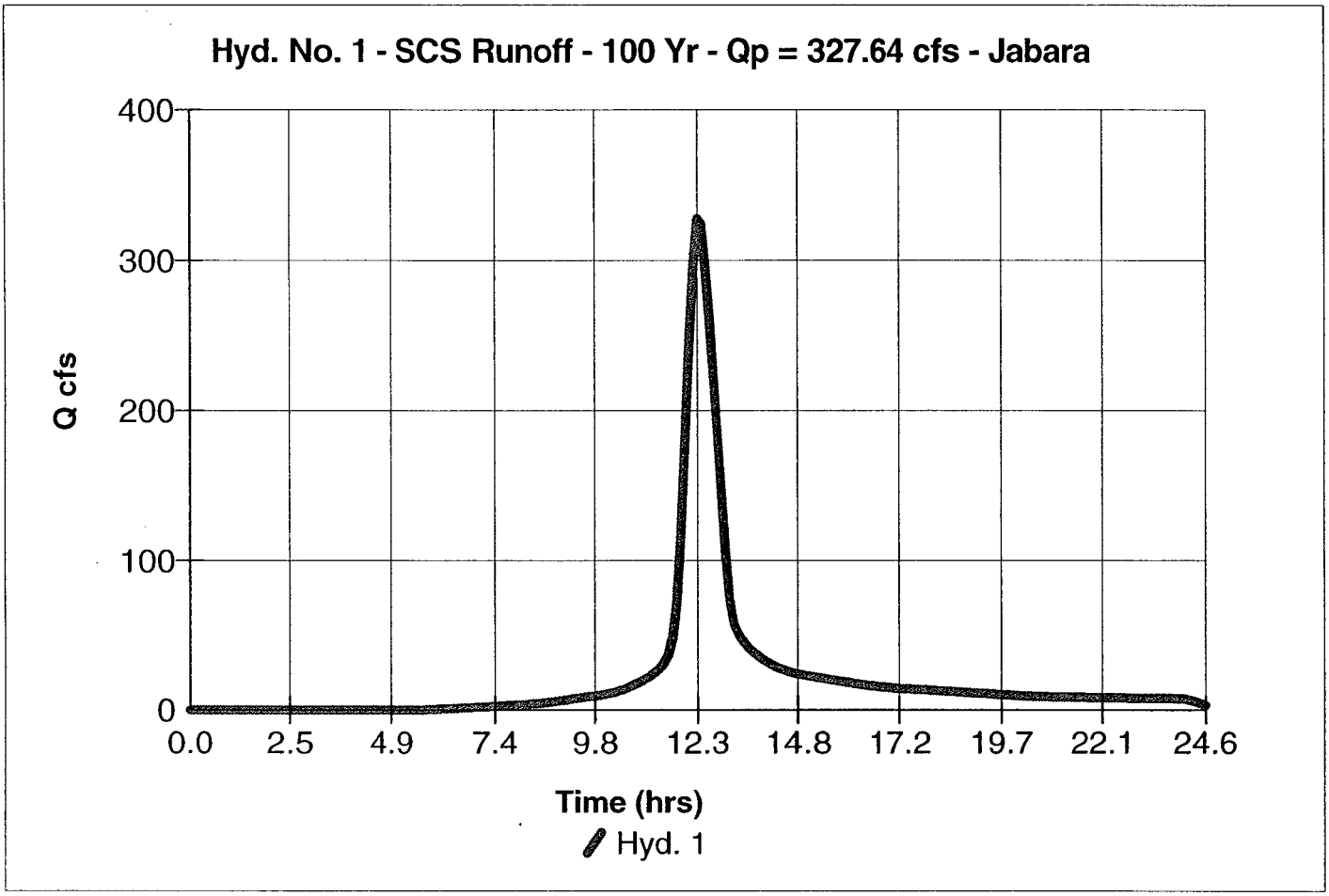
Hydrograph type	= SCS Runoff	Peak discharge	= 327.64 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 95.60 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 48.8 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 42.238 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.30	327.64 <<
12.40	324.15

...End


Hyd. No. 1 - SCS Runoff - 100 Yr - Qp = 327.64 cfs - Jabara
Q cfs
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.8
17.2
19.7
22.1
24.6
Time (hrs)
Hyd. 1

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 2

West Soccer Fld

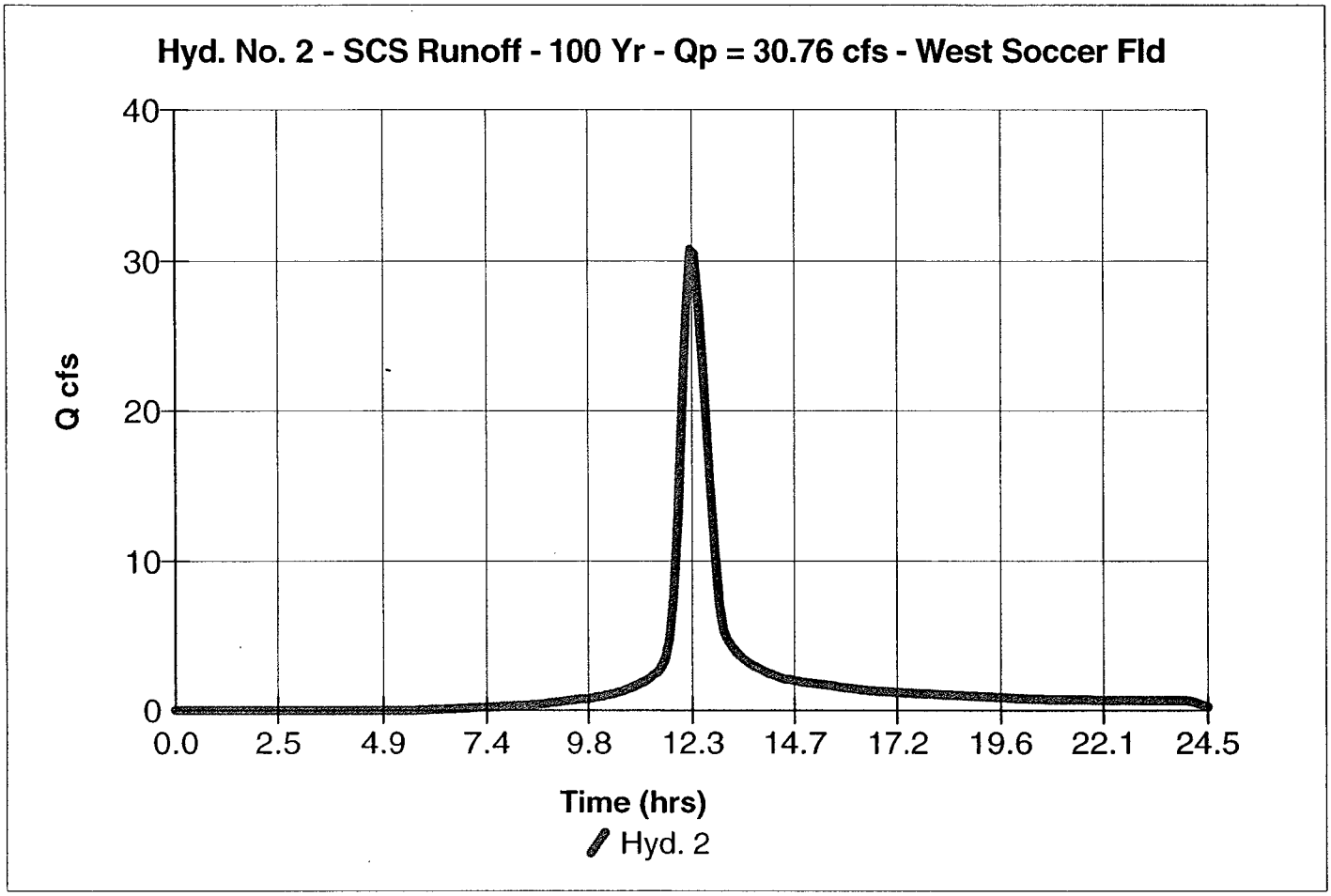
Hydrograph type	= SCS Runoff	Peak discharge	= 30.76 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 7.60 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 35.3 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 3.552 acft

Hydrograph Discharge Table

Time -- Outflow (hrs	cfs)
12.20	30.76 <<
12.30	30.47

...End


Hyd. No. 2 - SCS Runoff - 100 Yr - Qp = 30.76 cfs - West Soccer Fld
Q cfs
40
30
20
10
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 2

Hydrograph Report

Hyd. No. 3

West Regency Park

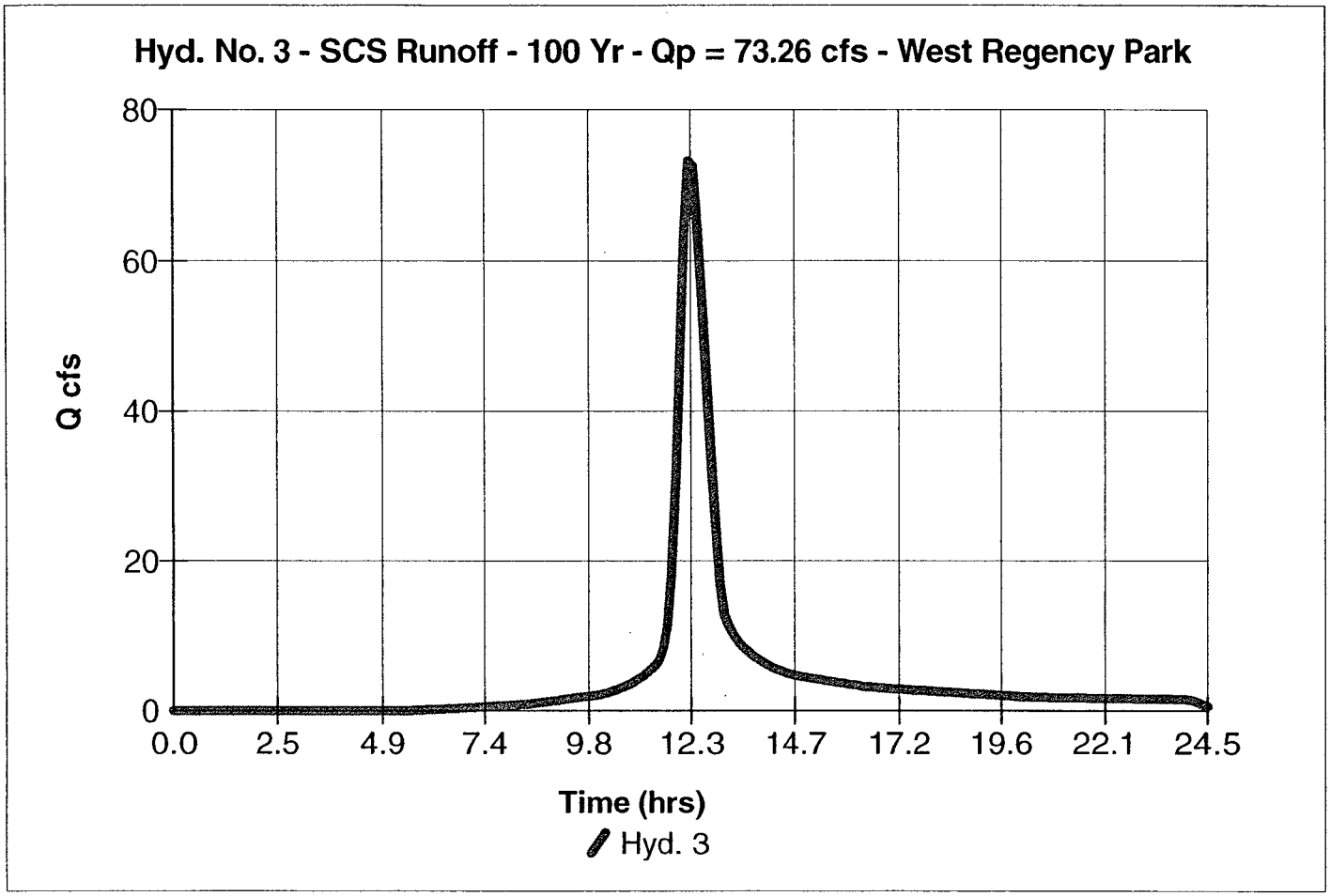
Hydrograph type	= SCS Runoff	Peak discharge	= 73.26 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 18.10 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 31.6 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 8.458 acft

Hydrograph Discharge Table

Time -- (hrs)	Outflow cfs)
12.20	73.26 <<
12.30	72.58

...End


Hyd. No. 3 - SCS Runoff - 100 Yr - Qp = 73.26 cfs - West Regency Park
Q cfs
80
60
40
20
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 3

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 4

K-96

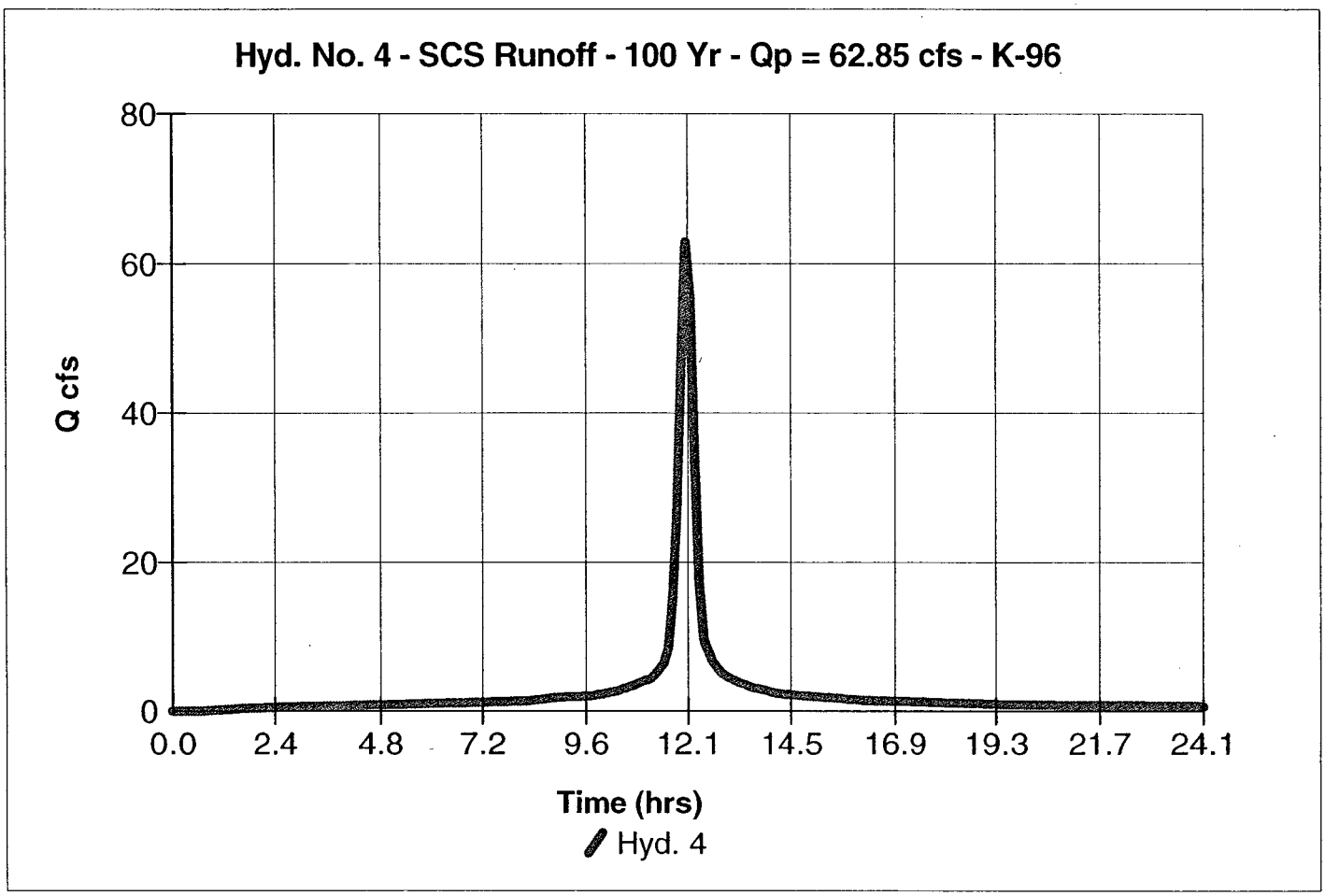
Hydrograph type	= SCS Runoff	Peak discharge	= 62.85 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 8.50 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.1 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 5.021 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	
12.00	62.85	<<

...End


Hyd. No. 4 - SCS Runoff - 100 Yr - Qp = 62.85 cfs - K-96
Q cfs
80
60
40
20
0
0.0
2.4
4.8
7.2
9.6
12.1
14.5
16.9
19.3
21.7
24.1
Time (hrs)
Hyd. 4

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 5

Flow to 3x6

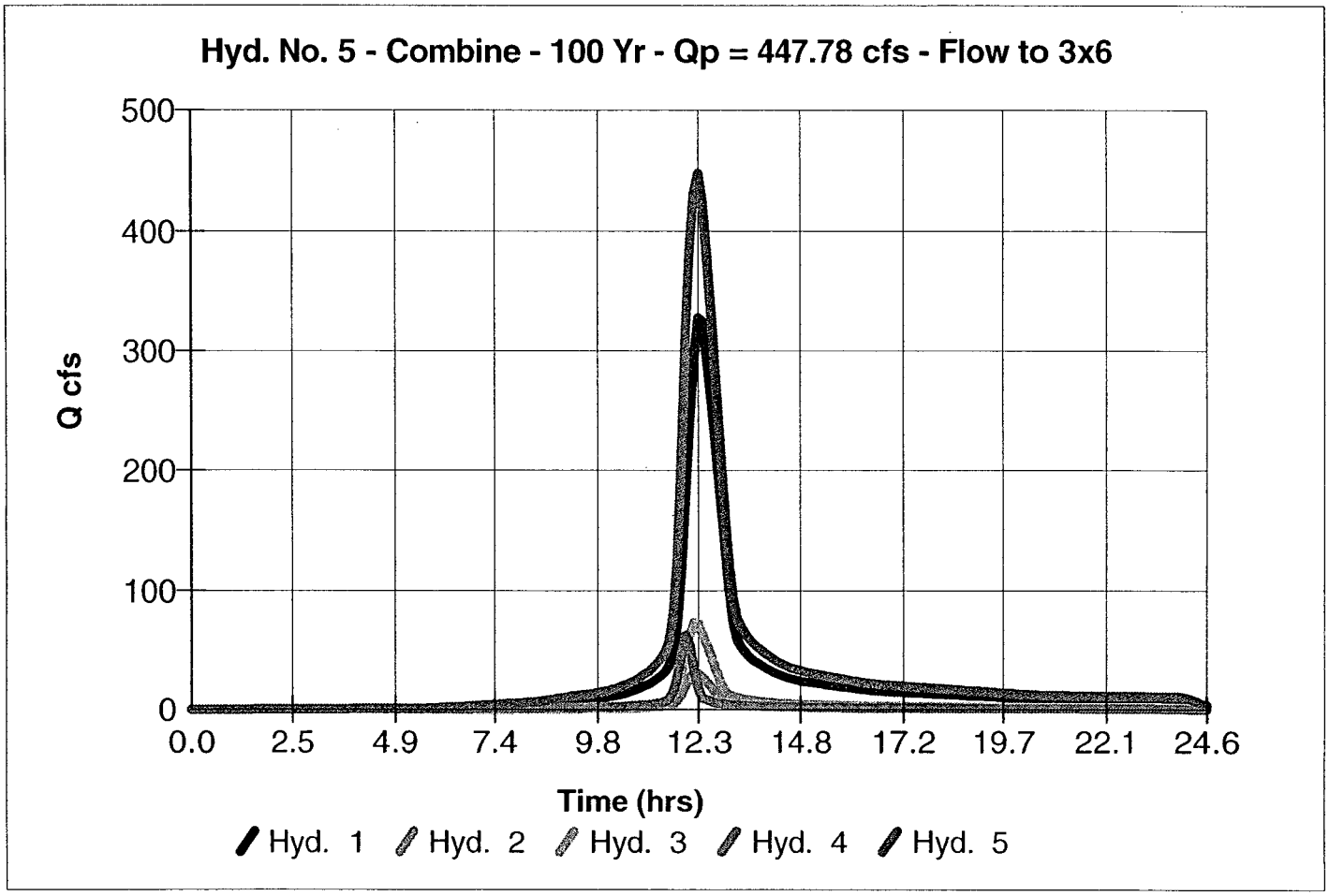
Hydrograph type	= Combine	Peak discharge	= 447.78 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyds.	= 1, 2, 3, 4		

Hydrograph Volume = 59.268 acft

Hydrograph Discharge Table

Time (hrs)	Hyd. 1 + (cfs)	Hyd. 2 + (cfs)	Hyd. 3 + (cfs)	Hyd. 4 = (cfs)	Outflow (cfs)
12.20	292.98	30.76 <<	73.26 <<	34.14	431.14
12.30	327.64 <<	30.47	72.58	17.08	447.78 <<
12.40	324.15	26.96	64.21	9.49	424.81

...End


Hyd. No. 5 - Combine - 100 Yr - Qp = 447.78 cfs - Flow to 3x6
Q cfs
500
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.8
17.2
19.7
22.1
24.6
Time (hrs)
Hyd. 1
Hyd. 2
Hyd. 3
Hyd. 4
Hyd. 5

Hydrograph Report

Hyd. No. 6

Through RCB

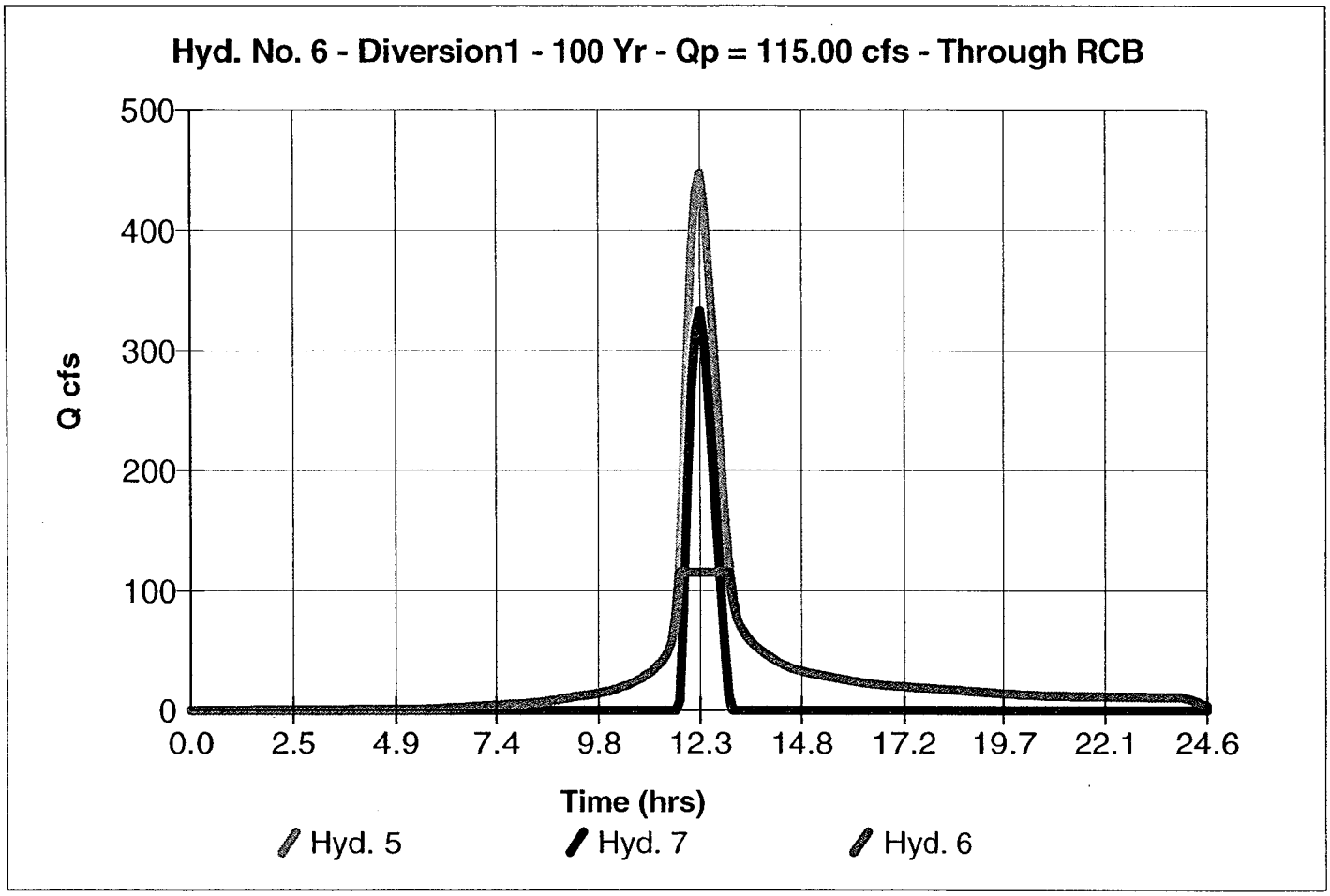
Hydrograph type	= Diversion1	Peak discharge	= 115.00 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hydrograph	= 5	2nd diverted hyd.	= 7
Diversion method	= Constant Q	Constant Q	= 115.00 cfs

Hydrograph Volume = 39.920 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	2nd Diverted cfs	Outflow cfs
11.80	122.98	7.98	115.00 <<
11.90	207.73	92.73	115.00 <<
12.00	311.30	196.30	115.00 <<
12.10	385.80	270.80	115.00 <<
12.20	431.14	316.14	115.00 <<
12.30	447.78 <<	332.78 <<	115.00 <<
12.40	424.81	309.81	115.00 <<
12.50	379.26	264.26	115.00 <<
12.60	329.15	214.15	115.00 <<
12.70	276.14	161.14	115.00 <<
12.80	222.17	107.17	115.00 <<
12.90	170.57	55.57	115.00 <<
13.00	127.30	12.30	115.00 <<

...End


Hyd. No. 6 - Diversion1 - 100 Yr - Qp = 115.00 cfs - Through RCB
Q cfs
500
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.8
17.2
19.7
22.1
24.6
Time (hrs)
Hyd. 5
Hyd. 7
Hyd. 6

Hydrograph Report

Hyd. No. 7

Over Ditch Plug

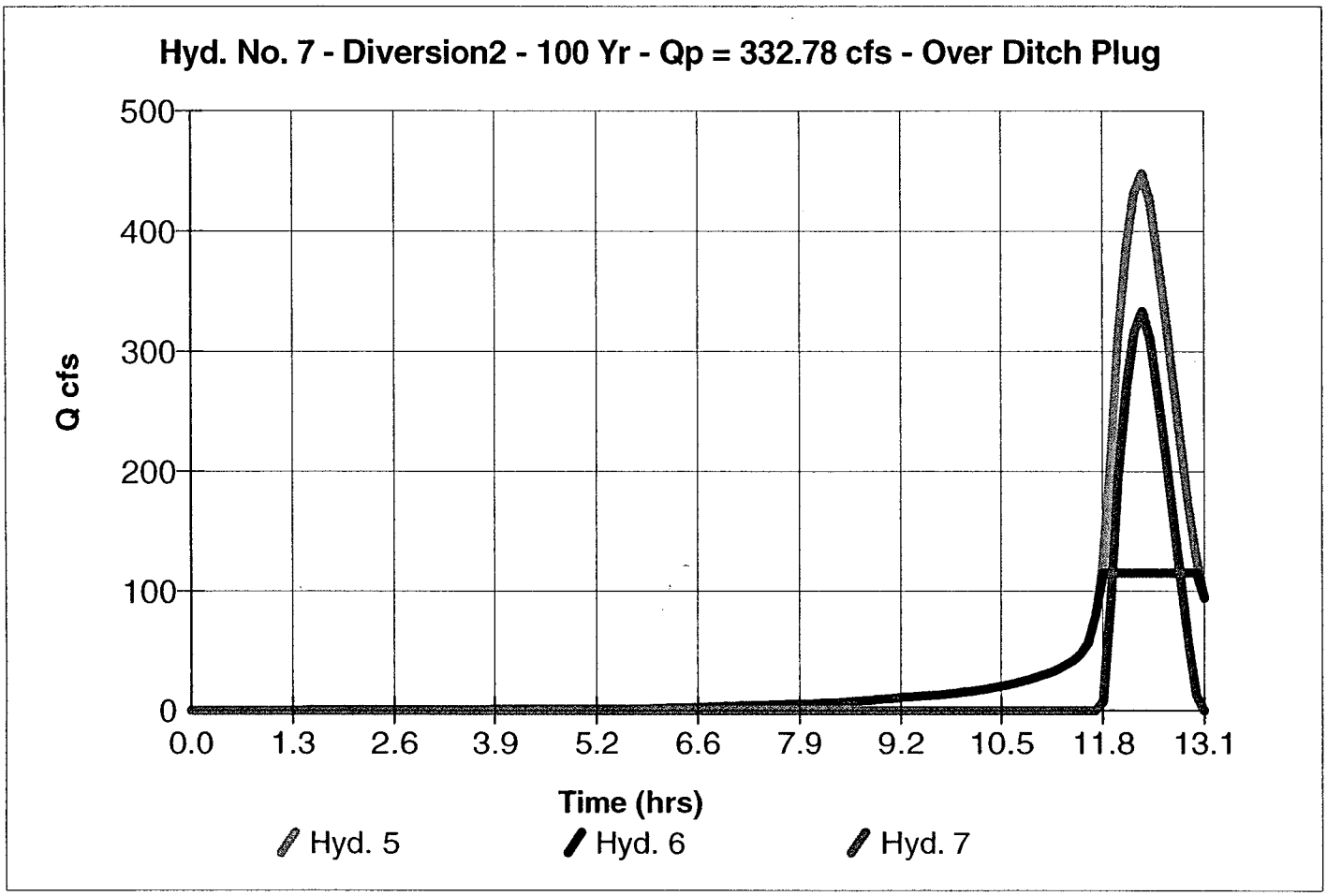
Hydrograph type	= Diversion2	Peak discharge	= 332.78 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hydrograph	= 5	2nd diverted hyd.	= 6
Diversion method	= Constant Q	Constant Q	= 115.00 cfs

Hydrograph Volume = 19.348 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	2nd Diverted cfs	Outflow cfs
12.20	431.14	115.00 <<	316.14
12.30	447.78 <<	115.00 <<	332.78 <<
12.40	424.81	115.00 <<	309.81

...End


Hyd. No. 7 - Diversion2 - 100 Yr - Qp = 332.78 cfs - Over Ditch Plug
Q cfs
500
400
300
200
100
0
0.0
1.3
2.6
3.9
5.2
6.6
7.9
9.2
10.5
11.8
13.1
Time (hrs)
Hyd. 5
Hyd. 6
Hyd. 7

Hydrograph Report

Hyd. No. 8

East Soccer

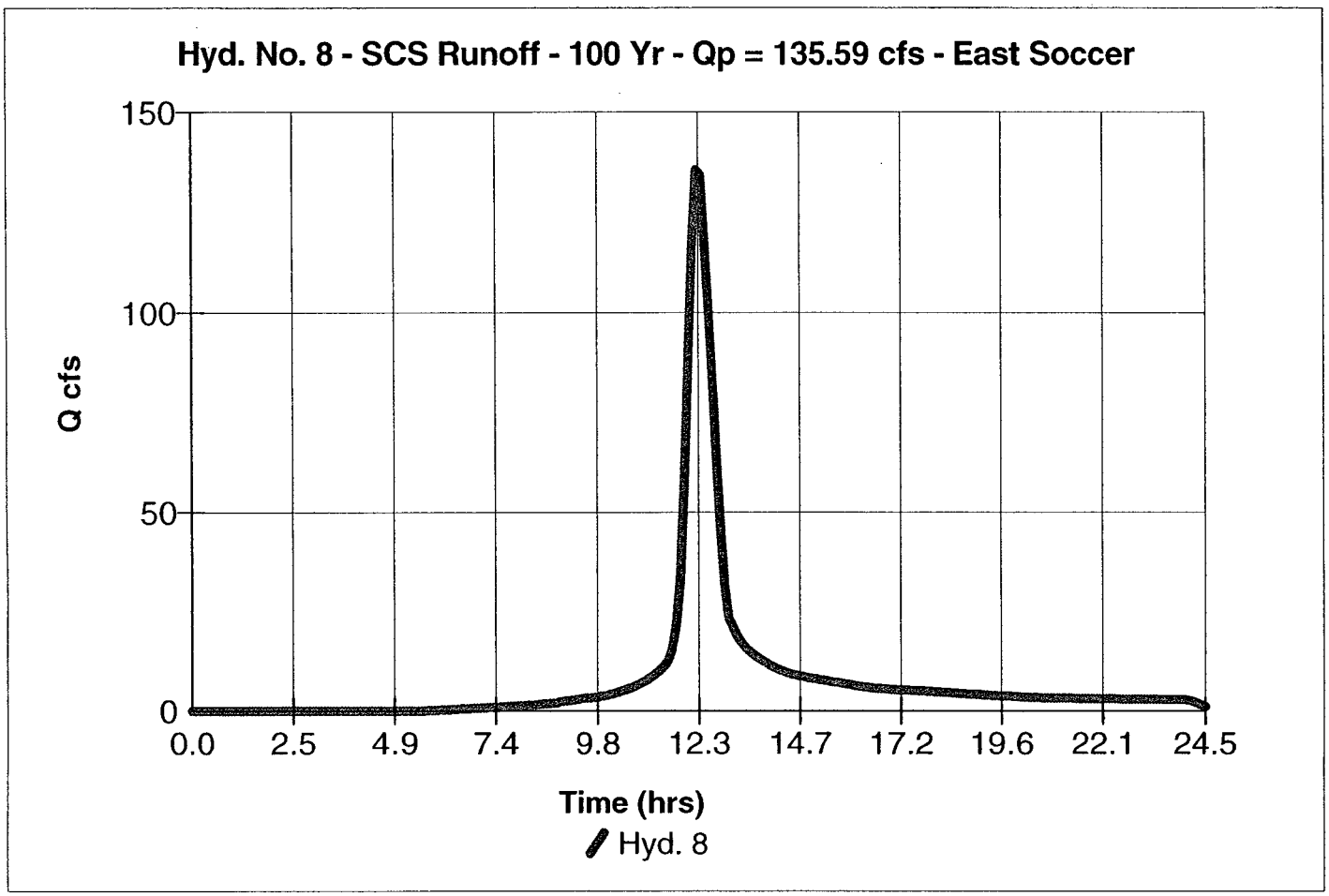
Hydrograph type	= SCS Runoff	Peak discharge	= 135.59 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 33.50 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 30.9 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 15.655 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.20	135.59 <<
12.30	134.33

...End


Hyd. No. 8 - SCS Runoff - 100 Yr - Qp = 135.59 cfs - East Soccer
150
100
50
0
Q cfs
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 8

Hydrograph Report

Hyd. No. 9

NE Regency Park

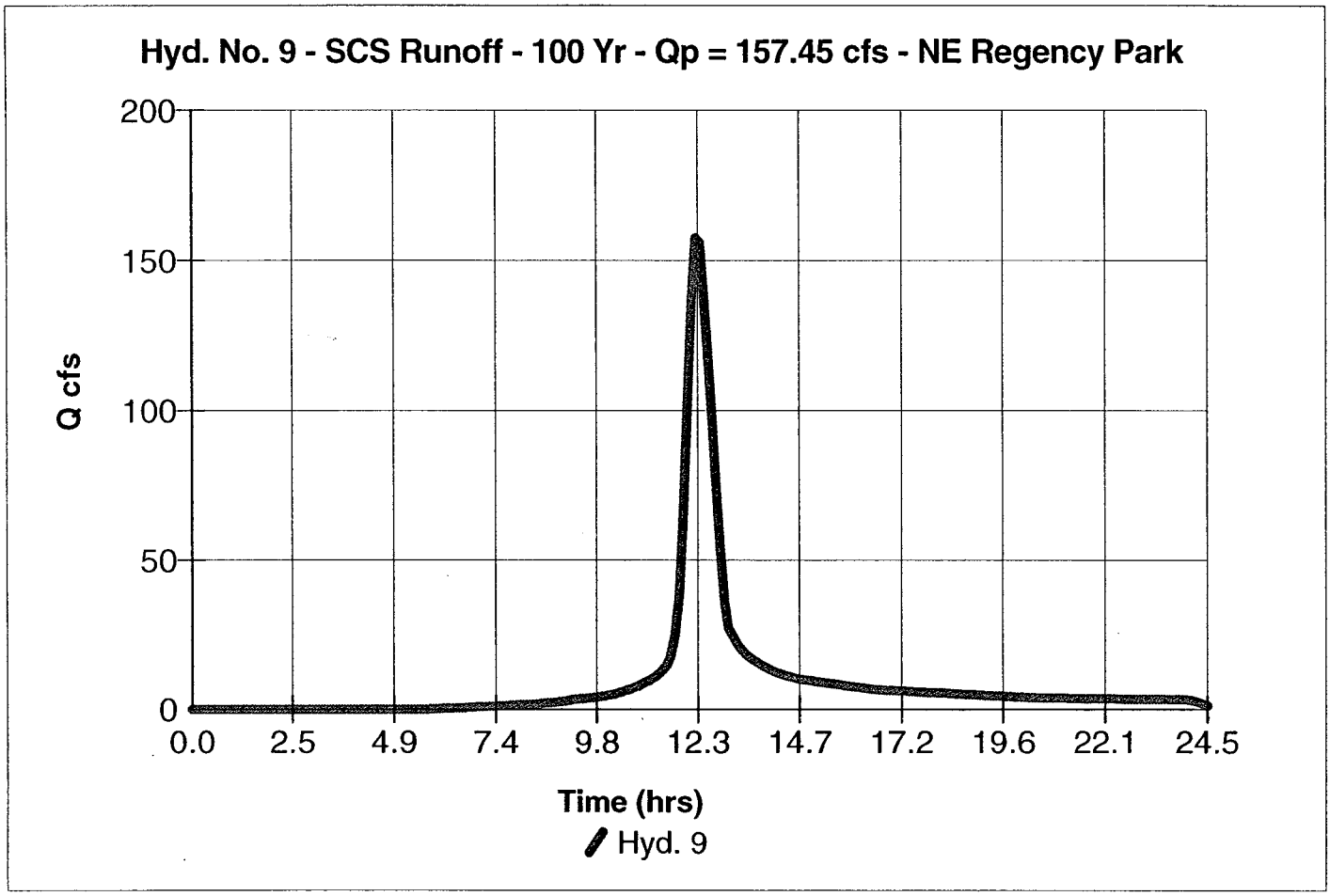
Hydrograph type	= SCS Runoff	Peak discharge	= 157.45 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 38.90 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 30.9 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 18.178 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.20	157.45 <<
12.30	155.98

...End


Hyd. No. 9 - SCS Runoff - 100 Yr - Qp = 157.45 cfs - NE Regency Park
Q cfs
200
150
100
50
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 9

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 10

SE Reg Park

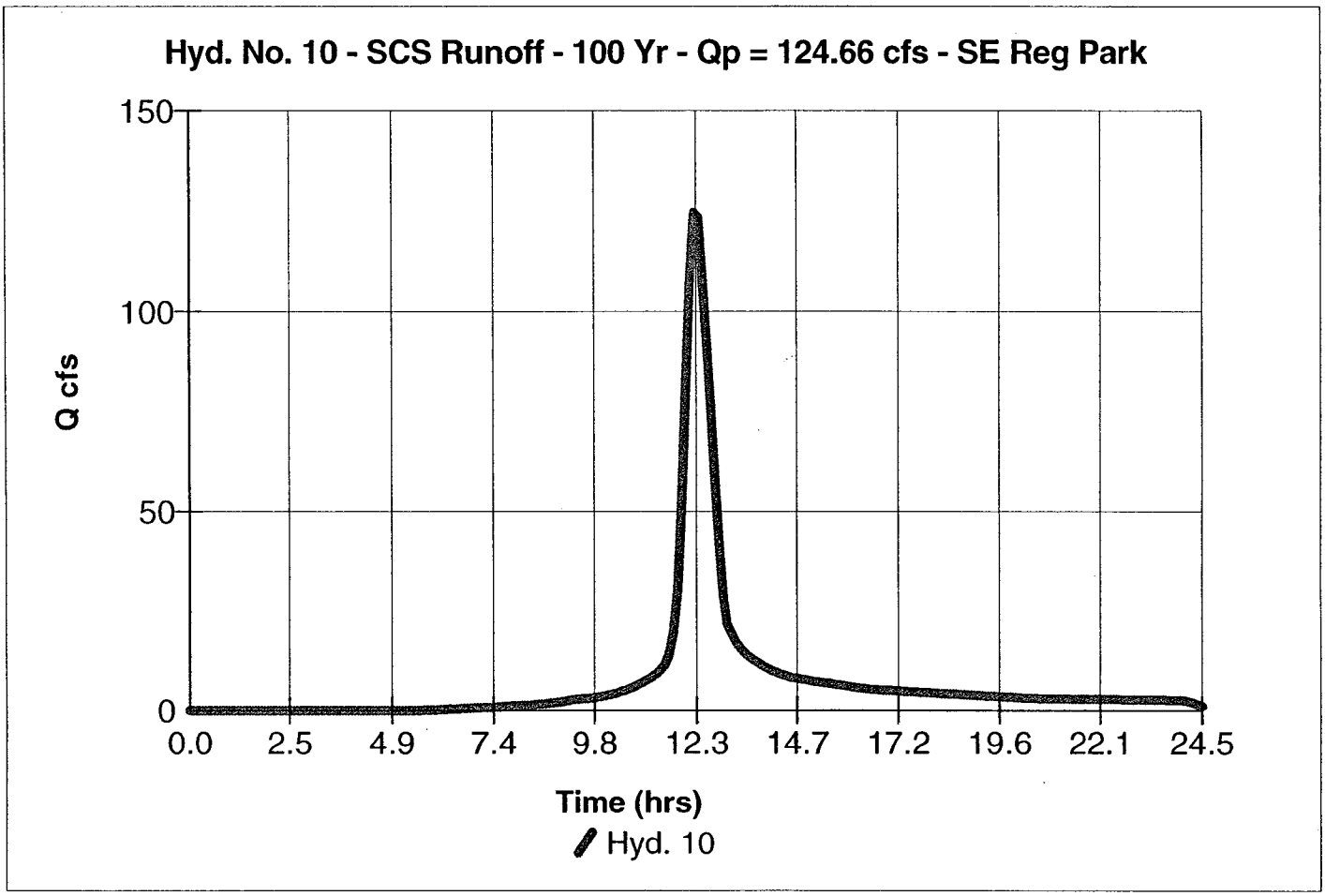
Hydrograph type	= SCS Runoff	Peak discharge	= 124.66 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 30.80 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 31 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 14.393 acft

Hydrograph Discharge Table

Time -- Outflow (hrs	cfs)
12.20	124.66 <<
12.30	123.50

...End


Hyd. No. 10 - SCS Runoff - 100 Yr - Qp = 124.66 cfs - SE Reg Park
150
100
50
0
Q cfs
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 10

Hydrograph Report

Hyd. No. 11

To 48 inch RCP

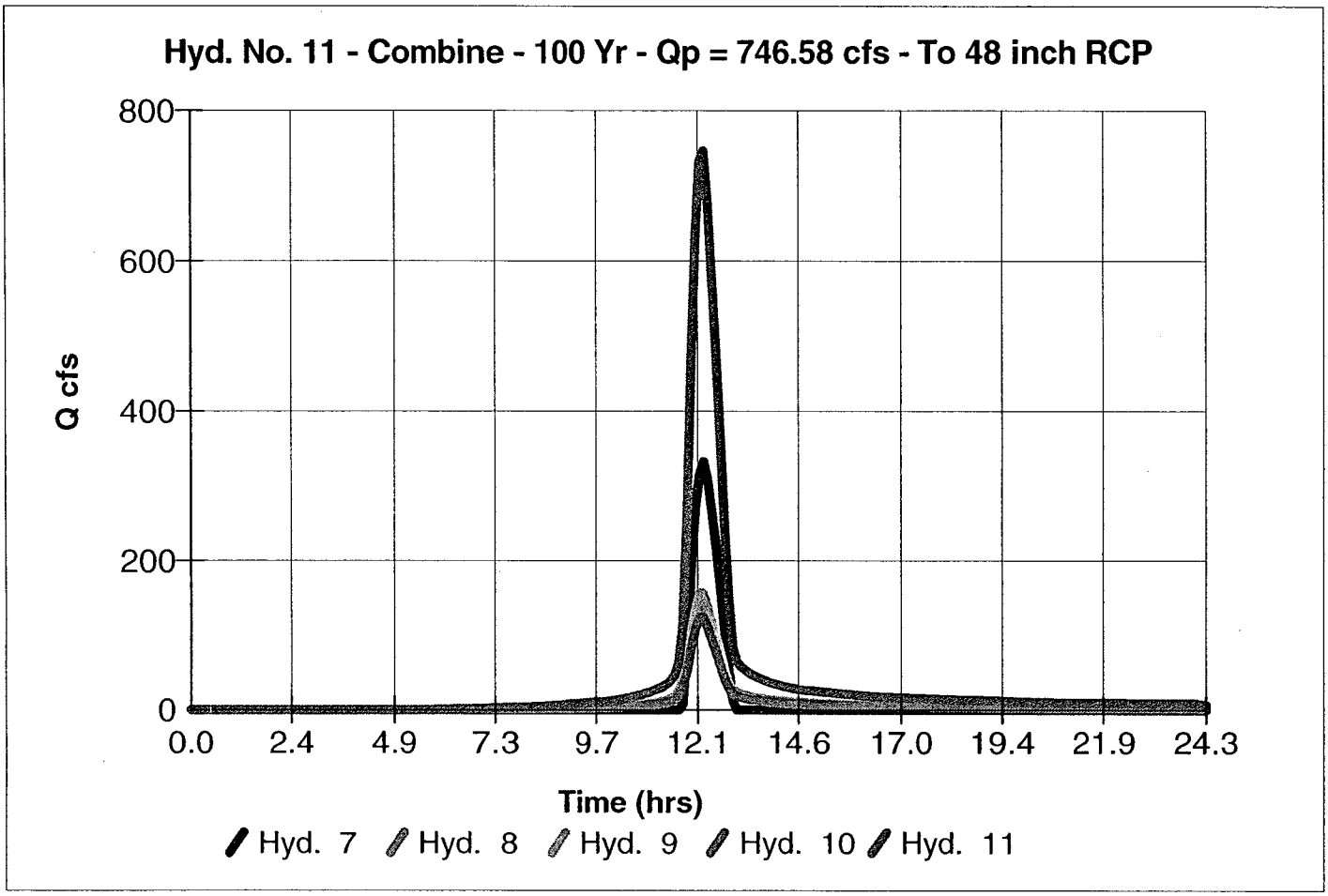
Hydrograph type	= Combine	Peak discharge	= 746.58 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyds.	= 7, 8, 9, 10		

Hydrograph Volume = 67.574 acft

Hydrograph Discharge Table

Time (hrs)	Hyd. 7 + (cfs)	Hyd. 8 + (cfs)	Hyd. 9 + (cfs)	Hyd. 10 = (cfs)	Outflow (cfs)
12.20	316.14	135.59 <<	157.45 <<	124.66 <<	733.85
12.30	332.78 <<	134.33	155.98	123.50	746.58 <<
12.40	309.81	118.84	137.99	109.26	675.90

...End


Hyd. No. 11 - Combine - 100 Yr - Qp = 746.58 cfs - To 48 inch RCP
800
600
400
200
0
Q cfs
0.0
2.4
4.9
7.3
9.7
12.1
14.6
17.0
19.4
21.9
24.3
Time (hrs)
Hyd. 7
Hyd. 8
Hyd. 9
Hyd. 10
Hyd. 11

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 12

Pre-Proj Nat Pond

Hydrograph type	= Reservoir	Peak discharge	= 248.37 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyd. No.	= 11	Reservoir name	= Nat Pre Proj Pond
Max. Elevation	= 187.20 ft	Max. Storage	= 32.784 acft

Storage Indication method used.

Outflow hydrograph volume = 67.575 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
12.70	358.38	187.17	-----	-----	-----	-----	-----	-----	-----	-----	-----	233.56
12.80	249.08	187.20 <<	-----	-----	-----	-----	-----	-----	-----	-----	-----	248.37 <<
12.90	151.77	187.18	-----	-----	-----	-----	-----	-----	-----	-----	-----	238.25

...End

Reservoir Report

Reservoir No. 1 - Nat Pre Proj Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	179.50	00	0.000	0.000
0.50	180.00	217	0.001	0.001
1.50	181.00	5,221	0.062	0.064
2.50	182.00	14,671	0.228	0.292
3.50	183.00	49,972	0.742	1.034
4.50	184.00	128,790	2.052	3.086
5.50	185.00	269,773	4.575	7.661
6.50	186.00	449,340	8.254	15.915
7.36	186.86	644,422	10.797	26.712
7.50	187.00	676,180	2.122	28.834
8.50	188.00	1,066,646	20.005	48.839

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 48.0	0.0	0.0	0.0
Span in	= 48.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 179.50	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 200.00	200.00	0.00	0.00
Crest El. ft	= 186.90	188.10	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Rect	Rect	---	---
Multi-Stage	= No	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 185.15 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	179.50	0.00	---	---	---	0.00	0.00	---	---	---	0.00
0.05	0.000	179.55	0.00	---	---	---	0.00	0.00	---	---	---	0.48
0.10	0.000	179.60	0.00	---	---	---	0.00	0.00	---	---	---	0.96
0.15	0.000	179.65	0.00	---	---	---	0.00	0.00	---	---	---	1.45
0.20	0.000	179.70	0.00	---	---	---	0.00	0.00	---	---	---	1.93
0.25	0.001	179.75	0.00	---	---	---	0.00	0.00	---	---	---	2.41
0.30	0.001	179.80	0.00	---	---	---	0.00	0.00	---	---	---	2.89
0.35	0.001	179.85	0.00	---	---	---	0.00	0.00	---	---	---	3.37
0.40	0.001	179.90	0.00	---	---	---	0.00	0.00	---	---	---	3.86
0.45	0.001	179.95	0.00	---	---	---	0.00	0.00	---	---	---	4.34
0.50	0.001	180.00	0.00	---	---	---	0.00	0.00	---	---	---	4.82
0.60	0.007	180.10	0.00	---	---	---	0.00	0.00	---	---	---	5.83
0.70	0.014	180.20	0.00	---	---	---	0.00	0.00	---	---	---	6.83
0.80	0.020	180.30	0.00	---	---	---	0.00	0.00	---	---	---	7.84
0.90	0.026	180.40	0.00	---	---	---	0.00	0.00	---	---	---	8.84
1.00	0.032	180.50	0.00	---	---	---	0.00	0.00	---	---	---	9.85
1.10	0.039	180.60	0.00	---	---	---	0.00	0.00	---	---	---	10.85
1.20	0.045	180.70	0.00	---	---	---	0.00	0.00	---	---	---	11.86
1.30	0.051	180.80	0.00	---	---	---	0.00	0.00	---	---	---	12.86
1.40	0.057	180.90	0.00	---	---	---	0.00	0.00	---	---	---	13.87
1.50	0.064	181.00	0.00	---	---	---	0.00	0.00	---	---	---	14.87
1.60	0.086	181.10	0.00	---	---	---	0.00	0.00	---	---	---	16.40
1.70	0.109	181.20	0.00	---	---	---	0.00	0.00	---	---	---	17.94
1.80	0.132	181.30	0.00	---	---	---	0.00	0.00	---	---	---	19.47
1.90	0.155	181.40	0.00	---	---	---	0.00	0.00	---	---	---	21.01
2.00	0.178	181.50	0.00	---	---	---	0.00	0.00	---	---	---	22.54
2.10	0.201	181.60	0.00	---	---	---	0.00	0.00	---	---	---	24.07

Continues on next page...

Stage / Storage / Discharge Table

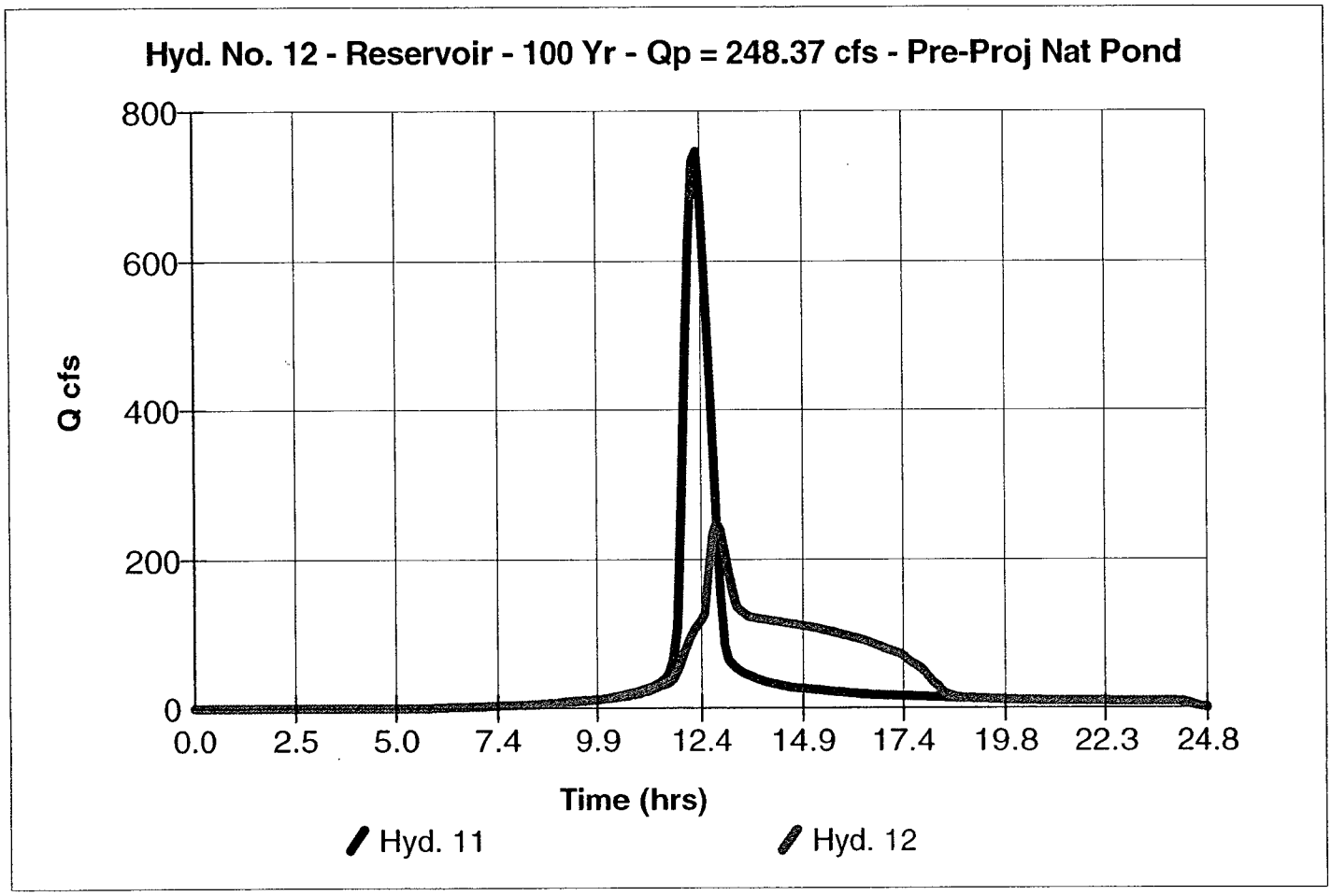
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
2.20	0.223	181.70	0.00	---	---	---	0.00	0.00	---	---	---	25.61
2.30	0.246	181.80	0.00	---	---	---	0.00	0.00	---	---	---	27.14
2.40	0.269	181.90	0.00	---	---	---	0.00	0.00	---	---	---	28.68
2.50	0.292	182.00	0.00	---	---	---	0.00	0.00	---	---	---	30.21
2.60	0.366	182.10	0.00	---	---	---	0.00	0.00	---	---	---	32.41
2.70	0.440	182.20	0.00	---	---	---	0.00	0.00	---	---	---	34.60
2.80	0.515	182.30	0.00	---	---	---	0.00	0.00	---	---	---	36.80
2.90	0.589	182.40	0.00	---	---	---	0.00	0.00	---	---	---	39.00
3.00	0.663	182.50	0.00	---	---	---	0.00	0.00	---	---	---	41.19
3.10	0.737	182.60	0.00	---	---	---	0.00	0.00	---	---	---	43.39
3.20	0.811	182.70	0.00	---	---	---	0.00	0.00	---	---	---	45.59
3.30	0.886	182.80	0.00	---	---	---	0.00	0.00	---	---	---	47.79
3.40	0.960	182.90	0.00	---	---	---	0.00	0.00	---	---	---	49.98
3.50	1.034	183.00	0.00	---	---	---	0.00	0.00	---	---	---	52.18
3.60	1.239	183.10	0.00	---	---	---	0.00	0.00	---	---	---	54.24
3.70	1.444	183.20	0.00	---	---	---	0.00	0.00	---	---	---	56.31
3.80	1.650	183.30	0.00	---	---	---	0.00	0.00	---	---	---	58.37
3.90	1.855	183.40	0.00	---	---	---	0.00	0.00	---	---	---	60.44
4.00	2.060	183.50	0.00	---	---	---	0.00	0.00	---	---	---	62.50
4.10	2.265	183.60	0.00	---	---	---	0.00	0.00	---	---	---	64.56
4.20	2.470	183.70	0.00	---	---	---	0.00	0.00	---	---	---	66.63
4.30	2.676	183.80	0.00	---	---	---	0.00	0.00	---	---	---	68.69
4.40	2.881	183.90	0.00	---	---	---	0.00	0.00	---	---	---	70.76
4.50	3.086	184.00	0.00	---	---	---	0.00	0.00	---	---	---	72.82
4.60	3.543	184.10	0.00	---	---	---	0.00	0.00	---	---	---	74.62
4.70	4.001	184.20	0.00	---	---	---	0.00	0.00	---	---	---	76.43
4.80	4.458	184.30	0.00	---	---	---	0.00	0.00	---	---	---	78.23
4.90	4.916	184.40	0.00	---	---	---	0.00	0.00	---	---	---	80.04
5.00	5.373	184.50	0.00	---	---	---	0.00	0.00	---	---	---	81.84
5.10	5.831	184.60	0.00	---	---	---	0.00	0.00	---	---	---	83.64
5.20	6.288	184.70	0.00	---	---	---	0.00	0.00	---	---	---	85.45
5.30	6.746	184.80	0.00	---	---	---	0.00	0.00	---	---	---	87.25
5.40	7.203	184.90	0.00	---	---	---	0.00	0.00	---	---	---	89.06
5.50	7.661	185.00	0.00	---	---	---	0.00	0.00	---	---	---	90.86
5.60	8.486	185.10	0.00	---	---	---	0.00	0.00	---	---	---	92.59
5.70	9.312	185.20	0.00	---	---	---	0.00	0.00	---	---	---	94.32
5.80	10.137	185.30	0.00	---	---	---	0.00	0.00	---	---	---	96.05
5.90	10.962	185.40	0.00	---	---	---	0.00	0.00	---	---	---	97.78
6.00	11.788	185.50	0.00	---	---	---	0.00	0.00	---	---	---	99.52
6.10	12.613	185.60	0.00	---	---	---	0.00	0.00	---	---	---	101.25
6.20	13.439	185.70	0.00	---	---	---	0.00	0.00	---	---	---	102.98
6.30	14.264	185.80	0.00	---	---	---	0.00	0.00	---	---	---	104.71
6.40	15.090	185.90	0.00	---	---	---	0.00	0.00	---	---	---	106.44
6.50	15.915	186.00	0.00	---	---	---	0.00	0.00	---	---	---	108.17
6.59	16.995	186.09	0.00	---	---	---	0.00	0.00	---	---	---	109.64
6.67	18.074	186.17	0.00	---	---	---	0.00	0.00	---	---	---	111.12
6.76	19.154	186.26	0.00	---	---	---	0.00	0.00	---	---	---	112.59
6.84	20.234	186.34	0.00	---	---	---	0.00	0.00	---	---	---	114.06
6.93	21.314	186.43	0.00	---	---	---	0.00	0.00	---	---	---	115.54
7.02	22.393	186.52	0.00	---	---	---	0.00	0.00	---	---	---	117.01
7.10	23.473	186.60	0.00	---	---	---	0.00	0.00	---	---	---	118.48
7.19	24.553	186.69	0.00	---	---	---	0.00	0.00	---	---	---	119.95
7.27	25.632	186.77	0.00	---	---	---	0.00	0.00	---	---	---	121.43
7.36	26.712	186.86	0.00	---	---	---	0.00	0.00	---	---	---	122.90
7.37	26.924	186.87	0.00	---	---	---	0.00	0.00	---	---	---	124.17
7.39	27.137	186.89	0.00	---	---	---	0.00	0.00	---	---	---	125.44
7.40	27.349	186.90	0.00	---	---	---	0.00	0.00	---	---	---	126.71
7.42	27.561	186.92	0.00	---	---	---	0.00	0.00	---	---	---	127.98
7.43	27.773	186.93	0.00	---	---	---	0.00	0.00	---	---	---	129.26
7.44	27.985	186.94	0.00	---	---	---	0.00	0.00	---	---	---	130.53
7.46	28.198	186.96	0.00	---	---	---	0.00	0.00	---	---	---	131.80
7.47	28.410	186.97	0.00	---	---	---	0.00	0.00	---	---	---	133.07
7.49	28.622	186.99	0.00	---	---	---	0.00	0.00	---	---	---	134.34
7.50	28.834	187.00	0.00	---	---	---	0.00	0.00	---	---	---	135.61
7.60	30.835	187.10	0.00	---	---	---	0.00	0.00	---	---	---	192.72
7.70	32.835	187.20	0.00	---	---	---	0.00	0.00	---	---	---	249.82
7.80	34.836	187.30	0.00	---	---	---	0.00	0.00	---	---	---	306.93
7.90	36.836	187.40	0.00	---	---	---	0.00	0.00	---	---	---	364.03
8.00	38.837	187.50	0.00	---	---	---	0.00	0.00	---	---	---	421.14
8.10	40.837	187.60	0.00	---	---	---	0.00	0.00	---	---	---	478.25

Continues on next page...

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
8.20	42.838	187.70	0.00	---	---	---	0.00	0.00	---	---	---	535.35
8.30	44.838	187.80	0.00	---	---	---	0.00	0.00	---	---	---	592.46
8.40	46.839	187.90	0.00	---	---	---	0.00	0.00	---	---	---	649.56
8.50	48.839	188.00	0.00	---	---	---	0.00	0.00	---	---	---	706.67

...End


Hyd. No. 12 - Reservoir - 100 Yr - Qp = 248.37 cfs - Pre-Proj Nat Pond
800
600
400
200
0
Q cfs
0.0
2.5
5.0
7.4
9.9
12.4
14.9
17.4
19.8
22.3
24.8
Time (hrs)
Hyd. 11
Hyd. 12

Hydrograph Return Period Recap

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	-------	-------	96.54	-------	150.60	187.60	244.78	288.87	327.64	Jabara
2	SCS Runoff	-------	-------	9.10	-------	14.18	17.62	22.98	27.12	30.76	West Soccer Fld
3	SCS Runoff	-------	-------	50.16	-------	68.45	80.34	98.07	111.51	123.23	West Regency Park
4	SCS Runoff	-------	-------	27.76	-------	36.48	42.17	50.69	57.18	62.85	K-96
5	Combine	1, 2, 3, 4	-------	155.07	-------	231.58	283.14	361.72	422.15	475.25	Flow to 3x6
6	Diversion1	5	-------	115.00	-------	115.00	115.00	115.00	115.00	115.00	Through RCB
7	Diversion2	5	-------	40.07	-------	116.58	168.14	246.72	307.15	360.25	Over Ditch Plug
8	SCS Runoff	-------	-------	40.11	-------	62.51	77.68	101.29	119.54	135.59	East Soccer
9	Reservoir	8	-------	10.82	-------	11.59	12.03	12.38	12.65	12.90	F out of East Soccer
10	SCS Runoff	-------	-------	87.18	-------	118.98	139.64	170.45	193.81	214.18	NE Regency Park
11	Combine	9, 10	-------	96.44	-------	127.80	148.58	180.77	204.74	225.29	Flow to NE Reg Pond
12	Reservoir	11	-------	6.32	-------	9.74	11.21	13.09	14.26	15.20	NE Pond
13	SCS Runoff	-------	-------	72.37	-------	98.77	115.92	141.50	160.89	177.80	SE Reg Park
14	Combine	7, 12, 13	-------	109.64	-------	211.12	278.92	387.27	468.18	538.74	To 48 inch RCP
15	Reservoir	14	-------	33.32	-------	67.71	87.90	106.02	113.91	120.18	Post-Proj Nat Pond

Proj. file: Post-dev Cond wTW.gpw

Run date: 01-16-2006

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	96.54	6	744	12.587	----	------	------	Jabara
2	SCS Runoff	9.10	6	738	1.058	----	------	------	West Soccer Fld
3	SCS Runoff	50.16	6	726	4.752	----	------	------	West Regency Park
4	SCS Runoff	27.76	6	720	2.156	----	------	------	K-96
5	Combine	155.07	6	732	20.554	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	720	19.379	5	------	------	Through RCB
7	Diversion2	40.07	6	732	1.175	5	------	------	Over Ditch Plug
8	SCS Runoff	40.11	6	738	4.665	----	------	------	East Soccer
9	Reservoir	10.82	6	774	4.656	8	193.28	1.588	F out of East Soccer
10	SCS Runoff	87.18	6	726	8.260	----	------	------	NE Regency Park
11	Combine	96.44	6	726	12.916	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	6.32	6	978	5.540	11	187.25	9.612	NE Pond
13	SCS Runoff	72.37	6	726	6.857	----	------	------	SE Reg Park
14	Combine	109.64	6	732	13.572	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	33.32	6	750	13.572	14	182.14	3.170	Post-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	150.60	6	744	19.451	----	------	------	Jabara
2	SCS Runoff	14.18	6	738	1.636	----	------	------	West Soccer Fld
3	SCS Runoff	68.45	6	726	6.574	----	------	------	West Regency Park
4	SCS Runoff	36.48	6	720	2.865	----	------	------	K-96
5	Combine	231.58	6	732	30.526	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	714	25.513	5	------	------	Through RCB
7	Diversion2	116.58	6	732	5.013	5	------	------	Over Ditch Plug
8	SCS Runoff	62.51	6	738	7.209	----	------	------	East Soccer
9	Reservoir	11.59	6	780	7.200	8	193.74	2.908	F out of East Soccer
10	SCS Runoff	118.98	6	726	11.427	----	------	------	NE Regency Park
11	Combine	127.80	6	726	18.627	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	9.74	6	1122	11.247	11	188.01	12.501	NE Pond
13	SCS Runoff	98.77	6	726	9.486	----	------	------	SE Reg Park
14	Combine	211.12	6	732	25.746	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	67.71	6	756	25.746	14	183.75	6.882	Post-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	187.60	6	738	24.173	----	------	------	Jabara
2	SCS Runoff	17.62	6	738	2.033	----	------	------	West Soccer Fld
3	SCS Runoff	80.34	6	726	7.776	----	------	------	West Regency Park
4	SCS Runoff	42.17	6	720	3.329	----	------	------	K-96
5	Combine	283.14	6	732	37.311	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	714	29.150	5	------	------	Through RCB
7	Diversion2	168.14	6	732	8.161	5	------	------	Over Ditch Plug
8	SCS Runoff	77.68	6	738	8.959	----	------	------	East Soccer
9	Reservoir	12.03	6	792	8.950	8	194.03	3.867	F out of East Soccer
10	SCS Runoff	139.64	6	726	13.516	----	------	------	NE Regency Park
11	Combine	148.58	6	726	22.466	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	11.21	6	1212	15.083	11	188.44	14.286	NE Pond
13	SCS Runoff	115.92	6	726	11.220	----	------	------	SE Reg Park
14	Combine	278.92	6	732	34.464	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	87.90	6	756	34.464	14	184.84	9.745	Post-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	244.78	6	738	31.482	----	------	------	Jabara
2	SCS Runoff	22.98	6	732	2.647	----	------	------	West Soccer Fld
3	SCS Runoff	98.07	6	726	9.588	----	------	------	West Regency Park
4	SCS Runoff	50.69	6	720	4.025	----	------	------	K-96
5	Combine	361.72	6	732	47.742	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	714	34.549	5	------	------	Through RCB
7	Diversion2	246.72	6	732	13.193	5	------	------	Over Ditch Plug
8	SCS Runoff	101.29	6	732	11.668	----	------	------	East Soccer
9	Reservoir	12.38	6	804	11.659	8	194.28	5.417	F out of East Soccer
10	SCS Runoff	170.45	6	726	16.665	----	------	------	NE Regency Park
11	Combine	180.77	6	726	28.324	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	13.09	6	1248	20.937	11	189.07	16.958	NE Pond
13	SCS Runoff	141.50	6	726	13.834	----	------	------	SE Reg Park
14	Combine	387.27	6	732	47.964	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	106.02	6	762	47.964	14	185.88	14.647	Post-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	288.87	6	738	37.182	----	------	------	Jabara
2	SCS Runoff	27.12	6	732	3.126	----	------	------	West Soccer Fld
3	SCS Runoff	111.51	6	726	10.973	----	------	------	West Regency Park
4	SCS Runoff	57.18	6	720	4.556	----	------	------	K-96
5	Combine	422.15	6	732	55.837	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	708	38.588	5	------	------	Through RCB
7	Diversion2	307.15	6	732	17.249	5	------	------	Over Ditch Plug
8	SCS Runoff	119.54	6	732	13.781	----	------	------	East Soccer
9	Reservoir	12.65	6	816	13.771	8	194.48	6.675	F out of East Soccer
10	SCS Runoff	193.81	6	726	19.072	----	------	------	NE Regency Park
11	Combine	204.74	6	726	32.844	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	14.26	6	1308	25.454	11	189.51	18.925	NE Pond
13	SCS Runoff	160.89	6	726	15.833	----	------	------	SE Reg Park
14	Combine	468.18	6	732	58.535	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	113.91	6	768	58.535	14	186.34	18.855	Post-Proj Nat Pond

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	SCS Runoff	327.64	6	738	42.238	----	------	------	Jabara
2	SCS Runoff	30.76	6	732	3.552	----	------	------	West Soccer Fld
3	SCS Runoff	123.23	6	726	12.187	----	------	------	West Regency Park
4	SCS Runoff	62.85	6	720	5.021	----	------	------	K-96
5	Combine	475.25	6	732	62.997	1, 2, 3, 4	------	------	Flow to 3x6
6	Diversion1	115.00	6	708	42.035	5	------	------	Through RCB
7	Diversion2	360.25	6	732	20.962	5	------	------	Over Ditch Plug
8	SCS Runoff	135.59	6	732	15.655	----	------	------	East Soccer
9	Reservoir	12.90	6	828	15.645	8	194.66	7.816	F out of East Soccer
10	SCS Runoff	214.18	6	726	21.183	----	------	------	NE Regency Park
11	Combine	225.29	6	726	36.828	9, 10	------	------	Flow to NE Reg Pond
12	Reservoir	15.20	6	1314	29.435	11	189.89	20.628	NE Pond
13	SCS Runoff	177.80	6	726	17.585	----	------	------	SE Reg Park
14	Combine	538.74	6	732	67.982	7, 12, 13	------	------	To 48 inch RCP
15	Reservoir	120.18	6	768	67.982	14	186.70	22.766	Post-Proj Nat Pond

Proj. file: Post-dev Cond wTW.gpw Return Period: 100 yr

Run date: 01-16-2006

Hydrograph Report

Hyd. No. 1

Jabara

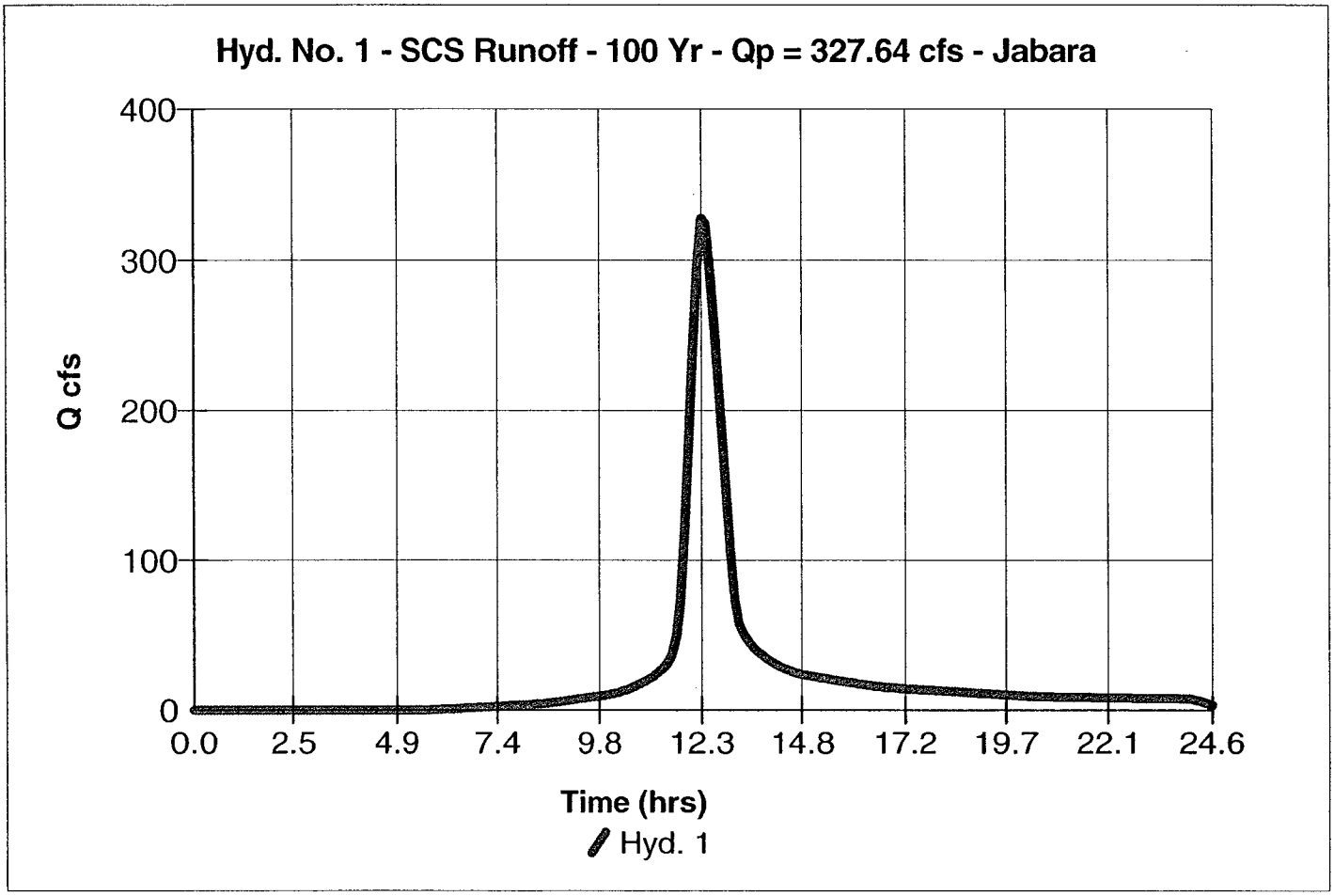
Hydrograph type	= SCS Runoff	Peak discharge	= 327.64 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 95.60 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 48.8 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 42.238 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	
12.30	327.64	<<

...End


Hyd. No. 1 - SCS Runoff - 100 Yr - Qp = 327.64 cfs - Jabara
Q cfs
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.8
17.2
19.7
22.1
24.6
Time (hrs)
Hyd. 1

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 2

West Soccer Fld

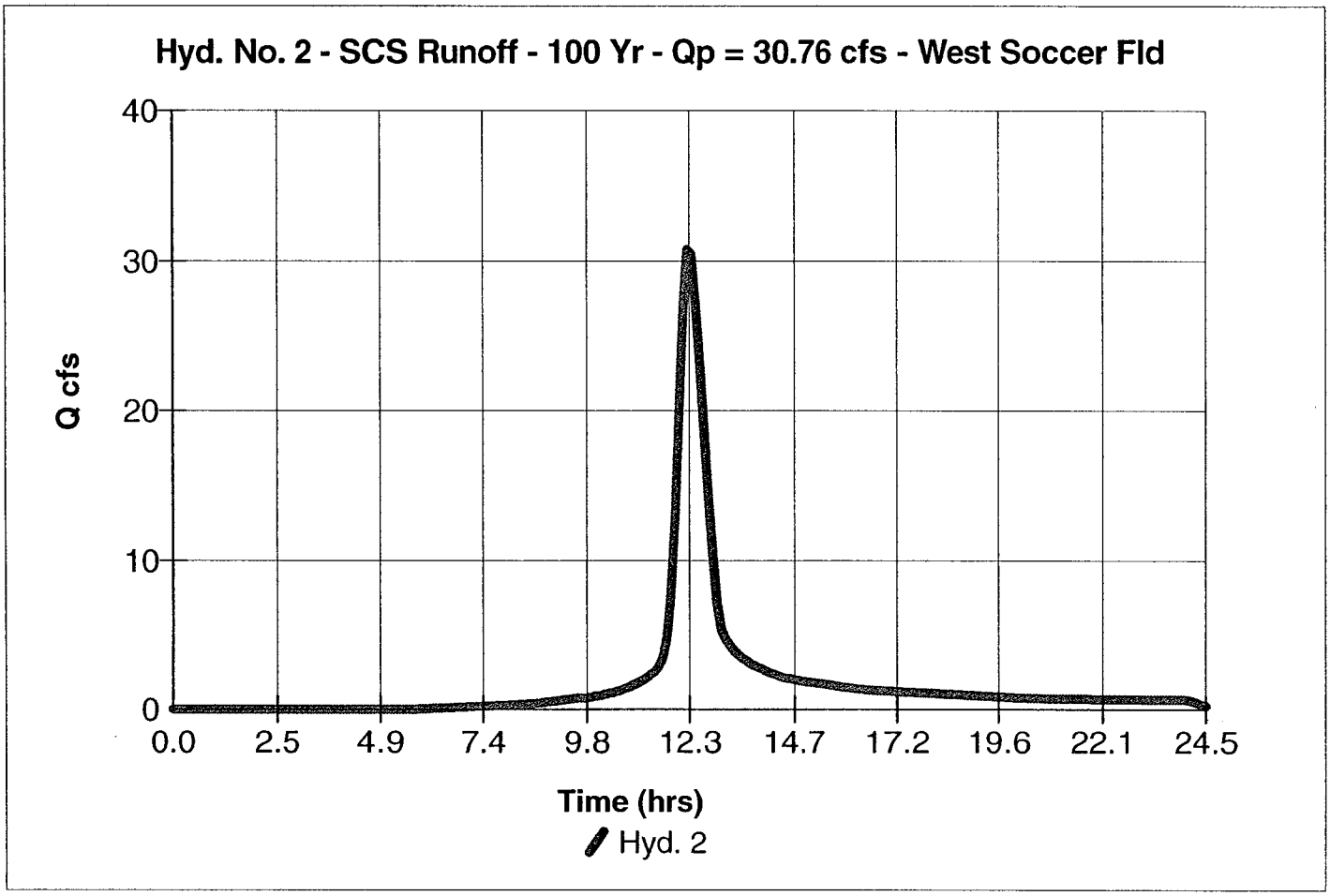
Hydrograph type	= SCS Runoff	Peak discharge	= 30.76 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 7.60 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 36.9 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 3.552 acft

Hydrograph Discharge Table

Time -- (hrs	Outflow cfs)
12.20	30.76 <<
12.30	30.47

...End


Hyd. No. 2 - SCS Runoff - 100 Yr - Qp = 30.76 cfs - West Soccer Fld
Q cfs
40
30
20
10
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 2

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 3

West Regency Park

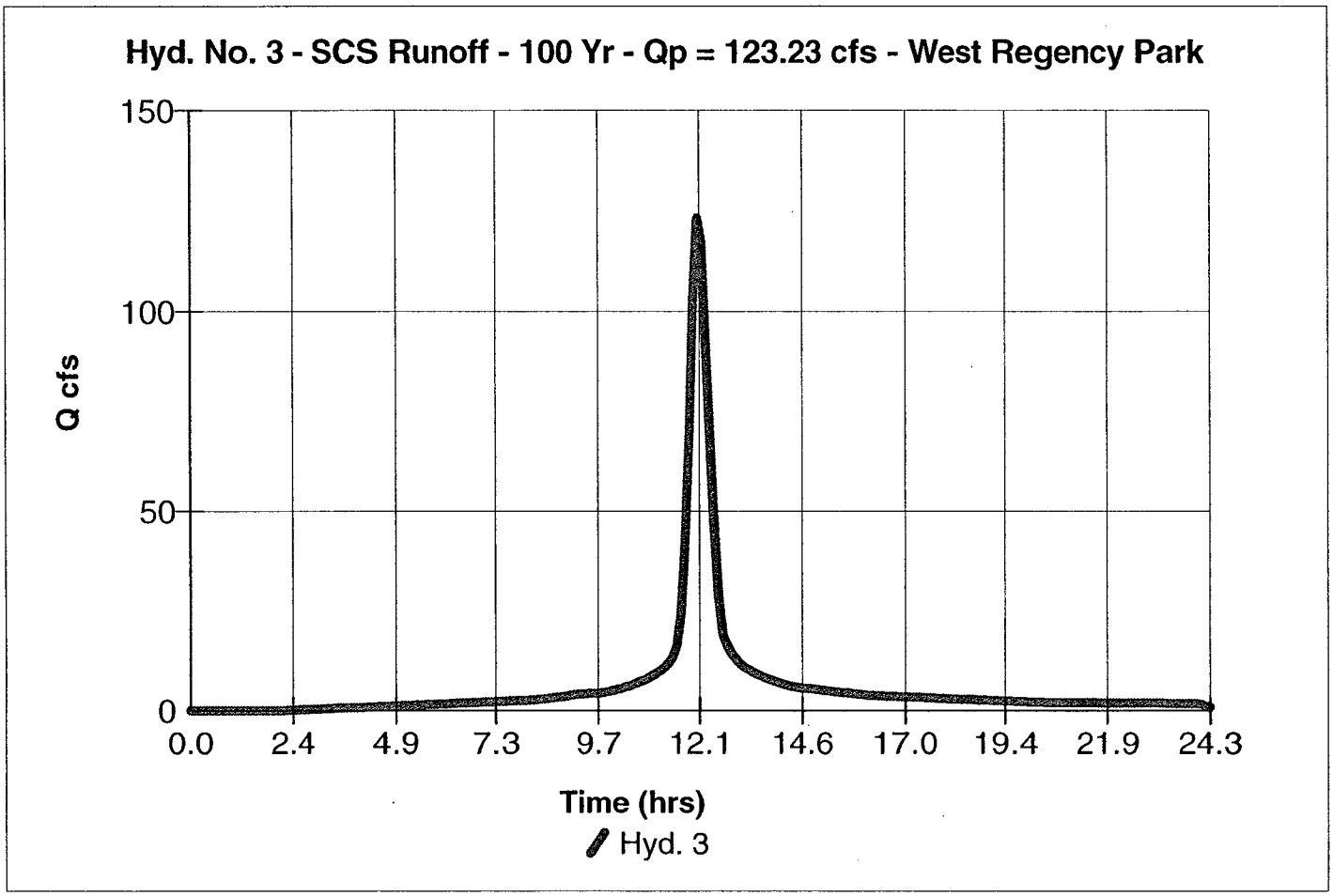
Hydrograph type	= SCS Runoff	Peak discharge	= 123.23 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 21.00 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 22 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 12.187 acft

Hydrograph Discharge Table

Time -- Outflow (hrs	cfs)
12.10	123.23 <<

...End


Hyd. No. 3 - SCS Runoff - 100 Yr - Qp = 123.23 cfs - West Regency Park
150
100
50
0
Q cfs
0.0
2.4
4.9
7.3
9.7
12.1
14.6
17.0
19.4
21.9
24.3
Time (hrs)
Hyd. 3

Hydrograph Report

Hyd. No. 4

K-96

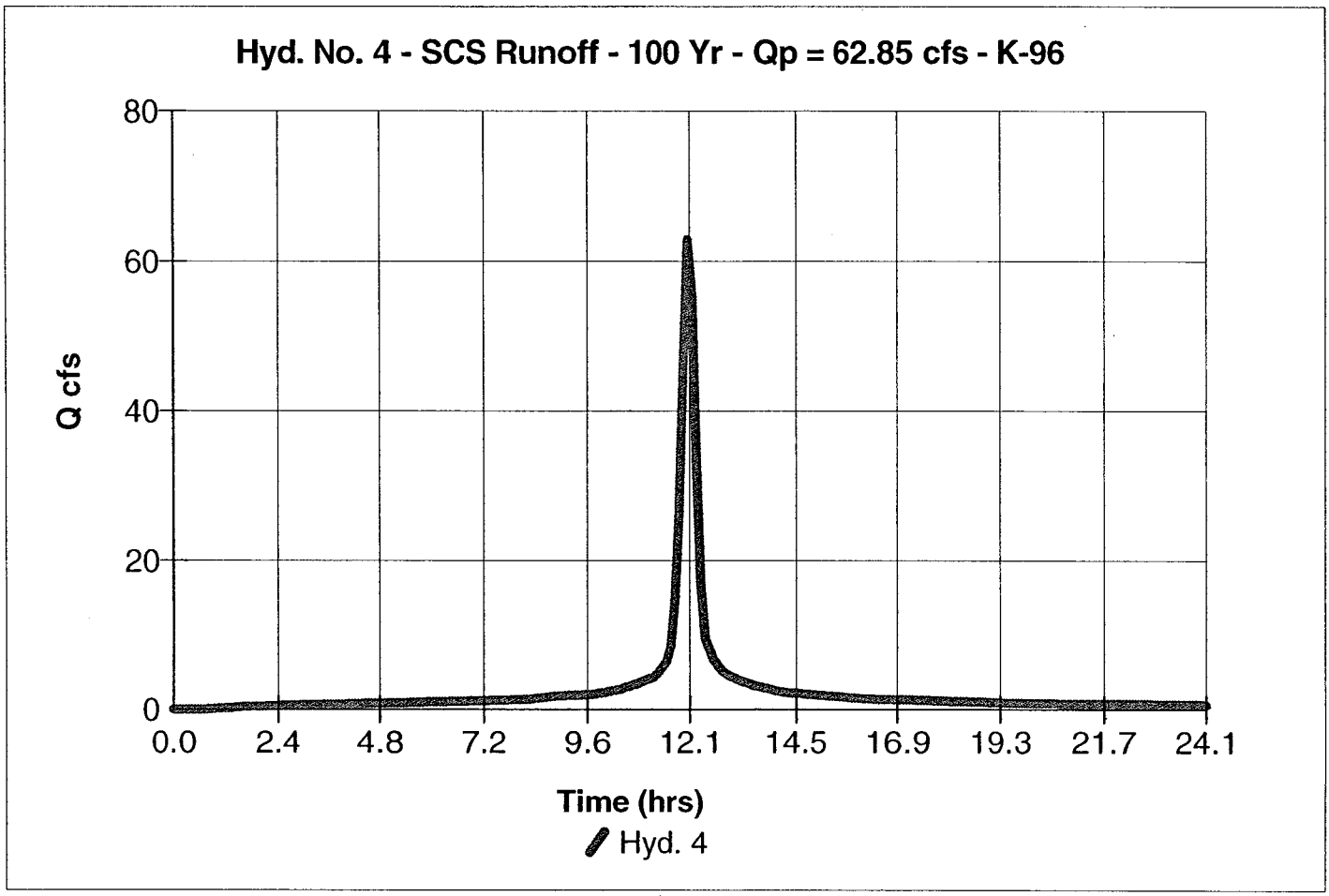
Hydrograph type	= SCS Runoff	Peak discharge	= 62.85 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 8.50 ac	Curve number	= 98
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 18.1 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 5.021 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.00	62.85 <<

...End


Hyd. No. 4 - SCS Runoff - 100 Yr - Qp = 62.85 cfs - K-96
Q cfs
80
60
40
20
0
0.0
2.4
4.8
7.2
9.6
12.1
14.5
16.9
19.3
21.7
24.1
Time (hrs)
Hyd. 4

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 5

Flow to 3x6

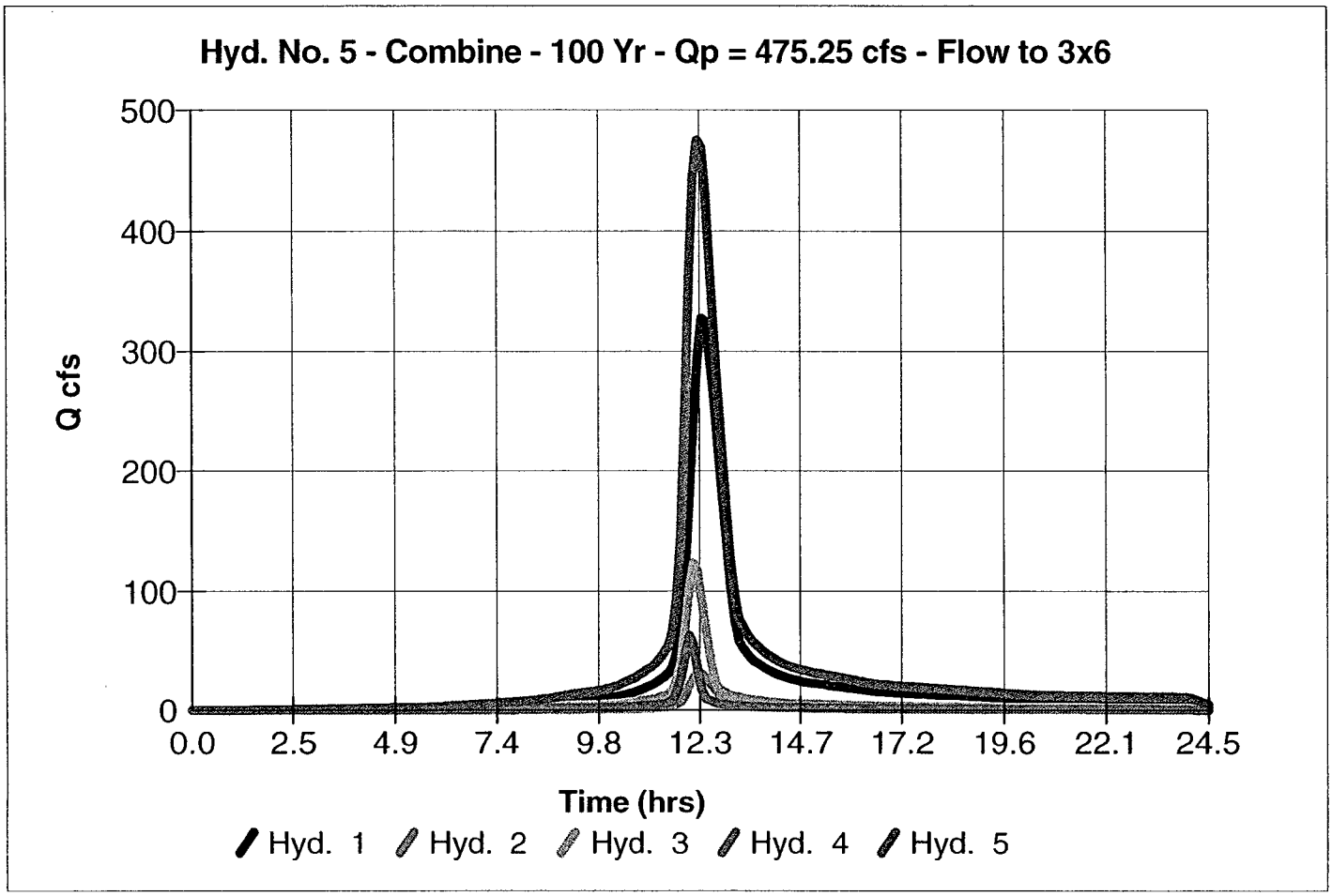
Hydrograph type	= Combine	Peak discharge	= 475.25 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyds.	= 1, 2, 3, 4		

Hydrograph Volume = 62.997 acft

Hydrograph Discharge Table

Time (hrs)	Hyd. 1 + (cfs)	Hyd. 2 + (cfs)	Hyd. 3 + (cfs)	Hyd. 4 = (cfs)	Outflow (cfs)
12.20	292.98	30.76 <<	117.36	34.14	475.25 <<

...End


Hyd. No. 5 - Combine - 100 Yr - Qp = 475.25 cfs - Flow to 3x6
Q cfs
500
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 1
Hyd. 2
Hyd. 3
Hyd. 4
Hyd. 5

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 6

Through RCB

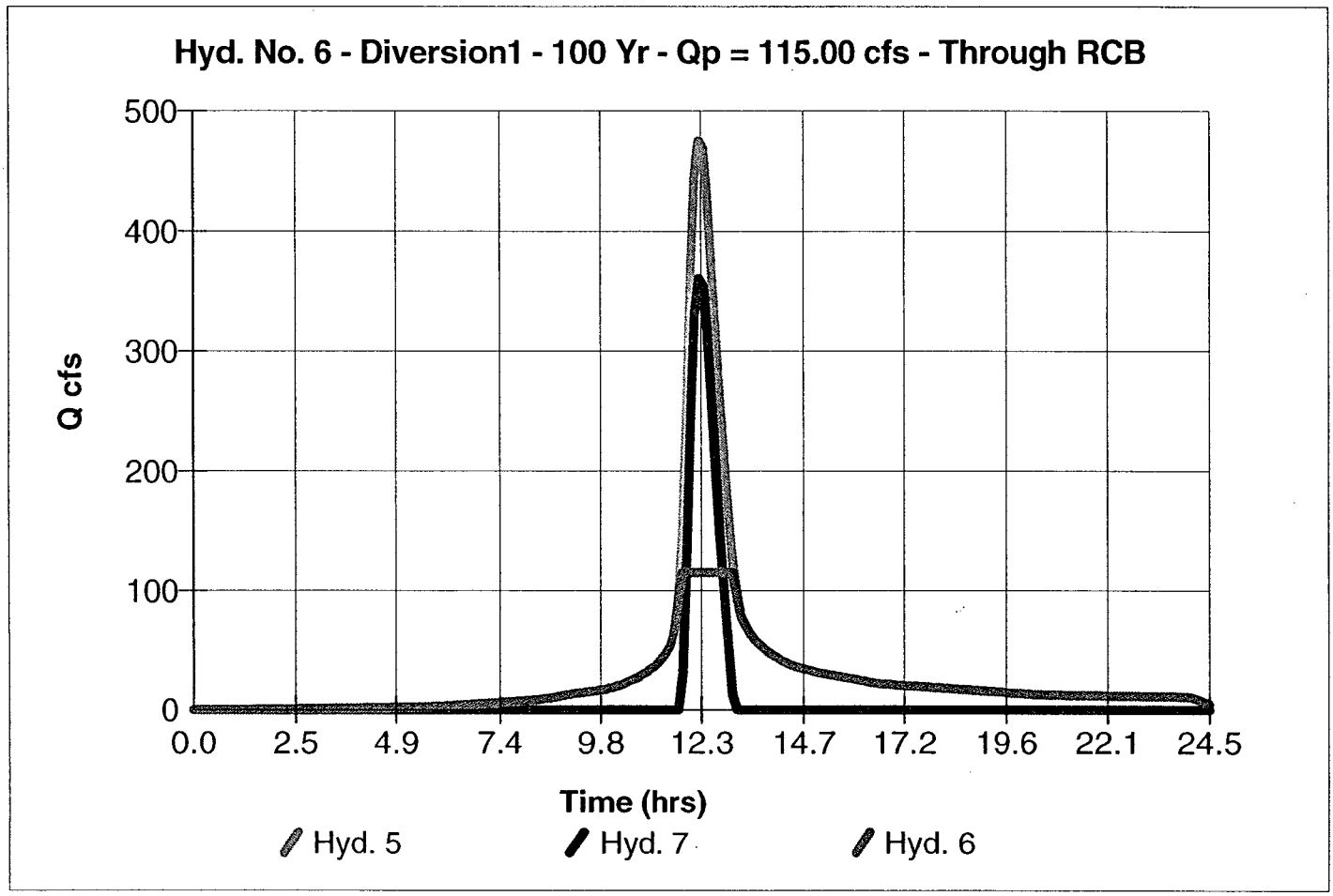
Hydrograph type	= Diversion1	Peak discharge	= 115.00 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hydrograph	= 5	2nd diverted hyd.	= 7
Diversion method	= Constant Q	Constant Q	= 115.00 cfs

Hydrograph Volume = 42.035 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	2nd Diverted cfs	Outflow cfs
11.80	145.15	30.15	115.00 <<
11.90	246.23	131.23	115.00 <<
12.00	365.85	250.85	115.00 <<
12.10	445.81	330.81	115.00 <<
12.20	475.25 <<	360.25 <<	115.00 <<
12.30	468.98	353.98	115.00 <<
12.40	430.25	315.25	115.00 <<
12.50	371.27	256.27	115.00 <<
12.60	312.55	197.55	115.00 <<
12.70	260.63	145.63	115.00 <<
12.80	213.73	98.73	115.00 <<
12.90	168.16	53.16	115.00 <<
13.00	127.55	12.55	115.00 <<

...End


Hyd. No. 6 - Diversion1 - 100 Yr - Qp = 115.00 cfs - Through RCB
Q cfs
500
400
300
200
100
0
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 5
Hyd. 7
Hyd. 6

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 7

Over Ditch Plug

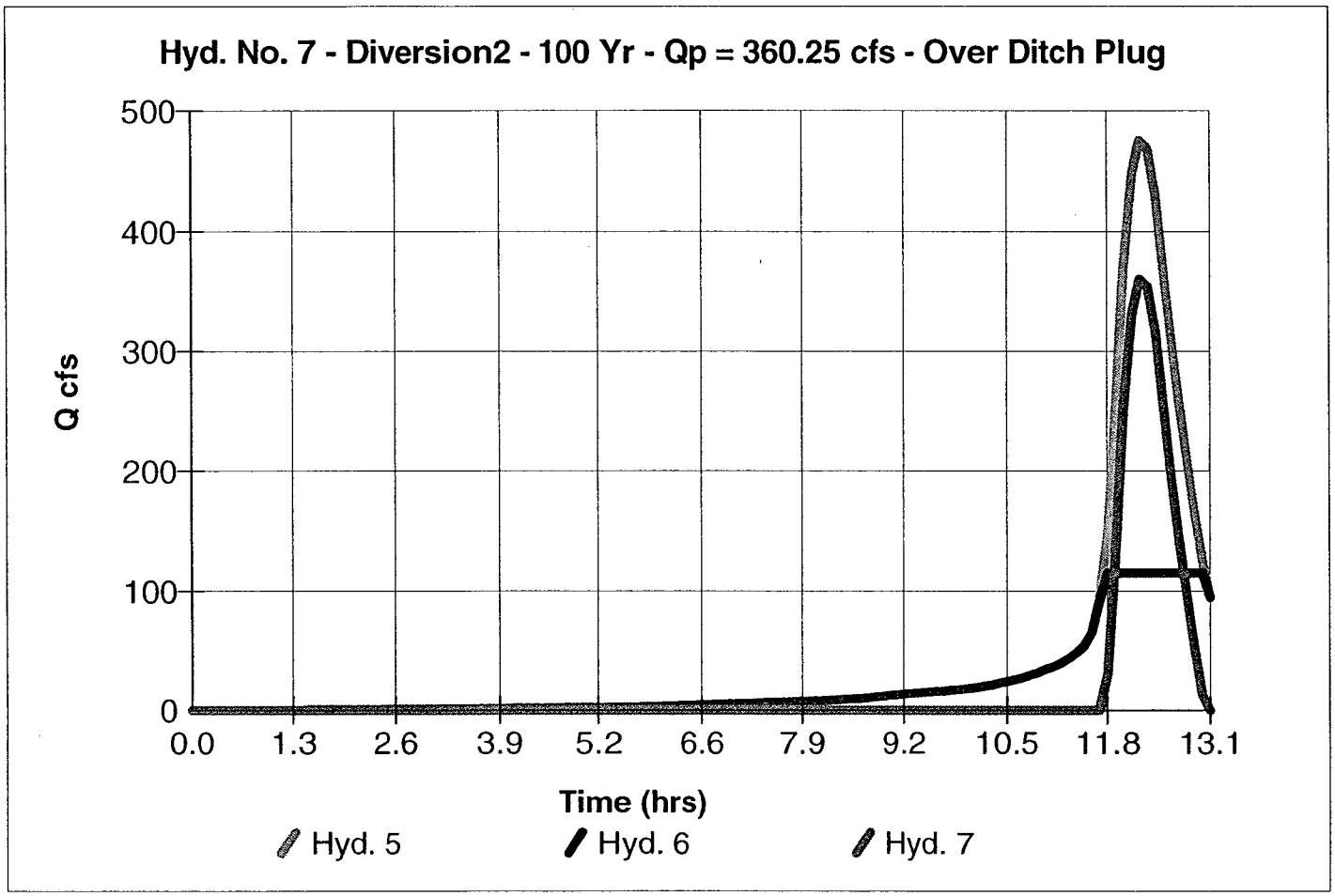
Hydrograph type	= Diversion2	Peak discharge	= 360.25 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hydrograph	= 5	2nd diverted hyd.	= 6
Diversion method	= Constant Q	Constant Q	= 115.00 cfs

Hydrograph Volume = 20.962 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	2nd Diverted cfs	Outflow cfs
12.20	475.25 <<	115.00 <<	360.25 <<

...End


Hyd. No. 7 - Diversion2 - 100 Yr - Qp = 360.25 cfs - Over Ditch Plug
Q cfs
500
400
300
200
100
0
0.0
1.3
2.6
3.9
5.2
6.6
7.9
9.2
10.5
11.8
13.1
Time (hrs)
Hyd. 5
Hyd. 6
Hyd. 7

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 8

East Soccer

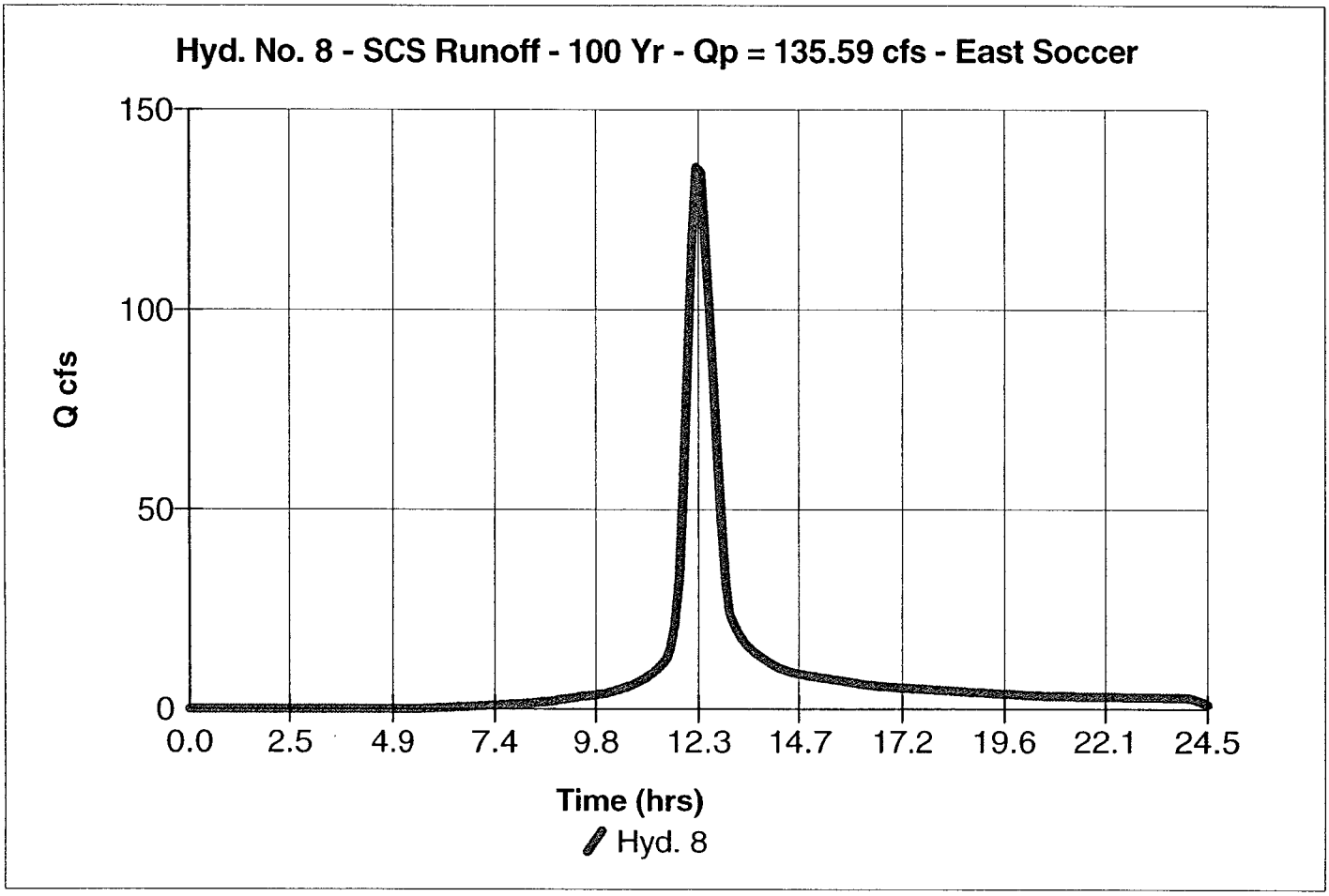
Hydrograph type	= SCS Runoff	Peak discharge	= 135.59 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 33.50 ac	Curve number	= 80
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 32.3 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 15.655 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.20	135.59 <<
12.30	134.33

...End


Hyd. No. 8 - SCS Runoff - 100 Yr - Qp = 135.59 cfs - East Soccer
150
100
50
0
Q cfs
0.0
2.5
4.9
7.4
9.8
12.3
14.7
17.2
19.6
22.1
24.5
Time (hrs)
Hyd. 8

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 9

F out of East Soccer

Hydrograph type	= Reservoir	Peak discharge	= 12.90 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyd. No.	= 8	Reservoir name	= East Soccer Deten
Max. Elevation	= 194.66 ft	Max. Storage	= 7.816 acft

Storage Indication method used.

Outflow hydrograph volume = 15.645 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
12.80	46.07	194.56	12.77	-----	-----	-----	-----	-----	-----	-----	-----	12.77
12.90	31.23	194.60	12.82	-----	-----	-----	-----	-----	-----	-----	-----	12.82
13.00	23.56	194.62	12.84	-----	-----	-----	-----	-----	-----	-----	-----	12.84
13.10	20.97	194.63	12.86	-----	-----	-----	-----	-----	-----	-----	-----	12.86
13.20	18.91	194.64	12.87	-----	-----	-----	-----	-----	-----	-----	-----	12.87
13.30	17.29	194.64	12.88	-----	-----	-----	-----	-----	-----	-----	-----	12.88
13.40	16.04	194.65	12.89	-----	-----	-----	-----	-----	-----	-----	-----	12.89
13.50	15.04	194.65	12.89	-----	-----	-----	-----	-----	-----	-----	-----	12.89
13.60	14.19	194.65	12.90	-----	-----	-----	-----	-----	-----	-----	-----	12.90
13.70	13.41	194.66	12.90	-----	-----	-----	-----	-----	-----	-----	-----	12.90
13.80	12.71	194.66 <<	12.90	-----	-----	-----	-----	-----	-----	-----	-----	12.90 <<
13.90	12.07	194.66	12.90	-----	-----	-----	-----	-----	-----	-----	-----	12.90
14.00	11.49	194.65	12.89	-----	-----	-----	-----	-----	-----	-----	-----	12.89
14.10	10.95	194.65	12.89	-----	-----	-----	-----	-----	-----	-----	-----	12.89
14.20	10.45	194.65	12.89	-----	-----	-----	-----	-----	-----	-----	-----	12.89
14.30	10.01	194.65	12.88	-----	-----	-----	-----	-----	-----	-----	-----	12.88
14.40	9.63	194.64	12.88	-----	-----	-----	-----	-----	-----	-----	-----	12.88
14.50	9.31	194.64	12.87	-----	-----	-----	-----	-----	-----	-----	-----	12.87
14.60	9.03	194.63	12.87	-----	-----	-----	-----	-----	-----	-----	-----	12.87
14.70	8.80	194.63	12.86	-----	-----	-----	-----	-----	-----	-----	-----	12.86
14.80	8.59	194.62	12.85	-----	-----	-----	-----	-----	-----	-----	-----	12.85
14.90	8.41	194.62	12.84	-----	-----	-----	-----	-----	-----	-----	-----	12.84
15.00	8.24	194.61	12.84	-----	-----	-----	-----	-----	-----	-----	-----	12.84
15.10	8.07	194.60	12.83	-----	-----	-----	-----	-----	-----	-----	-----	12.83
15.20	7.90	194.60	12.82	-----	-----	-----	-----	-----	-----	-----	-----	12.82
15.30	7.73	194.59	12.81	-----	-----	-----	-----	-----	-----	-----	-----	12.81
15.40	7.56	194.58	12.80	-----	-----	-----	-----	-----	-----	-----	-----	12.80
15.50	7.39	194.58	12.79	-----	-----	-----	-----	-----	-----	-----	-----	12.79
15.60	7.21	194.57	12.78	-----	-----	-----	-----	-----	-----	-----	-----	12.78
15.70	7.04	194.56	12.77	-----	-----	-----	-----	-----	-----	-----	-----	12.77

...End

Reservoir Report

Hydraflow Hydrographs by Intelisolve

Reservoir No. 1 - East Soccer Detention

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	185.60	00	0.000	0.000
6.30	191.90	02	0.000	0.000
6.40	192.00	8,048	0.009	0.009
7.40	193.00	59,042	0.770	0.779
8.40	194.00	191,362	2.874	3.654
9.40	195.00	361,688	6.348	10.002

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 15.0	0.0	0.0	0.0
Span in	= 15.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 185.60	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 84.00	0.00	0.00	0.00
Crest El. ft	= 192.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	0.00	0.00	0.00
Weir Type	= Riser	---	---	---
Multi-Stage	= Yes	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 189.89 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

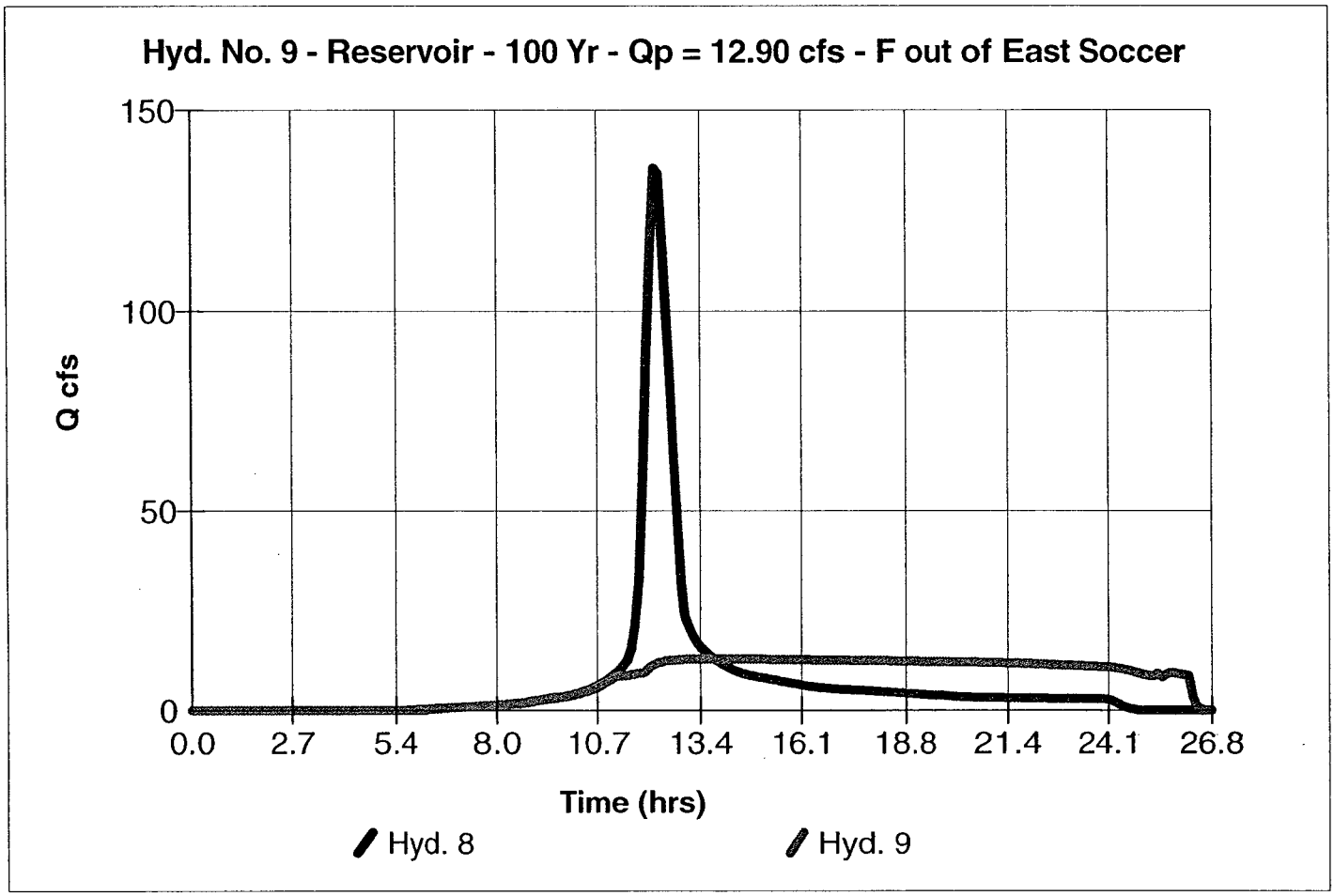
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	185.60	0.00	---	---	---	0.00	---	---	---	---	0.00
0.63	0.000	186.23	0.00	---	---	---	0.00	---	---	---	---	0.00
1.26	0.000	186.86	0.00	---	---	---	0.00	---	---	---	---	0.00
1.89	0.000	187.49	0.00	---	---	---	0.00	---	---	---	---	0.00
2.52	0.000	188.12	0.00	---	---	---	0.00	---	---	---	---	0.00
3.15	0.000	188.75	0.00	---	---	---	0.00	---	---	---	---	0.00
3.78	0.000	189.38	0.00	---	---	---	0.00	---	---	---	---	0.00
4.41	0.000	190.01	0.00	---	---	---	0.00	---	---	---	---	0.00
5.04	0.000	190.64	0.00	---	---	---	0.00	---	---	---	---	0.00
5.67	0.000	191.27	0.00	---	---	---	0.00	---	---	---	---	0.00
6.30	0.000	191.90	0.00	---	---	---	0.00	---	---	---	---	0.00
6.31	0.001	191.91	0.00	---	---	---	0.00	---	---	---	---	0.00
6.32	0.002	191.92	0.00	---	---	---	0.00	---	---	---	---	0.00
6.33	0.003	191.93	0.00	---	---	---	0.00	---	---	---	---	0.00
6.34	0.004	191.94	0.00	---	---	---	0.00	---	---	---	---	0.00
6.35	0.005	191.95	0.00	---	---	---	0.00	---	---	---	---	0.00
6.36	0.006	191.96	0.00	---	---	---	0.00	---	---	---	---	0.00
6.37	0.007	191.97	0.00	---	---	---	0.00	---	---	---	---	0.00
6.38	0.008	191.98	0.00	---	---	---	0.00	---	---	---	---	0.00
6.39	0.008	191.99	0.00	---	---	---	0.00	---	---	---	---	0.00
6.40	0.009	192.00	0.00	---	---	---	0.00	---	---	---	---	0.00
6.50	0.086	192.10	8.62	---	---	---	8.61	---	---	---	---	8.61
6.60	0.163	192.20	8.96	---	---	---	8.95	---	---	---	---	8.95
6.70	0.240	192.30	9.17	---	---	---	9.05	---	---	---	---	9.05
6.80	0.317	192.40	9.36	---	---	---	9.23	---	---	---	---	9.23
6.90	0.394	192.50	9.54	---	---	---	9.40	---	---	---	---	9.40
7.00	0.471	192.60	9.73	---	---	---	9.42	---	---	---	---	9.42
7.10	0.548	192.70	9.90	---	---	---	8.84	---	---	---	---	8.84
7.20	0.625	192.80	10.08	---	---	---	8.32	---	---	---	---	8.32
7.30	0.702	192.90	10.25	---	---	---	9.48	---	---	---	---	9.48
7.40	0.779	193.00	10.42	---	---	---	8.51	---	---	---	---	8.51
7.50	1.067	193.10	10.59	---	---	---	9.46	---	---	---	---	9.46

Continues on next page...

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
7.60	1.354	193.20	10.75	---	---	---	10.43	---	---	---	---	10.43
7.70	1.642	193.30	10.91	---	---	---	0.00	---	---	---	---	10.91
7.80	1.929	193.40	11.07	---	---	---	0.00	---	---	---	---	11.07
7.90	2.217	193.50	11.23	---	---	---	0.00	---	---	---	---	11.23
8.00	2.504	193.60	11.38	---	---	---	0.00	---	---	---	---	11.38
8.10	2.791	193.70	11.53	---	---	---	0.00	---	---	---	---	11.53
8.20	3.079	193.80	11.68	---	---	---	0.00	---	---	---	---	11.68
8.30	3.366	193.90	11.83	---	---	---	0.00	---	---	---	---	11.83
8.40	3.654	194.00	11.98	---	---	---	0.00	---	---	---	---	11.98
8.50	4.289	194.10	12.12	---	---	---	0.00	---	---	---	---	12.12
8.60	4.923	194.20	12.27	---	---	---	0.00	---	---	---	---	12.27
8.70	5.558	194.30	12.41	---	---	---	0.00	---	---	---	---	12.41
8.80	6.193	194.40	12.55	---	---	---	0.00	---	---	---	---	12.55
8.90	6.828	194.50	12.69	---	---	---	0.00	---	---	---	---	12.69
9.00	7.463	194.60	12.82	---	---	---	0.00	---	---	---	---	12.82
9.10	8.097	194.70	12.96	---	---	---	0.00	---	---	---	---	12.96
9.20	8.732	194.80	13.09	---	---	---	0.00	---	---	---	---	13.09
9.30	9.367	194.90	13.22	---	---	---	0.00	---	---	---	---	13.22
9.40	10.002	195.00	13.36	---	---	---	0.00	---	---	---	---	13.36

...End


Hyd. No. 9 - Reservoir - 100 Yr - Qp = 12.90 cfs - F out of East Soccer
150
100
50
0
Q cfs
0.0
2.7
5.4
8.0
10.7
13.4
16.1
18.8
21.4
24.1
26.8
Time (hrs)
Hyd. 8
Hyd. 9

Hydrograph Report

Hyd. No. 10

NE Regency Park

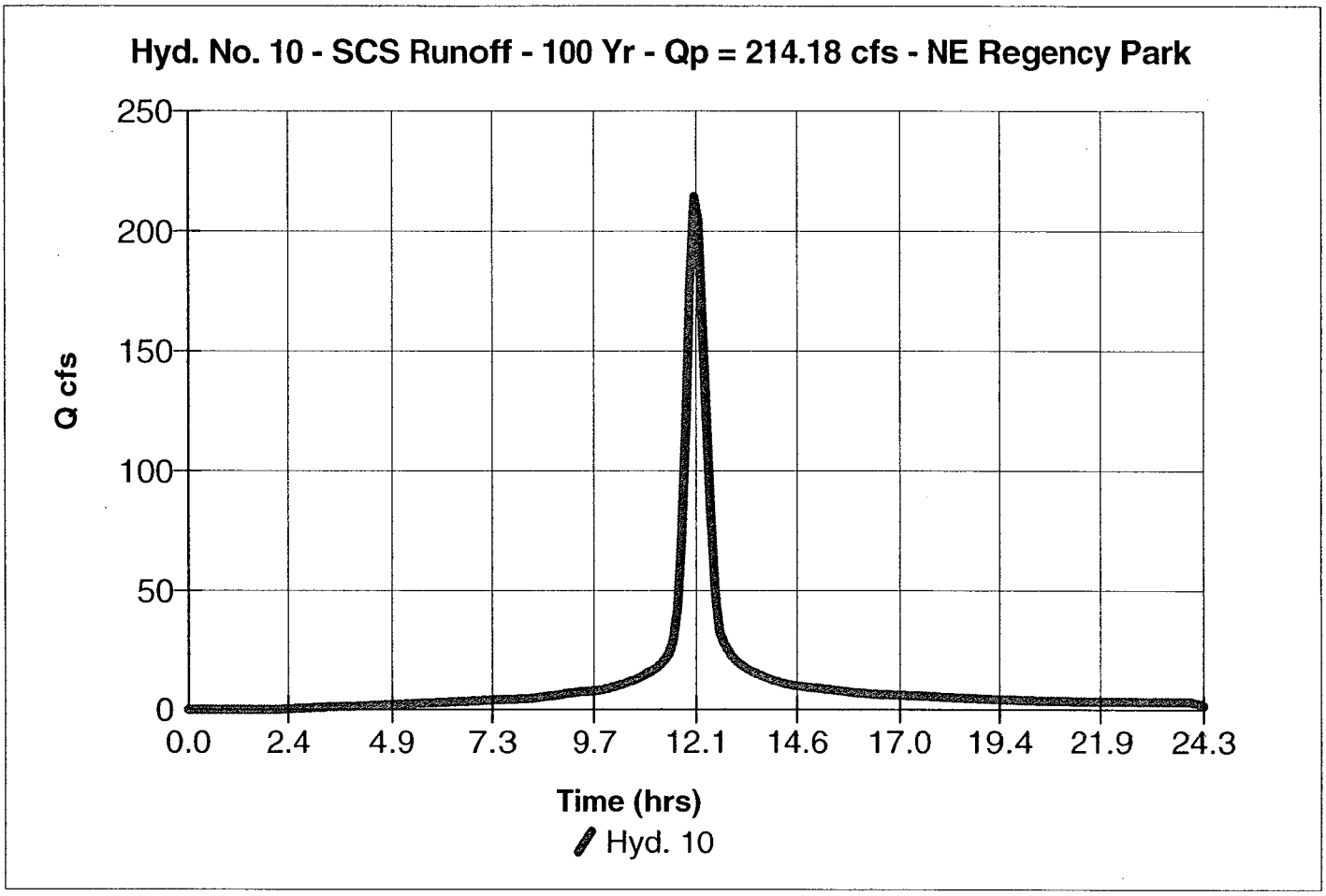
Hydrograph type	= SCS Runoff	Peak discharge	= 214.18 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 36.50 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 21.6 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 21.183 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)
12.10	214.18 <<

...End


Hyd. No. 10 - SCS Runoff - 100 Yr - Qp = 214.18 cfs - NE Regency Park
Q cfs
250
200
150
100
50
0
0.0
2.4
4.9
7.3
9.7
12.1
14.6
17.0
19.4
21.9
24.3
Time (hrs)
Hyd. 10

Hydrograph Report

Hyd. No. 11

Flow to NE Reg Pond

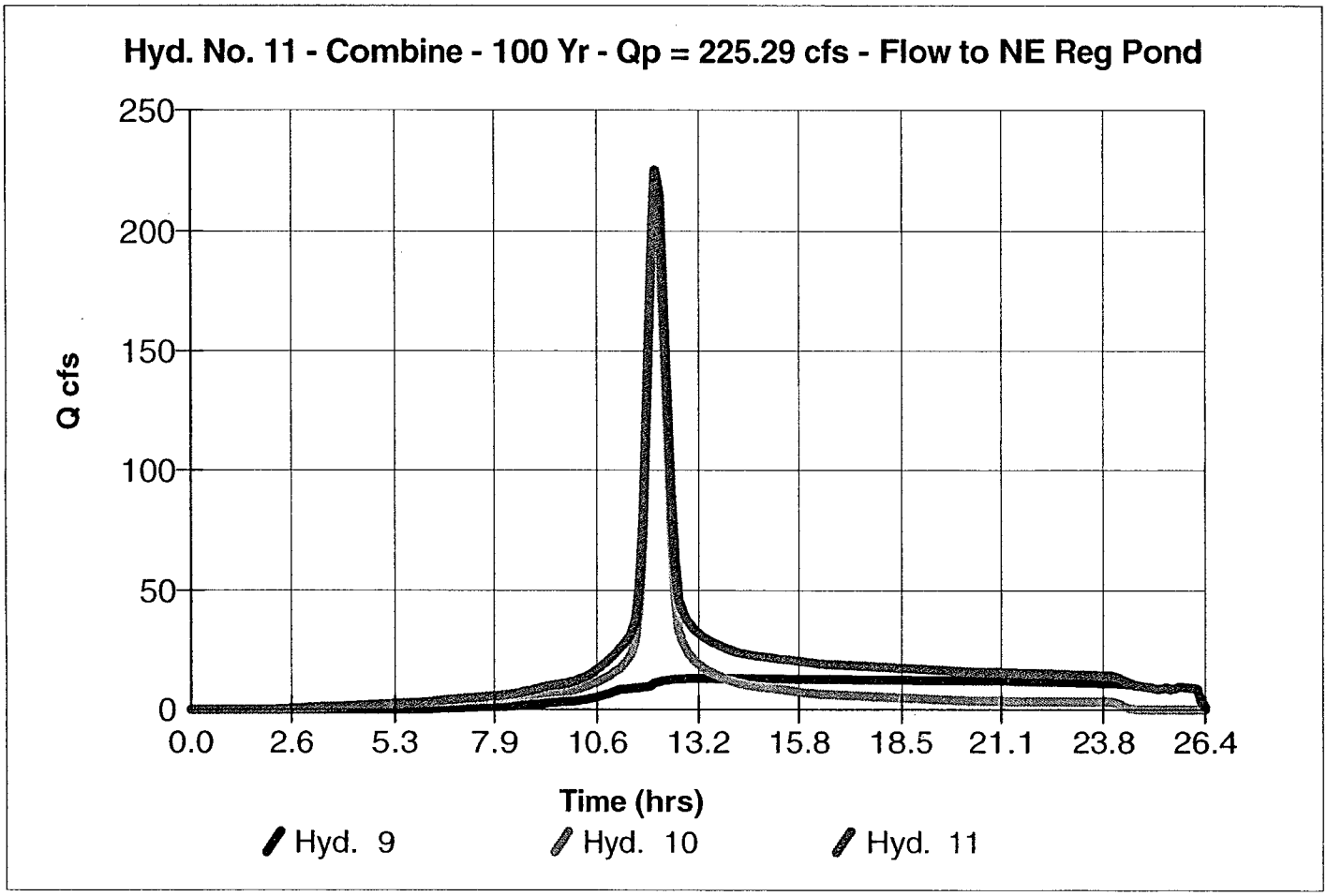
Hydrograph type	= Combine	Peak discharge	= 225.29 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyds.	= 9, 10		

Hydrograph Volume = 36.828 acft

Hydrograph Discharge Table

Time (hrs)	Hyd. 9 + (cfs)	Hyd. 10 = (cfs)	Outflow (cfs)
12.10	11.10	214.18 <<	225.29 <<

...End


Hyd. No. 11 - Combine - 100 Yr - Qp = 225.29 cfs - Flow to NE Reg Pond
250
200
150
100
50
0
Q cfs
0.0
2.6
5.3
7.9
10.6
13.2
15.8
18.5
21.1
23.8
26.4
Time (hrs)
Hyd. 9
Hyd. 10
Hyd. 11

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 12

NE Pond

Hydrograph type	= Reservoir	Peak discharge	= 15.20 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyd. No.	= 11	Reservoir name	= NE Pond
Max. Elevation	= 189.89 ft	Max. Storage	= 20.628 acft

Storage Indication method used.

Outflow hydrograph volume = 29.435 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
18.50	17.40	189.83	15.05	-----	-----	-----	-----	-----	-----	-----	-----	15.05
18.60	17.31	189.83	15.06	-----	-----	-----	-----	-----	-----	-----	-----	15.06
18.70	17.23	189.84	15.07	-----	-----	-----	-----	-----	-----	-----	-----	15.07
18.80	17.14	189.84	15.08	-----	-----	-----	-----	-----	-----	-----	-----	15.08
18.90	17.06	189.85	15.09	-----	-----	-----	-----	-----	-----	-----	-----	15.09
19.00	16.97	189.85	15.10	-----	-----	-----	-----	-----	-----	-----	-----	15.10
19.10	16.89	189.85	15.11	-----	-----	-----	-----	-----	-----	-----	-----	15.11
19.20	16.80	189.86	15.12	-----	-----	-----	-----	-----	-----	-----	-----	15.12
19.30	16.71	189.86	15.12	-----	-----	-----	-----	-----	-----	-----	-----	15.12
19.40	16.63	189.86	15.13	-----	-----	-----	-----	-----	-----	-----	-----	15.13
19.50	16.54	189.87	15.14	-----	-----	-----	-----	-----	-----	-----	-----	15.14
19.60	16.45	189.87	15.14	-----	-----	-----	-----	-----	-----	-----	-----	15.14
19.70	16.37	189.87	15.15	-----	-----	-----	-----	-----	-----	-----	-----	15.15
19.80	16.28	189.87	15.15	-----	-----	-----	-----	-----	-----	-----	-----	15.15
19.90	16.19	189.87	15.16	-----	-----	-----	-----	-----	-----	-----	-----	15.16
20.00	16.11	189.88	15.16	-----	-----	-----	-----	-----	-----	-----	-----	15.16
20.10	16.02	189.88	15.17	-----	-----	-----	-----	-----	-----	-----	-----	15.17
20.20	15.94	189.88	15.17	-----	-----	-----	-----	-----	-----	-----	-----	15.17
20.30	15.88	189.88	15.17	-----	-----	-----	-----	-----	-----	-----	-----	15.17
20.40	15.82	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
20.50	15.78	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
20.60	15.74	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
20.70	15.71	189.89	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
20.80	15.68	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
20.90	15.65	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
21.00	15.62	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
21.10	15.59	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
21.20	15.56	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
21.30	15.52	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.40	15.46	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.50	15.41	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.60	15.36	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.70	15.31	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.80	15.26	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
21.90	15.21	189.89 <<	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20 <<
22.00	15.16	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
22.10	15.11	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
22.20	15.06	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20

Continues on next page...

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
22.30	15.01	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
22.40	14.95	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
22.50	14.90	189.89	15.20	-----	-----	-----	-----	-----	-----	-----	-----	15.20
22.60	14.85	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
22.70	14.80	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
22.80	14.75	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
22.90	14.70	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
23.00	14.65	189.89	15.19	-----	-----	-----	-----	-----	-----	-----	-----	15.19
23.10	14.60	189.89	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
23.20	14.54	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
23.30	14.49	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
23.40	14.44	189.88	15.18	-----	-----	-----	-----	-----	-----	-----	-----	15.18
23.50	14.39	189.88	15.17	-----	-----	-----	-----	-----	-----	-----	-----	15.17
23.60	14.34	189.88	15.17	-----	-----	-----	-----	-----	-----	-----	-----	15.17
23.70	14.29	189.88	15.16	-----	-----	-----	-----	-----	-----	-----	-----	15.16
23.80	14.24	189.88	15.16	-----	-----	-----	-----	-----	-----	-----	-----	15.16
23.90	14.19	189.87	15.16	-----	-----	-----	-----	-----	-----	-----	-----	15.16
24.00	14.13	189.87	15.15	-----	-----	-----	-----	-----	-----	-----	-----	15.15
24.10	13.82	189.87	15.15	-----	-----	-----	-----	-----	-----	-----	-----	15.15
24.20	13.19	189.87	15.14	-----	-----	-----	-----	-----	-----	-----	-----	15.14
24.30	12.28	189.86	15.13	-----	-----	-----	-----	-----	-----	-----	-----	15.13
24.40	11.53	189.86	15.11	-----	-----	-----	-----	-----	-----	-----	-----	15.11
24.50	10.93	189.85	15.10	-----	-----	-----	-----	-----	-----	-----	-----	15.10
24.60	10.38	189.84	15.08	-----	-----	-----	-----	-----	-----	-----	-----	15.08
24.70	9.96	189.83	15.06	-----	-----	-----	-----	-----	-----	-----	-----	15.06

...End

Reservoir Report

Reservoir No. 2 - NE Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	184.00	103,592	0.000	0.000
1.00	185.00	111,240	2.466	2.466
2.00	186.00	135,758	2.835	5.301
3.00	187.00	155,599	3.344	8.645
4.00	188.00	176,337	3.810	12.456
5.00	189.00	190,141	4.207	16.662
6.00	190.00	197,336	4.448	21.110
7.00	191.00	206,078	4.631	25.740

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 18.0	0.0	0.0	0.0
Span in	= 18.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 184.00	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 0.00	0.00	0.00	0.00
Crest El. ft	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 186.70 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

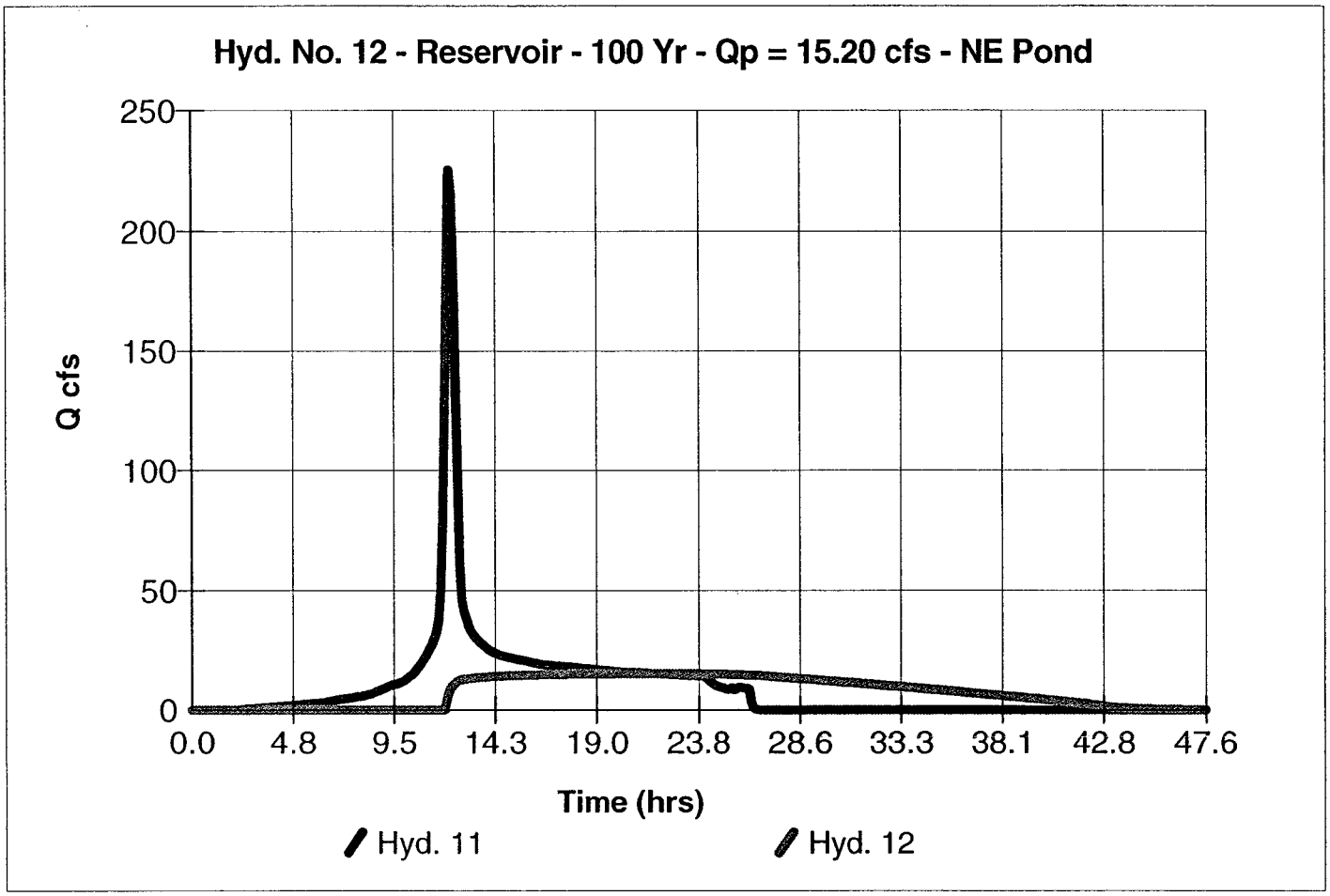
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	184.00	0.00	---	---	---	---	---	---	---	---	0.00
0.10	0.247	184.10	0.00	---	---	---	---	---	---	---	---	0.00
0.20	0.493	184.20	0.00	---	---	---	---	---	---	---	---	0.00
0.30	0.740	184.30	0.00	---	---	---	---	---	---	---	---	0.00
0.40	0.986	184.40	0.00	---	---	---	---	---	---	---	---	0.00
0.50	1.233	184.50	0.00	---	---	---	---	---	---	---	---	0.00
0.60	1.480	184.60	0.00	---	---	---	---	---	---	---	---	0.00
0.70	1.726	184.70	0.00	---	---	---	---	---	---	---	---	0.00
0.80	1.973	184.80	0.00	---	---	---	---	---	---	---	---	0.00
0.90	2.219	184.90	0.00	---	---	---	---	---	---	---	---	0.00
1.00	2.466	185.00	0.00	---	---	---	---	---	---	---	---	0.00
1.10	2.749	185.10	0.00	---	---	---	---	---	---	---	---	0.00
1.20	3.033	185.20	0.00	---	---	---	---	---	---	---	---	0.00
1.30	3.316	185.30	0.00	---	---	---	---	---	---	---	---	0.00
1.40	3.600	185.40	0.00	---	---	---	---	---	---	---	---	0.00
1.50	3.884	185.50	0.00	---	---	---	---	---	---	---	---	0.00
1.60	4.167	185.60	0.00	---	---	---	---	---	---	---	---	0.00
1.70	4.451	185.70	0.00	---	---	---	---	---	---	---	---	0.00
1.80	4.734	185.80	0.00	---	---	---	---	---	---	---	---	0.00
1.90	5.018	185.90	0.00	---	---	---	---	---	---	---	---	0.00
2.00	5.301	186.00	0.00	---	---	---	---	---	---	---	---	0.00
2.10	5.636	186.10	0.00	---	---	---	---	---	---	---	---	0.00
2.20	5.970	186.20	0.00	---	---	---	---	---	---	---	---	0.00
2.30	6.304	186.30	0.00	---	---	---	---	---	---	---	---	0.00
2.40	6.639	186.40	0.00	---	---	---	---	---	---	---	---	0.00
2.50	6.973	186.50	0.00	---	---	---	---	---	---	---	---	0.00
2.60	7.308	186.60	0.00	---	---	---	---	---	---	---	---	0.00
2.70	7.642	186.70	0.06	---	---	---	---	---	---	---	---	0.06
2.80	7.977	186.80	2.69	---	---	---	---	---	---	---	---	2.69
2.90	8.311	186.90	3.81	---	---	---	---	---	---	---	---	3.81

Continues on next page...

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
3.00	8.645	187.00	4.66	---	---	---	---	---	---	---	---	4.66
3.10	9.026	187.10	5.38	---	---	---	---	---	---	---	---	5.38
3.20	9.407	187.20	6.02	---	---	---	---	---	---	---	---	6.02
3.30	9.788	187.30	6.59	---	---	---	---	---	---	---	---	6.59
3.40	10.169	187.40	7.12	---	---	---	---	---	---	---	---	7.12
3.50	10.550	187.50	7.61	---	---	---	---	---	---	---	---	7.61
3.60	10.931	187.60	8.07	---	---	---	---	---	---	---	---	8.07
3.70	11.312	187.70	8.51	---	---	---	---	---	---	---	---	8.51
3.80	11.693	187.80	8.92	---	---	---	---	---	---	---	---	8.92
3.90	12.074	187.90	9.32	---	---	---	---	---	---	---	---	9.32
4.00	12.456	188.00	9.70	---	---	---	---	---	---	---	---	9.70
4.10	12.876	188.10	10.07	---	---	---	---	---	---	---	---	10.07
4.20	13.297	188.20	10.42	---	---	---	---	---	---	---	---	10.42
4.30	13.717	188.30	10.76	---	---	---	---	---	---	---	---	10.76
4.40	14.138	188.40	11.09	---	---	---	---	---	---	---	---	11.09
4.50	14.559	188.50	11.41	---	---	---	---	---	---	---	---	11.41
4.60	14.979	188.60	11.73	---	---	---	---	---	---	---	---	11.73
4.70	15.400	188.70	12.03	---	---	---	---	---	---	---	---	12.03
4.80	15.821	188.80	12.33	---	---	---	---	---	---	---	---	12.33
4.90	16.241	188.90	12.62	---	---	---	---	---	---	---	---	12.62
5.00	16.662	189.00	12.90	---	---	---	---	---	---	---	---	12.90
5.10	17.107	189.10	13.18	---	---	---	---	---	---	---	---	13.18
5.20	17.552	189.20	13.45	---	---	---	---	---	---	---	---	13.45
5.30	17.996	189.30	13.72	---	---	---	---	---	---	---	---	13.72
5.40	18.441	189.40	13.98	---	---	---	---	---	---	---	---	13.98
5.50	18.886	189.50	14.24	---	---	---	---	---	---	---	---	14.24
5.60	19.331	189.60	14.49	---	---	---	---	---	---	---	---	14.49
5.70	19.775	189.70	14.74	---	---	---	---	---	---	---	---	14.74
5.80	20.220	189.80	14.98	---	---	---	---	---	---	---	---	14.98
5.90	20.665	189.90	15.22	---	---	---	---	---	---	---	---	15.22
6.00	21.110	190.00	15.46	---	---	---	---	---	---	---	---	15.46
6.10	21.573	190.10	15.69	---	---	---	---	---	---	---	---	15.69
6.20	22.036	190.20	15.92	---	---	---	---	---	---	---	---	15.92
6.30	22.499	190.30	16.14	---	---	---	---	---	---	---	---	16.14
6.40	22.962	190.40	16.36	---	---	---	---	---	---	---	---	16.36
6.50	23.425	190.50	16.58	---	---	---	---	---	---	---	---	16.58
6.60	23.888	190.60	16.80	---	---	---	---	---	---	---	---	16.80
6.70	24.351	190.70	17.02	---	---	---	---	---	---	---	---	17.02
6.80	24.814	190.80	17.23	---	---	---	---	---	---	---	---	17.23
6.90	25.277	190.90	17.44	---	---	---	---	---	---	---	---	17.44
7.00	25.740	191.00	17.64	---	---	---	---	---	---	---	---	17.64

...End


Hyd. No. 12 - Reservoir - 100 Yr - Qp = 15.20 cfs - NE Pond
250
200
150
100
50
0
Q cfs
0.0
4.8
9.5
14.3
19.0
23.8
28.6
33.3
38.1
42.8
47.6
Time (hrs)
Hyd. 11
Hyd. 12

Hydrograph Report

Hyd. No. 13

SE Reg Park

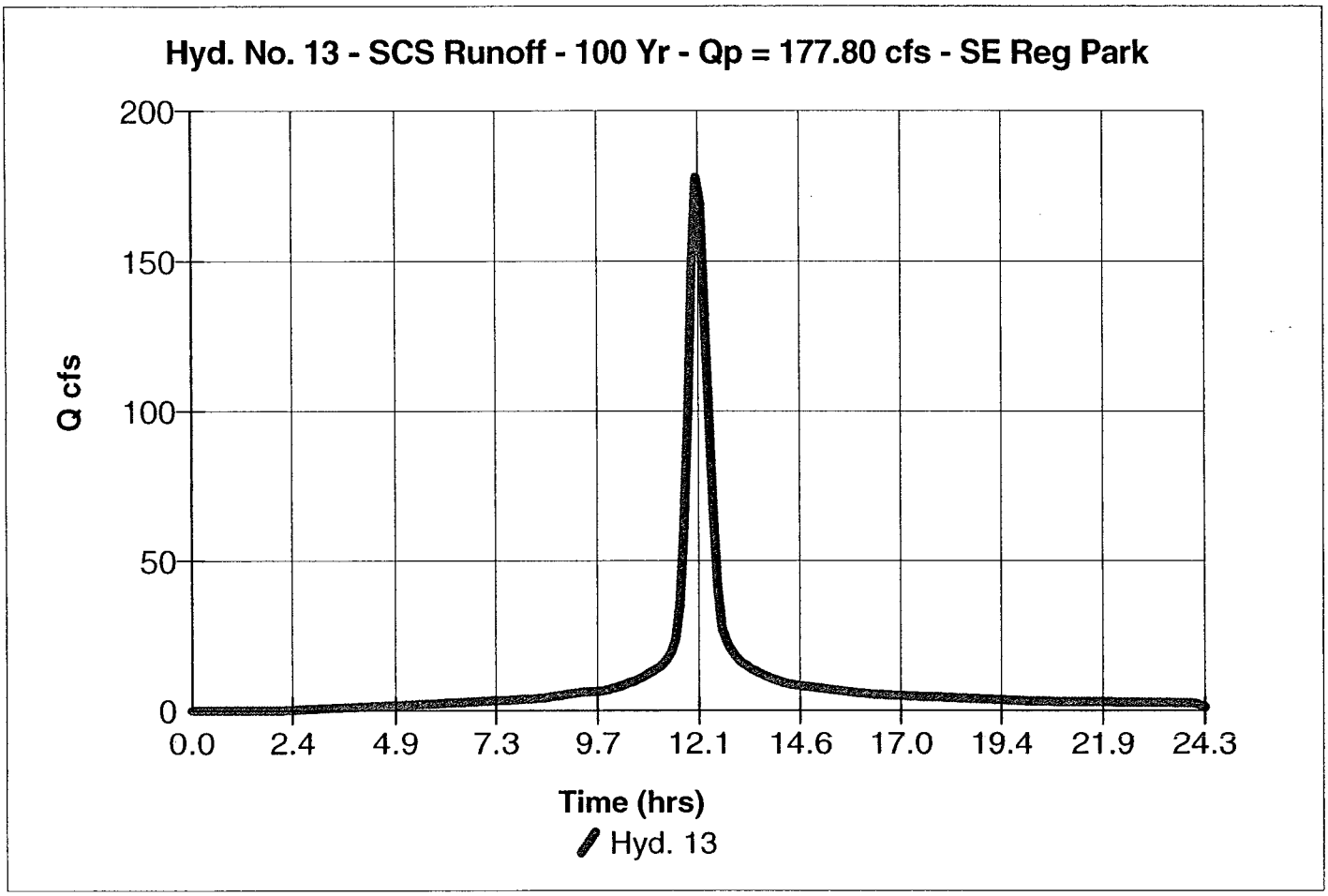
Hydrograph type	= SCS Runoff	Peak discharge	= 177.80 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Drainage area	= 30.30 ac	Curve number	= 93
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= USER	Time of conc. (Tc)	= 21.6 min
Total precip.	= 7.80 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

Hydrograph Volume = 17.585 acft

Hydrograph Discharge Table

Time (hrs)	Outflow (cfs)	
12.10	177.80	<<

...End


Hyd. No. 13 - SCS Runoff - 100 Yr - Qp = 177.80 cfs - SE Reg Park
Q cfs
200
150
100
50
0
0.0
2.4
4.9
7.3
9.7
12.1
14.6
17.0
19.4
21.9
24.3
Time (hrs)
Hyd. 13

Hydrograph Report

Hyd. No. 14

To 48 inch RCP

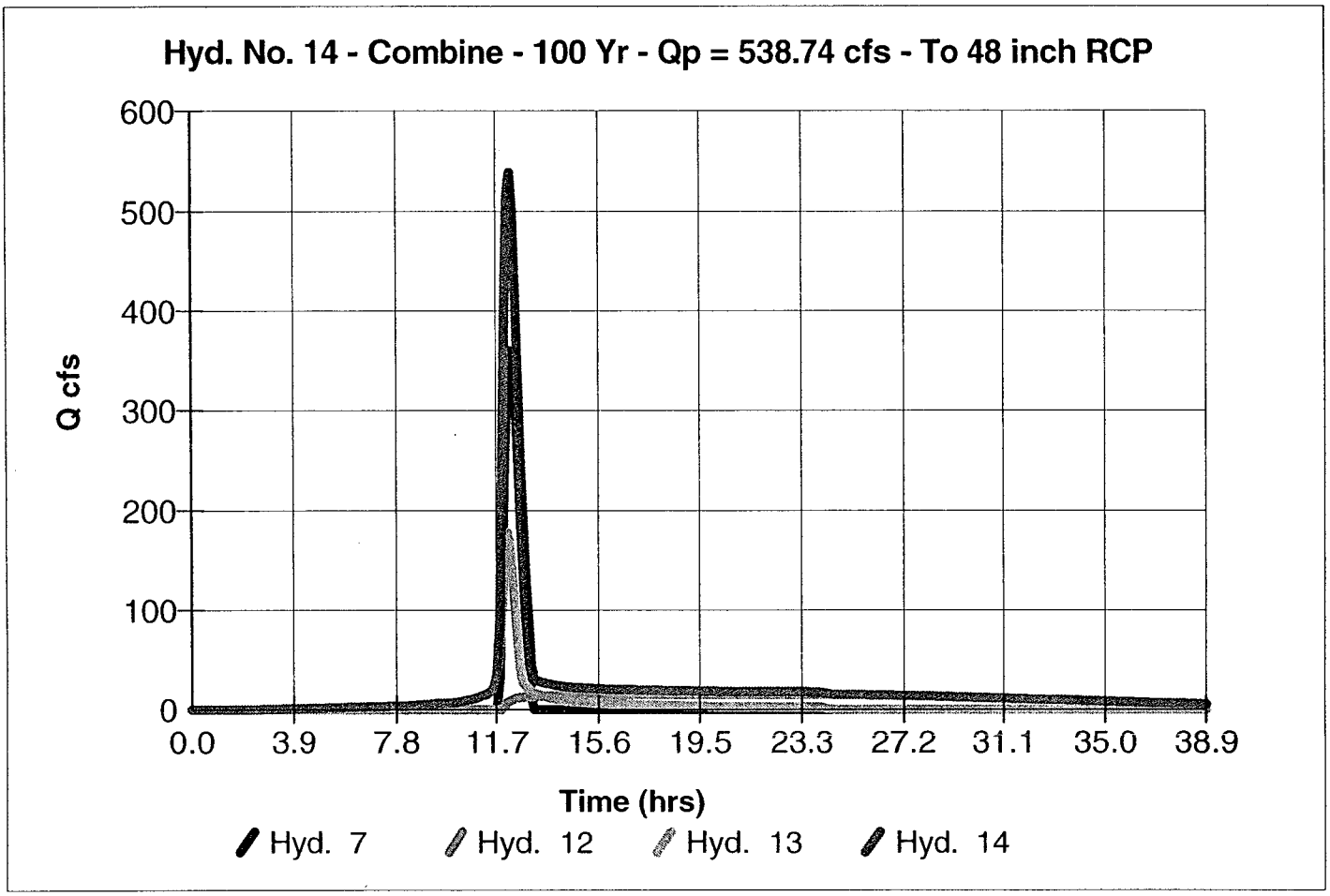
Hydrograph type	= Combine	Peak discharge	= 538.74 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyds.	= 7, 12, 13		

Hydrograph Volume = 67.982 acft

Hydrograph Discharge Table

Time (hrs)	Hyd. 7 + (cfs)	Hyd. 12 + (cfs)	Hyd. 13 = (cfs)	Outflow (cfs)
12.20	360.25 <<	9.15	169.34	538.74 <<

...End


Hyd. No. 14 - Combine - 100 Yr - Qp = 538.74 cfs - To 48 inch RCP
Q cfs
600
500
400
300
200
100
0
0.0
3.9
7.8
11.7
15.6
19.5
23.3
27.2
31.1
35.0
38.9
Time (hrs)
Hyd. 7
Hyd. 12
Hyd. 13
Hyd. 14

Hydrograph Report

Hydraflow Hydrographs by Intelisolve

Hyd. No. 15

Post-Proj Nat Pond

Hydrograph type	= Reservoir	Peak discharge	= 120.18 cfs
Storm frequency	= 100 yrs	Time interval	= 6 min
Inflow hyd. No.	= 14	Reservoir name	= SE Pond
Max. Elevation	= 186.70 ft	Max. Storage	= 22.766 acft

Storage Indication method used.

Outflow hydrograph volume = 67.982 acft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Outflow cfs
12.70	185.85	186.67	-----	-----	-----	-----	-----	-----	-----	-----	-----	119.64
12.80	135.34	186.70 <<	-----	-----	-----	-----	-----	-----	-----	-----	-----	120.18 <<
12.90	87.04	186.69	-----	-----	-----	-----	-----	-----	-----	-----	-----	120.07
13.00	44.41	186.65	-----	-----	-----	-----	-----	-----	-----	-----	-----	119.35

...End

Reservoir Report

Reservoir No. 3 - SE Pond

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	179.50	00	0.000	0.000
0.50	180.00	923	0.005	0.005
1.50	181.00	79,109	0.919	0.924
2.50	182.00	89,645	1.937	2.861
3.50	183.00	100,659	2.184	5.045
4.50	184.00	111,940	2.440	7.486
5.50	185.00	123,437	2.702	10.187
6.50	186.00	320,249	5.093	15.280
7.36	186.86	609,425	9.177	24.457
7.50	187.00	656,501	2.034	26.492
8.50	188.00	839,316	17.170	43.661

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 48.0	0.0	0.0	0.0
Span in	= 48.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 179.50	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 200.00	100.00	0.00	0.00
Crest El. ft	= 186.90	188.10	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Rect	Rect	---	---
Multi-Stage	= No	No	No	No

Exfiltration Rate = 0.00 in/hr/sqft Tailwater Elev. = 185.15 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
0.00	0.000	179.50	0.00	---	---	---	0.00	0.00	---	---	---	0.00
0.05	0.001	179.55	0.00	---	---	---	0.00	0.00	---	---	---	0.48
0.10	0.001	179.60	0.00	---	---	---	0.00	0.00	---	---	---	0.96
0.15	0.002	179.65	0.00	---	---	---	0.00	0.00	---	---	---	1.45
0.20	0.002	179.70	0.00	---	---	---	0.00	0.00	---	---	---	1.93
0.25	0.003	179.75	0.00	---	---	---	0.00	0.00	---	---	---	2.41
0.30	0.003	179.80	0.00	---	---	---	0.00	0.00	---	---	---	2.89
0.35	0.004	179.85	0.00	---	---	---	0.00	0.00	---	---	---	3.37
0.40	0.004	179.90	0.00	---	---	---	0.00	0.00	---	---	---	3.86
0.45	0.005	179.95	0.00	---	---	---	0.00	0.00	---	---	---	4.34
0.50	0.005	180.00	0.00	---	---	---	0.00	0.00	---	---	---	4.82
0.60	0.097	180.10	0.00	---	---	---	0.00	0.00	---	---	---	5.83
0.70	0.189	180.20	0.00	---	---	---	0.00	0.00	---	---	---	6.83
0.80	0.281	180.30	0.00	---	---	---	0.00	0.00	---	---	---	7.84
0.90	0.373	180.40	0.00	---	---	---	0.00	0.00	---	---	---	8.84
1.00	0.465	180.50	0.00	---	---	---	0.00	0.00	---	---	---	9.85
1.10	0.556	180.60	0.00	---	---	---	0.00	0.00	---	---	---	10.85
1.20	0.648	180.70	0.00	---	---	---	0.00	0.00	---	---	---	11.86
1.30	0.740	180.80	0.00	---	---	---	0.00	0.00	---	---	---	12.86
1.40	0.832	180.90	0.00	---	---	---	0.00	0.00	---	---	---	13.87
1.50	0.924	181.00	0.00	---	---	---	0.00	0.00	---	---	---	14.87
1.60	1.118	181.10	0.00	---	---	---	0.00	0.00	---	---	---	16.40
1.70	1.311	181.20	0.00	---	---	---	0.00	0.00	---	---	---	17.94
1.80	1.505	181.30	0.00	---	---	---	0.00	0.00	---	---	---	19.47
1.90	1.699	181.40	0.00	---	---	---	0.00	0.00	---	---	---	21.01
2.00	1.892	181.50	0.00	---	---	---	0.00	0.00	---	---	---	22.54
2.10	2.086	181.60	0.00	---	---	---	0.00	0.00	---	---	---	24.07

Continues on next page...

Stage / Storage / Discharge Table

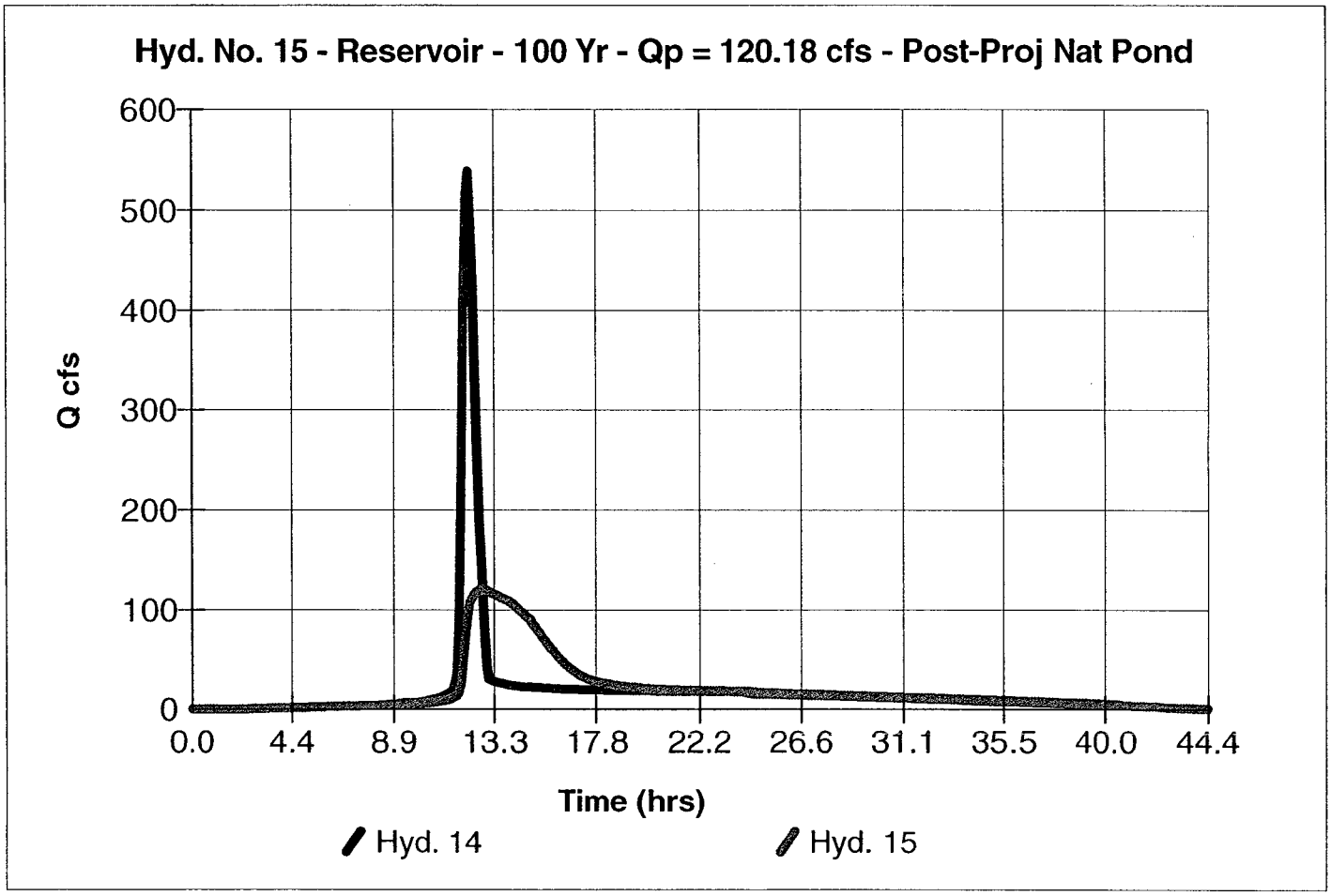
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
2.20	2.280	181.70	0.00	---	---	---	0.00	0.00	---	---	---	25.61
2.30	2.474	181.80	0.00	---	---	---	0.00	0.00	---	---	---	27.14
2.40	2.667	181.90	0.00	---	---	---	0.00	0.00	---	---	---	28.68
2.50	2.861	182.00	0.00	---	---	---	0.00	0.00	---	---	---	30.21
2.60	3.079	182.10	0.00	---	---	---	0.00	0.00	---	---	---	32.41
2.70	3.298	182.20	0.00	---	---	---	0.00	0.00	---	---	---	34.60
2.80	3.516	182.30	0.00	---	---	---	0.00	0.00	---	---	---	36.80
2.90	3.735	182.40	0.00	---	---	---	0.00	0.00	---	---	---	39.00
3.00	3.953	182.50	0.00	---	---	---	0.00	0.00	---	---	---	41.19
3.10	4.172	182.60	0.00	---	---	---	0.00	0.00	---	---	---	43.39
3.20	4.390	182.70	0.00	---	---	---	0.00	0.00	---	---	---	45.59
3.30	4.608	182.80	0.00	---	---	---	0.00	0.00	---	---	---	47.79
3.40	4.827	182.90	0.00	---	---	---	0.00	0.00	---	---	---	49.98
3.50	5.045	183.00	0.00	---	---	---	0.00	0.00	---	---	---	52.18
3.60	5.289	183.10	0.00	---	---	---	0.00	0.00	---	---	---	54.24
3.70	5.533	183.20	0.00	---	---	---	0.00	0.00	---	---	---	56.31
3.80	5.777	183.30	0.00	---	---	---	0.00	0.00	---	---	---	58.37
3.90	6.021	183.40	0.00	---	---	---	0.00	0.00	---	---	---	60.44
4.00	6.266	183.50	0.00	---	---	---	0.00	0.00	---	---	---	62.50
4.10	6.510	183.60	0.00	---	---	---	0.00	0.00	---	---	---	64.56
4.20	6.754	183.70	0.00	---	---	---	0.00	0.00	---	---	---	66.63
4.30	6.998	183.80	0.00	---	---	---	0.00	0.00	---	---	---	68.69
4.40	7.242	183.90	0.00	---	---	---	0.00	0.00	---	---	---	70.76
4.50	7.486	184.00	0.00	---	---	---	0.00	0.00	---	---	---	72.82
4.60	7.756	184.10	0.00	---	---	---	0.00	0.00	---	---	---	74.62
4.70	8.026	184.20	0.00	---	---	---	0.00	0.00	---	---	---	76.43
4.80	8.296	184.30	0.00	---	---	---	0.00	0.00	---	---	---	78.23
4.90	8.566	184.40	0.00	---	---	---	0.00	0.00	---	---	---	80.04
5.00	8.837	184.50	0.00	---	---	---	0.00	0.00	---	---	---	81.84
5.10	9.107	184.60	0.00	---	---	---	0.00	0.00	---	---	---	83.64
5.20	9.377	184.70	0.00	---	---	---	0.00	0.00	---	---	---	85.45
5.30	9.647	184.80	0.00	---	---	---	0.00	0.00	---	---	---	87.25
5.40	9.917	184.90	0.00	---	---	---	0.00	0.00	---	---	---	89.06
5.50	10.187	185.00	0.00	---	---	---	0.00	0.00	---	---	---	90.86
5.60	10.697	185.10	0.00	---	---	---	0.00	0.00	---	---	---	92.59
5.70	11.206	185.20	0.00	---	---	---	0.00	0.00	---	---	---	94.32
5.80	11.715	185.30	0.00	---	---	---	0.00	0.00	---	---	---	96.05
5.90	12.225	185.40	0.00	---	---	---	0.00	0.00	---	---	---	97.78
6.00	12.734	185.50	0.00	---	---	---	0.00	0.00	---	---	---	99.52
6.10	13.243	185.60	0.00	---	---	---	0.00	0.00	---	---	---	101.25
6.20	13.752	185.70	0.00	---	---	---	0.00	0.00	---	---	---	102.98
6.30	14.262	185.80	0.00	---	---	---	0.00	0.00	---	---	---	104.71
6.40	14.771	185.90	0.00	---	---	---	0.00	0.00	---	---	---	106.44
6.50	15.280	186.00	0.00	---	---	---	0.00	0.00	---	---	---	108.17
6.59	16.198	186.09	0.00	---	---	---	0.00	0.00	---	---	---	109.64
6.67	17.116	186.17	0.00	---	---	---	0.00	0.00	---	---	---	111.12
6.76	18.033	186.26	0.00	---	---	---	0.00	0.00	---	---	---	112.59
6.84	18.951	186.34	0.00	---	---	---	0.00	0.00	---	---	---	114.06
6.93	19.869	186.43	0.00	---	---	---	0.00	0.00	---	---	---	115.54
7.02	20.787	186.52	0.00	---	---	---	0.00	0.00	---	---	---	117.01
7.10	21.704	186.60	0.00	---	---	---	0.00	0.00	---	---	---	118.48
7.19	22.622	186.69	0.00	---	---	---	0.00	0.00	---	---	---	119.95
7.27	23.540	186.77	0.00	---	---	---	0.00	0.00	---	---	---	121.43
7.36	24.457	186.86	0.00	---	---	---	0.00	0.00	---	---	---	122.90
7.37	24.661	186.87	0.00	---	---	---	0.00	0.00	---	---	---	124.17
7.39	24.864	186.89	0.00	---	---	---	0.00	0.00	---	---	---	125.44
7.40	25.068	186.90	0.00	---	---	---	0.00	0.00	---	---	---	126.71
7.42	25.271	186.92	0.00	---	---	---	0.00	0.00	---	---	---	127.98
7.43	25.475	186.93	0.00	---	---	---	0.00	0.00	---	---	---	129.26
7.44	25.678	186.94	0.00	---	---	---	0.00	0.00	---	---	---	130.53
7.46	25.881	186.96	0.00	---	---	---	0.00	0.00	---	---	---	131.80
7.47	26.085	186.97	0.00	---	---	---	0.00	0.00	---	---	---	133.07
7.49	26.288	186.99	0.00	---	---	---	0.00	0.00	---	---	---	134.34
7.50	26.492	187.00	0.00	---	---	---	0.00	0.00	---	---	---	135.61
7.60	28.209	187.10	0.00	---	---	---	0.00	0.00	---	---	---	192.72
7.70	29.926	187.20	0.00	---	---	---	0.00	0.00	---	---	---	249.82
7.80	31.643	187.30	0.00	---	---	---	0.00	0.00	---	---	---	306.93
7.90	33.360	187.40	0.00	---	---	---	0.00	0.00	---	---	---	364.03
8.00	35.077	187.50	0.00	---	---	---	0.00	0.00	---	---	---	421.14
8.10	36.794	187.60	0.00	---	---	---	0.00	0.00	---	---	---	478.25

Continues on next page...

Stage / Storage / Discharge Table

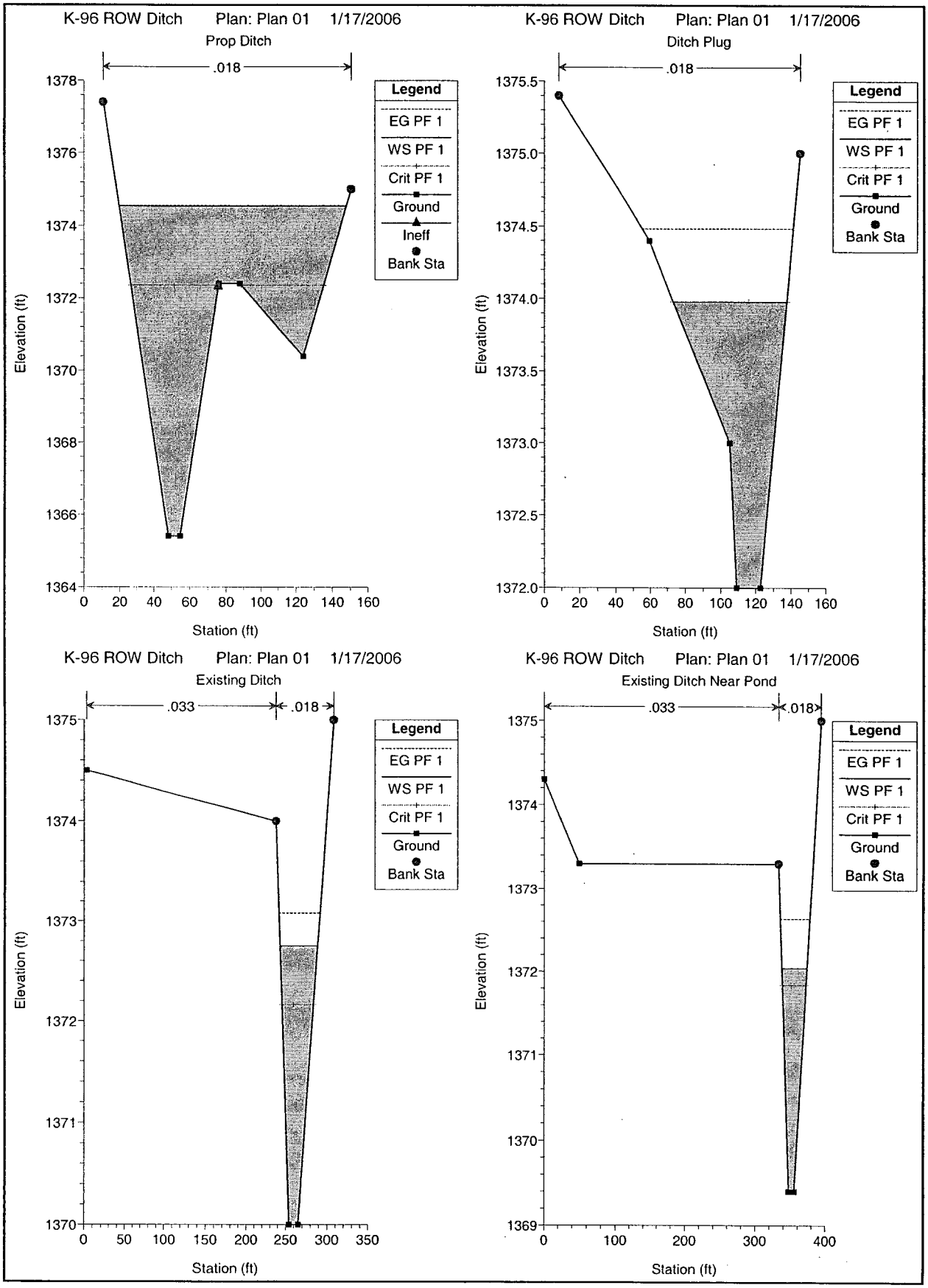
Stage ft	Storage acft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	Total cfs
8.20	38.511	187.70	0.00	---	---	---	0.00	0.00	---	---	---	535.35
8.30	40.227	187.80	0.00	---	---	---	0.00	0.00	---	---	---	592.46
8.40	41.944	187.90	0.00	---	---	---	0.00	0.00	---	---	---	649.56
8.50	43.661	188.00	0.00	---	---	---	0.00	0.00	---	---	---	706.67

...End


Hyd. No. 15 - Reservoir - 100 Yr - Qp = 120.18 cfs - Post-Proj Nat Pond
Q cfs
600
500
400
300
200
100
0
0.0
4.4
8.9
13.3
17.8
22.2
26.6
31.1
35.5
40.0
44.4
Time (hrs)
Hyd. 14
Hyd. 15

HEC-RAS Plan: Plan 01 River: K-96 ROW Reach: Ditch Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Ditch	300	PF 1	475.25	1365.40	1374.54	1372.35	1374.55	0.000022	0.95	498.69	128.32	0.09
Ditch	200	PF 1	360.25	1372.00	1373.98	1373.98	1374.48	0.004901	5.70	63.25	64.38	1.01
Ditch	100	PF 1	360.25	1370.00	1372.75	1372.17	1373.08	0.001558	4.62	77.96	45.67	0.62
Ditch	50	PF 1	360.25	1369.40	1372.04	1371.84	1372.64	0.003002	6.17	58.35	36.04	0.86


K-96 ROW Ditch Plan: Plan 01 1/17/2006
Prop Ditch
.018
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
K-96 ROW Ditch Plan: Plan 01 1/17/2006
Ditch Plug
.018
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
K-96 ROW Ditch Plan: Plan 01 1/17/2006
Existing Ditch
.033
.018
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)
K-96 ROW Ditch Plan: Plan 01 1/17/2006
Existing Ditch Near Pond
.033
.018
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
Elevation (ft)
Station (ft)

MKEC ENGINEERING CONSULTANTS, INC.
Kansas City Oklahoma City Wichita

March 24, 2006

Mr. Benny Tarverdi, P.E., Metro Engineer
Kansas Department of Transportation
3200 East 45th Street North
Wichita, Kansas 67220-1432

Re: Site Drainage to K-96 Highway, West of Greenwich and North of K-96 Highway

Dear Mr. Tarverdi:

This is written to request approval from the Kansas Department of Transportation (KDOT) to construct an outlet spillway into K-96 Highway R/W from an existing drainage way located adjacent to K-96, immediately south of the Beauty First site.

This area currently drains to a 6' x 3' RCB under K-96, located at Sta. 443+00, Structure No. 96-87-32.39. KDOT design parameters utilized for sizing this box included a drainage area of 161 acres and a 100-year flow rate of 122 cfs. As we discussed when we met with you and Scott Lindebak on this matter, MKEC calculated that this existing structure has a capacity of approximately 115 cfs. Please note that detention was constructed in conjunction with the drainage facilities along this section of K-96, as evidenced by the ditch plug located approximately 200 feet downstream (east) of the RCB structure.

Based on current topography and drainage basin boundaries, MKEC has calculated the current drainage area flowing to the RCB structure to be approximately 129.8 acres. All but 8.5 acres of this basin area drains to and through the existing pond area south of the existing Beauty First facility. The 8.5 acres is the section of K-96 Highway R/W north and west of the RCB. This area flows in the road side ditch adjacent to the westbound K-96 lanes and runs directly to the RCB structure.

MKEC has calculated that, under undeveloped conditions and without mitigating detention, the expected 100-year runoff rate at the RCB structure would be approximately 448 cfs. Mitigating this runoff rate such that 100-year storm events will be channeled through the RCB structure and not overflow the downstream ditch check will require detention on both the Jabara Airport property and the Regency Park property. MKEC has calculated that approximately 30.3 acre-feet of detention storage will be required on the Jabara property. Combining the future Jabara detention with the current 6.2 acre feet of storage provided on the Regency Park site and in the roadside ditch adjacent to the Regency Park area will reduce the expected flow rate to the RCB structure to approximately 119 cfs. MKEC believes the RCB structure should be able to handle this flow rate satisfactorily.

When the Beauty First borrow pond was excavated, no provision was made for an outfall structure, spillway or outlet. Thus, approval is requested at this time to construct an outlet spillway from this pond area so overflow runoff will have a direct path from the pond to the RCB structure under K-96 Highway. Constructing this outfall spillway should help alleviate the problems you have been experiencing with a wet area in the ditch east of the RCB structure.

MKEC believes that the ditch plug at Sta. 445+00 is not at the elevation called for on the construction plans for K-96. At such time that additional detention is constructed on or for the Jabara Airport property, this ditch plug should be brought up to the proper elevation so runoff is contained in the original area designated to drain through the RCB structure.

If you have any questions or want to meet to discuss this matter, please contact me.

Sincerely,

MKEC ENGINEERING CONSULTANTS, INC.

Greg Allison GR

Greg Allison, P.E.

Cc: Scott Lindebak, City of Wichita