

# **TECHNICAL ADDENDUM**

**TO THE**

## **DRAINAGE REPORT**

**FOR**

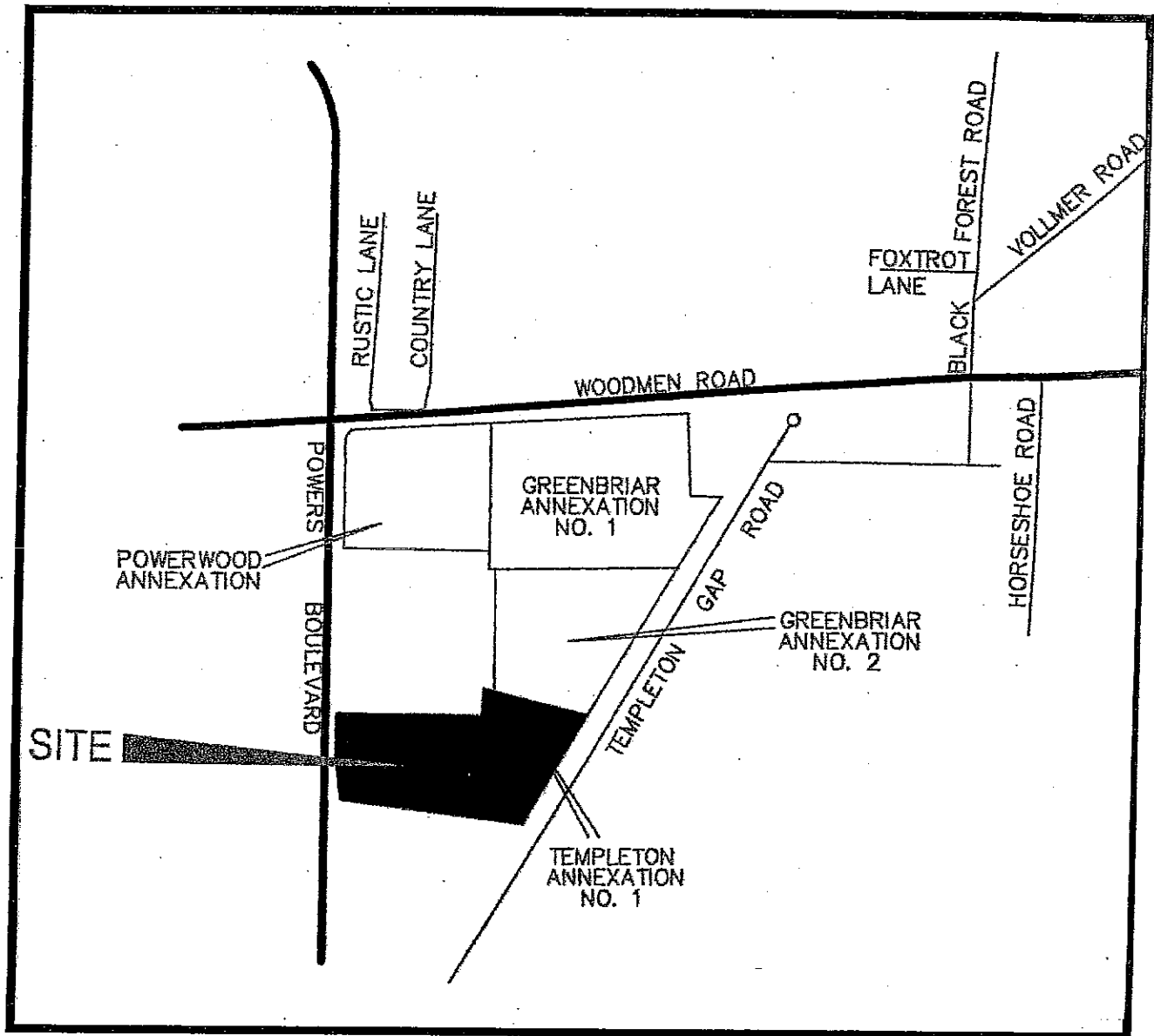
### **TUSCANY PLAZA SUBDIVISION**

**Prepared For:  
Buckeye Development  
19124 Baskerville Way  
Monument, CO 80932**

**Prepared By:  
Associated Design Professionals, Inc.  
1861 Austin Bluffs Parkway, Suite 101  
Colorado Springs, CO 80918  
(719) 266-5212**

February 9, 2009  
080503

17290-33



PREPARED BY:



Associated Design Professionals, Inc.

1861 Austin Bluffs Pkwy, Suite 101  
 Colorado Springs, CO 80918  
 (719) 266-5212  
 fax: (719) 266-5341

Basin Designation							Initial Tci		Travel Time					
Rational	TR-20	Area	Area		C5		Slope	ti		Slope	V	Tt	TC	TC
Method	Method	AC	SM	CN	(5YR)	L (ft)	(%)	(min)	L (ft)	(%)	(fps)	(min)	(min)	(hr)
OS1B	90	17.4	0.0272	69	0.51	350	1.50	18.06	2400	3.70	2.90	13.79	31.85	0.531
OS2	80	37.9	0.0592	69	0.51	300	1.20	17.99	2200	4.20	3.20	11.46	29.45	0.491
A11	50	2.71	0.0042	88	0.80	100	1.00	5.61	350	1.00	2.00	2.92	8.53	0.142
A10	55	3.28	0.0051	92	0.80	150	2.00	5.47	900	1.80	2.60	5.77	11.24	0.187
A1	45	5.57	0.0087	88	0.50	100	2.00	8.93	500	3.00	3.50	2.38	11.31	0.188
A2	40	3.34	0.0052	92	0.50	100	5.00	6.60	400	2.00	2.80	2.38	8.98	0.150
A3	35	0.98	0.0015	88	0.70	30	2.00	3.26	650	2.00	2.80	3.87	7.13	0.119
A4	30	7.5	0.0117	85	0.50	100	2.00	8.93	900	2.40	3.10	4.84	13.76	0.229
A5	27	3.88	0.0061	92	0.50	150	2.00	10.93	550	3.00	3.50	2.62	13.55	0.226
A6	25	5.91	0.0092	92	0.50	150	2.00	10.93	550	3.00	3.50	2.62	13.55	0.226
A7	22	2.28	0.0036	88	0.50	75	2.00	7.73	700	2.80	3.30	3.54	11.27	0.188
A8	20	2.6	0.0041	88	0.50	75	2.00	7.73	700	2.80	3.30	3.54	11.27	0.188
A9	15	2.79	0.0044	92	0.50	50	5.00	4.66	400	2.00	2.80	2.38	7.05	0.117
A12	10	2.25	0.0035	61	0.30	100	10.00	7.00	300	0.50	0.50	10.00	17.00	0.283
OS4	5	1.88	0.0029	71	0.30	100	10.00	7.00	500	5.00	3.50	2.38	9.38	0.156

**APPENDIX A**

**TR-20 INPUT**

JOB TR-20

SUMMARY NOPLOTS

TITLE POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24 HR.5&100YR. STORM  
TITLE DEVELOPED CONDITIONS W/ DETENTION INPUT : tuscl00a

5	RAINFL 7		0.5			
8		0.0000	0.0040	0.0080	0.0100	0.0140
8		0.0190	0.0220	0.0260	0.0300	0.0450
8		0.0600	0.1000	0.7100	0.7500	0.7750
8		0.8000	0.8200	0.8300	0.8400	0.8500
8		0.8600	0.8700	0.8750	0.8850	0.8900
8		0.9000	0.9050	0.9100	0.9200	0.9250
8		0.9300	0.9350	0.9400	0.9450	0.9500
8		0.9550	0.9600	0.9650	0.9700	0.9730
8		0.9750	0.9800	0.9830	0.9870	0.9900
8		0.9930	0.9960	0.9999	1.0000	1.0000
9	ENDTBL					
2	XSECTN 005		1.0			
8		6821.00		0.0	0.00	
8		6821.49		10.0	2.40	
8		6822.00		50.0	7.92	
8		6822.33		100.0	13.30	
8		6823.10		300.0	30.27	
9	ENDTBL					
2	XSECTN 010		1.0			
8		6822.00		0.0	0.00	
8		6822.53		10.0	1.06	
8		6823.17		50.0	3.29	
8		6823.68		100.0	5.42	
8		6825.31		300.0	12.53	
9	ENDTBL					
2	XSECTN 011		1.0			
8		6822.00		0.0	0.00	
8		6822.60		10.0	1.01	
8		6823.39		50.0	3.20	
8		6824.17		100.0	5.49	
8		6824.62		120.0	6.56	
9	ENDTBL					
2	XSECTN 012		1.0			
8		6822.00		0.0	0.00	
8		6822.60		10.0	1.01	
8		6823.39		50.0	3.20	
8		6824.17		100.0	5.49	
8		6824.62		120.0	6.56	
9	ENDTBL					
2	XSECTN 020		1.0			
8		6825.00		0.0	0.00	
8		6825.53		10.0	1.06	
8		6826.17		50.0	3.29	
8		6826.68		100.0	5.42	
8		6828.31		300.0	12.53	
9	ENDTBL					
2	XSECTN 021		1.0			
8		6825.00		0.0	0.00	
8		6825.60		10.0	1.01	
8		6826.39		50.0	3.20	
8		6827.17		100.0	5.49	
8		6827.62		120.0	6.56	
9	ENDTBL					

2	XSECTN	022	1.0		
8			6834.00	0.0	0.00
8			6834.60	10.0	1.01
8			6835.39	50.0	3.20
8			6836.17	100.0	5.49
8			6836.62	120.0	6.56
9	ENDTBL				
2	XSECTN	025	1.0		
8			6846.00	0.0	0.00
8			6846.60	10.0	1.01
8			6847.39	50.0	3.20
8			6848.17	100.0	5.49
8			6848.62	120.0	6.56
9	ENDTBL				
2	XSECTN	030	1.0		
8			6840.00	0.0	0.00
8			6840.53	10.0	1.06
8			6841.17	50.0	3.29
8			6841.68	100.0	5.42
8			6843.31	300.0	12.53
9	ENDTBL				
2	XSECTN	031	1.0		
8			6862.00	0.0	0.00
8			6862.68	10.0	1.21
8			6863.61	50.0	3.88
8			6864.12	75.0	5.34
8			6864.51	90.0	6.31
9	ENDTBL				
2	XSECTN	035	1.0		
8			6862.00	0.0	0.00
8			6862.66	10.0	1.46
8			6863.48	50.0	4.57
8			6864.17	100.0	7.59
8			6864.46	200.0	13.13
9	ENDTBL				
2	XSECTN	045	1.0		
8			6865.00	0.0	0.00
8			6865.55	10.0	1.04
8			6866.22	50.0	3.26
8			6866.78	100.0	5.39
8			6867.74	200.0	9.17
9	ENDTBL				
2	XSECTN	050	1.0		
8			6825.00	0.0	0.00
8			6825.60	10.0	1.01
8			6826.39	50.0	3.20
8			6827.17	100.0	5.49
8			6827.62	120.0	6.56
9	ENDTBL				
2	XSECTN	090	1.0		
8			6841.00	0.0	0.00
8			6841.49	10.0	2.40
8			6842.00	50.0	7.92
8			6842.33	100.0	13.30
8			6843.10	300.0	30.27
9	ENDTBL				
2	XSECTN	120	1.0		

8		6878.00	0.0	0.00
8		6878.61	5.0	0.82
8		6878.89	10.0	1.35
8		6879.37	20.0	2.30
8		6879.68	25.0	2.81
9	ENDTBL			
2	XSECTN	121	1.0	
8		6880.00	0.0	0.00
8		6880.43	5.0	0.76
8		6880.59	10.0	1.24
8		6881.31	50.0	3.86
8		6881.90	100.0	8.38
8		6883.43	200.0	12.99
9	ENDTBL			
2	XSECTN	122	1.0	
8		6892.00	0.0	0.00
8		6892.47	5.0	0.87
8		6892.65	10.0	1.41
8		6893.45	50.0	4.42
8		6894.11	100.0	7.32
8		6895.32	200.0	12.59
9	ENDTBL			
2	XSECTN	123	1.0	
8		6894.00	0.0	0.00
8		6894.47	5.0	0.87
8		6894.65	10.0	1.41
8		6895.45	50.0	4.42
8		6896.11	100.0	7.32
8		6897.32	200.0	12.59
9	ENDTBL			
2	XSECTN	124	1.0	
8		6924.00	0.0	0.00
8		6924.46	5.0	0.75
8		6924.65	10.0	1.23
8		6925.48	50.0	3.88
8		6926.26	100.0	6.57
8		6927.05	140.0	8.90
9	ENDTBL			
2	XSECTN	130	1.0	
8		6842.00	0.0	0.00
8		6842.49	10.0	2.40
8		6843.00	50.0	7.92
8		6843.33	100.0	13.30
8		6844.10	300.0	30.27
9	ENDTBL			
2	XSECTN	132	1.0	
8		6882.00	0.0	0.00
8		6882.40	5.0	0.61
8		6882.56	10.0	1.00
8		6883.26	50.0	3.13
8		6883.87	100.0	5.23
8		6884.80	175.0	8.25
9	ENDTBL			
2	XSECTN	133	1.0	
8		6914.00	0.0	0.00
8		6914.45	5.0	0.75
8		6914.63	10.0	1.23

8				6915.48	50.0	3.88		
8				6916.40	100.0	6.57		
9	ENDTBL							
2	XSECTN	134		1.0				
8				6933.00	0.0	0.00		
8				6933.51	5.0	0.64		
8				6933.74	10.0	1.05		
8				6934.26	25.0	2.08		
8				6934.66	35.0	2.78		
9	ENDTBL							
3	STRUCT	05						
8				6819.00	0.0	0.0		
8				6820.00	5.5	0.48		
8				6822.00	16.7	0.99		
8				6823.00	61.5	1.93		
8				6824.00	73.4	2.86		
8				6826.00	92.6	4.48		
8				6827.50	104.8	5.93		
8				6828.00	163.0	6.41		
8				6829.00	193.1	7.50		
9	ENDTBL							
3	STRUCT	10						
8				6880.00	0.0	0.0		
8				6882.00	4.5	0.04		
8				6884.00	7.0	0.30		
8				6886.00	9.0	0.78		
8				6888.00	20.0	1.54		
9	ENDTBL							
3	STRUCT	20						
8				6877.50	0.0	0.0		
8				6878.00	1.1	0.03		
8				6880.00	11.3	0.76		
8				6882.00	16.5	2.22		
8				6884.00	59.1	4.02		
8				6885.00	63.7	5.05		
8				6886.00	67.9	6.09		
8				6887.00	71.9	7.22		
8				6887.50	73.8	7.81		
8				6888.00	108.6	8.30		
9	ENDTBL							
3	STRUCT	30						
8				6880.00	0.0	0.0		
8				6881.00	0.1	0.36		
8				6882.00	0.2	1.20		
8				6883.00	10.8	2.21		
8				6884.00	12.9	3.29		
8				6885.00	31.0	4.46		
8				6886.00	34.5	5.71		
8				6887.00	37.7	7.04		
8				6888.00	40.6	8.48		
8				6889.00	310.0	10.00		
9	ENDTBL							
6	RUNOFF	1 135	2	0.0143	93.0	0.158	1 1	
6	REACH	3 134	2 3	400.0			1 1	
6	RUNOFF	1 134	2	0.0079	93.0	0.263	1 1	
6	ADDHYD	4 134	3 2 4				1 1	
6	REACH	3 133	4 3	840.0			1 1	



6	RUNOFF	1	133		5	0.0051	93.0	0.175	1	1
6	ADDHYD	4	133	3	5				1	1
6	REACH	3	132	6	3	370.0			1	1
6	RUNOFF	1	132		5	0.0100	93.0	0.137	1	1
6	ADDHYD	4	132	3	5				1	1
6	REACH	3	132	6	3	180.0			1	1
6	RUNOFF	1	131		5	0.0137	93.0	0.213	1	1
6	REACH	3	132	5	4	180.0			1	1
6	ADDHYD	4	130	3	4				1	1
6	RUNOFF	1	130		5	0.0077	65.0	0.418	1	1
6	ADDHYD	4	130	7	5				1	1
6	RESVOR	2		30	6	4	6880.0		1	1
6	REACH	3	130	4	5	1400.0			1	1
6	RUNOFF	1	090		2	0.0272	69.0	0.663	1	1
6	ADDHYD	4	090	5	2				1	1
6	RUNOFF	1	080		2	0.0592	69.0	0.623	1	1
6	ADDHYD	4	080	1	2				1	1
6	REACH	3	005	6	1	500.0			1	1
6	RUNOFF	1	125		2	0.0421	92.0	0.311	1	1
6	REACH	3	124	2	3	240.0			1	1
6	RUNOFF	1	124		5	0.0109	92.0	0.303	1	1
6	ADDHYD	4	124	3	5				1	1
6	REACH	3	123	6	3	240.0			1	1
6	RUNOFF	1	123		2	0.0113	92.0	0.208	1	1
6	ADDHYD	4	123	3	2				1	1
6	REACH	3	122	6	3	40.0			1	1
6	RUNOFF	1	122		5	0.0208	92.0	0.303	1	1
6	ADDHYD	4	122	3	5				1	1
6	REACH	3	121	6	3	70.0			1	1
6	RUNOFF	1	121		2	0.0035	65.0	0.208	1	1
6	ADDHYD	4	121	3	2				1	1
6	RESVOR	2		20	6	3	6877.5		1	1
6	RUNOFF	1	120		2	0.0036	79.6	0.275	1	1
6	RESVOR	2		10	2	4	6880.0		1	1
6	REACH	3	120	4	5	100.0			1	1
6	ADDHYD	4	100	3	5				1	1
6	REACH	3	045	7	3	450.0			1	1
6	RUNOFF	1	045		5	0.0087	88.0	0.188	1	1
6	ADDHYD	4	045	3	5				1	1
6	REACH	3	035	6	5	350.0			1	1
6	RUNOFF	1	040		2	0.0052	92.0	0.150	1	1
6	REACH	3	035	2	4	200.0			1	1
6	ADDHYD	4	035	5	4				1	1
6	RUNOFF	1	035		3	0.0015	88.0	0.119	1	1
6	ADDHYD	4	035	6	3				1	1
6	REACH	3	030	7	3	750.0			1	1
6	RUNOFF	1	030		5	0.0117	85.0	0.229	1	1
6	ADDHYD	4	030	3	5				1	1
6	REACH	3	020	6	3	620.0			1	1
6	RUNOFF	1	027		2	0.0061	85.0	0.200	1	1
6	REACH	3	025	2	4	575.0			1	1
6	RUNOFF	1	025		2	0.0092	92.0	0.226	1	1
6	ADDHYD	4	025	4	2				1	1
6	REACH	3	022	6	4	445.0			1	1
6	RUNOFF	1	022		5	0.0036	88.0	0.163	1	1
6	ADDHYD	4	020	4	5				1	1
6	ADDHYD	4	020	3	6				1	1



**APPENDIX B**  
**TR-20 OUTPUT**

\*\*\*\*\*80-80 LIST OF INPUT DATA FOR TR-20  
 HYDROLOGY\*\*\*\*\*

JOB TR-20	TITLE	POWERWOOD RETAIL DEVELOPMENT - TR20 RUN	SUMMARY	NOPLOTS	24 HR.5&100YR. STORM
	TITLE	DEVELOPED CONDITIONS W/ DETENTION INPUT : tusc100a			
5	RAINFL 7	0.5			
8		0.0000	0.0040	0.0080	0.0100
8		0.0190	0.0220	0.0260	0.0300
8		0.0600	0.1000	0.7100	0.7500
8		0.8000	0.8200	0.8300	0.8400
8		0.8600	0.8700	0.8750	0.8850
8		0.9000	0.9050	0.9100	0.9200
8		0.9300	0.9350	0.9400	0.9450
8		0.9550	0.9600	0.9650	0.9700
8		0.9750	0.9800	0.9830	0.9870
8		0.9930	0.9960	0.9999	1.0000
9	ENDTBL				
2	XSECTN 005	1.0			
8		6821.00	0.0	0.00	
8		6821.49	10.0	2.40	
8		6822.00	50.0	7.92	
8		6822.33	100.0	13.30	
8		6823.10	300.0	30.27	
9	ENDTBL				
2	XSECTN 010	1.0			
8		6822.00	0.0	0.00	
8		6822.53	10.0	1.06	
8		6823.17	50.0	3.29	
8		6823.68	100.0	5.42	
8		6825.31	300.0	12.53	
9	ENDTBL				
2	XSECTN 011	1.0			
8		6822.00	0.0	0.00	
8		6822.60	10.0	1.01	
8		6823.39	50.0	3.20	
8		6824.17	100.0	5.49	
8		6824.62	120.0	6.56	
9	ENDTBL				
2	XSECTN 012	1.0			
8		6822.00	0.0	0.00	
8		6822.60	10.0	1.01	
8		6823.39	50.0	3.20	
8		6824.17	100.0	5.49	
8		6824.62	120.0	6.56	
9	ENDTBL				
2	XSECTN 020	1.0			
8		6825.00	0.0	0.00	
8		6825.53	10.0	1.06	

\*\*\*\*\*80-80 LIST OF INPUT DATA  
 (CONTINUED)\*\*\*\*\*

8		6826.17	50.0	3.29
8		6826.68	100.0	5.42
8		6828.31	300.0	12.53
9	ENDTBL			
2	XSECTN 021	1.0		
8		6825.00	0.0	0.00
8		6825.60	10.0	1.01
8		6826.39	50.0	3.20
8		6827.17	100.0	5.49
8		6827.62	120.0	6.56
9	ENDTBL			
2	XSECTN 022	1.0		
8		6834.00	0.0	0.00
8		6834.60	10.0	1.01
8		6835.39	50.0	3.20
8		6836.17	100.0	5.49
8		6836.62	120.0	6.56
9	ENDTBL			
2	XSECTN 025	1.0		
8		6846.00	0.0	0.00
8		6846.60	10.0	1.01
8		6847.39	50.0	3.20
8		6848.17	100.0	5.49
8		6848.62	120.0	6.56
9	ENDTBL			
2	XSECTN 030	1.0		
8		6840.00	0.0	0.00
8		6840.53	10.0	1.06
8		6841.17	50.0	3.29
8		6841.68	100.0	5.42
8		6843.31	300.0	12.53
9	ENDTBL			
2	XSECTN 031	1.0		
8		6862.00	0.0	0.00
8		6862.68	10.0	1.21
8		6863.61	50.0	3.88
8		6864.12	75.0	5.34
8		6864.51	90.0	6.31
9	ENDTBL			
2	XSECTN 035	1.0		
8		6862.00	0.0	0.00
8		6862.66	10.0	1.46
8		6863.48	50.0	4.57
8		6864.17	100.0	7.59
8		6864.46	200.0	13.13
9	ENDTBL			

1

\*\*\*\*\*80-80 LIST OF INPUT DATA  
 (CONTINUED)\*\*\*\*\*

2 XSECTN 045 1.0

8		6865.00	0.0	0.00
8		6865.55	10.0	1.04
8		6866.22	50.0	3.26
8		6866.78	100.0	5.39
8		6867.74	200.0	9.17
9	ENDTBL			
2	XSECTN	050	1.0	
8		6825.00	0.0	0.00
8		6825.60	10.0	1.01
8		6826.39	50.0	3.20
8		6827.17	100.0	5.49
8		6827.62	120.0	6.56
9	ENDTBL			
2	XSECTN	090	1.0	
8		6841.00	0.0	0.00
8		6841.49	10.0	2.40
8		6842.00	50.0	7.92
8		6842.33	100.0	13.30
8		6843.10	300.0	30.27
9	ENDTBL			
2	XSECTN	120	1.0	
8		6878.00	0.0	0.00
8		6878.61	5.0	0.82
8		6878.89	10.0	1.35
8		6879.37	20.0	2.30
8		6879.68	25.0	2.81
9	ENDTBL			
2	XSECTN	121	1.0	
8		6880.00	0.0	0.00
8		6880.43	5.0	0.76
8		6880.59	10.0	1.24
8		6881.31	50.0	3.86
8		6881.90	100.0	8.38
8		6883.43	200.0	12.99
9	ENDTBL			
2	XSECTN	122	1.0	
8		6892.00	0.0	0.00
8		6892.47	5.0	0.87
8		6892.65	10.0	1.41
8		6893.45	50.0	4.42
8		6894.11	100.0	7.32
8		6895.32	200.0	12.59
9	ENDTBL			
2	XSECTN	123	1.0	
8		6894.00	0.0	0.00

1

\*\*\*\*\*80-80 LIST OF INPUT DATA  
 (CONTINUED) \*\*\*\*\*

8		6894.47	5.0	0.87
8		6894.65	10.0	1.41
8		6895.45	50.0	4.42
8		6896.11	100.0	7.32
8		6897.32	200.0	12.59

9	ENDTBL				
2	XSECTN	124	1.0		
8			6924.00	0.0	0.00
8			6924.46	5.0	0.75
8			6924.65	10.0	1.23
8			6925.48	50.0	3.88
8			6926.26	100.0	6.57
8			6927.05	140.0	8.90
9	ENDTBL				
2	XSECTN	130	1.0		
8			6842.00	0.0	0.00
8			6842.49	10.0	2.40
8			6843.00	50.0	7.92
8			6843.33	100.0	13.30
8			6844.10	300.0	30.27
9	ENDTBL				
2	XSECTN	132	1.0		
8			6882.00	0.0	0.00
8			6882.40	5.0	0.61
8			6882.56	10.0	1.00
8			6883.26	50.0	3.13
8			6883.87	100.0	5.23
8			6884.80	175.0	8.25
9	ENDTBL				
2	XSECTN	133	1.0		
8			6914.00	0.0	0.00
8			6914.45	5.0	0.75
8			6914.63	10.0	1.23
8			6915.48	50.0	3.88
8			6916.40	100.0	6.57
9	ENDTBL				
2	XSECTN	134	1.0		
8			6933.00	0.0	0.00
8			6933.51	5.0	0.64
8			6933.74	10.0	1.05
8			6934.26	25.0	2.08
8			6934.66	35.0	2.78
9	ENDTBL				
3	STRUCT	05			
8			6819.00	0.0	0.0
8			6820.00	5.5	0.48

1

\*\*\*\*\*80-80 LIST OF INPUT DATA  
(CONTINUED)\*\*\*\*\*

8			6822.00	16.7	0.99
8			6823.00	61.5	1.93
8			6824.00	73.4	2.86
8			6826.00	92.6	4.48
8			6827.50	104.8	5.93
8			6828.00	163.0	6.41
8			6829.00	193.1	7.50
9	ENDTBL				
3	STRUCT	10			

8				6880.00	0.0	0.0		
8				6882.00	4.5	0.04		
8				6884.00	7.0	0.30		
8				6886.00	9.0	0.78		
8				6888.00	20.0	1.54		
9	ENDTBL							
3	STRUCT	20						
8				6877.50	0.0	0.0		
8				6878.00	1.1	0.03		
8				6880.00	11.3	0.76		
8				6882.00	16.5	2.22		
8				6884.00	59.1	4.02		
8				6885.00	63.7	5.05		
8				6886.00	67.9	6.09		
8				6887.00	71.9	7.22		
8				6887.50	73.8	7.81		
8				6888.00	108.6	8.30		
9	ENDTBL							
3	STRUCT	30						
8				6880.00	0.0	0.0		
8				6881.00	0.1	0.36		
8				6882.00	0.2	1.20		
8				6883.00	10.8	2.21		
8				6884.00	12.9	3.29		
8				6885.00	31.0	4.46		
8				6886.00	34.5	5.71		
8				6887.00	37.7	7.04		
8				6888.00	40.6	8.48		
8				6889.00	310.0	10.00		
9	ENDTBL							
6	RUNOFF	1	135	2	0.0143	93.0	0.158	1 1
6	REACH	3	134	2 3	400.0			1 1
6	RUNOFF	1	134	2	0.0079	93.0	0.263	1 1
6	ADDHYD	4	134	3 2 4				1 1
6	REACH	3	133	4 3	840.0			1 1
6	RUNOFF	1	133	5	0.0051	93.0	0.175	1 1
6	ADDHYD	4	133	3 5 6				1 1

1

\*\*\*\*\*80-80 LIST OF INPUT DATA  
(CONTINUED)\*\*\*\*\*

6	REACH	3	132	6 3	370.0			1 1
6	RUNOFF	1	132	5	0.0100	93.0	0.137	1 1
6	ADDHYD	4	132	3 5 6				1 1
6	REACH	3	132	6 3	180.0			1 1
6	RUNOFF	1	131	5	0.0137	93.0	0.213	1 1
6	REACH	3	132	5 4	180.0			1 1
6	ADDHYD	4	130	3 4 7				1 1
6	RUNOFF	1	130	5	0.0077	65.0	0.418	1 1
6	ADDHYD	4	130	7 5 6				1 1
6	RESVOR	2	30	6 4	6880.0			1 1
6	REACH	3	130	4 5	1400.0			1 1
6	RUNOFF	1	090	2	0.0272	69.0	0.663	1 1
6	ADDHYD	4	090	5 2 1				1 1



6	RUNOFF	1	080		2	0.0592	69.0	0.623	1	1
6	ADDHYD	4	080	1	2	6			1	1
6	REACH	3	005	6	1	500.0			1	1
6	RUNOFF	1	125		2	0.0421	92.0	0.311	1	1
6	REACH	3	124	2	3	240.0			1	1
6	RUNOFF	1	124		5	0.0109	92.0	0.303	1	1
6	ADDHYD	4	124	3	5	6			1	1
6	REACH	3	123	6	3	240.0			1	1
6	RUNOFF	1	123		2	0.0113	92.0	0.208	1	1
6	ADDHYD	4	123	3	2	6			1	1
6	REACH	3	122	6	3	40.0			1	1
6	RUNOFF	1	122		5	0.0208	92.0	0.303	1	1
6	ADDHYD	4	122	3	5	6			1	1
6	REACH	3	121	6	3	70.0			1	1
6	RUNOFF	1	121		2	0.0035	65.0	0.208	1	1
6	ADDHYD	4	121	3	2	6			1	1
6	RESVOR	2		20	6	3	6877.5		1	1
6	RUNOFF	1	120		2	0.0036	79.6	0.275	1	1
6	RESVOR	2		10	2	4	6880.0		1	1
6	REACH	3	120	4	5	100.0			1	1
6	ADDHYD	4	100	3	5	7			1	1
6	REACH	3	045	7	3	450.0			1	1
6	RUNOFF	1	045		5	0.0087	88.0	0.188	1	1
6	ADDHYD	4	045	3	5	6			1	1
6	REACH	3	035	6	5	350.0			1	1
6	RUNOFF	1	040		2	0.0052	92.0	0.150	1	1
6	REACH	3	035	2	4	200.0			1	1
6	ADDHYD	4	035	5	4	6			1	1
6	RUNOFF	1	035		3	0.0015	88.0	0.119	1	1
6	ADDHYD	4	035	6	3	7			1	1
6	REACH	3	030	7	3	750.0			1	1
6	RUNOFF	1	030		5	0.0117	85.0	0.229	1	1
6	ADDHYD	4	030	3	5	6			1	1

1.

\*\*\*\*\*80-80 LIST OF INPUT DATA  
(CONTINUED)\*\*\*\*\*

6	REACH	3	020	6	3	620.0			1	1
6	RUNOFF	1	027		2	0.0061	85.0	0.200	1	1
6	REACH	3	025	2	4	575.0			1	1
6	RUNOFF	1	025		2	0.0092	92.0	0.226	1	1
6	ADDHYD	4	025	4	2	6			1	1
6	REACH	3	022	6	4	445.0			1	1
6	RUNOFF	1	022		5	0.0036	88.0	0.163	1	1
6	ADDHYD	4	020	4	5	6			1	1
6	ADDHYD	4	020	3	6	7			1	1
6	REACH	3	021	7	3	510.0			1	1
6	RUNOFF	1	020		5	0.0041	88.0	0.161	1	1
6	ADDHYD	4	020	3	5	7			1	1
6	REACH	3	010	7	3	90.0			1	1
6	RUNOFF	1	055		5	0.0051	92.0	0.196	1	1
6	REACH	3	050	5	4	400.0			1	1
6	RUNOFF	1	050		5	0.0042	88.0	0.142	1	1
6	ADDHYD	4	050	4	5	7			1	1

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6 REACH 3 012 7 2 30.0 1 1
6 ADDHYD 4 010 3 2 7 1 1
6 RUNOFF 1 015 5 0.0044 92.0 0.117 1 1
6 REACH 3 011 5 4 50.0 1 1
6 ADDHYD 4 010 7 4 3 1 1
6 RUNOFF 1 010 5 0.0035 61.0 0.221 1 1
6 ADDHYD 4 010 3 5 6 1 1
6 RESVOR 2 05 6 4 6819.0 1 1
6 REACH 3 005 4 7 50.0 1 1
6 RUNOFF 1 005 2 0.0029 71.0 0.311 1 1
6 ADDHYD 4 005 1 2 6 1 1
6 ADDHYD 4 004 6 7 2 1 1
  ENDDATA
7 INCREM 6 0.1
7 COMPUT 7 135 004 0.0 2.75 1.0 7 2 01 01
  ENDCMP 1
7 COMPUT 7 135 004 0.0 4.50 1.0 7 2 01 02
  ENDCMP 1
  ENDJOB 2

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0\*\*\*\*\*END OF 80-80  
LIST\*\*\*\*\*

EXECUTIVE CONTROL OPERATION INCREM  
RECORD ID

+ MAIN TIME INCREMENT = .10 HOURS

EXECUTIVE CONTROL OPERATION COMPUT  
RECORD ID

+ FROM XSECTION 135  
+ TO XSECTION 4  
STARTING TIME = .00 RAIN DEPTH = 2.75 RAIN DURATION= 1.00  
RAIN TABLE NO.= 7 ANT. MOIST. COND= 2  
ALTERNATE NO.= 1 STORM NO.= 1 MAIN TIME INCREMENT = .10  
HOURS

OPERATION RUNOFF CROSS SECTION 135

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.97	27.53	
TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS		TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG .01	.06	.16 .26 .35 .44
5.54	15.76 21.85	25.09	
6.00	DISCHG 26.83	17.02	5.24 2.55 1.98 1.86
1.58	1.26 1.19	1.17	
7.00	DISCHG 1.17	1.17	1.17 1.17 1.17 1.18
1.08	.97 .95	.94	
8.00	DISCHG .94	.75	.53 .48 .47 .47
.47	.47 .47	.47	
9.00	DISCHG .47	.47	.47 .47 .47 .47
.47	.47 .47	.47	

10.00	DISCHG	.47	.47	.47	.47	.47	.47	.47
.38	.27	.24	.24					
11.00	DISCHG	.24	.34	.44	.47	.47	.47	.48
.38	.27	.24	.24					
12.00	DISCHG	.24	.34	.45	.47	.48	.48	.48
.38	.27	.24	.24					
13.00	DISCHG	.24	.24	.24	.24	.24	.24	.24
.34	.45	.47	.48					
14.00	DISCHG	.48	.38	.27	.25	.24	.24	.24
.24	.24	.24	.24					
15.00	DISCHG	.24	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24					
16.00	DISCHG	.24	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24					
17.00	DISCHG	.24	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24					
18.00	DISCHG	.24	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24					
19.00	DISCHG	.24	.20	.16	.15	.14	.14	.14
.12	.10	.10	.10					
20.00	DISCHG	.10	.16	.22	.24	.24	.24	.24
.20	.16	.15	.14					
21.00	DISCHG	.14	.16	.19	.19	.19	.19	.19
.17	.15	.15	.14					
22.00	DISCHG	.14	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14					
23.00	DISCHG	.14	.16	.18	.19	.19	.19	.19
.11	.03	.01	.01					
24.00	DISCHG	.00						

\*\*\* WARNING REACH 134 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 134

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6934.36	5.97	27.53	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG .01	.06	.16 .26 .35 .44
5.54	15.76 21.85 25.09		
6.00	DISCHG 26.83	17.02	5.24 2.55 1.98 1.86
1.58	1.26 1.19 1.17		
7.00	DISCHG 1.17	1.17	1.17 1.17 1.17 1.18
1.08	.97 .95 .94		
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 1

8.00	DISCHG	.94	.75	.53	.48	.47	.47
.47	.47	.47	.47				
9.00	DISCHG	.47	.47	.47	.47	.47	.47
.47	.47	.47	.47				
10.00	DISCHG	.47	.47	.47	.47	.47	.47
.38	.27	.24	.24				
11.00	DISCHG	.24	.34	.44	.47	.47	.48
.38	.27	.24	.24				
12.00	DISCHG	.24	.34	.45	.47	.48	.48
.38	.27	.24	.24				
13.00	DISCHG	.24	.24	.24	.24	.24	.24
.34	.45	.47	.48				
14.00	DISCHG	.48	.38	.27	.25	.24	.24
.24	.24	.24	.24				
15.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
16.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
17.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
18.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
19.00	DISCHG	.24	.20	.16	.15	.14	.14
.12	.10	.10	.10				
20.00	DISCHG	.10	.16	.22	.24	.24	.24
.20	.16	.15	.14				
21.00	DISCHG	.14	.16	.19	.19	.19	.19
.17	.15	.15	.14				
22.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14				
23.00	DISCHG	.14	.16	.18	.19	.19	.19
.11	.03	.01	.01				
24.00	DISCHG	.00					

OPERATION RUNOFF CROSS SECTION 134

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.01	13.65	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
5.00	DISCHG	.00	.01
1.25	4.99	9.11	11.92
6.00	DISCHG	13.63	12.57
1.11	.86	.72	.67
7.00	DISCHG	.66	.65
.63	.58	.54	.53
8.00	DISCHG	.52	.48
.26	.26	.26	.26
9.00	DISCHG	.26	.26
.26	.26	.26	.26

10.00	DISCHG	.26	.26	.26	.26	.26	.26
.24	.19	.15	.14				
11.00	DISCHG	.14	.15	.20	.24	.25	.26
.24	.19	.15	.14				
12.00	DISCHG	.14	.15	.20	.24	.25	.26
.24	.19	.16	.14				
13.00	DISCHG	.14	.13	.13	.13	.13	.13
.15	.20	.24	.25				
14.00	DISCHG	.26	.24	.19	.16	.14	.14
.13	.13	.13	.13				
15.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.13				
16.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.13				
17.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.13				
18.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.13				
19.00	DISCHG	.13	.12	.10	.09	.08	.08
.08	.07	.06	.05				
20.00	DISCHG	.05	.07	.10	.12	.13	.13
.12	.10	.09	.08				
21.00	DISCHG	.08	.08	.09	.10	.10	.11
.10	.09	.08	.08				
22.00	DISCHG	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08				
23.00	DISCHG	.08	.08	.09	.10	.10	.10
.09	.05	.02	.01				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 134

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 2

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6934.90	5.97	40.94	
6933.19	7.45	1.84	
TIME (HRS)      FIRST HYDROGRAPH POINT = .00 HOURS      TIME INCREMENT = .10 HOURS      DRAINAGE AREA = .02 SQ.MI.			
6.79	5.00	DISCHG	.01    .07    .21    .35    .50    .65
2.69	6.79	20.75    30.95    37.00	
	6.00	DISCHG	40.46    29.59    12.50    6.04    3.98    3.27
	2.69	2.12    1.91    1.85	

7.00	DISCHG	1.83	1.82	1.82	1.82	1.82	1.82
1.71	1.55	1.49	1.47				1.82
8.00	DISCHG	1.47	1.23	.91	.79	.75	.74
.74	.73	.73	.73				
9.00	DISCHG	.73	.73	.73	.73	.74	.74
.74	.74	.74	.74				
10.00	DISCHG	.74	.74	.74	.74	.74	.74
.62	.46	.40	.38				
11.00	DISCHG	.37	.49	.65	.71	.73	.73
.62	.46	.40	.38				
12.00	DISCHG	.37	.49	.65	.71	.73	.74
.62	.46	.40	.38				
13.00	DISCHG	.37	.37	.37	.37	.37	.37
.49	.65	.71	.73				
14.00	DISCHG	.74	.62	.46	.40	.38	.37
.37	.37	.37	.37				
15.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				
16.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				
17.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				
18.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				
19.00	DISCHG	.37	.33	.26	.24	.23	.22
.20	.17	.16	.15				
20.00	DISCHG	.15	.22	.32	.35	.37	.37
.32	.26	.24	.23				
21.00	DISCHG	.23	.25	.28	.29	.30	.30
.27	.24	.23	.23				
22.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22				
23.00	DISCHG	.22	.25	.27	.29	.29	.29
.20	.08	.03	.02				
24.00	DISCHG	.01	.00				

\*\*\* WARNING REACH 133 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6915.29	5.97	40.94	
6914.17	7.45	1.84	

TIME (HRS)	FIRST HYDROGRAPH POINT =	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .02 SQ. MI.	
5.00	DISCHG .01 .07	.21 .35 .50 .65
6.79	20.75 30.95 37.00	
6.00	DISCHG 40.46 29.59	12.50 6.04 3.98 3.27
2.69	2.12 1.91 1.85	
7.00	DISCHG 1.83 1.82	1.82 1.82 1.82 1.82
1.71	1.55 1.49 1.47	

8.00	DISCHG	1.47	1.23	.91	.79	.75	.74
.74	.73	.73	.73	.73	.73	.74	.74
9.00	DISCHG	.73	.73	.73	.73	.74	.74
.74	.74	.74	.74	.74	.74	.74	.74
10.00	DISCHG	.74	.74	.74	.74	.74	.74
.62	.46	.40	.38	.49	.65	.71	.73
11.00	DISCHG	.37	.49	.65	.71	.73	.73
.62	.46	.40	.38	.49	.65	.71	.73
12.00	DISCHG	.37	.49	.65	.71	.73	.74
.62	.46	.40	.38	.37	.37	.37	.37
13.00	DISCHG	.37	.37	.37	.37	.37	.37
.49	.65	.71	.73	.46	.40	.38	.37
14.00	DISCHG	.74	.62	.46	.40	.38	.37
.37	.37	.37	.37	.37	.37	.37	.37
15.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37	.37	.37	.37	.37
16.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 3

17.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37	.37	.37	.37	.37
18.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37	.33	.26	.24	.23
19.00	DISCHG	.37	.33	.26	.24	.23	.22
.20	.17	.16	.15	.22	.32	.35	.37
20.00	DISCHG	.15	.22	.32	.35	.37	.37
.32	.26	.24	.23	.28	.29	.30	.30
21.00	DISCHG	.23	.25	.28	.29	.30	.30
.27	.24	.23	.23	.22	.22	.22	.22
22.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22	.27	.29	.29	.29
23.00	DISCHG	.22	.25	.27	.29	.29	.29
.20	.08	.03	.02	.01	.00		
24.00	DISCHG	.01	.00				

OPERATION RUNOFF CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.97	9.64	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
5.00	DISCHG	.00	.02
1.65	5.19	7.51	8.78
		.05	.09
		.12	.16

6.00	DISCHG	9.48	6.66	2.29	1.05	.75	.68
.58	.46	.43	.42				
7.00	DISCHG	.42	.42	.42	.42	.42	.42
.39	.35	.34	.34				
8.00	DISCHG	.34	.28	.20	.18	.17	.17
.17	.17	.17	.17				
9.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				
10.00	DISCHG	.17	.17	.17	.17	.17	.17
.14	.10	.09	.09				
11.00	DISCHG	.09	.11	.15	.17	.17	.17
.14	.10	.09	.09				
12.00	DISCHG	.09	.11	.15	.17	.17	.17
.14	.10	.09	.09				
13.00	DISCHG	.09	.09	.09	.09	.09	.09
.11	.16	.17	.17				
14.00	DISCHG	.17	.14	.10	.09	.09	.09
.09	.09	.09	.09				
15.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
16.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
17.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
18.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
19.00	DISCHG	.09	.07	.06	.05	.05	.05
.05	.04	.04	.03				
20.00	DISCHG	.03	.05	.08	.08	.09	.09
.07	.06	.05	.05				
21.00	DISCHG	.05	.06	.07	.07	.07	.07
.06	.05	.05	.05				
22.00	DISCHG	.05	.05	.05	.05	.05	.05
.05	.05	.05	.05				
23.00	DISCHG	.05	.06	.06	.07	.07	.07
.04	.01	.00					

OPERATION ADDHYD CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6915.49	5.97	50.58	
6914.20	7.45	2.26	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.03 SQ. MI.	
5.00	DISCHG	.01 .09	.26 .44 .62 .81
8.45	25.94 38.46	45.79	
6.00	DISCHG	49.94 36.25	14.78 7.09 4.74 3.94
3.27	2.58 2.33	2.26	
7.00	DISCHG	2.24 2.24	2.24 2.24 2.24
2.10	1.90 1.83	1.81	
8.00	DISCHG	1.80 1.51	1.11 .97 .92 .91
.90	.90	.90	



	9.00	DISCHG	.90	.90	.90	.90	.90	.90
.90	.90		.91	.91				
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 4

10.00	DISCHG	.91	.91	.91	.91	.91	.91
.76	.56	.49	.46				
11.00	DISCHG	.46	.60	.80	.87	.90	.90
.76	.56	.49	.47				
12.00	DISCHG	.46	.60	.80	.88	.90	.90
.76	.56	.49	.47				
13.00	DISCHG	.46	.46	.46	.46	.46	.46
.60	.81	.88	.90				
14.00	DISCHG	.91	.76	.56	.49	.47	.46
.46	.46	.46	.46				
15.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
16.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
17.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
18.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
19.00	DISCHG	.46	.40	.32	.29	.28	.28
.25	.20	.19	.19				
20.00	DISCHG	.19	.27	.39	.44	.45	.46
.40	.32	.29	.28				
21.00	DISCHG	.28	.31	.35	.36	.37	.37
.34	.30	.28	.28				
22.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
23.00	DISCHG	.28	.30	.34	.35	.36	.36
.25	.09	.03	.02				
24.00	DISCHG	.01	.00				

\*\*\* WARNING REACH 132 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.27	5.97	50.58	
6882.18	7.45	2.26	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
 .10 HOURS DRAINAGE AREA = .03 SQ.MI.

5.00	DISCHG	.01	.09	.26	.44	.62	.81
8.45	25.94	38.46	45.79				
6.00	DISCHG	49.94	36.25	14.78	7.09	4.74	3.94
3.27	2.58	2.33	2.26				
7.00	DISCHG	2.24	2.24	2.24	2.24	2.24	2.24
2.10	1.90	1.83	1.81				
8.00	DISCHG	1.80	1.51	1.11	.97	.92	.91
.90	.90	.90	.90				
9.00	DISCHG	.90	.90	.90	.90	.90	.90
.90	.90	.91	.91				
10.00	DISCHG	.91	.91	.91	.91	.91	.91
.76	.56	.49	.46				
11.00	DISCHG	.46	.60	.80	.87	.90	.90
.76	.56	.49	.47				
12.00	DISCHG	.46	.60	.80	.88	.90	.90
.76	.56	.49	.47				
13.00	DISCHG	.46	.46	.46	.46	.46	.46
.60	.81	.88	.90				
14.00	DISCHG	.91	.76	.56	.49	.47	.46
.46	.46	.46	.46				
15.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
16.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
17.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
18.00	DISCHG	.46	.46	.46	.46	.46	.46
.46	.46	.46	.46				
19.00	DISCHG	.46	.40	.32	.29	.28	.28
.25	.20	.19	.19				
20.00	DISCHG	.19	.27	.39	.44	.45	.46
.40	.32	.29	.28				
21.00	DISCHG	.28	.31	.35	.36	.37	.37
.34	.30	.28	.28				
22.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
23.00	DISCHG	.28	.30	.34	.35	.36	.36
.25	.09	.03	.02				
24.00	DISCHG	.01	.00				

OPERATION RUNOFF CROSS SECTION 132

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TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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PEAK TIME(HRS)	PEAK DISCHARGE(CFS)	PEAK
ELEVATION( FEET)		
(RUNOFF)		
5.96	19.69	

TIME (HRS)	FIRST HYDROGRAPH POINT =			.00 HOURS	TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =			.01 SQ.MI.				
5.00	DISCHG	.01	.05	.12	.19	.25	.32	
4.85	12.07	15.89	17.89					
6.00	DISCHG	18.92	10.06	2.78	1.53	1.32	1.30	
1.05	.86	.82	.82					
7.00	DISCHG	.82	.82	.82	.82	.82	.82	
.74	.67	.66	.66					
8.00	DISCHG	.66	.49	.36	.33	.33	.33	
.33	.33	.33	.33					
9.00	DISCHG	.33	.33	.33	.33	.33	.33	
.33	.33	.33	.33					
10.00	DISCHG	.33	.33	.33	.33	.33	.33	
.25	.18	.17	.17					
11.00	DISCHG	.17	.25	.32	.33	.33	.33	
.25	.18	.17	.17					
12.00	DISCHG	.17	.25	.32	.33	.33	.33	
.25	.18	.17	.17					
13.00	DISCHG	.17	.17	.17	.17	.17	.17	
.25	.32	.33	.33					
14.00	DISCHG	.33	.25	.18	.17	.17	.17	
.17	.17	.17	.17					
15.00	DISCHG	.17	.17	.17	.17	.17	.17	
.17	.17	.17	.17					
16.00	DISCHG	.17	.17	.17	.17	.17	.17	
.17	.17	.17	.17					
17.00	DISCHG	.17	.17	.17	.17	.17	.17	
.17	.17	.17	.17					
18.00	DISCHG	.17	.17	.17	.17	.17	.17	
.17	.17	.17	.17					
19.00	DISCHG	.17	.13	.11	.10	.10	.10	
.08	.07	.07	.07					
20.00	DISCHG	.07	.12	.16	.17	.17	.17	
.13	.11	.10	.10					
21.00	DISCHG	.10	.12	.13	.13	.13	.13	
.12	.10	.10	.10					
22.00	DISCHG	.10	.10	.10	.10	.10	.10	
.10	.10	.10	.10					
23.00	DISCHG	.10	.12	.13	.13	.13	.13	
.07	.01	.00						

OPERATION ADDHYD CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.51	5.97	70.22	
6882.25	7.45	3.09	

TIME (HRS)	FIRST HYDROGRAPH POINT =			.00 HOURS	TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =			.04 SQ.MI.				
5.00	DISCHG	.02	.14	.38	.63	.87	1.14	
13.29	38.01	54.36	63.67					

6.00	DISCHG		68.86	46.31	17.57	8.62	6.06	5.24
4.32	3.44	3.16	3.08					
7.00	DISCHG		3.06	3.06	3.06	3.06	3.06	3.06
2.84	2.57	2.49	2.47					
8.00	DISCHG		2.46	2.00	1.47	1.30	1.25	1.24
1.24	1.23	1.23	1.23					
9.00	DISCHG		1.23	1.23	1.23	1.23	1.24	1.24
1.24	1.24	1.24	1.24					
10.00	DISCHG		1.24	1.24	1.24	1.24	1.24	1.24
1.01	.74	.66	.63					
11.00	DISCHG		.63	.85	1.12	1.20	1.23	1.24
1.01	.74	.66	.63					
12.00	DISCHG		.63	.85	1.12	1.21	1.23	1.24
1.01	.74	.66	.63					
13.00	DISCHG		.63	.62	.62	.62	.62	.62
.86	1.13	1.21	1.23					
14.00	DISCHG		1.24	1.01	.74	.66	.63	.63
.62	.62	.62	.62					
15.00	DISCHG		.62	.62	.62	.62	.62	.62
.62	.62	.62	.62					
16.00	DISCHG		.62	.62	.62	.62	.62	.62
.62	.62	.62	.63					
17.00	DISCHG		.63	.63	.63	.63	.63	.63
.63	.63	.63	.63					
18.00	DISCHG		.63	.63	.63	.63	.63	.63
.63	.63	.63	.63					
19.00	DISCHG		.63	.53	.42	.39	.38	.38
.33	.27	.26	.25					
20.00	DISCHG		.25	.39	.55	.61	.62	.62
.53	.42	.39	.38					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 6

21.00	DISCHG		.38	.42	.48	.49	.50	.50
.45	.40	.38	.38					
22.00	DISCHG		.38	.38	.38	.38	.38	.38
.38	.38	.38	.38					
23.00	DISCHG		.38	.42	.47	.48	.49	.49
.31	.10	.03	.02					
24.00	DISCHG		.01	.00				

\*\*\* WARNING REACH 132 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

PEAK TIME (HRS) PEAK DISCHARGE (CFS) PEAK  
 ELEVATION (FEET)

	5.97	70.22
6883.51		
	7.45	3.09
6882.25		

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .04 SQ.MI.							
5.00	DISCHG	.02	.14	.38	.63	.87	1.14	
13.29	38.01	54.36	63.67					
6.00	DISCHG	68.86	46.31	17.57	8.62	6.06	5.24	
4.32	3.44	3.16	3.08					
7.00	DISCHG	3.06	3.06	3.06	3.06	3.06	3.06	
2.84	2.57	2.49	2.47					
8.00	DISCHG	2.46	2.00	1.47	1.30	1.25	1.24	
1.24	1.23	1.23	1.23					
9.00	DISCHG	1.23	1.23	1.23	1.23	1.24	1.24	
1.24	1.24	1.24	1.24					
10.00	DISCHG	1.24	1.24	1.24	1.24	1.24	1.24	
1.01	.74	.66	.63					
11.00	DISCHG	.63	.85	1.12	1.20	1.23	1.24	
1.01	.74	.66	.63					
12.00	DISCHG	.63	.85	1.12	1.21	1.23	1.24	
1.01	.74	.66	.63					
13.00	DISCHG	.63	.62	.62	.62	.62	.62	
.86	1.13	1.21	1.23					
14.00	DISCHG	1.24	1.01	.74	.66	.63	.63	
.62	.62	.62	.62					
15.00	DISCHG	.62	.62	.62	.62	.62	.62	
.62	.62	.62	.62					
16.00	DISCHG	.62	.62	.62	.62	.62	.62	
.62	.62	.62	.63					
17.00	DISCHG	.63	.63	.63	.63	.63	.63	
.63	.63	.63	.63					
18.00	DISCHG	.63	.63	.63	.63	.63	.63	
.63	.63	.63	.63					
19.00	DISCHG	.63	.53	.42	.39	.38	.38	
.33	.27	.26	.25					
20.00	DISCHG	.25	.39	.55	.61	.62	.62	
.53	.42	.39	.38					
21.00	DISCHG	.38	.42	.48	.49	.50	.50	
.45	.40	.38	.38					
22.00	DISCHG	.38	.38	.38	.38	.38	.38	
.38	.38	.38	.38					
23.00	DISCHG	.38	.42	.47	.48	.49	.49	
.31	.10	.03	.02					
24.00	DISCHG	.01	.00					

OPERATION RUNOFF CROSS SECTION 131

PEAK TIME (HRS)	5.98	PEAK DISCHARGE (CFS)	24.84	PEAK
ELEVATION (FEET)				
(RUNOFF)				

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.							

5.00	DISCHG		.01	.04	.11	.21	.30	.41
3.15	11.45	18.34	22.45					
6.00	DISCHG		24.75	20.24	9.01	4.04	2.48	1.99
1.67	1.31	1.18	1.14					
7.00	DISCHG		1.13	1.12	1.12	1.12	1.12	1.13
1.07	.97	.92	.91					
8.00	DISCHG		.90	.80	.59	.49	.47	.46
.45	.45	.45	.45					
9.00	DISCHG		.45	.45	.45	.45	.45	.45
.45	.45	.45	.45					
10.00	DISCHG		.45	.45	.45	.45	.45	.45
.40	.29	.25	.23					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 7

11.00	DISCHG		.23	.28	.39	.43	.45	.45
.40	.29	.25	.23					
12.00	DISCHG		.23	.28	.39	.44	.45	.45
.40	.30	.25	.23					
13.00	DISCHG		.23	.23	.23	.23	.23	.23
.28	.39	.44	.45					
14.00	DISCHG		.46	.40	.30	.25	.24	.23
.23	.23	.23	.23					
15.00	DISCHG		.23	.23	.23	.23	.23	.23
.23	.23	.23	.23					
16.00	DISCHG		.23	.23	.23	.23	.23	.23
.23	.23	.23	.23					
17.00	DISCHG		.23	.23	.23	.23	.23	.23
.23	.23	.23	.23					
18.00	DISCHG		.23	.23	.23	.23	.23	.23
.23	.23	.23	.23					
19.00	DISCHG		.23	.21	.16	.15	.14	.14
.13	.11	.10	.09					
20.00	DISCHG		.09	.12	.19	.22	.23	.23
.21	.17	.15	.14					
21.00	DISCHG		.14	.15	.17	.18	.18	.18
.17	.15	.14	.14					
22.00	DISCHG		.14	.14	.14	.14	.14	.14
.14	.14	.14	.14					
23.00	DISCHG		.14	.15	.17	.18	.18	.18
.14	.06	.02	.01					
24.00	DISCHG		.01	.00				

\*\*\* WARNING REACH 132 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6882.82	5.98	24.84	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG .01	.04	.11 .21 .30 .41
3.15	11.45 18.34 22.45		
6.00	DISCHG 24.75	20.24	9.01 4.04 2.48 1.99
1.67	1.31 1.18 1.14		
7.00	DISCHG 1.13	1.12	1.12 1.12 1.12 1.13
1.07	.97 .92 .91		
8.00	DISCHG .90	.80	.59 .49 .47 .46
.45	.45 .45 .45		
9.00	DISCHG .45	.45	.45 .45 .45 .45
.45	.45 .45 .45		
10.00	DISCHG .45	.45	.45 .45 .45 .45
.40	.29 .25 .23		
11.00	DISCHG .23	.28	.39 .43 .45 .45
.40	.29 .25 .23		
12.00	DISCHG .23	.28	.39 .44 .45 .45
.40	.30 .25 .23		
13.00	DISCHG .23	.23	.23 .23 .23 .23
.28	.39 .44 .45		
14.00	DISCHG .46	.40	.30 .25 .24 .23
.23	.23 .23 .23		
15.00	DISCHG .23	.23	.23 .23 .23 .23
.23	.23 .23 .23		
16.00	DISCHG .23	.23	.23 .23 .23 .23
.23	.23 .23 .23		
17.00	DISCHG .23	.23	.23 .23 .23 .23
.23	.23 .23 .23		
18.00	DISCHG .23	.23	.23 .23 .23 .23
.23	.23 .23 .23		
19.00	DISCHG .23	.21	.16 .15 .14 .14
.13	.11 .10 .09		
20.00	DISCHG .09	.12	.19 .22 .23 .23
.21	.17 .15 .14		
21.00	DISCHG .14	.15	.17 .18 .18 .18
.17	.15 .14 .14		
22.00	DISCHG .14	.14	.14 .14 .14 .14
.14	.14 .14 .14		
23.00	DISCHG .14	.15	.17 .18 .18 .18
.14	.06 .02 .01		
24.00	DISCHG .01	.00	

OPERATION ADDHYD CROSS SECTION 130  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
PAGE 8

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6843.30	5.97	95.00	
6842.21	7.45	4.22	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =					
.10 HOURS	DRAINAGE AREA =	.05 SQ. MI.						
5.00	DISCHG	.03	.17	.49	.84	1.17	1.54	
16.45	49.45	72.70	86.13					
6.00	DISCHG	93.61	66.55	26.57	12.66	8.54	7.23	
5.99	4.75	4.34	4.22					
7.00	DISCHG	4.19	4.18	4.18	4.18	4.19	4.19	
3.91	3.54	3.42	3.38					
8.00	DISCHG	3.37	2.80	2.05	1.80	1.72	1.70	
1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	
9.00	DISCHG	1.69	1.69	1.69	1.69	1.69	1.69	
1.69	1.69	1.69	1.69					
10.00	DISCHG	1.69	1.69	1.69	1.69	1.69	1.69	
1.41	1.03	.90	.87					
11.00	DISCHG	.86	1.14	1.51	1.64	1.68	1.69	
1.41	1.03	.91	.87					
12.00	DISCHG	.86	1.14	1.51	1.64	1.68	1.69	
1.41	1.04	.91	.87					
13.00	DISCHG	.86	.85	.85	.85	.85	.85	
1.14	1.52	1.65	1.69					
14.00	DISCHG	1.70	1.42	1.04	.91	.87	.86	
.85	.85	.85	.85					
15.00	DISCHG	.85	.85	.85	.85	.85	.85	
.85	.85	.85	.85					
16.00	DISCHG	.85	.85	.85	.85	.85	.85	
.85	.85	.85	.85					
17.00	DISCHG	.85	.85	.85	.85	.85	.85	
.86	.86	.86	.86					
18.00	DISCHG	.86	.86	.86	.86	.86	.86	
.86	.86	.86	.86					
19.00	DISCHG	.86	.74	.59	.54	.52	.52	
.46	.38	.35	.35					
20.00	DISCHG	.35	.52	.74	.82	.85	.85	
.74	.59	.54	.52					
21.00	DISCHG	.52	.57	.65	.67	.68	.68	
.63	.55	.53	.52					
22.00	DISCHG	.52	.52	.51	.51	.51	.51	
.51	.51	.51	.52					
23.00	DISCHG	.52	.57	.64	.66	.67	.67	
.45	.16	.05	.03					
24.00	DISCHG	.01	.00					

OPERATION RUNOFF CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
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6.20

1.53

(RUNOFF)

TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =		.01 SQ.MI.					
5.00	DISCHG	.00	.00	.00	.00	.00	.00	.00
.00	.00	.01	.16					
6.00	DISCHG	.65	1.29	1.53	1.25	.85	.60	
.47	.37	.30	.26					
7.00	DISCHG	.23	.22	.21	.21	.21	.21	
.21	.20	.19	.18					
8.00	DISCHG	.18	.17	.16	.13	.11	.10	
.10	.09	.09	.09					
9.00	DISCHG	.09	.09	.09	.09	.09	.09	
.09	.09	.09	.09					
10.00	DISCHG	.09	.09	.09	.10	.10	.10	
.09	.08	.07	.06					
11.00	DISCHG	.06	.06	.06	.07	.08	.09	
.09	.08	.07	.06					
12.00	DISCHG	.06	.06	.06	.08	.09	.09	
.09	.09	.07	.06					
13.00	DISCHG	.06	.05	.05	.05	.05	.05	
.05	.06	.08	.09					
14.00	DISCHG	.09	.10	.09	.08	.07	.06	
.06	.05	.05	.05					
15.00	DISCHG	.05	.05	.05	.05	.05	.05	
.05	.05	.05	.05					
16.00	DISCHG	.05	.05	.05	.05	.05	.05	
.05	.05	.05	.05					
17.00	DISCHG	.05	.05	.05	.05	.05	.05	
.05	.05	.05	.05					
18.00	DISCHG	.05	.05	.05	.05	.05	.05	
.05	.05	.05	.05					
19.00	DISCHG	.05	.05	.05	.04	.04	.04	
.03	.03	.03	.03					

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TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 9

20.00	DISCHG	.02	.03	.03	.04	.05	.05
.05	.05	.04	.04				
21.00	DISCHG	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04				
22.00	DISCHG	.04	.03	.03	.03	.03	.03
.03	.03	.03	.03				
23.00	DISCHG	.03	.03	.04	.04	.04	.04
.04	.03	.02	.01				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6843.30	5.97	95.50	
6842.22	7.45	4.43	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.	
5.00	DISCHG	.03	.17
16.45	49.45	72.71	86.28
6.00	DISCHG	94.26	67.84
6.46	5.12	4.64	4.48
7.00	DISCHG	4.42	4.40
4.12	3.74	3.61	3.56
8.00	DISCHG	3.55	2.98
1.79	1.78	1.78	1.78
9.00	DISCHG	1.78	1.78
1.78	1.78	1.78	1.79
10.00	DISCHG	1.79	1.79
1.50	1.12	.98	.93
11.00	DISCHG	.91	1.19
1.50	1.12	.98	.93
12.00	DISCHG	.91	1.19
1.51	1.12	.98	.93
13.00	DISCHG	.91	.91
1.19	1.58	1.72	1.77
14.00	DISCHG	1.79	1.51
.91	.91	.91	.91
15.00	DISCHG	.91	.91
.91	.91	.91	.91
16.00	DISCHG	.91	.91
.91	.91	.91	.91
17.00	DISCHG	.91	.91
.91	.91	.91	.91
18.00	DISCHG	.91	.91
.91	.91	.91	.91
19.00	DISCHG	.91	.79
.49	.41	.38	.37
20.00	DISCHG	.37	.54
.79	.64	.58	.56
21.00	DISCHG	.55	.61
.67	.59	.57	.56
22.00	DISCHG	.55	.55
.55	.55	.55	.55
23.00	DISCHG	.55	.60
.49	.19	.07	.04
24.00	DISCHG	.02	.00

OPERATION RESVOR STRUCTURE 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.87	6.34	12.64	

TIME (HRS)	FIRST HYDROGRAPH POINT =			.00 HOURS		TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =			.06 SQ.MI.				
5.00	DISCHG	.00	.00	.00	.00	.00	.00	.01
.03	.10	.16	3.56					
6.00	DISCHG	10.77	11.91	12.49	12.62	12.61	12.55	
12.46	12.35	12.23	12.11					
7.00	DISCHG	11.99	11.87	11.75	11.63	11.52	11.40	
11.29	11.17	11.05	10.93					
8.00	DISCHG	10.82	10.25	9.62	8.99	8.40	7.85	
7.35	6.89	6.46	6.07					
9.00	DISCHG	5.72	5.39	5.09	4.81	4.56	4.33	
4.12	3.92	3.75	3.58					
10.00	DISCHG	3.43	3.30	3.17	3.06	2.95	2.85	
2.75	2.63	2.50	2.37					
11.00	DISCHG	2.25	2.15	2.09	2.05	2.03	2.00	
1.97	1.92	1.85	1.77					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 10

12.00	DISCHG	1.70	1.65	1.63	1.63	1.64	1.65	
1.65	1.62	1.57	1.52					
13.00	DISCHG	1.47	1.43	1.38	1.34	1.31	1.27	
1.25	1.26	1.30	1.33					
14.00	DISCHG	1.37	1.39	1.39	1.36	1.33	1.29	
1.26	1.23	1.21	1.18					
15.00	DISCHG	1.16	1.14	1.12	1.10	1.08	1.07	
1.06	1.04	1.03	1.02					
16.00	DISCHG	1.01	1.00	1.00	.99	.98	.98	
.97	.96	.96	.96					
17.00	DISCHG	.95	.95	.94	.94	.94	.94	
.93	.93	.93	.93					
18.00	DISCHG	.93	.93	.92	.92	.92	.92	
.92	.92	.92	.92					
19.00	DISCHG	.92	.91	.90	.87	.85	.82	
.80	.77	.74	.71					
20.00	DISCHG	.68	.66	.66	.67	.69	.71	
.72	.72	.71	.70					
21.00	DISCHG	.69	.68	.68	.68	.68	.68	
.69	.68	.67	.66					
22.00	DISCHG	.65	.65	.64	.63	.62	.62	
.61	.61	.60	.60					
23.00	DISCHG	.59	.59	.60	.60	.61	.62	
.62	.60	.56	.52					
24.00	DISCHG	.47	.44	.40	.37	.34	.31	
.28	.26	.24	.22					
25.00	DISCHG	.20	.20	.20	.20	.20	.20	
.20	.20	.20	.20					
26.00	DISCHG	.20	.20	.20	.20	.20	.20	
.20	.20	.20	.20					

27.00	DISCHG	.20	.20	.20	.20	.20	.20
.19	.19	.19	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

\*\*\* WARNING REACH 130 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6842.52	6.47	12.61	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .06 SQ.MI.		
5.00	DISCHG .00	.00	.00
.01	.03 .09 .15		
6.00	DISCHG 3.11 9.76	11.63	12.38
12.55	12.47 12.37 12.25		
7.00	DISCHG 12.13 12.01	11.89	11.77
11.42	11.31 11.19 11.07		
8.00	DISCHG 10.95 10.83	10.33	9.71
7.94	7.43 6.96 6.53		
9.00	DISCHG 6.13 5.77	5.44	5.13
4.36	4.15 3.95 3.77		
10.00	DISCHG 3.61 3.46	3.32	3.19
2.87	2.77 2.65 2.52		
11.00	DISCHG 2.39 2.27	2.17	2.10
2.01	1.98 1.93 1.86		
12.00	DISCHG 1.78 1.71	1.66	1.63
1.65	1.65 1.62 1.58		
13.00	DISCHG 1.53 1.48	1.43	1.39
1.28	1.26 1.26 1.29		
14.00	DISCHG 1.33 1.37	1.39	1.39
1.30	1.27 1.24 1.21		
15.00	DISCHG 1.18 1.16	1.14	1.12
1.07	1.06 1.04 1.03		
16.00	DISCHG 1.02 1.01	1.00	1.00
.98	.97 .96 .96		
17.00	DISCHG .95 .95	.95	.94
.94	.93 .93 .93		
18.00	DISCHG .93 .93	.93	.92
.92	.92 .92 .92		
19.00	DISCHG .92 .92	.91	.90
.83	.80 .77 .74		
20.00	DISCHG .71 .68	.66	.66
.70	.72 .72 .71		
21.00	DISCHG .70 .69	.68	.68
.68	.69 .68 .67		
22.00	DISCHG .67 .65	.65	.64
.62	.61 .61 .60		

23.00	DISCHG	.60	.59	.59	.60	.60	.61
.62	.62	.60	.56				
24.00	DISCHG	.52	.48	.44	.41	.37	.34
.31	.29	.26	.24				
25.00	DISCHG	.22	.20	.20	.20	.20	.20
.20	.20	.20	.20				

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TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.19	.19	.19	.19
.19	.19	.19	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

OPERATION RUNOFF CROSS SECTION 90

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.32	5.91	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.03 SQ.MI.	
5.00	DISCHG	.00	.00
.00	.01	.13	.61
6.00	DISCHG	1.78	3.54
3.82	2.99	2.42	2.00
7.00	DISCHG	1.68	1.45
1.01	.98	.95	.91
8.00	DISCHG	.87	.83
.53	.49	.46	.44
9.00	DISCHG	.43	.42
.41	.41	.41	.41
10.00	DISCHG	.41	.41
.41	.40	.37	.34
11.00	DISCHG	.31	.28
.36	.37	.35	.33
12.00	DISCHG	.30	.28
.37	.37	.36	.33
13.00	DISCHG	.30	.28
.23	.25	.27	.31
14.00	DISCHG	.34	.37
.28	.26	.25	.24
15.00	DISCHG	.24	.23
.23	.23	.23	.23

16.00	DISCHG	.23	.23	.23	.23	.23	.23
.23	.23	.23	.23	.23	.23	.23	.23
17.00	DISCHG	.23	.23	.23	.23	.23	.23
.23	.23	.23	.23	.23	.23	.23	.23
18.00	DISCHG	.23	.23	.23	.23	.23	.23
.23	.23	.23	.23	.23	.23	.23	.23
19.00	DISCHG	.23	.23	.23	.21	.20	.18
.17	.16	.14	.13				
20.00	DISCHG	.12	.12	.12	.13	.15	.17
.19	.20	.20	.19				
21.00	DISCHG	.18	.17	.16	.16	.17	.17
.18	.18	.17	.17				
22.00	DISCHG	.16	.16	.15	.15	.15	.15
.15	.14	.14	.14				
23.00	DISCHG	.14	.14	.15	.15	.16	.17
.17	.16	.14	.11				
24.00	DISCHG	.09	.06	.04	.03	.02	.01
.01	.01	.00					

OPERATION ADDHYD CROSS SECTION 90

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
6.35	18.42	
6841.60		

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ. MI.	
5.00	DISCHG	.00	.00
.01	.04	.22	.77
6.00	DISCHG	4.89	13.30
16.37	15.46	14.79	14.25
7.00	DISCHG	13.81	13.45
12.43	12.29	12.14	11.98
8.00	DISCHG	11.82	11.66
8.47	7.91	7.42	6.97
9.00	DISCHG	6.56	6.19
4.77	4.56	4.36	4.18
10.00	DISCHG	4.02	3.87
3.28	3.17	3.02	2.86
11.00	DISCHG	2.70	2.55
2.37	2.34	2.28	2.18
12.00	DISCHG	2.08	1.99
2.01	2.02	1.98	1.91
13.00	DISCHG	1.83	1.76
1.51	1.50	1.53	1.60
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83 (.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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14.00	DISCHG		1.67	1.73	1.76	1.75	1.70	1.64
1.58	1.53	1.49	1.45					
15.00	DISCHG		1.42	1.39	1.37	1.35	1.33	1.31
1.30	1.28	1.27	1.26					
16.00	DISCHG		1.25	1.24	1.23	1.22	1.22	1.21
1.20	1.20	1.19	1.19					
17.00	DISCHG		1.18	1.18	1.18	1.17	1.17	1.17
1.17	1.16	1.16	1.16					
18.00	DISCHG		1.16	1.16	1.16	1.16	1.15	1.15
1.15	1.15	1.15	1.15					
19.00	DISCHG		1.15	1.15	1.14	1.11	1.07	1.03
1.00	.96	.92	.87					
20.00	DISCHG		.83	.80	.78	.80	.83	.86
.90	.92	.91	.90					
21.00	DISCHG		.88	.85	.84	.84	.84	.85
.86	.86	.86	.84					
22.00	DISCHG		.83	.81	.80	.79	.78	.77
.76	.76	.75	.75					
23.00	DISCHG		.74	.74	.74	.75	.76	.78
.79	.78	.74	.68					
24.00	DISCHG		.61	.54	.48	.44	.39	.35
.32	.29	.26	.24					
25.00	DISCHG		.22	.20	.20	.20	.20	.20
.20	.20	.20	.20					
26.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.20					
27.00	DISCHG		.20	.20	.19	.19	.19	.19
.19	.19	.19	.19					
28.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					
29.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					

OPERATION RUNOFF CROSS SECTION 80

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.30	13.47	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.	
5.00	DISCHG	.00	.00
.00	.02	.28	1.40
6.00	DISCHG	4.44	8.65
7.86	6.15	4.95	12.21
7.00	DISCHG	3.41	13.47
2.16	2.10	2.02	12.44
8.00	DISCHG	1.85	10.17
1.11	1.03	.98	2.31
9.00	DISCHG	.92	2.23
.89	.89	.89	1.38
10.00	DISCHG	.90	1.23
.89	.86	.80	.89
11.00	DISCHG	.65	.89
.80	.80	.76	.90
		.70	.90
			.90
			.90
			.69
			.76

12.00	DISCHG	.64	.59	.59	.64	.70	.77
.81	.82	.78	.71				
13.00	DISCHG	.65	.59	.55	.53	.51	.50
.51	.54	.60	.69				
14.00	DISCHG	.76	.82	.83	.79	.72	.66
.60	.56	.54	.52				
15.00	DISCHG	.51	.50	.50	.50	.49	.49
.49	.49	.49	.49				
16.00	DISCHG	.49	.49	.49	.49	.49	.49
.50	.50	.50	.50				
17.00	DISCHG	.50	.50	.50	.50	.50	.50
.50	.50	.50	.50				
18.00	DISCHG	.50	.50	.50	.50	.50	.50
.51	.51	.51	.51				
19.00	DISCHG	.51	.50	.49	.46	.42	.39
.36	.33	.31	.28				
20.00	DISCHG	.26	.25	.26	.30	.34	.39
.43	.44	.43	.40				
21.00	DISCHG	.38	.36	.35	.36	.37	.38
.39	.39	.38	.36				
22.00	DISCHG	.35	.34	.33	.32	.32	.32
.31	.31	.31	.31				
23.00	DISCHG	.31	.32	.32	.34	.35	.37
.37	.35	.30	.23				
24.00	DISCHG	.17	.12	.08	.06	.04	.03
.02	.01	.01	.01				
25.00	DISCHG	.00					

OPERATION ADDHYD CROSS SECTION 80  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
PAGE 13

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(NULL)	6.32	31.81	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.15 SQ.MI.	
5.00	DISCHG	.00	.00
.01	.06	.51	2.17
6.00	DISCHG	9.33	21.95
24.23	21.62	19.74	18.30
7.00	DISCHG	17.22	16.40
14.60	14.39	14.15	13.90
8.00	DISCHG	13.67	13.44
9.58	8.95	8.40	7.91



9.00	DISCHG	7.48	7.10	6.75	6.44	6.16	5.90
5.66	5.45	5.25	5.08				
10.00	DISCHG	4.91	4.77	4.63	4.51	4.39	4.29
4.18	4.03	3.82	3.58				
11.00	DISCHG	3.35	3.15	3.04	3.02	3.07	3.13
3.17	3.15	3.04	2.88				
12.00	DISCHG	2.72	2.59	2.52	2.55	2.64	2.75
2.82	2.84	2.76	2.62				
13.00	DISCHG	2.48	2.35	2.24	2.16	2.10	2.05
2.02	2.04	2.14	2.29				
14.00	DISCHG	2.43	2.55	2.59	2.54	2.42	2.30
2.18	2.09	2.03	1.98				
15.00	DISCHG	1.93	1.90	1.87	1.85	1.82	1.81
1.79	1.78	1.76	1.75				
16.00	DISCHG	1.74	1.73	1.72	1.72	1.71	1.70
1.70	1.69	1.69	1.68				
17.00	DISCHG	1.68	1.68	1.68	1.67	1.67	1.67
1.67	1.66	1.66	1.66				
18.00	DISCHG	1.66	1.66	1.66	1.66	1.66	1.66
1.66	1.66	1.66	1.66				
19.00	DISCHG	1.66	1.65	1.62	1.57	1.50	1.42
1.35	1.29	1.22	1.16				
20.00	DISCHG	1.09	1.05	1.04	1.09	1.17	1.26
1.32	1.35	1.34	1.30				
21.00	DISCHG	1.25	1.21	1.19	1.19	1.21	1.23
1.25	1.25	1.23	1.21				
22.00	DISCHG	1.18	1.15	1.13	1.11	1.10	1.09
1.08	1.07	1.06	1.06				
23.00	DISCHG	1.05	1.05	1.06	1.08	1.11	1.14
1.16	1.13	1.04	.91				
24.00	DISCHG	.77	.66	.56	.49	.43	.38
.34	.30	.27	.25				
25.00	DISCHG	.22	.20	.20	.20	.20	.20
.20	.20	.20	.20				
26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.19	.19	.19	.19
.19	.19	.19	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

\*\*\* WARNING REACH 5 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 5

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6821.77	6.32	31.81	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
.10 HOURS DRAINAGE AREA = .15 SQ.MI.

5.00	DISCHG	.00	.00	.00	.00	.00	.00
.01	.06	.51	2.17				
6.00	DISCHG	9.33	21.95	29.03	31.72	30.65	27.59
24.23	21.62	19.74	18.30				
7.00	DISCHG	17.22	16.40	15.81	15.38	15.06	14.81
14.60	14.39	14.15	13.90				
8.00	DISCHG	13.67	13.44	12.79	11.98	11.12	10.31
9.58	8.95	8.40	7.91				
9.00	DISCHG	7.48	7.10	6.75	6.44	6.16	5.90
5.66	5.45	5.25	5.08				
10.00	DISCHG	4.91	4.77	4.63	4.51	4.39	4.29
4.18	4.03	3.82	3.58				
11.00	DISCHG	3.35	3.15	3.04	3.02	3.07	3.13
3.17	3.15	3.04	2.88				
12.00	DISCHG	2.72	2.59	2.52	2.55	2.64	2.75
2.82	2.84	2.76	2.62				
13.00	DISCHG	2.48	2.35	2.24	2.16	2.10	2.05
2.02	2.04	2.14	2.29				
1							

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 14

14.00	DISCHG	2.43	2.55	2.59	2.54	2.42	2.30
2.18	2.09	2.03	1.98				
15.00	DISCHG	1.93	1.90	1.87	1.85	1.82	1.81
1.79	1.78	1.76	1.75				
16.00	DISCHG	1.74	1.73	1.72	1.72	1.71	1.70
1.70	1.69	1.69	1.68				
17.00	DISCHG	1.68	1.68	1.68	1.67	1.67	1.67
1.67	1.66	1.66	1.66				
18.00	DISCHG	1.66	1.66	1.66	1.66	1.66	1.66
1.66	1.66	1.66	1.66				
19.00	DISCHG	1.66	1.65	1.62	1.57	1.50	1.42
1.35	1.29	1.22	1.16				
20.00	DISCHG	1.09	1.05	1.04	1.09	1.17	1.26
1.32	1.35	1.34	1.30				
21.00	DISCHG	1.25	1.21	1.19	1.19	1.21	1.23
1.25	1.25	1.23	1.21				
22.00	DISCHG	1.18	1.15	1.13	1.11	1.10	1.09
1.08	1.07	1.06	1.06				
23.00	DISCHG	1.05	1.05	1.06	1.08	1.11	1.14
1.16	1.13	1.04	.91				
24.00	DISCHG	.77	.66	.56	.49	.43	.38
.34	.30	.27	.25				
25.00	DISCHG	.22	.20	.20	.20	.20	.20
.20	.20	.20	.20				
26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.19	.19	.19	.19
.19	.19	.19	.19				

28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19	.19	.19	.19	.19
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19	.19	.19	.19	.19

OPERATION RUNOFF CROSS SECTION 125

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK			
ELEVATION (FEET)		66.43					
(RUNOFF)		6.05					
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =	.04 SQ. MI.					
5.00	DISCHG	.00	.00	.04	.17	.38	.68
3.91	17.81	37.44	53.91				
6.00	DISCHG	65.08	64.96	45.21	24.49	14.10	9.33
6.94	5.30	4.22	3.71				
7.00	DISCHG	3.49	3.42	3.40	3.39	3.39	3.39
3.32	3.11	2.90	2.80				
8.00	DISCHG	2.76	2.60	2.16	1.74	1.53	1.44
1.40	1.38	1.37	1.37				
9.00	DISCHG	1.37	1.37	1.37	1.37	1.37	1.37
1.37	1.37	1.37	1.37				
10.00	DISCHG	1.37	1.37	1.37	1.37	1.37	1.37
1.30	1.08	.88	.77				
11.00	DISCHG	.73	.78	.99	1.19	1.29	1.34
1.29	1.08	.88	.77				
12.00	DISCHG	.73	.78	.99	1.19	1.29	1.34
1.29	1.08	.88	.78				
13.00	DISCHG	.73	.71	.70	.69	.69	.69
.76	.98	1.19	1.30				
14.00	DISCHG	1.34	1.30	1.08	.88	.78	.73
.71	.70	.70	.69				
15.00	DISCHG	.69	.69	.69	.69	.69	.69
.69	.69	.69	.69				
16.00	DISCHG	.69	.69	.69	.69	.69	.69
.69	.69	.69	.69				
17.00	DISCHG	.69	.69	.69	.69	.70	.70
.70	.70	.70	.70				
18.00	DISCHG	.70	.70	.70	.70	.70	.70
.70	.70	.70	.70				
19.00	DISCHG	.70	.67	.58	.50	.45	.43
.41	.36	.32	.30				
20.00	DISCHG	.29	.33	.46	.58	.65	.67
.66	.58	.49	.45				
21.00	DISCHG	.43	.44	.48	.52	.54	.55
.54	.50	.46	.44				
22.00	DISCHG	.43	.42	.42	.42	.42	.42
.42	.42	.42	.42				
23.00	DISCHG	.42	.43	.47	.51	.53	.54
.49	.32	.16	.08				
24.00	DISCHG	.04	.03	.01	.01	.00	

\*\*\* WARNING REACH 124 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 124  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
PAGE 15

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
6925.74		66.43			
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =	.04 SQ.MI.			
5.00	DISCHG	.00	.00	.04	.17
3.91	17.81	37.44	53.91		.38
6.00	DISCHG	65.08	64.96	45.21	24.49
6.94	5.30	4.22	3.71		14.10
7.00	DISCHG	3.49	3.42	3.40	3.39
3.32	3.11	2.90	2.80		3.39
8.00	DISCHG	2.76	2.60	2.16	1.74
1.40	1.38	1.37	1.37		1.53
9.00	DISCHG	1.37	1.37	1.37	1.37
1.37	1.37	1.37	1.37		1.37
10.00	DISCHG	1.37	1.37	1.37	1.37
1.30	1.08	.88	.77		1.37
11.00	DISCHG	.73	.78	.99	1.19
1.29	1.08	.88	.77		1.29
12.00	DISCHG	.73	.78	.99	1.19
1.29	1.08	.88	.78		1.29
13.00	DISCHG	.73	.71	.70	.69
.76	.98	1.19	1.30		.69
14.00	DISCHG	1.34	1.30	1.08	.88
.71	.70	.70	.69		.78
15.00	DISCHG	.69	.69	.69	.69
.69	.69	.69	.69		.69
16.00	DISCHG	.69	.69	.69	.69
.69	.69	.69	.69		.69
17.00	DISCHG	.69	.69	.69	.69
.70	.70	.70	.70		.70
18.00	DISCHG	.70	.70	.70	.70
.70	.70	.70	.70		.70
19.00	DISCHG	.70	.67	.58	.50
.41	.36	.32	.30		.45
20.00	DISCHG	.29	.33	.46	.58
.66	.58	.49	.45		.65
21.00	DISCHG	.43	.44	.48	.52
.54	.50	.46	.44		.54
22.00	DISCHG	.43	.42	.42	.42
.42	.42	.42	.42		.42

23.00	DISCHG	.42	.43	.47	.51	.53	.54
.49	.32	.16	.08				
24.00	DISCHG	.04	.03	.01	.01	.00	

OPERATION RUNOFF CROSS SECTION 124

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.04	17.32	
TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS		TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG	.00 .00	.01 .05 .10 .17
1.11	4.80	9.98 14.23	
	6.00	DISCHG 17.03 16.86	11.43 6.06 3.49 2.32
1.74	1.33	1.07 .95	
	7.00	DISCHG .90 .89	.88 .88 .88 .88
.86	.80	.75 .72	
	8.00	DISCHG .71 .67	.55 .44 .39 .37
.36	.36	.35 .35	
	9.00	DISCHG .35 .35	.35 .35 .35 .35
.35	.35	.35 .35	
	10.00	DISCHG .36 .36	.36 .36 .36 .36
.34	.28	.22 .20	
	11.00	DISCHG .19 .20	.26 .31 .34 .35
.33	.28	.22 .20	
	12.00	DISCHG .19 .20	.26 .31 .34 .35
.33	.28	.22 .20	
	13.00	DISCHG .19 .18	.18 .18 .18 .18
.20	.26	.31 .34	
	14.00	DISCHG .35 .33	.28 .22 .20 .19
.18	.18	.18 .18	
	15.00	DISCHG .18 .18	.18 .18 .18 .18
.18	.18	.18 .18	
	16.00	DISCHG .18 .18	.18 .18 .18 .18
.18	.18	.18 .18	
	17.00	DISCHG .18 .18	.18 .18 .18 .18
.18	.18	.18 .18	
	18.00	DISCHG .18 .18	.18 .18 .18 .18
.18	.18	.18 .18	
	19.00	DISCHG .18 .17	.15 .13 .12 .11
.11	.09	.08 .08	
	20.00	DISCHG .07 .08	.12 .15 .17 .17
.17	.15	.13 .12	

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 16

21.00	DISCHG	.11	.11	.12	.14	.14	.14
.14	.13	.12	.11				
22.00	DISCHG	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11				
23.00	DISCHG	.11	.11	.12	.13	.14	.14
.13	.08	.04	.02				
24.00	DISCHG	.01	.01	.00			

OPERATION ADDHYD CROSS SECTION 124

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
6.05	83.75	
6926.01		

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.05 SQ. MI.	
5.00	DISCHG	.00	.00
5.01	22.61	47.42	68.14
6.00	DISCHG	82.11	81.82
8.68	6.64	5.29	4.65
7.00	DISCHG	4.39	4.31
4.18	3.91	3.65	3.53
8.00	DISCHG	3.47	3.27
1.76	1.74	1.73	1.72
9.00	DISCHG	1.72	1.72
1.72	1.72	1.73	1.73
10.00	DISCHG	1.73	1.73
1.64	1.36	1.10	.97
11.00	DISCHG	.92	.98
1.62	1.36	1.10	.97
12.00	DISCHG	.92	.98
1.62	1.36	1.10	.98
13.00	DISCHG	.92	.89
.96	1.24	1.50	1.63
14.00	DISCHG	1.69	1.63
.89	.88	.88	.87
15.00	DISCHG	.87	.87
.87	.87	.87	.87
16.00	DISCHG	.87	.87
.87	.87	.87	.87
17.00	DISCHG	.87	.87
.88	.88	.88	.88
18.00	DISCHG	.88	.88
.88	.88	.88	.88
19.00	DISCHG	.88	.84
.52	.46	.40	.37
20.00	DISCHG	.36	.41
.83	.72	.62	.57
21.00	DISCHG	.55	.55
.68	.63	.57	.55
22.00	DISCHG	.54	.53
.53	.53	.53	.53
23.00	DISCHG	.53	.54
.61	.40	.20	.10
24.00	DISCHG	.05	.03

\*\*\* WARNING REACH 123 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 123

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6895.90	6.05	83.75	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.05 SQ.MI.	
5.00	DISCHG	.00	.00
5.01	22.61	47.42	68.14
6.00	DISCHG	82.11	81.82
8.68	6.64	5.29	4.65
7.00	DISCHG	4.39	4.31
4.18	3.91	3.65	3.53
8.00	DISCHG	3.47	3.27
1.76	1.74	1.73	1.72
9.00	DISCHG	1.72	1.72
1.72	1.72	1.73	1.73
10.00	DISCHG	1.73	1.73
1.64	1.36	1.10	.97
11.00	DISCHG	.92	.98
1.62	1.36	1.10	.97

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 17

12.00	DISCHG	.92	.98	1.25	1.50	1.63	1.69
1.62	1.36	1.10	.98				
13.00	DISCHG	.92	.89	.88	.87	.87	.87
.96	1.24	1.50	1.63				
14.00	DISCHG	1.69	1.63	1.36	1.11	.98	.92
.89	.88	.88	.87				
15.00	DISCHG	.87	.87	.87	.87	.87	.87
.87	.87	.87	.87				
16.00	DISCHG	.87	.87	.87	.87	.87	.87
.87	.87	.87	.87				
17.00	DISCHG	.87	.87	.87	.87	.88	.88
.88	.88	.88	.88				
18.00	DISCHG	.88	.88	.88	.88	.88	.88
.88	.88	.88	.88				
19.00	DISCHG	.88	.84	.73	.62	.57	.55
.52	.46	.40	.37				
20.00	DISCHG	.36	.41	.58	.73	.81	.85
.83	.72	.62	.57				

21.00	DISCHG	.55	.55	.61	.66	.68	.69
.68	.63	.57	.55				
22.00	DISCHG	.54	.53	.53	.53	.53	.53
.53	.53	.53	.53				
23.00	DISCHG	.53	.54	.60	.64	.67	.68
.61	.40	.20	.10				
24.00	DISCHG	.05	.03	.01	.01	.00	.00

OPERATION RUNOFF CROSS SECTION 123

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK			
ELEVATION (FEET)							
(RUNOFF)		5.99	19.78				
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.					
5.00	DISCHG	.00	.00	.03	.08	.15	.23
2.23	8.61	14.20	17.69				
6.00	DISCHG	19.72	16.03	6.93	3.10	1.94	1.58
1.33	1.05	.95	.92				
7.00	DISCHG	.91	.91	.91	.91	.91	.91
.87	.78	.75	.74				
8.00	DISCHG	.73	.64	.47	.40	.38	.37
.37	.37	.37	.37				
9.00	DISCHG	.37	.37	.37	.37	.37	.37
.37	.37	.37	.37				
10.00	DISCHG	.37	.37	.37	.37	.37	.37
.32	.24	.20	.19				
11.00	DISCHG	.19	.23	.32	.35	.36	.37
.32	.24	.20	.19				
12.00	DISCHG	.19	.23	.32	.35	.37	.37
.32	.24	.20	.19				
13.00	DISCHG	.19	.19	.19	.19	.19	.19
.23	.32	.36	.37				
14.00	DISCHG	.37	.33	.24	.20	.19	.19
.19	.19	.19	.19				
15.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
16.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
17.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
18.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
19.00	DISCHG	.19	.17	.13	.12	.11	.11
.10	.09	.08	.08				
20.00	DISCHG	.08	.10	.16	.18	.18	.19
.17	.13	.12	.11				
21.00	DISCHG	.11	.12	.14	.15	.15	.15
.14	.12	.12	.11				
22.00	DISCHG	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11				
23.00	DISCHG	.11	.12	.14	.14	.15	.15
.11	.04	.02	.01				
24.00	DISCHG	.00					



OPERATION ADDHYD CROSS SECTION 123

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6896.14	6.03	102.74	
6894.19	13.99	2.06	

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 18

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.	
5.00	DISCHG	.00	.08
7.25	31.23 61.63 85.83	.00	.30
6.00	DISCHG	101.83 97.85	.62
10.01	7.69 6.24 5.57	63.56 33.66	1.08
7.00	DISCHG	5.29 5.22	1.32
5.05	4.69 4.40 4.26	5.19 5.18	1.64
8.00	DISCHG	4.20 3.91	1.96
2.13	2.10 2.09 2.09	3.18 2.58	2.28
9.00	DISCHG	2.09 2.09	2.60
2.09	2.09 2.09 2.09	2.09 2.09	2.92
10.00	DISCHG	2.09 2.10	3.24
1.96	1.60 1.30 1.16	2.10 2.10	3.56
11.00	DISCHG	1.10 1.21	3.88
1.94	1.59 1.30 1.16	1.56 1.85	4.20
12.00	DISCHG	1.10 1.21	4.52
1.95	1.60 1.31 1.17	1.57 1.86	4.84
13.00	DISCHG	1.10 1.08	5.16
1.19	1.56 1.86 2.00	1.06 1.06	5.48
14.00	DISCHG	2.06 1.96	5.80
1.08	1.07 1.06 1.06	1.60 1.31	6.12
15.00	DISCHG	1.06 1.06	6.44
1.06	1.06 1.06 1.06	1.06 1.06	6.76
16.00	DISCHG	1.06 1.06	7.08
1.06	1.06 1.06 1.06	1.06 1.06	7.40
17.00	DISCHG	1.06 1.06	7.72
1.06	1.06 1.06 1.06	1.06 1.06	8.04
18.00	DISCHG	1.06 1.06	8.36
1.06	1.06 1.06 1.06	1.06 1.06	8.68
19.00	DISCHG	1.06 1.01	9.00
.62	.54 .48 .45	.86 .74	9.32
20.00	DISCHG	.44 .51	9.64
1.00	.86 .74 .68	.73 .91	9.96
21.00	DISCHG	.66 .68	10.28
.82	.75 .69 .66	.74 .80	10.60

22.00	DISCHG		.65	.64	.64	.64	.64	.64
.64	.64	.64	.64					
23.00	DISCHG		.64	.67	.73	.79	.81	.82
.72	.44	.21	.11					
24.00	DISCHG		.05	.03	.01	.01	.00	

\*\*\* WARNING REACH 122 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 122

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6894.14	6.03	102.74	
6892.19	13.99	2.06	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =					
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.						
5.00	DISCHG	.00	.00	.08	.30	.62	1.08	
7.25	31.23	61.63	85.83					
6.00	DISCHG	101.83	97.85	63.56	33.66	19.53	13.23	
10.01	7.69	6.24	5.57					
7.00	DISCHG	5.29	5.22	5.19	5.18	5.17	5.17	
5.05	4.69	4.40	4.26					
8.00	DISCHG	4.20	3.91	3.18	2.58	2.30	2.18	
2.13	2.10	2.09	2.09					
9.00	DISCHG	2.09	2.09	2.09	2.09	2.09	2.09	
2.09	2.09	2.09	2.09					
10.00	DISCHG	2.09	2.10	2.10	2.10	2.10	2.10	
1.96	1.60	1.30	1.16					
11.00	DISCHG	1.10	1.21	1.56	1.85	1.99	2.05	
1.94	1.59	1.30	1.16					
12.00	DISCHG	1.10	1.21	1.57	1.86	2.00	2.05	
1.95	1.60	1.31	1.17					
13.00	DISCHG	1.10	1.08	1.06	1.06	1.06	1.06	
1.19	1.56	1.86	2.00					
14.00	DISCHG	2.06	1.96	1.60	1.31	1.17	1.11	
1.08	1.07	1.06	1.06					
15.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	
1.06	1.06	1.06	1.06					
16.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	
1.06	1.06	1.06	1.06					
17.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	
1.06	1.06	1.06	1.06					
18.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	
1.06	1.06	1.06	1.06					
19.00	DISCHG	1.06	1.01	.86	.74	.68	.66	
.62	.54	.48	.45					
20.00	DISCHG	.44	.51	.73	.91	1.00	1.03	
1.00	.86	.74	.68					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 19

21.00	DISCHG	.66	.68	.74	.80	.83	.84
.82	.75	.69	.66				
22.00	DISCHG	.65	.64	.64	.64	.64	.64
.64	.64	.64	.64				
23.00	DISCHG	.64	.67	.73	.79	.81	.82
.72	.44	.21	.11				
24.00	DISCHG	.05	.03	.01	.01	.00	

OPERATION RUNOFF CROSS SECTION 122

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.04	33.05	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.02 SQ. MI.	
5.00	DISCHG	.00	.00
2.11	9.16	19.04	27.16
6.00	DISCHG	32.50	32.17
3.32	2.54	2.04	1.81
7.00	DISCHG	1.72	1.69
1.64	1.53	1.43	1.38
8.00	DISCHG	1.36	1.28
.69	.68	.68	.68
9.00	DISCHG	.68	.68
.68	.68	.68	.68
10.00	DISCHG	.68	.68
.64	.53	.43	.38
11.00	DISCHG	.36	.39
.64	.53	.43	.38
12.00	DISCHG	.36	.39
.64	.53	.43	.38
13.00	DISCHG	.36	.35
.38	.49	.59	.64
14.00	DISCHG	.67	.64
.35	.35	.34	.34
15.00	DISCHG	.34	.34
.34	.34	.34	.34
16.00	DISCHG	.34	.34
.34	.34	.34	.34
17.00	DISCHG	.34	.34
.34	.34	.34	.34
18.00	DISCHG	.34	.34
.34	.34	.34	.34
19.00	DISCHG	.34	.33
.20	.18	.16	.15
20.00	DISCHG	.14	.16
.32	.28	.24	.22

21.00	DISCHG	.21	.22	.24	.26	.27	.27
.27	.24	.22	.21				
22.00	DISCHG	.21	.21	.21	.21	.21	.21
.21	.21	.21	.21				
23.00	DISCHG	.21	.21	.23	.25	.26	.27
.24	.15	.07	.04				
24.00	DISCHG	.02	.01	.01	.00		

OPERATION ADDHYD CROSS SECTION 122

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6894.54	6.03	135.75	
6892.26	10.38	2.78	
6892.26	11.49	2.71	
6892.26	12.49	2.72	
6892.26	13.99	2.73	
6892.10	23.46	1.10	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .09 SQ.MI.		
5.00	DISCHG .00	.10	.39
9.36	40.39 80.67 112.99	.10	.81
6.00	DISCHG 134.33 130.03	85.38	45.23
13.34	10.23 8.29 7.38	26.19	17.64
7.00	DISCHG 7.01 6.91	6.86	6.85
6.68	6.22 5.83 5.65	6.85	6.85
8.00	DISCHG 5.56 5.19	3.05	2.89
2.82	2.78 2.77 2.76	4.23	3.43
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 20

9.00	DISCHG	2.76	2.76	2.77	2.77	2.77	2.77
2.77	2.77	2.77	2.77				
10.00	DISCHG	2.77	2.77	2.77	2.77	2.78	2.77
2.60	2.13	1.73	1.54				
11.00	DISCHG	1.46	1.60	2.05	2.44	2.63	2.71
2.58	2.12	1.73	1.54				
12.00	DISCHG	1.46	1.60	2.06	2.45	2.64	2.72
2.59	2.12	1.73	1.55				
13.00	DISCHG	1.46	1.43	1.41	1.40	1.40	1.40
1.57	2.05	2.45	2.65				

14.00	DISCHG	2.73	2.60	2.13	1.74	1.55	1.47
1.43	1.41	1.41	1.40				
15.00	DISCHG	1.40	1.40	1.40	1.40	1.40	1.40
1.40	1.40	1.40	1.40				
16.00	DISCHG	1.40	1.40	1.40	1.40	1.40	1.40
1.40	1.40	1.40	1.40				
17.00	DISCHG	1.40	1.40	1.40	1.40	1.40	1.41
1.41	1.41	1.41	1.41				
18.00	DISCHG	1.41	1.41	1.41	1.41	1.41	1.41
1.41	1.41	1.41	1.41				
19.00	DISCHG	1.41	1.34	1.14	.98	.91	.87
.82	.72	.63	.59				
20.00	DISCHG	.58	.68	.96	1.20	1.32	1.37
1.32	1.14	.98	.91				
21.00	DISCHG	.87	.89	.98	1.06	1.10	1.11
1.09	.99	.91	.88				
22.00	DISCHG	.86	.85	.85	.85	.85	.85
.85	.85	.85	.85				
23.00	DISCHG	.85	.88	.97	1.04	1.07	1.09
.96	.60	.29	.14				
24.00	DISCHG	.07	.04	.02	.01	.00	

\*\*\* WARNING REACH 121 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 121

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6882.45	6.03	135.75	
6880.24	10.38	2.78	
6880.23	11.49	2.71	
6880.23	12.49	2.72	
6880.23	13.99	2.73	
6880.09	23.46	1.10	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .09 SQ. MI.		
5.00	DISCHG .00 .00	.10	.39 .81 1.41
9.36	40.39 80.67 112.99		
6.00	DISCHG 134.33 130.03	85.38	45.23 26.19 17.64
13.34	10.23 8.29 7.38		
7.00	DISCHG 7.01 6.91	6.86	6.85 6.85 6.85
6.68	6.22 5.83 5.65		
8.00	DISCHG 5.56 5.19	4.23	3.43 3.05 2.89
2.82	2.78 2.77 2.76		
9.00	DISCHG 2.76 2.76	2.77	2.77 2.77 2.77
2.77	2.77 2.77 2.77		
10.00	DISCHG 2.77 2.77	2.77	2.77 2.78 2.77
2.60	2.13 1.73 1.54		

11.00	DISCHG		1.46	1.60	2.05	2.44	2.63	2.71
2.58	2.12	1.73	1.54					
12.00	DISCHG		1.46	1.60	2.06	2.45	2.64	2.72
2.59	2.12	1.73	1.55					
13.00	DISCHG		1.46	1.43	1.41	1.40	1.40	1.40
1.57	2.05	2.45	2.65					
14.00	DISCHG		2.73	2.60	2.13	1.74	1.55	1.47
1.43	1.41	1.41	1.40					
15.00	DISCHG		1.40	1.40	1.40	1.40	1.40	1.40
1.40	1.40	1.40	1.40					
16.00	DISCHG		1.40	1.40	1.40	1.40	1.40	1.40
1.40	1.40	1.40	1.40					
17.00	DISCHG		1.40	1.40	1.40	1.40	1.41	1.41
1.41	1.41	1.41	1.41					
18.00	DISCHG		1.41	1.41	1.41	1.41	1.41	1.41
1.41	1.41	1.41	1.41					
19.00	DISCHG		1.41	1.34	1.14	.98	.91	.87
.82	.72	.63	.59					
20.00	DISCHG		.58	.68	.96	1.20	1.32	1.37
1.32	1.14	.98	.91					
21.00	DISCHG		.87	.89	.98	1.06	1.10	1.11
1.09	.99	.91	.88					
22.00	DISCHG		.86	.85	.85	.85	.85	.85
.85	.85	.85	.85					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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23.00	DISCHG		.85	.88	.97	1.04	1.07	1.09
.96	.60	.29	.14					
24.00	DISCHG		.07	.04	.02	.01	.00	

OPERATION RUNOFF CROSS SECTION 121

\*\*\* WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .02 CFS.

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	23.50	.02	
(RUNOFF)	6.10	1.04	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .00 SQ. MI.		
5.00	DISCHG	.00	.00
.00	.00	.02	.29
6.00	DISCHG	.88	1.04
.13	.10	.09	.09

7.00	DISCHG	.09	.09	.09	.09	.10	.10
.09	.08	.08	.08	.07	.05	.04	.04
8.00	DISCHG	.08	.08	.07	.05	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04
9.00	DISCHG	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04	.04	.04	.04	.04
10.00	DISCHG	.04	.04	.04	.04	.04	.04
.04	.03	.02	.02	.04	.04	.04	.04
11.00	DISCHG	.02	.02	.03	.04	.04	.04
.04	.03	.02	.02	.04	.04	.04	.05
12.00	DISCHG	.02	.02	.03	.04	.04	.05
.04	.03	.02	.02	.04	.04	.04	.05
13.00	DISCHG	.02	.02	.02	.02	.02	.02
.03	.04	.04	.05	.02	.02	.02	.02
14.00	DISCHG	.05	.04	.03	.03	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
15.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
16.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
17.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
18.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
19.00	DISCHG	.03	.02	.02	.02	.02	.02
.01	.01	.01	.01	.02	.02	.02	.02
20.00	DISCHG	.01	.01	.02	.02	.02	.03
.02	.02	.02	.02	.02	.02	.02	.02
21.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
22.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
23.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.01	.00					

OPERATION ADDHYD CROSS SECTION 121

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6882.46	6.03	136.73	
6880.49	7.45	6.96	
6880.24	10.38	2.82	
6880.24	11.49	2.76	
6880.24	12.49	2.77	
6880.24	13.99	2.77	
6880.10	23.46	1.12	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
.10 HOURS DRAINAGE AREA = .09 SQ.MI.

5.00	DISCHG	.00	.00	.10	.39	.81	1.41
9.36	40.39	80.69	113.28				
6.00	DISCHG	135.21	131.07	85.87	45.47	26.36	17.79
13.47	10.34	8.38	7.47				
7.00	DISCHG	7.10	7.00	6.96	6.94	6.94	6.94
6.78	6.30	5.91	5.73				
1							

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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8.00	DISCHG	5.64	5.26	4.28	3.47	3.10	2.93
2.86	2.83	2.81	2.81				
9.00	DISCHG	2.80	2.81	2.81	2.81	2.81	2.81
2.81	2.81	2.81	2.81				
10.00	DISCHG	2.82	2.82	2.82	2.82	2.82	2.82
2.64	2.15	1.75	1.56				
11.00	DISCHG	1.48	1.62	2.09	2.49	2.68	2.76
2.62	2.15	1.75	1.56				
12.00	DISCHG	1.49	1.63	2.10	2.49	2.69	2.76
2.63	2.15	1.76	1.57				
13.00	DISCHG	1.49	1.45	1.43	1.42	1.42	1.42
1.60	2.09	2.50	2.69				
14.00	DISCHG	2.77	2.64	2.16	1.76	1.57	1.49
1.45	1.44	1.43	1.43				
15.00	DISCHG	1.42	1.42	1.43	1.43	1.43	1.43
1.43	1.43	1.43	1.43				
16.00	DISCHG	1.43	1.43	1.43	1.43	1.43	1.43
1.43	1.43	1.43	1.43				
17.00	DISCHG	1.43	1.43	1.43	1.43	1.43	1.43
1.43	1.43	1.43	1.43				
18.00	DISCHG	1.43	1.43	1.43	1.43	1.43	1.43
1.43	1.43	1.43	1.43				
19.00	DISCHG	1.43	1.36	1.16	1.00	.92	.89
.83	.73	.64	.60				
20.00	DISCHG	.59	.69	.98	1.23	1.34	1.39
1.34	1.16	1.00	.92				
21.00	DISCHG	.89	.91	1.00	1.08	1.12	1.13
1.11	1.01	.93	.89				
22.00	DISCHG	.88	.87	.86	.86	.86	.86
.86	.86	.86	.86				
23.00	DISCHG	.86	.90	.99	1.06	1.09	1.11
.98	.60	.29	.14				
24.00	DISCHG	.07	.04	.02	.01	.00	

OPERATION RESVOR STRUCTURE 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.74	6.30	53.51	



6878.21            14.21                            2.15  
                      23.57                            1.02  
 6877.96

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ.MI.	
5.00	DISCHG	.00	.00
1.37	3.93	10.11	13.50
6.00	DISCHG	17.83	38.38
40.04	35.02	30.45	26.44
7.00	DISCHG	23.03	20.18
15.60	15.34	15.07	14.80
8.00	DISCHG	14.54	14.27
12.80	12.51	12.23	11.96
9.00	DISCHG	11.69	11.44
7.89	7.33	6.84	6.40
10.00	DISCHG	6.01	5.66
4.40	4.18	3.94	3.69
11.00	DISCHG	3.45	3.25
2.91	2.85	2.75	2.63
12.00	DISCHG	2.51	2.41
2.44	2.43	2.38	2.30
13.00	DISCHG	2.22	2.14
1.83	1.84	1.89	1.96
14.00	DISCHG	2.05	2.12
1.96	1.90	1.85	1.81
15.00	DISCHG	1.76	1.73
1.59	1.58	1.56	1.55
16.00	DISCHG	1.53	1.52
1.48	1.47	1.47	1.46
17.00	DISCHG	1.46	1.46
1.45	1.44	1.44	1.44
18.00	DISCHG	1.44	1.44
1.44	1.44	1.43	1.43
19.00	DISCHG	1.43	1.43
1.24	1.19	1.13	1.05
20.00	DISCHG	.93	.85
1.13	1.14	1.14	1.12
21.00	DISCHG	1.09	1.04
1.08	1.07	1.05	1.01
22.00	DISCHG	.98	.95
.88	.88	.87	.87
23.00	DISCHG	.87	.87
1.01	.95	.82	.66
24.00	DISCHG	.52	.40
.09	.07	.05	.04
25.00	DISCHG	.03	.02

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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OPERATION RUNOFF CROSS SECTION 120

ELEVATION (FEET)		PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK			
(RUNOFF)		6.07	3.16					
TIME (HRS)		FIRST HYDROGRAPH POINT =		.00 HOURS	TIME INCREMENT =			
.10 HOURS		DRAINAGE AREA =		.00 SQ.MI.				
5.00	DISCHG	.00	.00	.00	.00	.00	.00	.00
.00	.18	.88	1.90					
6.00	DISCHG	2.87	3.09	2.00	1.01	.60	.43	
.34	.27	.22	.21					
7.00	DISCHG	.20	.20	.20	.20	.20	.20	.20
.20	.18	.17	.17					
8.00	DISCHG	.16	.15	.12	.10	.09	.09	.09
.08	.08	.08	.08					
9.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
10.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.06	.05	.05					
11.00	DISCHG	.04	.05	.06	.08	.08	.08	.08
.08	.06	.05	.05					
12.00	DISCHG	.04	.05	.07	.08	.08	.08	.09
.08	.06	.05	.05					
13.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.05	.07	.08	.08					
14.00	DISCHG	.09	.08	.06	.05	.05	.05	.05
.04	.04	.04	.04					
15.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
16.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
17.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
18.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
19.00	DISCHG	.04	.04	.04	.03	.03	.03	.03
.03	.02	.02	.02					
20.00	DISCHG	.02	.02	.03	.04	.04	.04	.04
.04	.04	.03	.03					
21.00	DISCHG	.03	.03	.03	.03	.03	.04	.04
.03	.03	.03	.03					
22.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03					
23.00	DISCHG	.03	.03	.03	.03	.03	.03	.04
.03	.02	.01	.00					

OPERATION RESVOR STRUCTURE 10

ELEVATION (FEET)		PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK			
------------------	--	-----------------	----------------------	--	------	--	--	--

6881.18 6.15

2.66

TIME (HRS)		FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.		
5.00	DISCHG	.00	.00	.00
.00	.06	.36	1.01	.00
6.00	DISCHG	1.88	2.58	2.56
.52	.39	.30	.25	1.89
7.00	DISCHG	.22	.21	.20
.20	.19	.18	.17	.20
8.00	DISCHG	.17	.16	.15
.09	.09	.08	.08	.12
9.00	DISCHG	.08	.08	.08
.08	.08	.08	.08	.08
10.00	DISCHG	.08	.08	.08
.08	.08	.06	.05	.08
11.00	DISCHG	.05	.05	.06
.08	.08	.06	.05	.07
12.00	DISCHG	.05	.05	.05
.08	.08	.06	.05	.07
13.00	DISCHG	.05	.05	.04
.05	.05	.07	.08	.04
14.00	DISCHG	.08	.08	.08
.05	.05	.04	.04	.07
15.00	DISCHG	.04	.04	.04
.04	.04	.04	.04	.04
16.00	DISCHG	.04	.04	.04
.04	.04	.04	.04	.04
17.00	DISCHG	.04	.04	.04
.04	.04	.04	.04	.04
18.00	DISCHG	.04	.04	.04
.04	.04	.04	.04	.04

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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19.00	DISCHG	.04	.04	.04	.04	.03	.03
.03	.03	.02	.02	.02	.03	.04	.04
20.00	DISCHG	.02	.02	.02	.03	.03	.04
.04	.04	.04	.03	.03	.03	.03	.04
21.00	DISCHG	.03	.03	.03	.03	.03	.03
.04	.03	.03	.03	.03	.03	.03	.03
22.00	DISCHG	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03	.03	.03
23.00	DISCHG	.03	.03	.03	.03	.03	.03
.03	.03	.02	.01				
24.00	DISCHG	.00					

\*\*\* WARNING REACH 120 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 120

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6878.32	6.15	2.66	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.	
5.00	DISCHG .00	.00	.00
.00	.06 .36	1.01	.00
6.00	DISCHG 1.88	2.58	1.20
.52	.39 .30	.25	.76
7.00	DISCHG .22	.21	.20
.20	.19 .18	.17	.20
8.00	DISCHG .17	.16	.11
.09	.09 .08	.08	.09
9.00	DISCHG .08	.08	.08
.08	.08 .08	.08	.08
10.00	DISCHG .08	.08	.08
.08	.08 .06	.05	.08
11.00	DISCHG .05	.05	.07
.08	.08 .06	.05	.08
12.00	DISCHG .05	.05	.07
.08	.08 .06	.05	.08
13.00	DISCHG .05	.05	.04
.05	.05 .07	.08	.04
14.00	DISCHG .08	.08	.06
.05	.05 .04	.04	.05
15.00	DISCHG .04	.04	.04
.04	.04 .04	.04	.04
16.00	DISCHG .04	.04	.04
.04	.04 .04	.04	.04
17.00	DISCHG .04	.04	.04
.04	.04 .04	.04	.04
18.00	DISCHG .04	.04	.04
.04	.04 .04	.04	.04
19.00	DISCHG .04	.04	.03
.03	.03 .02	.02	.03
20.00	DISCHG .02	.02	.04
.04	.04 .04	.03	.04
21.00	DISCHG .03	.03	.03
.04	.03 .03	.03	.04
22.00	DISCHG .03	.03	.03
.03	.03 .03	.03	.03
23.00	DISCHG .03	.03	.03
.03	.03 .02	.01	.03
24.00	DISCHG .00		

OPERATION ADDHYD CROSS SECTION 100

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
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(NULL)	6.28	55.47
(NULL)	14.19	2.23
(NULL)	23.56	1.05

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ.MI.	
5.00	DISCHG	.00 .00	.01 .07 .21 .45
1.37	3.99	10.47 14.52	
6.00	DISCHG	19.72 40.96	53.42 55.39 51.57 46.09
40.56	35.41	30.75 26.68	
7.00	DISCHG	23.24 20.39	18.03 16.60 16.33 16.06
15.80	15.53	15.25 14.97	
1			

TR20 XEQ 02-10-09 09:50	POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24
HR.5&100YR. STORM	JOB 1 PASS 1
REV PC 09/83(.2)	DEVELOPED CONDITIONS W/ DETENTION INPUT :
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8.00	DISCHG	14.70	14.43	14.14	13.83	13.51	13.19
12.89	12.60	12.32	12.04				
9.00	DISCHG	11.78	11.52	10.95	10.07	9.29	8.59
7.97	7.42	6.92	6.48				
10.00	DISCHG	6.09	5.74	5.43	5.16	4.91	4.69
4.49	4.26	4.00	3.75				
11.00	DISCHG	3.50	3.29	3.15	3.07	3.03	3.01
2.99	2.92	2.82	2.69				
12.00	DISCHG	2.56	2.45	2.40	2.41	2.44	2.49
2.52	2.51	2.45	2.36				
13.00	DISCHG	2.27	2.18	2.11	2.04	1.97	1.92
1.88	1.89	1.95	2.04				
14.00	DISCHG	2.13	2.20	2.23	2.19	2.13	2.07
2.01	1.95	1.90	1.85				
15.00	DISCHG	1.81	1.77	1.74	1.71	1.68	1.66
1.64	1.62	1.60	1.59				
16.00	DISCHG	1.58	1.56	1.55	1.55	1.54	1.53
1.52	1.52	1.51	1.51				
17.00	DISCHG	1.51	1.50	1.50	1.50	1.49	1.49
1.49	1.49	1.49	1.49				
18.00	DISCHG	1.48	1.48	1.48	1.48	1.48	1.48
1.48	1.48	1.48	1.48				
19.00	DISCHG	1.48	1.47	1.45	1.41	1.36	1.31
1.27	1.21	1.16	1.07				
20.00	DISCHG	.95	.87	.87	.95	1.05	1.14
1.17	1.18	1.17	1.15				
21.00	DISCHG	1.12	1.07	1.05	1.05	1.08	1.10
1.11	1.11	1.08	1.04				
22.00	DISCHG	1.01	.98	.96	.94	.93	.92
.91	.90	.90	.90				
23.00	DISCHG	.90	.90	.92	.96	1.00	1.03
1.04	.98	.84	.67				

24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

\*\*\* WARNING REACH 45 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 45

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6866.28	6.28	55.47	
6865.12	14.19	2.23	
6865.06	23.56	1.05	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ. MI.	
5.00	DISCHG	.00	.00
1.37	3.99	10.47	14.52
6.00	DISCHG	19.72	40.96
40.56	35.41	30.75	26.68
7.00	DISCHG	23.24	20.39
15.80	15.53	15.25	14.97
8.00	DISCHG	14.70	14.43
12.89	12.60	12.32	12.04
9.00	DISCHG	11.78	11.52
7.97	7.42	6.92	6.48
10.00	DISCHG	6.09	5.74
4.49	4.26	4.00	3.75
11.00	DISCHG	3.50	3.29
2.99	2.92	2.82	2.69
12.00	DISCHG	2.56	2.45
2.52	2.51	2.45	2.36
13.00	DISCHG	2.27	2.18
1.88	1.89	1.95	2.04
14.00	DISCHG	2.13	2.20
2.01	1.95	1.90	1.85
15.00	DISCHG	1.81	1.77
1.64	1.62	1.60	1.59
16.00	DISCHG	1.58	1.56
1.52	1.52	1.51	1.51
17.00	DISCHG	1.51	1.50
1.49	1.49	1.49	1.49
18.00	DISCHG	1.48	1.48
1.48	1.48	1.48	1.48
19.00	DISCHG	1.48	1.47
1.27	1.21	1.16	1.07
20.00	DISCHG	.95	.87
1.17	1.18	1.17	1.15
21.00	DISCHG	1.12	1.07
1.11	1.11	1.08	1.04
22.00	DISCHG	1.01	.98
.91	.90	.90	.90

23.00	DISCHG		.90	.90	.92	.96	1.00	1.03
1.04	.98	.84	.67					
1								

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 1  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 45

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
(RUNOFF)		
5.99	13.13	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG .00 .00	.00 .00	.00 .00
.80	4.43 DISCHG 8.39 11.23		
6.00	DISCHG 13.09 10.13	3.86 1.77	1.20 1.04
.89	.71 .65 .64		
7.00	DISCHG .63 .63	.63 .63	.64 .64
.60	.54 .52 .51		
8.00	DISCHG .51 .44	.31 .27	.26 .26
.26	.26 .26 .26		
9.00	DISCHG .26 .26	.26 .26	.26 .26
.26	.26 .26 .26		
10.00	DISCHG .26 .26	.26 .26	.26 .26
.22	.16 .14 .13		
11.00	DISCHG .13 .17	.23 .25	.26 .26
.22	.16 .14 .13		
12.00	DISCHG .13 .17	.23 .26	.26 .26
.22	.16 .14 .13		
13.00	DISCHG .13 .13	.13 .13	.13 .13
.17	.24 .26 .26		
14.00	DISCHG .26 .22	.16 .14	.13 .13
.13	.13 .13 .13		
15.00	DISCHG .13 .13	.13 .13	.13 .13
.13	.13 .13 .13		
16.00	DISCHG .13 .13	.13 .13	.13 .13
.13	.13 .13 .13		
17.00	DISCHG .13 .13	.13 .13	.13 .13
.13	.13 .13 .13		
18.00	DISCHG .13 .13	.13 .13	.13 .13
.13	.13 .13 .13		
19.00	DISCHG .13 .12	.09 .08	.08 .08
.07	.06 .06 .05		

20.00	DISCHG	.05	.08	.12	.13	.13	.13
.12	.09	.08	.08				
21.00	DISCHG	.08	.09	.10	.11	.11	.11
.10	.09	.08	.08				
22.00	DISCHG	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08				
23.00	DISCHG	.08	.09	.10	.10	.10	.10
.07	.02	.01	.00				

OPERATION ADDHYD CROSS SECTION 45

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6866.31	6.25	58.01	
6865.13	14.10	2.43	
6865.06	23.51	1.14	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.10 SQ. MI.	
5.00	DISCHG	.00	.00
2.17	8.43	18.86	25.75
6.00	DISCHG	32.81	51.09
41.45	36.12	31.40	27.32
7.00	DISCHG	23.88	21.02
16.40	16.07	15.77	15.49
8.00	DISCHG	15.22	14.87
13.15	12.86	12.58	12.30
9.00	DISCHG	12.04	11.78
8.23	7.68	7.18	6.74
10.00	DISCHG	6.35	6.00
4.71	4.42	4.14	3.88
11.00	DISCHG	3.63	3.46
3.21	3.08	2.95	2.82
12.00	DISCHG	2.69	2.63
2.74	2.67	2.59	2.49
13.00	DISCHG	2.40	2.31
2.05	2.12	2.21	2.30
14.00	DISCHG	2.39	2.43
2.14	2.08	2.03	1.98
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 27

15.00	DISCHG	1.94	1.90	1.87	1.84	1.82	1.79
1.77	1.75	1.74	1.72				
16.00	DISCHG	1.71	1.70	1.69	1.68	1.67	1.66
1.66	1.65	1.65	1.64				



17.00	DISCHG	1.64	1.64	1.63	1.63	1.63	1.63
1.62	1.62	1.62	1.62				
18.00	DISCHG	1.62	1.62	1.62	1.62	1.62	1.61
1.61	1.61	1.61	1.61				
19.00	DISCHG	1.61	1.59	1.54	1.49	1.44	1.39
1.34	1.27	1.21	1.12				
20.00	DISCHG	1.00	.95	.99	1.08	1.18	1.28
1.29	1.28	1.26	1.23				
21.00	DISCHG	1.20	1.15	1.15	1.16	1.18	1.21
1.21	1.19	1.16	1.12				
22.00	DISCHG	1.09	1.06	1.04	1.02	1.01	1.00
.99	.98	.98	.98				
23.00	DISCHG	.98	.99	1.02	1.06	1.10	1.14
1.12	1.01	.85	.67				
24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

\*\*\* WARNING REACH 35 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6863.59	6.25	58.01	
6862.16	14.10	2.43	
6862.08	23.51	1.14	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.10 SQ. MI.	
5.00	DISCHG	.00	.00
2.17	8.43	18.86	25.75
6.00	DISCHG	32.81	51.09
41.45	36.12	31.40	27.32
7.00	DISCHG	23.88	21.02
16.40	16.07	15.77	15.49
8.00	DISCHG	15.22	14.87
13.15	12.86	12.58	12.30
9.00	DISCHG	12.04	11.78
8.23	7.68	7.18	6.74
10.00	DISCHG	6.35	6.00
4.71	4.42	4.14	3.88
11.00	DISCHG	3.63	3.46
3.21	3.08	2.95	2.82
12.00	DISCHG	2.69	2.63
2.74	2.67	2.59	2.49
13.00	DISCHG	2.40	2.31
2.05	2.12	2.21	2.30
14.00	DISCHG	2.39	2.43
2.14	2.08	2.03	1.98
15.00	DISCHG	1.94	1.90
1.77	1.75	1.74	1.72

16.00	DISCHG		1.71	1.70	1.69	1.68	1.67	1.66
1.66	1.65	1.65	1.64					
17.00	DISCHG		1.64	1.64	1.63	1.63	1.63	1.63
1.62	1.62	1.62	1.62					
18.00	DISCHG		1.62	1.62	1.62	1.62	1.62	1.61
1.61	1.61	1.61	1.61					
19.00	DISCHG		1.61	1.59	1.54	1.49	1.44	1.39
1.34	1.27	1.21	1.12					
20.00	DISCHG		1.00	.95	.99	1.08	1.18	1.28
1.29	1.28	1.26	1.23					
21.00	DISCHG		1.20	1.15	1.15	1.16	1.18	1.21
1.21	1.19	1.16	1.12					
22.00	DISCHG		1.09	1.06	1.04	1.02	1.01	1.00
.99	.98	.98	.98					
23.00	DISCHG		.98	.99	1.02	1.06	1.10	1.14
1.12	1.01	.85	.67					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 40  
1

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 1  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
5.97		9.77			
(RUNOFF)					
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.			
5.00	DISCHG	.00	.00	.02	.05
1.83	5.36	7.56	8.79		
6.00	DISCHG	9.50	5.68	1.66	.85
.55	.44	.42	.42	.42	.42
7.00	DISCHG	.34	.34	.42	.42
.38	.34	.34	.34	.42	.42
8.00	DISCHG	.34	.26	.19	.17
.17	.17	.17	.17	.17	.17
9.00	DISCHG	.17	.17	.17	.17
.17	.17	.17	.17	.17	.17
10.00	DISCHG	.17	.17	.17	.17
.13	.09	.09	.09	.17	.17
11.00	DISCHG	.08	.12	.16	.17
.13	.09	.09	.09	.17	.17
12.00	DISCHG	.09	.12	.16	.17
.13	.09	.09	.09	.17	.17

13.00	DISCHG		.09	.09	.09	.09	.09	.09
.12	.16	.17	.17					
14.00	DISCHG		.17	.13	.09	.09	.09	.09
.09	.09	.09	.09					
15.00	DISCHG		.09	.09	.09	.09	.09	.09
.09	.09	.09	.09					
16.00	DISCHG		.09	.09	.09	.09	.09	.09
.09	.09	.09	.09					
17.00	DISCHG		.09	.09	.09	.09	.09	.09
.09	.09	.09	.09					
18.00	DISCHG		.09	.09	.09	.09	.09	.09
.09	.09	.09	.09					
19.00	DISCHG		.09	.07	.06	.05	.05	.05
.04	.04	.03	.03					
20.00	DISCHG		.03	.06	.08	.09	.09	.09
.07	.06	.05	.05					
21.00	DISCHG		.05	.06	.07	.07	.07	.07
.06	.05	.05	.05					
22.00	DISCHG		.05	.05	.05	.05	.05	.05
.05	.05	.05	.05					
23.00	DISCHG		.05	.06	.07	.07	.07	.07
.04	.01	.00						

\*\*\* WARNING REACH 35 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6862.65	5.97	9.77	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
5.00	DISCHG	.00	.00
1.83	5.36	7.56	8.79
.55	6.00	DISCHG	9.50
.38	.44	.42	.42
.17	7.00	DISCHG	.42
.17	.34	.34	.34
.13	8.00	DISCHG	.34
.13	.17	.17	.17
.13	9.00	DISCHG	.17
.13	.17	.17	.17
.13	10.00	DISCHG	.17
.13	.09	.09	.09
.13	11.00	DISCHG	.08
.13	.09	.09	.09
.13	12.00	DISCHG	.09
.13	.09	.09	.09
.12	13.00	DISCHG	.09
.09	.16	.17	.17
.09	14.00	DISCHG	.17
.09	.09	.09	.09

15.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
16.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
17.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
18.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
19.00	DISCHG	.09	.07	.06	.05	.05	.05
.04	.04	.03	.03				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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20.00	DISCHG	.03	.06	.08	.09	.09	.09
.07	.06	.05	.05				
21.00	DISCHG	.05	.06	.07	.07	.07	.07
.06	.05	.05	.05				
22.00	DISCHG	.05	.05	.05	.05	.05	.05
.05	.05	.05	.05				
23.00	DISCHG	.05	.06	.07	.07	.07	.07
.04	.01	.00					

OPERATION ADDHYD CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6863.60	6.22	59.01	
6862.17	14.05	2.57	
6862.08	23.49	1.21	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .11 SQ.MI.		
5.00	DISCHG	.00	.00
4.00	13.79	26.42	34.54
6.00	DISCHG	42.31	56.77
42.00	36.56	31.82	27.74
7.00	DISCHG	24.29	21.44
16.78	16.41	16.11	15.82
8.00	DISCHG	15.55	15.13
13.32	13.03	12.74	12.47
9.00	DISCHG	12.21	11.95
8.40	7.85	7.35	6.91
10.00	DISCHG	6.52	6.17
4.84	4.51	4.23	3.96
11.00	DISCHG	3.72	3.59
3.34	3.18	3.04	2.91

12.00	DISCHG	2.78	2.75	2.80	2.83	2.88	2.92
<del>2.88</del>	<del>2.76</del>	<del>2.67</del>	<del>2.58</del>				
13.00	DISCHG	2.49	2.40	2.32	2.25	2.19	2.14
2.18	2.29	2.38	2.47				
14.00	DISCHG	2.56	2.56	2.48	2.42	2.35	2.29
2.22	2.17	2.11	2.07				
15.00	DISCHG	2.03	1.99	1.96	1.93	1.90	1.88
1.86	1.84	1.82	1.81				
16.00	DISCHG	1.80	1.78	1.77	1.76	1.76	1.75
1.74	1.74	1.73	1.73				
17.00	DISCHG	1.72	1.72	1.72	1.72	1.71	1.71
1.71	1.71	1.71	1.70				
18.00	DISCHG	1.70	1.70	1.70	1.70	1.70	1.70
1.70	1.70	1.70	1.70				
19.00	DISCHG	1.70	1.66	1.60	1.55	1.49	1.45
1.38	1.31	1.25	1.15				
20.00	DISCHG	1.04	1.01	1.07	1.16	1.27	1.36
1.36	1.33	1.31	1.28				
21.00	DISCHG	1.25	1.21	1.21	1.23	1.25	1.28
1.28	1.25	1.21	1.17				
22.00	DISCHG	1.14	1.11	1.09	1.07	1.06	1.05
1.04	1.04	1.03	1.03				
23.00	DISCHG	1.03	1.05	1.08	1.13	1.17	1.21
1.16	1.01	.85	.67				
24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.97	2.51	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ. MI.	
5.00	DISCHG	.00	.00
.32	1.16	1.78	2.17
6.00	DISCHG	2.42	1.05
.13	.11	.11	.11
7.00	DISCHG	.11	.11
.10	.09	.09	.09
8.00	DISCHG	.09	.06
.04	.04	.04	.04
9.00	DISCHG	.04	.04
.04	.04	.04	.04
10.00	DISCHG	.04	.04
.03	.02	.02	.02

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1

tusc100a

11.00	DISCHG	.02	.04	.04	.05	.05	.05
.03	.02	.02	.02	.04	.04	.05	.05
12.00	DISCHG	.02	.02	.04	.04	.05	.05
.03	.02	.02	.02	.02	.02	.02	.02
13.00	DISCHG	.02	.02	.02	.02	.02	.02
.04	.04	.05	.05	.03	.02	.02	.02
14.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
15.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
16.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
17.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.02	.02	.02	.02
18.00	DISCHG	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02	.01	.01	.01	.01
19.00	DISCHG	.02	.02	.01	.01	.01	.01
.01	.01	.01	.01	.02	.02	.02	.02
20.00	DISCHG	.01	.01	.02	.02	.02	.02
.02	.01	.01	.01	.02	.02	.02	.02
21.00	DISCHG	.01	.01	.01	.01	.01	.01
.02	.01	.01	.01	.02	.02	.02	.02
22.00	DISCHG	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.02	.02	.02	.02
23.00	DISCHG	.01	.01	.02	.02	.02	.02
.01	.00						

OPERATION ADDHYD CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6863.61	6.21	59.23	
6862.17	14.03	2.62	
6862.08	23.49	1.23	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.11 SQ.MI.	
5.00	DISCHG	.00	.00
4.32	14.95	28.20	36.71
6.00	DISCHG	44.73	57.82
42.13	36.67	31.93	27.84
7.00	DISCHG	24.40	21.55
16.88	16.50	16.20	15.91
8.00	DISCHG	15.64	15.19
13.36	13.07	12.79	12.52
9.00	DISCHG	12.25	11.99
8.44	7.89	7.40	6.96
10.00	DISCHG	6.57	6.22
4.87	4.54	4.25	3.99

11.00	DISCHG		3.74	3.62	3.59	3.54	3.51	3.49
3.37	3.20	3.06	2.93					
12.00	DISCHG		2.80	2.79	2.84	2.88	2.92	2.97
2.91	2.79	2.70	2.60					
13.00	DISCHG		2.51	2.42	2.35	2.28	2.21	2.16
2.21	2.33	2.42	2.52					
14.00	DISCHG		2.61	2.59	2.51	2.44	2.38	2.31
2.25	2.19	2.14	2.09					
15.00	DISCHG		2.05	2.01	1.98	1.95	1.92	1.90
1.88	1.86	1.85	1.83					
16.00	DISCHG		1.82	1.81	1.80	1.79	1.78	1.77
1.77	1.76	1.76	1.75					
17.00	DISCHG		1.75	1.74	1.74	1.74	1.74	1.73
1.73	1.73	1.73	1.73					
18.00	DISCHG		1.73	1.73	1.73	1.72	1.72	1.72
1.72	1.72	1.72	1.72					
19.00	DISCHG		1.72	1.68	1.61	1.56	1.51	1.46
1.39	1.32	1.25	1.16					
20.00	DISCHG		1.04	1.02	1.09	1.18	1.29	1.39
1.38	1.35	1.32	1.30					
21.00	DISCHG		1.26	1.23	1.23	1.25	1.27	1.29
1.29	1.26	1.23	1.19					
22.00	DISCHG		1.15	1.12	1.10	1.08	1.07	1.06
1.06	1.05	1.05	1.04					
23.00	DISCHG		1.04	1.06	1.10	1.14	1.19	1.22
1.16	1.01	.85	.67					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

\*\*\* WARNING REACH 30 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 30  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6841.26	6.21	59.23	
6840.14	14.03	2.62	
6840.06	23.49	1.23	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
.10 HOURS DRAINAGE AREA = .11 SQ.MI.

5.00	DISCHG	.00	.00	.03	.12	.30	.56
4.32	14.95	28.20	36.71				
6.00	DISCHG	44.73	57.82	59.23	58.19	53.63	47.97
42.13	36.67	31.93	27.84				
7.00	DISCHG	24.40	21.55	19.19	17.76	17.49	17.23
16.88	16.50	16.20	15.91				
8.00	DISCHG	15.64	15.19	14.69	14.32	13.98	13.66
13.36	13.07	12.79	12.52				
9.00	DISCHG	12.25	11.99	11.43	10.55	9.76	9.07
8.44	7.89	7.40	6.96				
10.00	DISCHG	6.57	6.22	5.91	5.63	5.39	5.17
4.87	4.54	4.25	3.99				
11.00	DISCHG	3.74	3.62	3.59	3.54	3.51	3.49
3.37	3.20	3.06	2.93				
12.00	DISCHG	2.80	2.79	2.84	2.88	2.92	2.97
2.91	2.79	2.70	2.60				
13.00	DISCHG	2.51	2.42	2.35	2.28	2.21	2.16
2.21	2.33	2.42	2.52				
14.00	DISCHG	2.61	2.59	2.51	2.44	2.38	2.31
2.25	2.19	2.14	2.09				
15.00	DISCHG	2.05	2.01	1.98	1.95	1.92	1.90
1.88	1.86	1.85	1.83				
16.00	DISCHG	1.82	1.81	1.80	1.79	1.78	1.77
1.77	1.76	1.76	1.75				
17.00	DISCHG	1.75	1.74	1.74	1.74	1.74	1.73
1.73	1.73	1.73	1.73				
18.00	DISCHG	1.73	1.73	1.73	1.72	1.72	1.72
1.72	1.72	1.72	1.72				
19.00	DISCHG	1.72	1.68	1.61	1.56	1.51	1.46
1.39	1.32	1.25	1.16				
20.00	DISCHG	1.04	1.02	1.09	1.18	1.29	1.39
1.38	1.35	1.32	1.30				
21.00	DISCHG	1.26	1.23	1.23	1.25	1.27	1.29
1.29	1.26	1.23	1.19				
22.00	DISCHG	1.15	1.12	1.10	1.08	1.07	1.06
1.06	1.05	1.05	1.04				
23.00	DISCHG	1.04	1.06	1.10	1.14	1.19	1.22
1.16	1.01	.85	.67				
24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.02	14.42	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
5.00	DISCHG	.00	.00
.27	2.75	7.19	11.27
6.00	DISCHG	14.32	13.10
1.19	.94	.83	.79
			6.55
			3.04
			1.84
			1.43



7.00	DISCHG	.78	.78	.78	.78	.78	.79
.76	.69	.65	.64				
8.00	DISCHG	.64	.57	.43	.36	.33	.32
.32	.32	.32	.32				
9.00	DISCHG	.32	.32	.32	.32	.32	.32
.32	.32	.32	.32				
10.00	DISCHG	.32	.32	.32	.32	.32	.32
.29	.22	.18	.17				
11.00	DISCHG	.17	.20	.27	.31	.32	.32
.29	.22	.18	.17				
12.00	DISCHG	.17	.20	.27	.31	.32	.33
.29	.22	.18	.17				
13.00	DISCHG	.17	.17	.17	.17	.17	.17
.20	.27	.31	.32				
14.00	DISCHG	.33	.30	.22	.19	.17	.17
.17	.17	.17	.17				
15.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				
16.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				
17.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 32

18.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				
19.00	DISCHG	.17	.15	.12	.11	.10	.10
.09	.08	.07	.07				
20.00	DISCHG	.07	.09	.13	.16	.17	.17
.15	.12	.11	.10				
21.00	DISCHG	.10	.11	.12	.13	.13	.14
.13	.11	.11	.10				
22.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10				
23.00	DISCHG	.10	.11	.12	.13	.13	.13
.11	.05	.02	.01				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6841.39	6.12	71.25	
6840.16	14.02	2.94	
6840.07	23.48	1.36	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.12 SQ. MI.	
5.00	DISCHG	.00	.00
4.58	17.70	35.39	47.98
6.00	DISCHG	59.05	70.92
43.33	37.61	32.76	28.64
7.00	DISCHG	25.19	22.33
17.63	17.19	16.85	16.55
8.00	DISCHG	16.28	15.77
13.68	13.39	13.11	12.84
9.00	DISCHG	12.57	12.31
8.77	8.21	7.72	7.28
10.00	DISCHG	6.89	6.54
5.16	4.75	4.43	4.15
11.00	DISCHG	3.91	3.82
3.67	3.42	3.25	3.10
12.00	DISCHG	2.97	2.98
3.20	3.01	2.88	2.77
13.00	DISCHG	2.68	2.59
2.41	2.60	2.73	2.84
14.00	DISCHG	2.94	2.89
2.41	2.36	2.30	2.26
15.00	DISCHG	2.22	2.18
2.05	2.03	2.01	2.00
16.00	DISCHG	1.99	1.97
1.93	1.93	1.92	1.92
17.00	DISCHG	1.91	1.91
1.90	1.90	1.90	1.90
18.00	DISCHG	1.89	1.89
1.89	1.89	1.89	1.89
19.00	DISCHG	1.89	1.83
1.49	1.40	1.33	1.23
20.00	DISCHG	1.11	1.11
1.54	1.47	1.43	1.40
21.00	DISCHG	1.37	1.34
1.42	1.38	1.33	1.29
22.00	DISCHG	1.25	1.23
1.16	1.15	1.15	1.15
23.00	DISCHG	1.14	1.17
1.27	1.06	.87	.68
24.00	DISCHG	.52	.40
.09	.07	.05	.04
25.00	DISCHG	.03	.02
			.01
			.01

\*\*\* WARNING REACH 20 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6826.39	6.12	71.25	
6825.16	14.02	2.94	

6825.07

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 33

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =						
.10 HOURS	DRAINAGE AREA =	.12 SQ.MI.							
5.00	DISCHG	.00	.00	.03	.12	.30	.56		
4.58	17.70	35.39	47.98						
6.00	DISCHG	59.05	70.92	65.77	61.23	55.47	49.39		
43.33	37.61	32.76	28.64						
7.00	DISCHG	25.19	22.33	19.97	18.55	18.28	18.01		
17.63	17.19	16.85	16.55						
8.00	DISCHG	16.28	15.77	15.12	14.67	14.31	13.99		
13.68	13.39	13.11	12.84						
9.00	DISCHG	12.57	12.31	11.75	10.87	10.09	9.39		
8.77	8.21	7.72	7.28						
10.00	DISCHG	6.89	6.54	6.23	5.96	5.71	5.49		
5.16	4.75	4.43	4.15						
11.00	DISCHG	3.91	3.82	3.86	3.85	3.83	3.82		
3.67	3.42	3.25	3.10						
12.00	DISCHG	2.97	2.98	3.11	3.19	3.24	3.29		
3.20	3.01	2.88	2.77						
13.00	DISCHG	2.68	2.59	2.51	2.44	2.38	2.32		
2.41	2.60	2.73	2.84						
14.00	DISCHG	2.94	2.89	2.73	2.63	2.55	2.48		
2.41	2.36	2.30	2.26						
15.00	DISCHG	2.22	2.18	2.15	2.12	2.09	2.07		
2.05	2.03	2.01	2.00						
16.00	DISCHG	1.99	1.97	1.96	1.95	1.95	1.94		
1.93	1.93	1.92	1.92						
17.00	DISCHG	1.91	1.91	1.91	1.91	1.90	1.90		
1.90	1.90	1.90	1.90						
18.00	DISCHG	1.89	1.89	1.89	1.89	1.89	1.89		
1.89	1.89	1.89	1.89						
19.00	DISCHG	1.89	1.83	1.74	1.67	1.61	1.56		
1.49	1.40	1.33	1.23						
20.00	DISCHG	1.11	1.11	1.23	1.34	1.46	1.55		
1.54	1.47	1.43	1.40						
21.00	DISCHG	1.37	1.34	1.36	1.38	1.41	1.43		
1.42	1.38	1.33	1.29						
22.00	DISCHG	1.25	1.23	1.20	1.19	1.17	1.16		
1.16	1.15	1.15	1.15						
23.00	DISCHG	1.14	1.17	1.22	1.27	1.32	1.36		
1.27	1.06	.87	.68						
24.00	DISCHG	.52	.40	.30	.22	.17	.12		
.09	.07	.05	.04						
25.00	DISCHG	.03	.02	.01	.01	.01	.01		

OPERATION RUNOFF CROSS SECTION 27

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
(RUNOFF)		6.00	7.87		
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS		TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.			
5.00	DISCHG	.00	.00	.00	.00
.17	1.79	4.26	6.34	.00	.00
6.00	DISCHG	7.87	6.53	2.69	1.23
.58	.46	.42	.41	.80	.68
7.00	DISCHG	.41	.41	.41	.41
.39	.35	.34	.33	.41	.41
8.00	DISCHG	.33	.29	.21	.18
.17	.17	.17	.17	.17	.17
9.00	DISCHG	.17	.17	.17	.17
.17	.17	.17	.17	.17	.17
10.00	DISCHG	.17	.17	.17	.17
.15	.11	.09	.09	.17	.17
11.00	DISCHG	.09	.11	.15	.16
.15	.11	.09	.09	.17	.17
12.00	DISCHG	.09	.11	.15	.17
.15	.11	.09	.09	.17	.17
13.00	DISCHG	.09	.09	.09	.09
.11	.15	.17	.17	.09	.09
14.00	DISCHG	.17	.15	.11	.09
.09	.09	.09	.09	.09	.09
15.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09	.09	.09
16.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09	.09	.09
17.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09	.09	.09
18.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09	.09	.09
19.00	DISCHG	.09	.08	.06	.06
.05	.04	.04	.04	.06	.05
20.00	DISCHG	.04	.05	.07	.08
.08	.06	.06	.05	.07	.09
21.00	DISCHG	.05	.06	.07	.07
.07	.06	.05	.05	.07	.07
22.00	DISCHG	.05	.05	.05	.05
.05	.05	.05	.05	.05	.05

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83 (.2)  
 tuscl100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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23.00	DISCHG	.05	.06	.07	.07	.07	.07
.05	.02	.01	.00				

\*\*\* WARNING REACH 25 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6846.47	6.00	7.87	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ. MI.		
5.00	DISCHG .00	.00	.00
.17	1.79 4.26 6.34	.00	.00
6.00	DISCHG 7.87 6.53	2.69	1.23
.58	.46 .42 .41	.41	.41
7.00	DISCHG .41 .41	.41	.41
.39	.35 .34 .33	.21	.18
8.00	DISCHG .33 .29	.21	.18
.17	.17 .17 .17	.17	.17
9.00	DISCHG .17 .17	.17	.17
.17	.17 .17 .17	.17	.17
10.00	DISCHG .17 .17	.17	.17
.15	.11 .09 .09	.15	.16
11.00	DISCHG .09 .09	.15	.17
.15	.11 .09 .09	.15	.17
12.00	DISCHG .09 .09	.15	.17
.15	.11 .09 .09	.09	.09
13.00	DISCHG .09 .09	.09	.09
.11	.15 .17 .17	.15	.09
14.00	DISCHG .17 .17	.15	.09
.09	.09 .09 .09	.09	.09
15.00	DISCHG .09 .09	.09	.09
.09	.09 .09 .09	.09	.09
16.00	DISCHG .09 .09	.09	.09
.09	.09 .09 .09	.09	.09
17.00	DISCHG .09 .09	.09	.09
.09	.09 .09 .09	.09	.09
18.00	DISCHG .09 .09	.09	.09
.09	.09 .09 .09	.06	.06
19.00	DISCHG .09 .08	.06	.06
.05	.04 .04 .04	.07	.08
20.00	DISCHG .04 .05	.07	.08
.08	.06 .06 .05	.07	.07
21.00	DISCHG .05 .05	.07	.07
.07	.06 .05 .05	.05	.05
22.00	DISCHG .05 .05	.05	.05
.05	.05 .05 .05	.07	.07
23.00	DISCHG .05 .06	.07	.07
.05	.02 .01 .00		

OPERATION RUNOFF CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.99	15.83	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
5.00	DISCHG	.00 .00	.02 .06 .11 .18
1.57	6.33 10.95 13.99		
6.00	DISCHG	15.82 13.51	6.49 2.94 1.77 1.36
1.13	.89 .79 .75		
7.00	DISCHG	.74 .74	.74 .74 .74 .74
.71	.64 .61 .60		
8.00	DISCHG	.60 .53	.40 .33 .31 .30
.30	.30 .30 .30		
9.00	DISCHG	.30 .30	.30 .30 .30 .30
.30	.30 .30 .30		
10.00	DISCHG	.30 .30	.30 .30 .30 .30
.27	.20 .17 .16		
11.00	DISCHG	.15 .18	.25 .28 .30 .30
.27	.20 .17 .16		
12.00	DISCHG	.15 .18	.25 .28 .30 .30
.27	.20 .17 .16		
13.00	DISCHG	.15 .15	.15 .15 .15 .15
.18	.25 .29 .30		
14.00	DISCHG	.30 .27	.20 .17 .16 .15
.15	.15 .15 .15		
15.00	DISCHG	.15 .15	.15 .15 .15 .15
.15	.15 .15 .15		

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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16.00	DISCHG	.15 .15	.15 .15 .15 .15
.15	.15 .15 .15		
17.00	DISCHG	.15 .15	.15 .15 .15 .15
.15	.15 .15 .15		
18.00	DISCHG	.15 .15	.15 .15 .15 .15
.15	.15 .15 .15		
19.00	DISCHG	.15 .14	.11 .10 .09 .09
.09	.07 .06 .06		
20.00	DISCHG	.06 .08	.12 .14 .15 .15
.14	.11 .10 .09		
21.00	DISCHG	.09 .10	.11 .12 .12 .12
.12	.10 .09 .09		
22.00	DISCHG	.09 .09	.09 .09 .09 .09
.09	.09 .09 .09		
23.00	DISCHG	.09 .10	.11 .12 .12 .12
.10	.04 .02 .01		
24.00	DISCHG	.00	

OPERATION ADDHYD CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6846.87	6.00	23.69	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.02 SQ.MI.	
5.00	DISCHG	.00	.00
1.74	8.11	15.22	20.33
6.00	DISCHG	23.69	20.04
1.72	1.35	1.21	1.16
7.00	DISCHG	1.15	1.15
1.10	.99	.95	.93
8.00	DISCHG	.93	.82
.47	.47	.47	.47
9.00	DISCHG	.47	.47
.47	.47	.47	.47
10.00	DISCHG	.47	.47
.42	.31	.26	.24
11.00	DISCHG	.24	.29
.42	.31	.26	.24
12.00	DISCHG	.24	.29
.42	.31	.26	.24
13.00	DISCHG	.24	.24
.29	.40	.45	.47
14.00	DISCHG	.47	.42
.24	.24	.24	.24
15.00	DISCHG	.24	.24
.24	.24	.24	.24
16.00	DISCHG	.24	.24
.24	.24	.24	.24
17.00	DISCHG	.24	.24
.24	.24	.24	.24
18.00	DISCHG	.24	.24
.24	.24	.24	.24
19.00	DISCHG	.24	.22
.13	.11	.10	.10
20.00	DISCHG	.10	.13
.22	.17	.15	.15
21.00	DISCHG	.15	.16
.18	.16	.15	.15
22.00	DISCHG	.15	.14
.14	.14	.14	.14
23.00	DISCHG	.14	.15
.15	.06	.02	.01
24.00	DISCHG	.00	

\*\*\* WARNING REACH 22 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 22

	<u>PEAK TIME (HRS)</u>	<u>PEAK DISCHARGE (CFS)</u>	<u>PEAK</u>
<u>ELEVATION (FEET)</u>	6.00	23.69	
6834.87			

TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =		.02 SQ.MI.	
5.00	DISCHG	.00	.00	.02 .06 .11 .18
1.74	8.11	15.22	20.33	
6.00	DISCHG	23.69	20.04	9.17 4.17 2.57 2.04
1.72	1.35	1.21	1.16	
1				

TR20 XEQ 02-10-09 09:50	POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24
HR.5&100YR. STORM	JOB 1 PASS 1
REV PC 09/83(.2)	DEVELOPED CONDITIONS W/ DETENTION INPUT :
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7.00	DISCHG	1.15	1.15	1.15	1.15	1.15	1.15
1.10	.99	.95	.93				
8.00	DISCHG	.93	.82	.61	.51	.48	.47
.47	.47	.47	.47				
9.00	DISCHG	.47	.47	.47	.47	.47	.47
.47	.47	.47	.47				
10.00	DISCHG	.47	.47	.47	.47	.47	.47
.42	.31	.26	.24				
11.00	DISCHG	.24	.29	.40	.45	.46	.47
.42	.31	.26	.24				
12.00	DISCHG	.24	.29	.40	.45	.47	.47
.42	.31	.26	.24				
13.00	DISCHG	.24	.24	.24	.24	.24	.24
.29	.40	.45	.47				
14.00	DISCHG	.47	.42	.31	.26	.25	.24
.24	.24	.24	.24				
15.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
16.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
17.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
18.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
19.00	DISCHG	.24	.22	.17	.15	.15	.14
.13	.11	.10	.10				
20.00	DISCHG	.10	.13	.20	.23	.24	.24
.22	.17	.15	.15				
21.00	DISCHG	.15	.16	.18	.19	.19	.19
.18	.16	.15	.15				
22.00	DISCHG	.15	.14	.14	.14	.14	.14
.14	.14	.14	.14				
23.00	DISCHG	.14	.15	.17	.18	.19	.19
.15	.06	.02	.01				
24.00	DISCHG	.00					



OPERATION RUNOFF CROSS SECTION 22

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)		5.98		5.64	
(RUNOFF)					
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS		TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.			
5.00	DISCHG	.00	.00	.00	.00
.44	2.16	3.77	4.87		
6.00	DISCHG	5.58	3.76	1.21	.58
.35	.28	.27	.26	.26	.26
7.00	DISCHG	.21	.21	.26	.26
.24	.22	.21	.21	.26	.26
8.00	DISCHG	.21	.17	.12	.11
.11	.11	.11	.11	.11	.11
9.00	DISCHG	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11
10.00	DISCHG	.11	.11	.11	.11
.09	.06	.06	.05	.10	.11
11.00	DISCHG	.05	.08	.10	.11
.09	.06	.06	.05	.10	.11
12.00	DISCHG	.05	.08	.10	.11
.09	.06	.06	.05	.10	.11
13.00	DISCHG	.05	.05	.05	.05
.08	.10	.11	.11	.06	.06
14.00	DISCHG	.11	.09	.06	.06
.05	.05	.05	.05	.05	.05
15.00	DISCHG	.05	.06	.05	.05
.05	.05	.06	.06	.06	.06
16.00	DISCHG	.06	.06	.06	.06
.06	.06	.06	.06	.06	.06
17.00	DISCHG	.06	.06	.06	.06
.06	.06	.06	.06	.06	.06
18.00	DISCHG	.06	.06	.06	.06
.06	.06	.06	.06	.06	.06
19.00	DISCHG	.06	.05	.04	.03
.03	.02	.02	.02	.05	.05
20.00	DISCHG	.02	.04	.05	.06
.05	.04	.03	.03	.04	.04
21.00	DISCHG	.03	.04	.04	.04
.04	.03	.03	.03	.04	.04
22.00	DISCHG	.03	.03	.03	.03
.03	.03	.03	.03	.03	.03
23.00	DISCHG	.03	.04	.04	.04
.03	.01	.00			

OPERATION ADDHYD CROSS SECTION 20

1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6825.84	5.99	29.29	
	TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS	TIME INCREMENT =
	.10 HOURS	DRAINAGE AREA = .02 SQ.MI.	
	5.00	DISCHG .00 .00 .02 .06 .11 .18	
2.17	10.27	18.99 25.20	
	6.00	DISCHG 29.27 23.80 10.38 4.76 3.02 2.46	
2.07	1.63	1.47 1.42	
	7.00	DISCHG 1.41 1.41 1.41 1.41 1.41 1.41	
1.34	1.21	1.16 1.15	
	8.00	DISCHG 1.14 .99 .73 .62 .59 .58	
.57	.57	.57 .57 .57 .57 .57 .57	
	9.00	DISCHG .58 .58 .58 .58 .58 .58	
.58	.58	.58 .58 .58 .58 .58 .58	
	10.00	DISCHG .37 .31 .30 .36 .50 .55 .57 .58	
.50	.37	.32 .30 .37 .50 .56 .57 .58	
	11.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.50	.37	.32 .30 .29 .29 .29 .29 .29 .29	
	12.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.51	.37	.32 .30 .29 .29 .29 .29 .29 .29	
	13.00	DISCHG .56 .58 .51 .37 .32 .30 .30 .30	
.37	.50	.29 .29 .29 .29 .29 .29 .29 .29	
	14.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.29	.29	.29 .29 .29 .29 .29 .29 .29 .29	
	15.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.29	.29	.29 .29 .29 .29 .29 .29 .29 .29	
	16.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.29	.29	.29 .29 .29 .29 .29 .29 .29 .29	
	17.00	DISCHG .29 .29 .29 .29 .29 .29 .29 .29	
.29	.29	.29 .29 .29 .29 .29 .29 .29 .29	
	18.00	DISCHG .30 .30 .30 .30 .30 .30 .30 .30	
.30	.30	.30 .30 .26 .21 .19 .18 .18 .18	
	19.00	DISCHG .12 .12 .16 .25 .28 .29 .29	
.16	.13	.12 .12 .16 .25 .28 .29 .29	
	20.00	DISCHG .18 .18 .19 .22 .23 .24 .24	
.26	.21	.19 .18 .18 .18 .18 .18 .18 .18	
	21.00	DISCHG .18 .18 .18 .18 .18 .18 .18 .18	
.22	.19	.18 .18 .18 .18 .18 .18 .18 .18	
	22.00	DISCHG .18 .18 .18 .18 .18 .18 .18 .18	
.18	.18	.18 .18 .18 .18 .18 .18 .18 .18	
	23.00	DISCHG .18 .18 .18 .18 .18 .18 .18 .18	
.17	.07	.02 .01	
	24.00	DISCHG .00	

OPERATION ADDHYD CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
------------------	-----------------	----------------------	------

6826.63	6.08	95.46
6825.23	11.36	4.40
6825.21	12.48	3.88
6825.19	14.00	3.52
6825.08	23.47	1.60

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =						
.10 HOURS	DRAINAGE AREA =	.14 SQ.MI.							
5.00	DISCHG	.00	.00	.05	.18	.41	.74		
6.76	27.97	54.38	73.18						
6.00	DISCHG	88.32	94.72	76.15	65.99	58.49	51.85		
45.40	39.24	34.23	30.06						
7.00	DISCHG	26.60	23.73	21.38	19.96	19.69	19.43		
18.98	18.40	18.01	17.70						
8.00	DISCHG	17.42	16.76	15.85	15.29	14.90	14.56		
14.26	13.96	13.68	13.41						
9.00	DISCHG	13.14	12.89	12.32	11.44	10.66	9.96		
9.34	8.79	8.30	7.86						
10.00	DISCHG	7.47	7.12	6.81	6.53	6.29	6.07		
5.67	5.12	4.75	4.45						
11.00	DISCHG	4.20	4.19	4.36	4.40	4.40	4.39		
4.17	3.79	3.56	3.40						
12.00	DISCHG	3.26	3.35	3.61	3.74	3.82	3.87		
3.71	3.38	3.20	3.07						
13.00	DISCHG	2.97	2.88	2.80	2.73	2.67	2.62		
2.78	3.11	3.29	3.42						
14.00	DISCHG	3.52	3.40	3.10	2.95	2.85	2.77		
2.71	2.65	2.60	2.55						
15.00	DISCHG	2.51	2.47	2.44	2.41	2.38	2.36		
2.34	2.32	2.31	2.29						
16.00	DISCHG	2.28	2.27	2.26	2.25	2.24	2.23		
2.23	2.22	2.22	2.21						
1									

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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17.00	DISCHG	2.21	2.21	2.20	2.20	2.20	2.20		
2.19	2.19	2.19	2.19						
18.00	DISCHG	2.19	2.19	2.19	2.19	2.19	2.19		
2.19	2.19	2.19	2.19						
19.00	DISCHG	2.19	2.10	1.95	1.86	1.79	1.74		
1.65	1.53	1.45	1.35						
20.00	DISCHG	1.23	1.28	1.47	1.62	1.75	1.85		
1.80	1.68	1.62	1.58						
21.00	DISCHG	1.54	1.53	1.58	1.61	1.64	1.67		
1.64	1.57	1.52	1.47						

22.00	DISCHG		1.43	1.40	1.38	1.36	1.35	1.34
1.34	1.33	1.33	1.32					
23.00	DISCHG		1.32	1.36	1.44	1.50	1.55	1.59
1.44	1.13	.89	.69					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

\*\*\* WARNING REACH 21 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 21

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6827.10	6.08	95.46	
6825.26	11.36	4.40	
6825.23	12.48	3.88	
6825.21	14.00	3.52	
6825.10	23.47	1.60	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.14 SQ.MI.	
5.00	DISCHG	.00	.00
6.76	27.97	54.38	73.18
6.00	DISCHG	88.32	94.72
45.40	39.24	34.23	30.06
7.00	DISCHG	26.60	23.73
18.98	18.40	18.01	17.70
8.00	DISCHG	17.42	16.76
14.26	13.96	13.68	13.41
9.00	DISCHG	13.14	12.89
9.34	8.79	8.30	7.86
10.00	DISCHG	7.47	7.12
5.67	5.12	4.75	4.45
11.00	DISCHG	4.20	4.19
4.17	3.79	3.56	3.40
12.00	DISCHG	3.26	3.35
3.71	3.38	3.20	3.07
13.00	DISCHG	2.97	2.88
2.78	3.11	3.29	3.42
14.00	DISCHG	3.52	3.40
2.71	2.65	2.60	2.55
15.00	DISCHG	2.51	2.47
2.34	2.32	2.31	2.29
16.00	DISCHG	2.28	2.27
2.23	2.22	2.22	2.21
17.00	DISCHG	2.21	2.21
2.19	2.19	2.19	2.19
18.00	DISCHG	2.19	2.19
2.19	2.19	2.19	2.19

19.00	DISCHG		2.19	2.10	1.95	1.86	1.79	1.74
1.65	1.53	1.45	1.35					
20.00	DISCHG		1.23	1.28	1.47	1.62	1.75	1.85
1.80	1.68	1.62	1.58					
21.00	DISCHG		1.54	1.53	1.58	1.61	1.64	1.67
1.64	1.57	1.52	1.47					
22.00	DISCHG		1.43	1.40	1.38	1.36	1.35	1.34
1.34	1.33	1.33	1.32					
23.00	DISCHG		1.32	1.36	1.44	1.50	1.55	1.59
1.44	1.13	.89	.69					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 20  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83 (.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK ELEVATION (FEET)	
5.98		6.43		(RUNOFF)	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.			
5.00	DISCHG	.00	.00	.00	.00
.51	2.49 DISCHG	4.32	5.56		
6.00	DISCHG	6.35	4.24	1.35	.66
.40	.32 DISCHG	.30	.30	.30	.30
7.00	DISCHG	.30	.30	.30	.30
.28	.25 DISCHG	.24	.24	.12	.12
8.00	DISCHG	.12	.12	.12	.12
.12	.12 DISCHG	.12	.12	.12	.12
9.00	DISCHG	.12	.12	.12	.12
.12	.12 DISCHG	.12	.12	.12	.12
10.00	DISCHG	.06	.06	.12	.12
.10	.07 DISCHG	.06	.06	.12	.12
11.00	DISCHG	.06	.06	.12	.12
.10	.07 DISCHG	.06	.06	.12	.12
12.00	DISCHG	.06	.06	.12	.12
.10	.07 DISCHG	.06	.06	.12	.12
13.00	DISCHG	.12	.12	.06	.06
.09	.12 DISCHG	.12	.12	.06	.06
14.00	DISCHG	.12	.10	.06	.06
.06	.06 DISCHG	.06	.06	.06	.06
15.00	DISCHG	.06	.06	.06	.06
.06	.06 DISCHG	.06	.06	.06	.06

16.00	DISCHG	.06	.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
17.00	DISCHG	.06	.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
18.00	DISCHG	.06	.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
19.00	DISCHG	.06	.05	.04	.04	.04	.04	.04
.03	.03	.03	.03					
20.00	DISCHG	.03	.04	.06	.06	.06	.06	.06
.05	.04	.04	.04					
21.00	DISCHG	.04	.04	.05	.05	.05	.05	.05
.05	.04	.04	.04					
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
23.00	DISCHG	.04	.04	.05	.05	.05	.05	.05
.03	.01	.00						

OPERATION ADDHYD CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6826.68	6.07	100.40	
6825.24	11.37	4.53	
6825.21	12.47	4.00	
6825.19	13.99	3.64	
6825.09	23.47	1.65	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .14 SQ.MI.		
5.00	DISCHG	.00	.00
7.26	30.46	58.70	78.74
6.00	DISCHG	94.67	98.97
45.80	39.56	34.53	30.36
7.00	DISCHG	26.89	24.03
19.25	18.65	18.25	17.94
8.00	DISCHG	17.66	16.95
14.38	14.09	13.80	13.53
9.00	DISCHG	13.27	13.01
9.46	8.91	8.42	7.98
10.00	DISCHG	7.59	7.24
5.76	5.19	4.81	4.51
11.00	DISCHG	4.26	4.27
4.27	3.86	3.63	3.46
12.00	DISCHG	3.32	3.44
3.81	3.45	3.26	3.13
13.00	DISCHG	3.03	2.94
2.87	3.22	3.42	3.54
14.00	DISCHG	3.64	3.50
2.77	2.71	2.66	2.61
15.00	DISCHG	2.57	2.53
2.40	2.38	2.37	2.35

16.00	DISCHG		2.34	2.33	2.32	2.31	2.30	2.30
2.29	2.28	2.28	2.28					
17.00	DISCHG		2.27	2.27	2.27	2.26	2.26	2.26
2.26	2.26	2.25	2.25					

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 1  
 REV PC 09/83 (.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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18.00	DISCHG		2.25	2.25	2.25	2.25	2.25	2.25
2.25	2.25	2.25	2.25					
19.00	DISCHG		2.25	2.15	1.99	1.90	1.83	1.78
1.68	1.56	1.48	1.38					
20.00	DISCHG		1.26	1.32	1.53	1.68	1.81	1.91
1.85	1.72	1.66	1.62					
21.00	DISCHG		1.58	1.58	1.63	1.66	1.69	1.72
1.69	1.61	1.55	1.51					
22.00	DISCHG		1.47	1.44	1.42	1.40	1.39	1.38
1.37	1.37	1.36	1.36					
23.00	DISCHG		1.36	1.41	1.49	1.55	1.60	1.64
1.47	1.14	.89	.69					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

\*\*\* WARNING REACH 10 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 10

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6823.68	6.07	100.40	
6822.24	11.37	4.53	
6822.21	12.47	4.00	
6822.19	13.99	3.64	
6822.09	23.47	1.65	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .14 SQ.MI.		
5.00	DISCHG	.00	.00
7.26	30.46	58.70	78.74
6.00	DISCHG	94.67	98.97
45.80	39.56	34.53	30.36
7.00	DISCHG	26.89	24.03
19.25	18.65	18.25	17.94

8.00	DISCHG	17.66	16.95	15.99	15.42	15.02	14.69
14.38	14.09	13.80	13.53				
9.00	DISCHG	13.27	13.01	12.44	11.57	10.78	10.08
9.46	8.91	8.42	7.98				
10.00	DISCHG	7.59	7.24	6.93	6.66	6.41	6.19
5.76	5.19	4.81	4.51				
11.00	DISCHG	4.26	4.27	4.47	4.52	4.53	4.52
4.27	3.86	3.63	3.46				
12.00	DISCHG	3.32	3.44	3.73	3.86	3.94	4.00
3.81	3.45	3.26	3.13				
13.00	DISCHG	3.03	2.94	2.86	2.79	2.73	2.68
2.87	3.22	3.42	3.54				
14.00	DISCHG	3.64	3.50	3.17	3.01	2.91	2.84
2.77	2.71	2.66	2.61				
15.00	DISCHG	2.57	2.53	2.50	2.47	2.45	2.42
2.40	2.38	2.37	2.35				
16.00	DISCHG	2.34	2.33	2.32	2.31	2.30	2.30
2.29	2.28	2.28	2.28				
17.00	DISCHG	2.27	2.27	2.27	2.26	2.26	2.26
2.26	2.26	2.25	2.25				
18.00	DISCHG	2.25	2.25	2.25	2.25	2.25	2.25
2.25	2.25	2.25	2.25				
19.00	DISCHG	2.25	2.15	1.99	1.90	1.83	1.78
1.68	1.56	1.48	1.38				
20.00	DISCHG	1.26	1.32	1.53	1.68	1.81	1.91
1.85	1.72	1.66	1.62				
21.00	DISCHG	1.58	1.58	1.63	1.66	1.69	1.72
1.69	1.61	1.55	1.51				
22.00	DISCHG	1.47	1.44	1.42	1.40	1.39	1.38
1.37	1.37	1.36	1.36				
23.00	DISCHG	1.36	1.41	1.49	1.55	1.60	1.64
1.47	1.14	.89	.69				
24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 55

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.98	9.05	
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
 .10 HOURS DRAINAGE AREA = .01 SQ.MI.



5.00	DISCHG		.00	.00	.01	.04	.07	.11
1.14	4.16	6.63	8.13					
6.00	DISCHG		8.99	6.99	2.79	1.25	.82	.69
.59	.47	.42	.41					
7.00	DISCHG		.41	.41	.41	.41	.41	.41
.39	.35	.34	.33					
8.00	DISCHG		.33	.28	.20	.18	.17	.17
.17	.17	.17	.17					
9.00	DISCHG		.17	.17	.17	.17	.17	.17
.17	.17	.17	.17					
10.00	DISCHG		.17	.17	.17	.17	.17	.17
.14	.10	.09	.08					
11.00	DISCHG		.08	.11	.15	.16	.17	.17
.14	.10	.09	.09					
12.00	DISCHG		.08	.11	.15	.16	.17	.17
.14	.10	.09	.09					
13.00	DISCHG		.08	.08	.08	.08	.08	.08
.11	.15	.16	.17					
14.00	DISCHG		.17	.14	.10	.09	.09	.08
.08	.08	.08	.08					
15.00	DISCHG		.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
16.00	DISCHG		.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
17.00	DISCHG		.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
18.00	DISCHG		.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
19.00	DISCHG		.08	.08	.06	.05	.05	.05
.05	.04	.03	.03					
20.00	DISCHG		.03	.05	.07	.08	.08	.08
.08	.06	.05	.05					
21.00	DISCHG		.05	.06	.06	.07	.07	.07
.06	.05	.05	.05					
22.00	DISCHG		.05	.05	.05	.05	.05	.05
.05	.05	.05	.05					
23.00	DISCHG		.05	.05	.06	.06	.07	.07
.05	.02	.01	.00					

\*\*\* WARNING REACH 50 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 50

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6825.54	5.98	9.05	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
5.00	DISCHG	.00	.00
1.14	4.16	6.63	8.13
6.00	DISCHG	8.99	6.99
.59	.47	.42	.41
			.01
			.04
			.07
			.11
			.69
			.82
			.69

7.00	DISCHG	.41	.41	.41	.41	.41	.41	.41
.39	.35	.34	.33					
8.00	DISCHG	.33	.28	.20	.18	.17	.17	.17
.17	.17	.17	.17					
9.00	DISCHG	.17	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17					
10.00	DISCHG	.17	.17	.17	.17	.17	.17	.17
.14	.10	.09	.08					
11.00	DISCHG	.08	.11	.15	.16	.17	.17	.17
.14	.10	.09	.09					
12.00	DISCHG	.08	.11	.15	.16	.17	.17	.17
.14	.10	.09	.09					
13.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.11	.15	.16	.17					
14.00	DISCHG	.17	.14	.10	.09	.09	.09	.08
.08	.08	.08	.08					
15.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
16.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
17.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
18.00	DISCHG	.08	.08	.08	.08	.08	.08	.08
.08	.08	.08	.08					
19.00	DISCHG	.08	.08	.06	.05	.05	.05	.05
.05	.04	.03	.03					
20.00	DISCHG	.03	.05	.07	.08	.08	.08	.08
.08	.06	.05	.05					
21.00	DISCHG	.05	.06	.06	.07	.07	.07	.07
.06	.05	.05	.05					
22.00	DISCHG	.05	.05	.05	.05	.05	.05	.05
.05	.05	.05	.05					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 42

23.00	DISCHG	.05	.05	.06	.06	.07	.07
.05	.02	.01	.00				

OPERATION RUNOFF CROSS SECTION 50

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK ELEVATION (FEET)
5.97	6.79	
(RUNOFF)		
TIME (HRS)	FIRST HYDROGRAPH POINT =	TIME INCREMENT =
.10 HOURS	.00 HOURS	
5.00	DRAINAGE AREA = .00 SQ.MI.	
.66	DISCHG .00	.00
2.86	4.68	.00
	5.88	.00

6.00	DISCHG		6.64	3.80	1.08	.58	.49	.48
.40	.32	.31	.30					
7.00	DISCHG		.31	.31	.31	.31	.31	.31
.28	.25	.25	.25					
8.00	DISCHG		.25	.19	.14	.13	.12	.12
.12	.12	.12	.12					
9.00	DISCHG		.12	.12	.13	.13	.13	.13
.13	.13	.13	.13					
10.00	DISCHG		.13	.13	.13	.13	.13	.13
.10	.07	.06	.06					
11.00	DISCHG		.06	.09	.12	.13	.13	.13
.10	.07	.06	.06					
12.00	DISCHG		.06	.09	.12	.13	.13	.13
.10	.07	.06	.06					
13.00	DISCHG		.06	.06	.06	.06	.06	.06
.09	.12	.13	.13					
14.00	DISCHG		.13	.10	.07	.06	.06	.06
.06	.06	.06	.06					
15.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
16.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
17.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
18.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
19.00	DISCHG		.06	.05	.04	.04	.04	.04
.03	.03	.03	.03					
20.00	DISCHG		.03	.04	.06	.06	.06	.06
.05	.04	.04	.04					
21.00	DISCHG		.04	.05	.05	.05	.05	.05
.05	.04	.04	.04					
22.00	DISCHG		.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
23.00	DISCHG		.04	.04	.05	.05	.05	.05
.03	.01	.00						

OPERATION ADDHYD CROSS SECTION 50

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6825.72	5.98	15.83	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
5.00	DISCHG	.00	.00
1.79	7.02	11.32	14.01
.98	6.00	DISCHG	15.63
.67	.79	.73	.72
.29	7.00	DISCHG	.71
.29	.60	.58	.58
.29	8.00	DISCHG	.47
.29	.29	.29	.29
.29	9.00	DISCHG	.29
.29	.29	.29	.29

10.00	DISCHG	.29	.29	.29	.29	.29	.29
.24	.17	.15	.15				
11.00	DISCHG	.15	.20	.27	.29	.29	.29
.24	.17	.15	.15				
12.00	DISCHG	.15	.20	.27	.29	.29	.29
.24	.17	.15	.15				
13.00	DISCHG	.15	.15	.15	.15	.15	.15
.20	.27	.29	.29				
14.00	DISCHG	.29	.24	.17	.15	.15	.15
.15	.15	.15	.15				
15.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
16.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
17.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				

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TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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18.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
19.00	DISCHG	.15	.13	.10	.09	.09	.09
.08	.06	.06	.06				
20.00	DISCHG	.06	.09	.13	.15	.15	.15
.13	.10	.09	.09				
21.00	DISCHG	.09	.10	.11	.12	.12	.12
.11	.09	.09	.09				
22.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
23.00	DISCHG	.09	.10	.11	.12	.12	.12
.07	.02	.01	.00				

\*\*\* WARNING REACH 12 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 12

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6822.72	5.98	15.83	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
5.00	DISCHG	.00 .00	.01 .04 .07 .11
1.79	7.02	11.32 14.01	
.98	6.00	DISCHG 15.63	10.79 3.86 1.83 1.31 1.17
	.79	.73 .72	

7.00	DISCHG	.71	.71	.72	.72	.72	.72
.67	.60	.58	.58				
8.00	DISCHG	.58	.47	.34	.30	.29	.29
.29	.29	.29	.29	.29	.29	.29	.29
9.00	DISCHG	.29	.29	.29	.29	.29	.29
.29	.29	.29	.29	.29	.29	.29	.29
10.00	DISCHG	.29	.29	.29	.29	.29	.29
.24	.17	.15	.15				
11.00	DISCHG	.15	.20	.27	.29	.29	.29
.24	.17	.15	.15				
12.00	DISCHG	.15	.20	.27	.29	.29	.29
.24	.17	.15	.15				
13.00	DISCHG	.15	.15	.15	.15	.15	.15
.20	.27	.29	.29				
14.00	DISCHG	.29	.24	.17	.15	.15	.15
.15	.15	.15	.15				
15.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
16.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
17.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
18.00	DISCHG	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15				
19.00	DISCHG	.15	.13	.10	.09	.09	.09
.08	.06	.06	.06				
20.00	DISCHG	.06	.09	.13	.15	.15	.15
.13	.10	.09	.09				
21.00	DISCHG	.09	.10	.11	.12	.12	.12
.11	.09	.09	.09				
22.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09				
23.00	DISCHG	.09	.10	.11	.12	.12	.12
.07	.02	.01	.00				

OPERATION ADDHYD CROSS SECTION 10

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6823.78	6.05	112.30	
6822.26	11.40	4.82	
6822.23	12.47	4.30	
6822.21	13.98	3.94	
6822.09	23.47	1.77	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.15 SQ.MI.	
5.00	DISCHG	.00	.00
9.06	37.48	70.01	92.75
46.78	6.00	DISCHG	110.31 109.76
	40.35	35.26	31.08

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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7.00	DISCHG	27.61	24.75	22.39	20.97	20.71	20.45
19.92	19.25	18.84	18.52				
8.00	DISCHG	18.24	17.43	16.33	15.72	15.31	14.98
14.67	14.38	14.09	13.82				
9.00	DISCHG	13.56	13.30	12.74	11.86	11.07	10.38
9.76	9.20	8.71	8.27				
10.00	DISCHG	7.88	7.53	7.23	6.95	6.70	6.48
6.00	5.37	4.96	4.66				
11.00	DISCHG	4.41	4.47	4.74	4.81	4.82	4.81
4.51	4.04	3.78	3.61				
12.00	DISCHG	3.47	3.64	4.00	4.15	4.23	4.29
4.05	3.63	3.41	3.28				
13.00	DISCHG	3.18	3.09	3.01	2.94	2.88	2.83
3.07	3.49	3.70	3.84				
14.00	DISCHG	3.94	3.74	3.35	3.17	3.06	2.98
2.92	2.86	2.81	2.76				
15.00	DISCHG	2.72	2.68	2.65	2.62	2.59	2.57
2.55	2.53	2.52	2.50				
16.00	DISCHG	2.49	2.48	2.47	2.46	2.45	2.44
2.44	2.43	2.43	2.42				
17.00	DISCHG	2.42	2.42	2.41	2.41	2.41	2.41
2.41	2.40	2.40	2.40				
18.00	DISCHG	2.40	2.40	2.40	2.40	2.40	2.40
2.40	2.40	2.40	2.40				
19.00	DISCHG	2.40	2.28	2.09	1.99	1.92	1.87
1.76	1.62	1.54	1.44				
20.00	DISCHG	1.32	1.41	1.66	1.83	1.96	2.06
1.98	1.82	1.75	1.71				
21.00	DISCHG	1.67	1.68	1.74	1.78	1.81	1.84
1.80	1.70	1.65	1.60				
22.00	DISCHG	1.56	1.53	1.51	1.49	1.48	1.47
1.46	1.46	1.45	1.45				
23.00	DISCHG	1.45	1.51	1.60	1.67	1.72	1.75
1.55	1.16	.89	.69				
24.00	DISCHG	.52	.40	.30	.22	.17	.12
.09	.07	.05	.04				
25.00	DISCHG	.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 15

\*\*\* WARNING-MAIN TIME INCREMENT MAY BE TOO LARGE.  
 COMPUTED PEAK( 8.58) AT EXCEEDS MAX. ADJACENT  
 HYDROGRAPH COORDINATE BY 5 %.

+ XSECTION 15

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK
(RUNOFF)	5.96	8.58		
TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS		TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA = .00 SQ.MI.			
5.00	DISCHG	.00	.00	.02 .05 .08 .11
2.24	5.21	6.81	7.67	
6.00	DISCHG	8.15	3.39	.90 .59 .56 .56
.43	.36	.35	.35	
7.00	DISCHG	.35	.35	.35 .35 .35 .35
.31	.29	.28	.28	
8.00	DISCHG	.28	.19	.15 .14 .14 .14
.14	.14	.14	.14	
9.00	DISCHG	.14	.14	.14 .14 .14 .14
.14	.14	.14	.14	
10.00	DISCHG	.14	.14	.14 .14 .14 .14
.10	.07	.07	.07	
11.00	DISCHG	.07	.12	.14 .14 .14 .14
.10	.08	.07	.07	
12.00	DISCHG	.07	.12	.14 .14 .14 .14
.10	.08	.07	.07	
13.00	DISCHG	.07	.07	.07 .07 .07 .07
.12	.14	.14	.14	
14.00	DISCHG	.14	.10	.08 .07 .07 .07
.07	.07	.07	.07	
15.00	DISCHG	.07	.07	.07 .07 .07 .07
.07	.07	.07	.07	
16.00	DISCHG	.07	.07	.07 .07 .07 .07
.07	.07	.07	.07	
17.00	DISCHG	.07	.07	.07 .07 .07 .07
.07	.07	.07	.07	
18.00	DISCHG	.07	.07	.07 .07 .07 .07
.07	.07	.07	.07	
19.00	DISCHG	.07	.05	.04 .04 .04 .04
.03	.03	.03	.03	
20.00	DISCHG	.03	.06	.07 .07 .07 .07
.05	.04	.04	.04	
21.00	DISCHG	.04	.05	.06 .06 .06 .06
.05	.04	.04	.04	
22.00	DISCHG	.04	.04	.04 .04 .04 .04
.04	.04	.04	.04	
23.00	DISCHG	.04	.05	.06 .06 .06 .06
.02	.00			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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\*\*\* WARNING REACH 11 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 11

\*\*\* WARNING-MAIN TIME INCREMENT MAY BE TOO LARGE.  
 COMPUTED PEAK( 8.58) AT EXCEEDS MAX. ADJACENT  
 HYDROGRAPH COORDINATE BY 5 %.  
 + XSECTION 11

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
6822.52		5.96		8.58	
TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA = .00 SQ. MI.				
5.00	DISCHG	.00	.00	.02	.05
2.24	5.21	6.81	7.67	.08	.11
6.00	DISCHG	8.15	3.39	.90	.56
.43	.36	.35	.35	.35	.35
7.00	DISCHG	.28	.19	.15	.14
.31	.29	.28	.14	.14	.14
8.00	DISCHG	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14
9.00	DISCHG	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14
10.00	DISCHG	.14	.14	.14	.14
.10	.07	.07	.12	.14	.14
11.00	DISCHG	.07	.12	.14	.14
.10	.08	.07	.12	.14	.14
12.00	DISCHG	.07	.12	.14	.14
.10	.08	.07	.12	.14	.14
13.00	DISCHG	.07	.10	.08	.07
.12	.14	.14	.10	.07	.07
14.00	DISCHG	.07	.07	.07	.07
.07	.07	.07	.07	.07	.07
15.00	DISCHG	.07	.07	.07	.07
.07	.07	.07	.07	.07	.07
16.00	DISCHG	.07	.07	.07	.07
.07	.07	.07	.07	.07	.07
17.00	DISCHG	.07	.07	.07	.07
.07	.07	.07	.07	.07	.07
18.00	DISCHG	.07	.05	.04	.04
.07	.07	.07	.05	.04	.04
19.00	DISCHG	.03	.06	.07	.07
.03	.03	.03	.06	.07	.07
20.00	DISCHG	.04	.05	.06	.06
.05	.04	.04	.05	.06	.06
21.00	DISCHG	.04	.04	.04	.04
.05	.04	.04	.04	.04	.04
22.00	DISCHG	.04	.04	.06	.06
.04	.04	.04	.04	.06	.06
23.00	DISCHG	.04	.05	.06	.06
.02	.00				



OPERATION ADDHYD CROSS SECTION 10

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6823.84	6.03	119.32	
6822.26	11.40	4.96	
6822.24	12.47	4.45	
6822.22	13.98	4.09	
6822.10	23.46	1.83	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .16 SQ.MI.		
5.00	DISCHG .00	.08	.27 .55 .96
11.29	42.69 76.82 100.42		
6.00	DISCHG 118.45 113.14	82.26	69.07 60.86 54.06
47.21	40.71 35.61 31.43		
7.00	DISCHG 27.96 25.10	22.75	21.33 21.06 20.80
20.23	19.54 19.12 18.81		
8.00	DISCHG 18.52 17.62	16.47	15.86 15.46 15.12
14.81	14.52 14.24 13.96		
9.00	DISCHG 13.70 13.44	12.88	12.00 11.22 10.52
9.90	9.35 8.85 8.42		
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83 (.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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10.00	DISCHG	8.03	7.68	7.37	7.09	6.85	6.63
6.10	5.44	5.04	4.73				
11.00	DISCHG	4.48	4.59	4.88	4.95	4.96	4.95
4.61	4.11	3.85	3.68				
12.00	DISCHG	3.54	3.76	4.14	4.30	4.38	4.43
4.15	3.70	3.49	3.35				
13.00	DISCHG	3.25	3.16	3.08	3.01	2.95	2.90
3.19	3.63	3.85	3.98				
14.00	DISCHG	4.08	3.84	3.42	3.24	3.14	3.06
2.99	2.93	2.88	2.83				
15.00	DISCHG	2.79	2.75	2.72	2.69	2.67	2.64
2.62	2.61	2.59	2.57				
16.00	DISCHG	2.56	2.55	2.54	2.53	2.52	2.52
2.51	2.51	2.50	2.50				
17.00	DISCHG	2.49	2.49	2.49	2.48	2.48	2.48
2.48	2.48	2.48	2.48				
18.00	DISCHG	2.47	2.47	2.47	2.47	2.47	2.47
2.47	2.47	2.47	2.47				

19.00	DISCHG		2.47	2.33	2.13	2.03	1.97	1.91
1.80	1.65	1.57	1.47					
20.00	DISCHG		1.35	1.47	1.74	1.90	2.03	2.13
2.03	1.87	1.80	1.75					
21.00	DISCHG		1.72	1.73	1.80	1.84	1.87	1.89
1.84	1.75	1.69	1.64					
22.00	DISCHG		1.60	1.58	1.55	1.54	1.52	1.51
1.51	1.50	1.50	1.50					
23.00	DISCHG		1.49	1.56	1.66	1.72	1.77	1.81
1.57	1.16	.89	.69					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

OPERATION RUNOFF CROSS SECTION 10

\*\*\* WARNING-NO PEAK FOUND, MAXIMUM DISCHARGE = .02 CFS.

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
	23.50	.02	
(RUNOFF)			
	6.10	.62	
(RUNOFF)			

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ. MI.	
5.00	DISCHG	.00	.00
.00	.00	.00	.06
6.00	DISCHG	.39	.62
.09	.08	.07	.07
7.00	DISCHG	.07	.07
.07	.06	.06	.06
8.00	DISCHG	.06	.05
.03	.03	.03	.03
9.00	DISCHG	.03	.03
.03	.03	.03	.03
10.00	DISCHG	.03	.03
.03	.02	.02	.02
11.00	DISCHG	.02	.02
.03	.02	.02	.02
12.00	DISCHG	.02	.02
.03	.02	.02	.02
13.00	DISCHG	.02	.02
.02	.03	.03	.04
14.00	DISCHG	.04	.03
.02	.02	.02	.02
15.00	DISCHG	.02	.02
.02	.02	.02	.02
16.00	DISCHG	.02	.02
.02	.02	.02	.02
17.00	DISCHG	.02	.02
.02	.02	.02	.02
18.00	DISCHG	.02	.02
.02	.02	.02	.02

19.00	DISCHG	.02	.02	.01	.01	.01	.01
.01	.01	.01	.01				
20.00	DISCHG	.01	.01	.02	.02	.02	.02
.02	.01	.01	.01				
21.00	DISCHG	.01	.01	.02	.02	.02	.02
.02	.01	.01	.01				
22.00	DISCHG	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01				
23.00	DISCHG	.01	.01	.02	.02	.02	.02
.01	.01	.00					

OPERATION ADDHYD CROSS SECTION 10  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 1  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6823.84	6.03	119.78	
6822.26	11.40	5.00	
6822.24	12.47	4.49	
6822.22	13.98	4.13	
6822.13	18.85	2.49	
6822.10	23.46	1.85	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .16 SQ.MI.		
5.00	DISCHG .00 .00	.08	.27 .55 .96
11.29	42.69 76.82 100.47		
6.00	DISCHG 118.84 113.76	82.60	69.25 60.98 54.16
47.30	40.79 35.68 31.50		
7.00	DISCHG 28.03 25.17	22.82	21.40 21.13 20.87
20.30	19.60 19.18 18.87		
8.00	DISCHG 18.58 17.68	16.51	15.90 15.49 15.15
14.84	14.55 14.27 14.00		
9.00	DISCHG 13.73 13.47	12.91	12.03 11.25 10.55
9.93	9.38 8.89 8.45		
10.00	DISCHG 8.06 7.71	7.40	7.13 6.88 6.66
6.13	5.46 5.06 4.75		
11.00	DISCHG 4.50 4.61	4.91	4.99 5.00 4.99
4.64	4.14 3.87 3.70		
12.00	DISCHG 3.56 3.78	4.17	4.33 4.41 4.47
4.18	3.72 3.51 3.37		

13.00	DISCHG		3.27	3.18	3.10	3.03	2.97	2.92
3.21	3.66	3.88	4.02					
14.00	DISCHG		4.12	3.87	3.45	3.26	3.15	3.08
3.01	2.95	2.90	2.85					
15.00	DISCHG		2.81	2.77	2.74	2.71	2.69	2.66
2.64	2.62	2.61	2.59					
16.00	DISCHG		2.58	2.57	2.56	2.55	2.54	2.54
2.53	2.53	2.52	2.52					
17.00	DISCHG		2.51	2.51	2.51	2.50	2.50	2.50
2.50	2.50	2.50	2.50					
18.00	DISCHG		2.49	2.49	2.49	2.49	2.49	2.49
2.49	2.49	2.49	2.49					
19.00	DISCHG		2.49	2.35	2.15	2.05	1.98	1.92
1.81	1.66	1.57	1.48					
20.00	DISCHG		1.35	1.48	1.75	1.92	2.05	2.15
2.05	1.88	1.81	1.77					
21.00	DISCHG		1.73	1.74	1.81	1.85	1.89	1.91
1.86	1.76	1.70	1.65					
22.00	DISCHG		1.62	1.59	1.57	1.55	1.54	1.53
1.52	1.51	1.51	1.51					
23.00	DISCHG		1.51	1.57	1.67	1.74	1.79	1.83
1.58	1.17	.89	.69					
24.00	DISCHG		.52	.40	.30	.22	.17	.12
.09	.07	.05	.04					
25.00	DISCHG		.03	.02	.01	.01	.01	.01

OPERATION RESVOR STRUCTURE 5

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6823.70	6.31	69.85	
6819.69	14.11	3.81	
6819.30	23.56	1.67	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .16 SQ.MI.		
5.00	DISCHG	.00	.00
.66	3.04	10.41	30.01
6.00	DISCHG	56.22	65.92
66.43	64.18	61.58	52.54
7.00	DISCHG	45.04	38.97
23.66	22.44	21.44	20.64
8.00	DISCHG	20.01	19.39
16.35	16.07	15.80	15.52
9.00	DISCHG	15.24	14.97
12.85	12.32	11.79	11.27
10.00	DISCHG	10.77	10.29
8.26	7.85	7.42	7.00
11.00	DISCHG	6.61	6.26
5.47	5.38	5.25	5.12
12.00	DISCHG	4.98	4.87
4.65	4.58	4.50	4.40

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83 (.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 48

13.00	DISCHG		4.30	4.21	4.11	4.02	3.92	3.84
3.77	3.74	3.74	3.76					
14.00	DISCHG		3.79	3.81	3.79	3.75	3.70	3.65
3.59	3.54	3.48	3.43					
15.00	DISCHG		3.37	3.32	3.27	3.22	3.17	3.13
3.09	3.05	3.01	2.97					
16.00	DISCHG		2.94	2.90	2.87	2.84	2.82	2.79
2.77	2.75	2.73	2.71					
17.00	DISCHG		2.69	2.67	2.66	2.65	2.63	2.62
2.61	2.60	2.59	2.58					
18.00	DISCHG		2.57	2.57	2.56	2.55	2.55	2.54
2.54	2.53	2.53	2.53					
19.00	DISCHG		2.52	2.51	2.49	2.45	2.41	2.37
2.33	2.27	2.21	2.15					
20.00	DISCHG		2.09	2.02	1.99	1.97	1.98	1.99
2.00	1.99	1.98	1.96					
21.00	DISCHG		1.94	1.93	1.91	1.91	1.90	1.90
1.90	1.89	1.88	1.86					
22.00	DISCHG		1.84	1.82	1.80	1.77	1.75	1.73
1.71	1.70	1.68	1.66					
23.00	DISCHG		1.65	1.64	1.64	1.64	1.66	1.67
1.67	1.65	1.59	1.52					
24.00	DISCHG		1.44	1.35	1.26	1.17	1.08	.99
.91	.84	.77	.70					
25.00	DISCHG		.64	.59	.53	.49	.44	.40
.37	.33	.30	.28					
26.00	DISCHG		.25	.23	.21	.19	.17	.16
.14	.13	.12	.11					
27.00	DISCHG		.10	.09	.08	.07	.07	.06
.06	.05	.05	.04					
28.00	DISCHG		.04	.03	.03	.03	.03	.02
.02	.02	.02	.02					
29.00	DISCHG		.01	.01	.01	.01	.01	.01
.01								

\*\*\* WARNING REACH 5 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 5

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6822.13	6.31	69.85	
6821.19	14.11	3.81	

TIME (HRS)	FIRST HYDROGRAPH POINT =			.00 HOURS		TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =			.16 SQ.MI.				
5.00	DISCHG	.00	.00	.00	.02	.06	.12	
.66	3.04	10.41	30.01					
6.00	DISCHG	56.22	65.92	69.16	69.84	69.37	68.18	
66.43	64.18	61.58	52.54					
7.00	DISCHG	45.04	38.97	34.04	30.12	27.20	25.16	
23.66	22.44	21.44	20.64					
8.00	DISCHG	20.01	19.39	18.64	17.84	17.13	16.62	
16.35	16.07	15.80	15.52					
9.00	DISCHG	15.24	14.97	14.67	14.31	13.86	13.37	
12.85	12.32	11.79	11.27					
10.00	DISCHG	10.77	10.29	9.83	9.41	9.01	8.63	
8.26	7.85	7.42	7.00					
11.00	DISCHG	6.61	6.26	6.01	5.84	5.70	5.58	
5.47	5.38	5.25	5.12					
12.00	DISCHG	4.98	4.87	4.78	4.74	4.70	4.68	
4.65	4.58	4.50	4.40					
13.00	DISCHG	4.30	4.21	4.11	4.02	3.92	3.84	
3.77	3.74	3.74	3.76					
14.00	DISCHG	3.79	3.81	3.79	3.75	3.70	3.65	
3.59	3.54	3.48	3.43					
15.00	DISCHG	3.37	3.32	3.27	3.22	3.17	3.13	
3.09	3.05	3.01	2.97					
16.00	DISCHG	2.94	2.90	2.87	2.84	2.82	2.79	
2.77	2.75	2.73	2.71					
17.00	DISCHG	2.69	2.67	2.66	2.65	2.63	2.62	
2.61	2.60	2.59	2.58					
18.00	DISCHG	2.57	2.57	2.56	2.55	2.55	2.54	
2.54	2.53	2.53	2.53					
19.00	DISCHG	2.52	2.51	2.49	2.45	2.41	2.37	
2.33	2.27	2.21	2.15					
20.00	DISCHG	2.09	2.02	1.99	1.97	1.98	1.99	
2.00	1.99	1.98	1.96					
21.00	DISCHG	1.94	1.93	1.91	1.91	1.90	1.90	
1.90	1.89	1.88	1.86					
22.00	DISCHG	1.84	1.82	1.80	1.77	1.75	1.73	
1.71	1.70	1.68	1.66					
23.00	DISCHG	1.65	1.64	1.64	1.64	1.66	1.67	
1.67	1.65	1.59	1.52					
24.00	DISCHG	1.44	1.35	1.26	1.17	1.08	.99	
.91	.84	.77	.70					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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25.00	DISCHG	.64	.59	.53	.49	.44	.40	
.37	.33	.30	.28					

26.00	DISCHG		.25	.23	.21	.19	.17	.16
.14	.13	.12	.11					
27.00	DISCHG		.10	.09	.08	.07	.07	.06
.06	.05	.05	.04					
28.00	DISCHG		.04	.03	.03	.03	.03	.02
.02	.02	.02	.02					
29.00	DISCHG		.01	.01	.01	.01	.01	.01
.01								

OPERATION RUNOFF CROSS SECTION 5

ELEVATION (FEET)		PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK			
(RUNOFF)		6.11	1.32					
TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =		.00 SQ. MI.					
5.00	DISCHG	.00	.00	.00	.00	.00	.00	.00
.00	.00	.09	.43					
6.00	DISCHG	.97	1.32	1.03	.59	.36	.25	
.20	.16	.13	.12					
7.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.11	.10	.10	.09					
8.00	DISCHG	.09	.09	.07	.06	.05	.05	.05
.05	.05	.05	.05					
9.00	DISCHG	.05	.05	.05	.05	.05	.05	.05
.05	.05	.05	.05					
10.00	DISCHG	.05	.05	.05	.05	.05	.05	.05
.05	.04	.03	.03					
11.00	DISCHG	.03	.03	.04	.04	.05	.05	.05
.05	.04	.03	.03					
12.00	DISCHG	.03	.03	.04	.04	.05	.05	.05
.05	.04	.03	.03					
13.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.04	.04	.05					
14.00	DISCHG	.05	.05	.04	.03	.03	.03	.03
.03	.03	.03	.03					
15.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03					
16.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03					
17.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03					
18.00	DISCHG	.03	.03	.03	.03	.03	.03	.03
.03	.03	.03	.03					
19.00	DISCHG	.03	.03	.02	.02	.02	.02	.02
.02	.01	.01	.01					
20.00	DISCHG	.01	.01	.02	.02	.02	.03	.03
.03	.02	.02	.02					
21.00	DISCHG	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02					
22.00	DISCHG	.02	.02	.02	.02	.02	.02	.02
.02	.02	.02	.02					
23.00	DISCHG	.02	.02	.02	.02	.02	.02	.02
.02	.01	.01	.00					

OPERATION ADDHYD CROSS SECTION 5

ELEVATION (FEET)	PEAK TIME (HRS)	FIRST HYDROGRAPH POINT =		PEAK DISCHARGE (CFS)	PEAK			
6821.77	6.31	.00 HOURS		32.35				
		DRAINAGE AREA = .15 SQ.MI.						
					TIME INCREMENT =			
.10 HOURS	5.00	DISCHG	.00	.00	.00	.00	.00	.00
.01	.06	DISCHG	.59	2.60				
6.00	DISCHG	10.30	23.27	30.06	32.31	31.01	27.84	
24.43	21.78	19.87	18.42					
7.00	DISCHG	17.33	16.51	15.92	15.49	15.17	14.92	
14.71	14.49	14.25	14.00					
8.00	DISCHG	13.76	13.53	12.87	12.04	11.17	10.36	
9.63	9.00	8.45	7.96					
9.00	DISCHG	7.53	7.15	6.80	6.49	6.20	5.95	
5.71	5.50	5.30	5.13					
10.00	DISCHG	4.96	4.81	4.68	4.55	4.44	4.34	
4.22	4.07	3.86	3.61					
11.00	DISCHG	3.37	3.18	3.07	3.06	3.11	3.18	
3.22	3.19	3.07	2.91					
12.00	DISCHG	2.75	2.61	2.56	2.60	2.69	2.80	
2.87	2.88	2.79	2.65					
13.00	DISCHG	2.51	2.37	2.27	2.19	2.12	2.07	
2.05	2.08	2.18	2.33					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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14.00	DISCHG	2.48	2.60	2.63	2.57	2.45	2.32
2.21	2.12	2.05	2.00				
15.00	DISCHG	1.96	1.92	1.90	1.87	1.85	1.83
1.82	1.80	1.79	1.78				
16.00	DISCHG	1.77	1.76	1.75	1.74	1.74	1.73
1.73	1.72	1.72	1.71				
17.00	DISCHG	1.71	1.70	1.70	1.70	1.70	1.69
1.69	1.69	1.69	1.69				
18.00	DISCHG	1.69	1.69	1.69	1.69	1.69	1.69
1.68	1.68	1.68	1.68				
19.00	DISCHG	1.68	1.68	1.65	1.59	1.51	1.44
1.37	1.30	1.24	1.17				
20.00	DISCHG	1.10	1.06	1.06	1.11	1.20	1.28
1.35	1.38	1.36	1.32				
21.00	DISCHG	1.27	1.23	1.21	1.21	1.23	1.25
1.27	1.27	1.25	1.22				
22.00	DISCHG	1.19	1.16	1.14	1.13	1.11	1.10
1.09	1.09	1.08	1.08				



23.00	DISCHG	1.07	1.07	1.08	1.10	1.14	1.17
1.18	1.14	1.04	.91				
24.00	DISCHG	.77	.66	.56	.49	.43	.38
.34	.30	.27	.25				
25.00	DISCHG	.22	.20	.20	.20	.20	.20
.20	.20	.20	.20				
26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.19	.19	.19	.19
.19	.19	.19	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

OPERATION ADDHYD CROSS SECTION 4

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(NULL)	6.31	102.19	
(NULL)	12.59	7.52	
(NULL)	14.17	6.43	
(NULL)	23.57	2.85	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.31 SQ.MI.	
5.00	DISCHG	.00 .00 .00	.02 .06 .12
.67	3.10 11.01 32.61		
6.00	DISCHG	66.52 89.19 99.22	102.16 100.38 96.02
90.86	85.96 81.44 70.96		
7.00	DISCHG	62.37 55.49 49.96	45.60 42.37 40.08
38.36	36.93 35.68 34.64		
8.00	DISCHG	33.77 32.92 31.50	29.87 28.30 26.97
25.98	25.07 24.24 23.48		
9.00	DISCHG	22.78 22.12 21.48	20.80 20.07 19.32
18.56	17.82 17.09 16.39		
10.00	DISCHG	15.73 15.10 14.51	13.96 13.45 12.97
12.48	11.92 11.28 10.61		
11.00	DISCHG	9.98 9.45 9.09	8.90 8.81 8.76
8.69	8.56 8.33 8.03		
12.00	DISCHG	7.73 7.48 7.34	7.33 7.40 7.48
7.52	7.46 7.29 7.05		
13.00	DISCHG	6.81 6.58 6.38	6.20 6.05 5.91
5.81	5.81 5.92 6.09		
14.00	DISCHG	6.27 6.40 6.42	6.32 6.16 5.97
5.81	5.66 5.54 5.43		
15.00	DISCHG	5.33 5.25 5.17	5.09 5.02 4.96
4.90	4.85 4.80 4.75		
16.00	DISCHG	4.70 4.66 4.62	4.59 4.55 4.52
4.49	4.47 4.44 4.42		
17.00	DISCHG	4.40 4.38 4.36	4.34 4.33 4.32
4.30	4.29 4.28 4.27		

18.00	DISCHG	4.26	4.25	4.25	4.24	4.23	4.23
4.22	4.22	4.21	4.21				
19.00	DISCHG	4.21	4.19	4.14	4.04	3.93	3.81
3.70	3.58	3.45	3.32				
20.00	DISCHG	3.19	3.09	3.05	3.09	3.17	3.27
3.35	3.37	3.34	3.28				
21.00	DISCHG	3.21	3.15	3.12	3.12	3.13	3.16
3.17	3.16	3.13	3.08				
22.00	DISCHG	3.03	2.98	2.94	2.90	2.87	2.84
2.81	2.78	2.76	2.74				
23.00	DISCHG	2.72	2.71	2.72	2.75	2.79	2.84
2.85	2.79	2.63	2.43				
24.00	DISCHG	2.21	2.00	1.82	1.66	1.51	1.37
1.25	1.14	1.04	.95				
25.00	DISCHG	.86	.79	.73	.69	.64	.60
.57	.53	.50	.47				
26.00	DISCHG	.45	.43	.41	.39	.37	.35
.34	.33	.31	.30				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 1  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 51

27.00	DISCHG	.29	.28	.28	.27	.26	.26
.25	.24	.24	.24				
28.00	DISCHG	.23	.23	.22	.22	.22	.22
.21	.21	.21	.21				
29.00	DISCHG	.21	.21	.20	.20	.20	.20
.20	.19	.19	.19				

EXECUTIVE CONTROL OPERATION ENDCMP  
 RECORD ID  
 +

COMPUTATIONS COMPLETED FOR PASS 1

EXECUTIVE CONTROL OPERATION COMPUT  
 RECORD ID  
 +

FROM XSECTION 135

STARTING TIME = .00 RAIN DEPTH = 4.50 RAIN DURATION= 1.00  
 RAIN TABLE NO.= 7 ANT. MOIST. COND= 2  
 ALTERNATE NO.= 1 STORM NO.= 2 MAIN TIME INCREMENT = .10  
 HOURS

TO XSECTION 4

OPERATION RUNOFF CROSS SECTION 135

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK ELEVATION (FEET)
-----------------	----------------------	-----------------------

(RUNOFF) 5.96 49.00  
 (RUNOFF) 7.45 2.03

TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =		.01 SQ.MI.					
4.00	DISCHG	.00	.00	.00	.03	.07	.11	
.15	.18	.22	.25					
5.00	DISCHG	.28	.55	.93	1.15	1.32	1.49	
13.82	33.31	41.94	45.67					
6.00	DISCHG	47.34	29.64	9.09	4.39	3.41	3.20	
2.71	2.16	2.03	2.01					
7.00	DISCHG	2.00	2.00	2.00	2.01	2.01	2.01	
1.84	1.66	1.62	1.61					
8.00	DISCHG	1.61	1.28	.91	.83	.81	.80	
.80	.80	.81	.81					
9.00	DISCHG	.81	.81	.81	.81	.81	.81	
.81	.81	.81	.81					
10.00	DISCHG	.81	.81	.81	.81	.81	.81	
.64	.46	.41	.41					
11.00	DISCHG	.40	.57	.75	.80	.81	.81	
.64	.46	.41	.41					
12.00	DISCHG	.41	.57	.75	.80	.81	.81	
.64	.46	.42	.41					
13.00	DISCHG	.40	.40	.40	.40	.40	.41	
.57	.76	.80	.81					
14.00	DISCHG	.81	.64	.46	.42	.41	.40	
.40	.40	.40	.40					
15.00	DISCHG	.40	.40	.40	.40	.40	.40	
.40	.40	.40	.40					
16.00	DISCHG	.40	.40	.40	.40	.40	.40	
.40	.40	.40	.41					
17.00	DISCHG	.41	.41	.41	.41	.41	.41	
.41	.41	.41	.41					
18.00	DISCHG	.41	.41	.41	.41	.41	.41	
.41	.41	.41	.41					
19.00	DISCHG	.41	.34	.26	.25	.24	.24	
.21	.17	.16	.16					
20.00	DISCHG	.16	.26	.37	.40	.40	.41	
.34	.26	.25	.24					
21.00	DISCHG	.24	.28	.31	.32	.32	.32	
.29	.25	.25	.24					
22.00	DISCHG	.24	.24	.24	.24	.24	.24	
.24	.24	.24	.24					
23.00	DISCHG	.24	.27	.31	.31	.32	.32	
.19	.05	.02	.01					
24.00	DISCHG	.01	.00					

0 \*\*\* WARNING - INFLOW EXCEEDED MAX.FLOW IN XSECTN TABLE 134 BY 12.3 CFS

\*\*\* WARNING REACH 134 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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OPERATION REACH CROSS SECTION 134

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6935.22	5.96	49.00	
6933.21	7.45	2.03	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
4.00	DISCHG .00	.00	.07
.15	.18 .22 .25	.03	.11
5.00	DISCHG .28 .55	.93	1.49
13.82	33.31 41.94 45.67	1.15	1.32
6.00	DISCHG 47.34 29.64	4.39	3.20
2.71	2.16 2.03 2.01	9.09	3.41
7.00	DISCHG 2.00 2.00	2.00	2.01
1.84	1.66 1.62 1.61	2.01	2.01
8.00	DISCHG 1.61 1.28	.91	.81
.80	.80 .81 .81	.83	.81
9.00	DISCHG .81 .81	.81	.81
.81	.81 .81 .81	.81	.81
10.00	DISCHG .81 .81	.81	.81
.64	.46 .41 .41	.81	.81
11.00	DISCHG .40 .57	.75	.81
.64	.46 .41 .41	.80	.81
12.00	DISCHG .41 .57	.75	.81
.64	.46 .42 .41	.80	.81
13.00	DISCHG .40 .40	.40	.41
.57	.76 .80 .81	.40	.40
14.00	DISCHG .81 .64	.46	.41
.40	.40 .40 .40	.42	.40
15.00	DISCHG .40 .40	.40	.40
.40	.40 .40 .40	.40	.40
16.00	DISCHG .40 .40	.40	.40
.40	.40 .40 .41	.40	.40
17.00	DISCHG .41 .41	.41	.41
.41	.41 .41 .41	.41	.41
18.00	DISCHG .41 .41	.41	.41
.41	.41 .41 .41	.41	.41
19.00	DISCHG .41 .34	.26	.24
.21	.17 .16 .16	.25	.24
20.00	DISCHG .16 .26	.37	.41
.34	.26 .25 .24	.40	.40
21.00	DISCHG .24 .28	.31	.32
.29	.25 .25 .24	.32	.32
22.00	DISCHG .24 .24	.24	.24
.24	.24 .24 .24	.24	.24

23.00	DISCHG	.24	.27	.31	.31	.32	.32
.19	.05	.02	.01				
24.00	DISCHG	.01	.00				

OPERATION RUNOFF CROSS SECTION 134

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.00	24.71	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
4.00	DISCHG	.00	.00
.06	.08	.10	.12
5.00	DISCHG	.14	.21
3.26	11.14	18.41	22.53
6.00	DISCHG	24.70	22.25
1.91	1.48	1.23	1.15
7.00	DISCHG	1.12	1.11
1.08	.99	.93	.90
8.00	DISCHG	.89	.83
.45	.45	.44	.44
9.00	DISCHG	.44	.44
.45	.45	.45	.45
10.00	DISCHG	.45	.45
.41	.32	.26	.24
11.00	DISCHG	.23	.26
.41	.32	.26	.24
12.00	DISCHG	.23	.26
.41	.32	.26	.24
13.00	DISCHG	.23	.23
.26	.35	.41	.43
14.00	DISCHG	.44	.41
.23	.22	.22	.22

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 53

15.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22				
16.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22				
17.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22				
18.00	DISCHG	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22				
19.00	DISCHG	.22	.21	.18	.15	.14	.14
.13	.11	.10	.09				

20.00	DISCHG	.09	.11	.16	.20	.21	.22
.21	.17	.15	.14				
21.00	DISCHG	.14	.14	.16	.17	.18	.18
.17	.15	.14	.14				
22.00	DISCHG	.14	.13	.13	.13	.13	.13
.13	.13	.13	.13				
23.00	DISCHG	.13	.14	.16	.17	.17	.17
.15	.08	.03	.02				
24.00	DISCHG	.01	.01	.00			

OPERATION ADDHYD CROSS SECTION 134

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6936.20	5.97	73.43	
6933.32	7.45	3.14	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .02 SQ.MI.		
4.00	DISCHG .00	.00	.04
.21	.27 .32	.37	.09
5.00	DISCHG .42	.76	1.96
17.08	44.45 60.35	68.19	2.25
6.00	DISCHG 72.05	51.89	6.89
4.62	3.64 3.27	3.16	5.62
7.00	DISCHG 3.13	3.12	3.11
2.92	2.65 2.55	2.51	3.11
8.00	DISCHG 2.50	2.10	1.28
1.25	1.25 1.25	1.25	1.26
9.00	DISCHG 1.25	1.25	1.25
1.25	1.25 1.25	1.25	1.25
10.00	DISCHG 1.25	1.25	1.25
1.05	.78 .68	.64	1.25
11.00	DISCHG .63	.83	1.24
1.05	.78 .68	.64	1.25
12.00	DISCHG .63	.83	1.24
1.05	.78 .68	.64	1.25
13.00	DISCHG .63	.63	.63
.83	1.10 1.21	1.24	.63
14.00	DISCHG 1.25	1.05	.65
.63	.63 .63	.63	.63
15.00	DISCHG .63	.63	.63
.63	.63 .63	.63	.63
16.00	DISCHG .63	.63	.63
.63	.63 .63	.63	.63
17.00	DISCHG .63	.63	.63
.63	.63 .63	.63	.63
18.00	DISCHG .63	.63	.63
.63	.63 .63	.63	.63
19.00	DISCHG .63	.55	.38
.34	.28 .26	.26	.38
20.00	DISCHG .25	.37	.62
.55	.44 .40	.38	.63

21.00	DISCHG	.38	.42	.47	.49	.50	.50
.46	.41	.39	.38				
22.00	DISCHG	.38	.38	.38	.38	.38	.38
.38	.38	.38	.38				
23.00	DISCHG	.38	.41	.46	.48	.49	.49
.34	.13	.05	.03				
24.00	DISCHG	.02	.01	.00			

\*\*\* WARNING REACH 133 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6915.91	5.97	73.43	
6914.28	7.45	3.14	
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83 (.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 54

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .02 SQ.MI.		
4.00	DISCHG .00 .00	.00	.04 .09 .15
.21	.27 .32 .37		
5.00	DISCHG .42 .76	1.30	1.68 1.96 2.25
17.08	44.45 60.35 68.19		
6.00	DISCHG 72.05 51.89	21.84	10.51 6.89 5.62
4.62	3.64 3.27 3.16		
7.00	DISCHG 3.13 3.12	3.11	3.11 3.11 3.12
2.92	2.65 2.55 2.51		
8.00	DISCHG 2.50 2.10	1.56	1.35 1.28 1.26
1.25	1.25 1.25 1.25		
9.00	DISCHG 1.25 1.25	1.25	1.25 1.25 1.25
1.25	1.25 1.25 1.25		
10.00	DISCHG 1.25 1.25	1.25	1.25 1.25 1.25
1.05	.78 .68 .64		
11.00	DISCHG .63 .83	1.10	1.20 1.24 1.25
1.05	.78 .68 .64		
12.00	DISCHG .63 .83	1.10	1.20 1.24 1.25
1.05	.78 .68 .64		
13.00	DISCHG .63 .63	.63	.63 .63 .63
.83	1.10 1.21 1.24		
14.00	DISCHG 1.25 1.05	.78	.68 .65 .63
.63	.63 .63 .63		
15.00	DISCHG .63 .63	.63	.63 .63 .63
.63	.63 .63 .63		

16.00	DISCHG	.63	.63	.63	.63	.63	.63	.63
.63	.63	.63	.63					
17.00	DISCHG	.63	.63	.63	.63	.63	.63	.63
.63	.63	.63	.63					
18.00	DISCHG	.63	.63	.63	.63	.63	.63	.63
.63	.63	.63	.63					
19.00	DISCHG	.63	.55	.44	.40	.38	.38	.38
.34	.28	.26	.26					
20.00	DISCHG	.25	.37	.54	.60	.62	.62	.63
.55	.44	.40	.38					
21.00	DISCHG	.38	.42	.47	.49	.50	.50	.50
.46	.41	.39	.38					
22.00	DISCHG	.38	.38	.38	.38	.38	.38	.38
.38	.38	.38	.38					
23.00	DISCHG	.38	.41	.46	.48	.49	.49	.49
.34	.13	.05	.03					
24.00	DISCHG	.02	.01	.00				

OPERATION RUNOFF CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.96	17.22	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
4.00	DISCHG	.00	.00
.05	.06	.08	.09
5.00	DISCHG	.10	.18
4.16	11.10	14.54	16.09
6.00	DISCHG	16.79	11.62
.99	.79	.73	.72
7.00	DISCHG	.72	.71
.67	.60	.58	.57
8.00	DISCHG	.57	.48
.29	.29	.29	.29
9.00	DISCHG	.29	.29
.29	.29	.29	.29
10.00	DISCHG	.29	.29
.24	.17	.15	.15
11.00	DISCHG	.14	.19
.24	.17	.15	.15
12.00	DISCHG	.14	.19
.24	.17	.15	.15
13.00	DISCHG	.14	.14
.19	.26	.28	.29
14.00	DISCHG	.29	.24
.14	.14	.14	.14
15.00	DISCHG	.14	.14
.14	.14	.14	.14
16.00	DISCHG	.14	.14
.14	.14	.14	.14
17.00	DISCHG	.14	.14
.14	.14	.14	.14



18.00	DISCHG	.14	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14					
19.00	DISCHG	.14	.12	.10	.09	.09	.09	.09
.08	.06	.06	.06					
20.00	DISCHG	.06	.09	.13	.14	.14	.14	.14
.12	.10	.09	.09					
21.00	DISCHG	.09	.10	.11	.11	.12	.12	.12
.11	.09	.09	.09					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 55

22.00	DISCHG	.09	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09					
23.00	DISCHG	.09	.10	.11	.11	.11	.11	.11
.08	.02	.01	.00					

OPERATION ADDHYD CROSS SECTION 133

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6916.23	5.97	90.64	
6914.35	7.45	3.86	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .03 SQ.MI.		
4.00	DISCHG .00 .00	.00	.05 .11 .19
.26	.33 .40 .46		
5.00	DISCHG .52 .94	1.62	2.08 2.42 2.79
21.25	55.55 74.89 84.28		
6.00	DISCHG 88.84 63.51	25.81	12.33 8.18 6.78
5.61	4.43 4.00 3.88		
7.00	DISCHG 3.84 3.83	3.83	3.83 3.83 3.83
3.59	3.25 3.12 3.09		
8.00	DISCHG 3.07 2.58	1.89	1.65 1.57 1.55
1.54	1.54 1.54 1.54		
9.00	DISCHG 1.54 1.54	1.54	1.54 1.54 1.54
1.54	1.54 1.54 1.54		
10.00	DISCHG 1.54 1.54	1.54	1.54 1.54 1.54
1.29	.95 .83 .79		
11.00	DISCHG .78 1.02	1.36	1.48 1.52 1.53
1.29	.95 .83 .79		
12.00	DISCHG .78 1.02	1.36	1.49 1.52 1.53
1.29	.95 .83 .79		
13.00	DISCHG .78 .77	.77	.77 .77 .77
1.02	1.36 1.49 1.53		
14.00	DISCHG 1.54 1.29	.95	.83 .79 .78
.77	.77 .77 .77		

15.00	DISCHG	.77	.77	.77	.77	.77	.77
.77	.77	.77	.77	.77	.77	.77	.77
16.00	DISCHG	.77	.77	.77	.77	.77	.77
.77	.77	.77	.77	.77	.77	.77	.77
17.00	DISCHG	.77	.77	.77	.77	.77	.77
.77	.77	.77	.77	.77	.77	.77	.77
18.00	DISCHG	.77	.77	.77	.77	.77	.77
.77	.77	.77	.77	.77	.77	.77	.77
19.00	DISCHG	.77	.67	.54	.49	.47	.47
.42	.35	.32	.31				
20.00	DISCHG	.31	.46	.67	.74	.76	.77
.67	.54	.49	.47				
21.00	DISCHG	.47	.52	.58	.61	.62	.62
.57	.50	.48	.47				
22.00	DISCHG	.47	.47	.46	.46	.46	.46
.46	.46	.46	.46				
23.00	DISCHG	.47	.51	.57	.59	.60	.60
.41	.15	.06	.03				
24.00	DISCHG	.02	.01	.00			

\*\*\* WARNING REACH 132 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.76	5.97	90.64	
6882.31	7.45	3.86	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .03 SQ.MI.		
4.00	DISCHG .00	.00	.05 .11 .19
.26	.33 .40 .46		
5.00	DISCHG .52	.94	1.62 2.08 2.42 2.79
21.25	55.55 74.89 84.28		
6.00	DISCHG 88.84	63.51	25.81 12.33 8.18 6.78
5.61	4.43 4.00	3.88	
7.00	DISCHG 3.84	3.83	3.83 3.83 3.83 3.83
3.59	3.25 3.12	3.09	
8.00	DISCHG 3.07	2.58	1.89 1.65 1.57 1.55
1.54	1.54 1.54	1.54	
9.00	DISCHG 1.54	1.54	1.54 1.54 1.54 1.54
1.54	1.54 1.54	1.54	

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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10.00	DISCHG		1.54	1.54	1.54	1.54	1.54	1.54
1.29	.95	.83	.79					
11.00	DISCHG		.78	1.02	1.36	1.48	1.52	1.53
1.29	.95	.83	.79					
12.00	DISCHG		.78	1.02	1.36	1.49	1.52	1.53
1.29	.95	.83	.79					
13.00	DISCHG		.78	.77	.77	.77	.77	.77
1.02	1.36	1.49	1.53					
14.00	DISCHG		1.54	1.29	.95	.83	.79	.78
.77	.77	.77	.77					
15.00	DISCHG		.77	.77	.77	.77	.77	.77
.77	.77	.77	.77					
16.00	DISCHG		.77	.77	.77	.77	.77	.77
.77	.77	.77	.77					
17.00	DISCHG		.77	.77	.77	.77	.77	.77
.77	.77	.77	.77					
18.00	DISCHG		.77	.77	.77	.77	.77	.77
.77	.77	.77	.77					
19.00	DISCHG		.77	.67	.54	.49	.47	.47
.42	.35	.32	.31					
20.00	DISCHG		.31	.46	.67	.74	.76	.77
.67	.54	.49	.47					
21.00	DISCHG		.47	.52	.58	.61	.62	.62
.57	.50	.48	.47					
22.00	DISCHG		.47	.47	.46	.46	.46	.46
.46	.46	.46	.46					
23.00	DISCHG		.47	.51	.57	.59	.60	.60
.41	.15	.06	.03					
24.00	DISCHG		.02	.01	.00			

OPERATION RUNOFF CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK
(RUNOFF)	5.96	34.89		
TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.			
4.00	DISCHG	.00	.00	.02 .05 .08
.11	.13	.16	.18	
5.00	DISCHG	.20	.43	.69 .83 .94 1.06
11.93	25.11	30.18	32.33	
6.00	DISCHG	33.23	17.47	4.81 2.63 2.27 2.23
1.81	1.47	1.41	1.40	
7.00	DISCHG	1.40	1.40	1.40 1.40 1.40 1.40
1.26	1.15	1.13	1.12	
8.00	DISCHG	1.12	.83	.61 .57 .56 .56
.56	.56	.56	.56	
9.00	DISCHG	.56	.56	.56 .56 .56 .56
.56	.56	.56	.56	
10.00	DISCHG	.56	.56	.56 .56 .56 .56
.42	.30	.29	.28	
11.00	DISCHG	.28	.43	.54 .56 .56 .56
.42	.31	.29	.28	

12.00	DISCHG	.28	.43	.54	.56	.56	.56
.42	.31	.29	.28				
13.00	DISCHG	.28	.28	.28	.28	.28	.28
.43	.54	.56	.57				
14.00	DISCHG	.56	.42	.31	.29	.28	.28
.28	.28	.28	.28				
15.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
16.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
17.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
18.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.28	.28	.28				
19.00	DISCHG	.28	.23	.18	.17	.17	.17
.14	.12	.11	.11				
20.00	DISCHG	.11	.20	.27	.28	.28	.28
.23	.18	.17	.17				
21.00	DISCHG	.17	.20	.22	.23	.23	.23
.20	.17	.17	.17				
22.00	DISCHG	.17	.17	.17	.17	.17	.17
.17	.17	.17	.17				
23.00	DISCHG	.17	.20	.22	.22	.22	.22
.11	.02	.01	.01				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 132  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
PAGE 57

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6884.19	5.96	125.48	
6882.41	7.45	5.23	
6882.17	10.36	2.10	
6882.17	11.45	2.14	
6882.17	12.45	2.14	
6882.17	13.95	2.15	

TIME (HRS) .10 HOURS  
FIRST HYDROGRAPH POINT = .00 HOURS  
DRAINAGE AREA = .04 SQ.MI.  
TIME INCREMENT =

4.00	DISCHG	.00	.00	.00	.07	.17	.27
.37	.46	.55	.64				
5.00	DISCHG	.72	1.37	2.31	2.91	3.36	3.85
33.18	80.66	105.07	116.61				
6.00	DISCHG	122.07	80.98	30.62	14.96	10.45	9.02
7.42	5.90	5.41	5.28				
7.00	DISCHG	5.24	5.23	5.23	5.23	5.23	5.23
4.84	4.39	4.25	4.21				
8.00	DISCHG	4.20	3.41	2.50	2.22	2.14	2.11
2.10	2.10	2.10	2.10				
9.00	DISCHG	2.10	2.10	2.10	2.10	2.10	2.10
2.10	2.10	2.10	2.10				
10.00	DISCHG	2.10	2.10	2.10	2.10	2.10	2.10
1.71	1.25	1.11	1.07				
11.00	DISCHG	1.06	1.45	1.90	2.05	2.09	2.10
1.71	1.25	1.11	1.07				
12.00	DISCHG	1.06	1.45	1.91	2.05	2.09	2.10
1.71	1.26	1.11	1.07				
13.00	DISCHG	1.06	1.06	1.05	1.05	1.05	1.06
1.45	1.91	2.05	2.09				
14.00	DISCHG	2.10	1.71	1.26	1.12	1.07	1.06
1.06	1.06	1.06	1.06				
15.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06				
16.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06				
17.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06				
18.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06				
19.00	DISCHG	1.06	.90	.72	.66	.64	.64
.56	.46	.44	.43				
20.00	DISCHG	.43	.66	.94	1.02	1.05	1.05
.90	.72	.66	.64				
21.00	DISCHG	.64	.71	.81	.83	.84	.84
.77	.68	.65	.64				
22.00	DISCHG	.64	.64	.64	.64	.64	.64
.64	.64	.64	.64				
23.00	DISCHG	.64	.71	.79	.81	.82	.82
.52	.18	.07	.03				
24.00	DISCHG	.02	.01	.00			

\*\*\* WARNING REACH 132 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6884.19	5.96	125.48	
6882.41	7.45	5.23	
6882.17	10.36	2.10	

6882.17	11.45	2.14
6882.17	12.45	2.14
6882.17	13.95	2.15

TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA =		.04 SQ.MI.					
4.00	DISCHG	.00	.00	.00	.07	.17	.27	
.37	.46	.55	.64					
5.00	DISCHG	.72	1.37	2.31	2.91	3.36	3.85	
33.18	80.66	105.07	116.61					
6.00	DISCHG	122.07	80.98	30.62	14.96	10.45	9.02	
7.42	5.90	5.41	5.28					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 58

7.00	DISCHG	5.24	5.23	5.23	5.23	5.23	5.23	5.23
4.84	4.39	4.25	4.21					
8.00	DISCHG	4.20	3.41	2.50	2.22	2.14	2.11	
2.10	2.10	2.10	2.10					
9.00	DISCHG	2.10	2.10	2.10	2.10	2.10	2.10	2.10
2.10	2.10	2.10	2.10					
10.00	DISCHG	2.10	2.10	2.10	2.10	2.10	2.10	2.10
1.71	1.25	1.11	1.07					
11.00	DISCHG	1.06	1.45	1.90	2.05	2.09	2.10	
1.71	1.25	1.11	1.07					
12.00	DISCHG	1.06	1.45	1.91	2.05	2.09	2.10	
1.71	1.26	1.11	1.07					
13.00	DISCHG	1.06	1.06	1.05	1.05	1.05	1.06	
1.45	1.91	2.05	2.09					
14.00	DISCHG	2.10	1.71	1.26	1.12	1.07	1.06	
1.06	1.06	1.06	1.06					
15.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06					
16.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06					
17.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06					
18.00	DISCHG	1.06	1.06	1.06	1.06	1.06	1.06	1.06
1.06	1.06	1.06	1.06					
19.00	DISCHG	1.06	.90	.72	.66	.64	.64	
.56	.46	.44	.43					
20.00	DISCHG	.43	.66	.94	1.02	1.05	1.05	
.90	.72	.66	.64					
21.00	DISCHG	.64	.71	.81	.83	.84	.84	
.77	.68	.65	.64					
22.00	DISCHG	.64	.64	.64	.64	.64	.64	
.64	.64	.64	.64					

23.00	DISCHG	.64	.71	.79	.81	.82	.82
.52	.18	.07	.03				
24.00	DISCHG	.02	.01	.00			

OPERATION RUNOFF CROSS SECTION 131

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.97	44.69	
(RUNOFF)	7.45	1.93	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
4.00	DISCHG .00	.00	.02 .05 .09
.12	.16 .19 .22		
5.00	DISCHG .26	.42	.76 1.01 1.19 1.41
8.06	25.03 36.21 41.69		
6.00	DISCHG 44.27	35.53	15.72 7.01 4.29 3.41
2.87	2.25 2.02 1.95		
7.00	DISCHG 1.93	1.92	1.92 1.92 1.92 1.92
1.83	1.65 1.58 1.55		
8.00	DISCHG 1.54	1.36	1.00 .84 .79 .78
.77	.77 .77 .77		
9.00	DISCHG .77	.77	.77 .77 .77 .77
.77	.77 .77 .77		
10.00	DISCHG .77	.77	.77 .77 .77 .77
.68	.50 .42 .40		
11.00	DISCHG .39	.48	.66 .74 .76 .77
.68	.50 .42 .40		
12.00	DISCHG .39	.48	.66 .74 .76 .77
.68	.50 .42 .40		
13.00	DISCHG .39	.39	.39 .39 .39 .39
.48	.66 .74 .76		
14.00	DISCHG .77	.68	.50 .42 .40 .39
.39	.39 .39 .39		
15.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
16.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
17.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
18.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
19.00	DISCHG .39	.35	.28 .25 .24 .23
.22	.18 .16 .16		
20.00	DISCHG .16	.21	.32 .37 .38 .39
.35	.28 .25 .24		
21.00	DISCHG .23	.25	.29 .30 .31 .31
.29	.26 .24 .24		
22.00	DISCHG .23	.23	.23 .23 .23 .23
.23	.23 .23 .23		
23.00	DISCHG .23	.25	.28 .30 .30 .30
.23	.10 .03 .02		
24.00	DISCHG .01	.01	.00

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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\*\*\* WARNING REACH 132 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 132

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6883.17	5.97	44.69	
6882.15	7.45	1.93	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
4.00	DISCHG .00	.00	.02 .05 .09
.12	.16 .19 .22		
5.00	DISCHG .26	.42	.76 1.01 1.19 1.41
8.06	25.03 36.21 41.69		
6.00	DISCHG 44.27	35.53	15.72 7.01 4.29 3.41
2.87	2.25 2.02 1.95		
7.00	DISCHG 1.93	1.92	1.92 1.92 1.92 1.92
1.83	1.65 1.58 1.55		
8.00	DISCHG 1.54	1.36	1.00 .84 .79 .78
.77	.77 .77 .77		
9.00	DISCHG .77	.77	.77 .77 .77 .77
.77	.77 .77 .77		
10.00	DISCHG .77	.77	.77 .77 .77 .77
.68	.50 .42 .40		
11.00	DISCHG .39	.48	.66 .74 .76 .77
.68	.50 .42 .40		
12.00	DISCHG .39	.48	.66 .74 .76 .77
.68	.50 .42 .40		
13.00	DISCHG .39	.39	.39 .39 .39 .39
.48	.66 .74 .76		
14.00	DISCHG .77	.68	.50 .42 .40 .39
.39	.39 .39 .39		
15.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
16.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
17.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		
18.00	DISCHG .39	.39	.39 .39 .39 .39
.39	.39 .39 .39		



19.00	DISCHG		.39	.35	.28	.25	.24	.23
.22	.18	.16	.16					
20.00	DISCHG		.16	.21	.32	.37	.38	.39
.35	.28	.25	.24					
21.00	DISCHG		.23	.25	.29	.30	.31	.31
.29	.26	.24	.24					
22.00	DISCHG		.23	.23	.23	.23	.23	.23
.23	.23	.23	.23					
23.00	DISCHG		.23	.25	.28	.30	.30	.30
.23	.10	.03	.02					
24.00	DISCHG		.01	.01	.00			

OPERATION ADDHYD CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6843.60	5.96	170.11	
6842.35	7.45	7.22	
6842.14	10.36	2.88	
6842.14	11.45	2.92	
6842.14	12.45	2.92	
6842.14	13.95	2.92	
6842.06	23.45	1.17	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .05 SQ.MI.		
4.00	DISCHG .00	.00	.09 .22 .35
.49	.62 .74 .86		
5.00	DISCHG .98	1.79	3.07 3.91 4.55 5.26
41.24	105.69 141.28 158.29		
6.00	DISCHG 166.34	116.51	46.35 21.97 14.74 12.43
10.29	8.15 7.43 7.23		
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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7.00	DISCHG		7.17	7.16	7.15	7.15	7.16	7.16
6.68	6.04	5.83	5.76					
8.00	DISCHG		5.74	4.78	3.50	3.06	2.93	2.89
2.88	2.87	2.87	2.87					
9.00	DISCHG		2.87	2.87	2.87	2.87	2.87	2.87
2.87	2.87	2.87	2.87					

10.00	DISCHG		2.88	2.88	2.88	2.88	2.88	2.87
2.39	1.76	1.53	1.47					
11.00	DISCHG		1.45	1.93	2.56	2.78	2.85	2.87
2.39	1.75	1.54	1.47					
12.00	DISCHG		1.45	1.93	2.56	2.79	2.85	2.87
2.39	1.76	1.54	1.47					
13.00	DISCHG		1.45	1.44	1.44	1.44	1.44	1.44
1.93	2.57	2.79	2.85					
14.00	DISCHG		2.87	2.40	1.76	1.54	1.47	1.45
1.45	1.44	1.44	1.44					
15.00	DISCHG		1.44	1.44	1.44	1.44	1.44	1.44
1.44	1.44	1.44	1.44					
16.00	DISCHG		1.44	1.44	1.44	1.44	1.44	1.44
1.44	1.44	1.44	1.44					
17.00	DISCHG		1.44	1.44	1.44	1.44	1.44	1.44
1.44	1.44	1.45	1.45					
18.00	DISCHG		1.45	1.45	1.45	1.45	1.45	1.45
1.45	1.45	1.45	1.45					
19.00	DISCHG		1.44	1.25	.99	.91	.88	.87
.77	.64	.60	.58					
20.00	DISCHG		.58	.87	1.26	1.39	1.43	1.44
1.25	.99	.91	.88					
21.00	DISCHG		.87	.97	1.09	1.14	1.15	1.16
1.06	.93	.89	.87					
22.00	DISCHG		.87	.87	.87	.87	.87	.87
.87	.87	.87	.87					
23.00	DISCHG		.87	.96	1.07	1.11	1.12	1.12
.76	.27	.10	.05					
24.00	DISCHG		.03	.01	.00			

OPERATION RUNOFF CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.15	6.55	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
5.00	DISCHG	.00	.00
.00	.08	.60	2.11
6.00	DISCHG	4.41	6.33
1.57	1.21	.95	.79
7.00	DISCHG	.69	.64
.59	.57	.54	.51
8.00	DISCHG	.50	.48
.27	.26	.25	.25
9.00	DISCHG	.25	.25
.25	.25	.25	.25
10.00	DISCHG	.25	.25
.25	.22	.19	.16
11.00	DISCHG	.15	.15
.24	.22	.19	.16
12.00	DISCHG	.15	.15
.24	.22	.19	.17

13.00	DISCHG	.15	.14	.14	.13	.13	.13
.14	.16	.20	.23				
14.00	DISCHG	.24	.25	.23	.19	.17	.15
.14	.14	.14	.14				
15.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.13				
16.00	DISCHG	.13	.13	.13	.13	.13	.13
.13	.13	.13	.14				
17.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14				
18.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14				
19.00	DISCHG	.14	.13	.12	.11	.10	.09
.09	.08	.07	.06				
20.00	DISCHG	.06	.06	.08	.10	.12	.13
.13	.12	.11	.10				
21.00	DISCHG	.09	.09	.09	.10	.10	.11
.11	.10	.10	.09				
22.00	DISCHG	.09	.09	.08	.08	.08	.08
.08	.08	.08	.08				
23.00	DISCHG	.08	.09	.09	.10	.10	.10
.10	.08	.05	.03				
24.00	DISCHG	.02	.01	.01	.00		

OPERATION ADDHYD CROSS SECTION 130

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6843.61	5.97	173.78	
6842.38	7.45	7.81	
6842.15	10.37	3.13	
6842.15	11.46	3.15	
6842.15	12.46	3.16	
6842.15	13.96	3.16	
6842.16	23.45	1.27	
6842.06			

TIME (HRS)  
 .10 HOURS

FIRST HYDROGRAPH POINT = .00 HOURS  
 DRAINAGE AREA = .06 SQ.MI.

TIME INCREMENT =

4.00	DISCHG	.00	.00	.00	.09	.22	.35
.49	.62	.74	.86				
5.00	DISCHG	.98	1.79	3.07	3.91	4.55	5.26
41.24	105.76	141.89	160.41				
6.00	DISCHG	170.75	122.84	52.72	26.79	17.88	14.57
11.86	9.35	8.38	8.02				
7.00	DISCHG	7.87	7.80	7.76	7.75	7.75	7.75
7.26	6.61	6.36	6.28				
8.00	DISCHG	6.24	5.26	3.93	3.43	3.24	3.17
3.14	3.13	3.12	3.12				
9.00	DISCHG	3.12	3.12	3.12	3.12	3.12	3.12
3.12	3.12	3.13	3.13				
10.00	DISCHG	3.13	3.13	3.13	3.13	3.13	3.13
2.64	1.98	1.73	1.63				
11.00	DISCHG	1.60	2.07	2.73	2.98	3.07	3.11
2.63	1.97	1.73	1.63				
12.00	DISCHG	1.60	2.07	2.73	2.98	3.08	3.11
2.64	1.98	1.73	1.64				
13.00	DISCHG	1.60	1.59	1.58	1.58	1.57	1.58
2.07	2.73	2.99	3.08				
14.00	DISCHG	3.12	2.64	1.98	1.73	1.64	1.60
1.59	1.58	1.58	1.58				
15.00	DISCHG	1.58	1.58	1.58	1.58	1.58	1.58
1.58	1.58	1.58	1.58				
16.00	DISCHG	1.58	1.58	1.58	1.58	1.58	1.58
1.58	1.58	1.58	1.58				
17.00	DISCHG	1.58	1.58	1.58	1.58	1.58	1.58
1.58	1.58	1.58	1.58				
18.00	DISCHG	1.58	1.58	1.58	1.58	1.58	1.58
1.58	1.58	1.58	1.58				
19.00	DISCHG	1.58	1.38	1.12	1.02	.98	.96
.86	.72	.67	.65				
20.00	DISCHG	.64	.93	1.33	1.49	1.54	1.56
1.38	1.12	1.01	.98				
21.00	DISCHG	.96	1.06	1.19	1.24	1.26	1.26
1.17	1.03	.98	.96				
22.00	DISCHG	.96	.95	.95	.95	.95	.95
.95	.95	.95	.95				
23.00	DISCHG	.95	1.04	1.16	1.21	1.23	1.23
.86	.35	.16	.08				
24.00	DISCHG	.05	.02	.01	.00		

OPERATION RESVOR STRUCTURE 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6886.04	6.28	34.63	
6882.22	14.12	2.51	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.	
4.00	DISCHG	.00	.00
.00	.00	.00	.00
		.01	

5.00	DISCHG		.01	.01	.02	.03	.04	.05
.10	.17	8.11	12.56					
6.00	DISCHG		28.76	33.27	34.52	34.62	34.36	33.94
33.47	32.95	32.40	31.84					
7.00	DISCHG		31.30	29.74	27.10	24.77	22.73	20.93
19.31	17.83	16.46	15.24					
8.00	DISCHG		14.16	13.15	12.80	12.65	12.50	12.36
12.21	12.06	11.92	11.78					
9.00	DISCHG		11.64	11.51	11.37	11.24	11.11	10.99
10.86	10.47	9.86	9.30					
10.00	DISCHG		8.79	8.32	7.88	7.49	7.13	6.79
6.47	6.12	5.77	5.43					
11.00	DISCHG		5.11	4.84	4.64	4.49	4.37	4.26
4.14	3.99	3.81	3.64					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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12.00	DISCHG		3.47	3.33	3.26	3.22	3.21	3.20
3.17	3.10	2.99	2.89					
13.00	DISCHG		2.78	2.68	2.59	2.51	2.43	2.36
2.31	2.32	2.37	2.42					
14.00	DISCHG		2.48	2.51	2.49	2.44	2.38	2.32
2.26	2.20	2.15	2.10					
15.00	DISCHG		2.06	2.02	1.98	1.95	1.92	1.89
1.86	1.84	1.82	1.80					
16.00	DISCHG		1.78	1.76	1.75	1.73	1.72	1.71
1.70	1.69	1.68	1.67					
17.00	DISCHG		1.66	1.66	1.65	1.64	1.64	1.63
1.63	1.63	1.62	1.62					
18.00	DISCHG		1.62	1.61	1.61	1.61	1.61	1.60
1.60	1.60	1.60	1.60					
19.00	DISCHG		1.60	1.59	1.56	1.52	1.47	1.43
1.39	1.34	1.29	1.23					
20.00	DISCHG		1.18	1.15	1.15	1.17	1.20	1.23
1.25	1.25	1.23	1.21					
21.00	DISCHG		1.19	1.18	1.17	1.18	1.18	1.19
1.19	1.18	1.17	1.15					
22.00	DISCHG		1.14	1.12	1.11	1.09	1.08	1.07
1.06	1.05	1.04	1.04					
23.00	DISCHG		1.03	1.03	1.03	1.05	1.06	1.07
1.07	1.03	.97	.90					
24.00	DISCHG		.83	.76	.70	.64	.59	.54
.50	.45	.42	.38					
25.00	DISCHG		.35	.32	.29	.27	.25	.23
.21	.20	.20	.20					
26.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.20					
27.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.20					

28.00	DISCHG	.20	.20	.20	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

\*\*\* WARNING REACH 130 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 130

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6842.80	6.38	34.63	
6842.12	14.22	2.51	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ.MI.	
5.00	DISCHG	.01	.01
.05	.10	.17	8.09
6.00	DISCHG	12.55	28.72
33.94	33.47	32.95	32.40
7.00	DISCHG	31.84	31.30
20.93	19.32	17.83	16.47
8.00	DISCHG	15.25	14.17
12.35	12.21	12.06	11.92
9.00	DISCHG	11.78	11.64
10.98	10.86	10.47	9.86
10.00	DISCHG	9.30	8.79
6.79	6.47	6.12	5.77
11.00	DISCHG	5.43	5.11
4.26	4.14	3.99	3.81
12.00	DISCHG	3.64	3.47
3.20	3.17	3.10	2.99
13.00	DISCHG	2.89	2.78
2.36	2.31	2.32	2.37
14.00	DISCHG	2.42	2.48
2.32	2.26	2.20	2.15
15.00	DISCHG	2.10	2.06
1.89	1.86	1.84	1.82
16.00	DISCHG	1.80	1.78
1.71	1.70	1.69	1.68
17.00	DISCHG	1.67	1.66
1.63	1.63	1.63	1.62
18.00	DISCHG	1.62	1.62
1.60	1.60	1.60	1.60
19.00	DISCHG	1.60	1.60
1.43	1.39	1.34	1.28
20.00	DISCHG	1.23	1.18
1.23	1.25	1.25	1.23
21.00	DISCHG	1.21	1.19
1.19	1.19	1.18	1.17
22.00	DISCHG	1.15	1.14
1.07	1.06	1.05	1.04

23.00	DISCHG	1.04	1.03	1.03	1.03	1.04	1.06
1.07	1.07	1.03	.97				
24.00	DISCHG	.90	.83	.76	.70	.64	.59
.54	.50	.45	.42				

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83 (.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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25.00	DISCHG	.38	.35	.32	.29	.27	.25
.23	.21	.20	.20				
26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

OPERATION RUNOFF CROSS SECTION 90

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.28	21.41	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .03 SQ.MI.		
5.00	DISCHG .00	.00	.00
.04	.38 1.66 4.70		
6.00	DISCHG 9.83 15.86	20.36	21.37 19.37 15.93
12.30	9.41 7.41 5.96		
7.00	DISCHG 4.89 4.11	3.57	3.20 2.94 2.77
2.64	2.53 2.41 2.29		
8.00	DISCHG 2.18 2.07	1.95	1.80 1.63 1.46
1.31	1.21 1.14 1.09		
9.00	DISCHG 1.06 1.04	1.02	1.01 1.01 1.00
1.00	1.00 1.00 1.00		
10.00	DISCHG 1.00 1.00	1.00	1.00 1.00 1.00
1.00	.96 .90 .82		
11.00	DISCHG .74 .68	.67	.70 .75 .82
.87	.88 .84 .78		
12.00	DISCHG .72 .66	.65	.69 .75 .82
.87	.88 .85 .79		
13.00	DISCHG .72 .66	.62	.59 .56 .55
.55	.58 .64 .72		
14.00	DISCHG .80 .86	.88	.85 .79 .73
.67	.62 .59 .57		
15.00	DISCHG .56 .55	.54	.54 .53 .53
.53	.53 .53 .53		

16.00	DISCHG	.53	.53	.53	.53	.53	.53	.53
.53	.53	.53	.53					
17.00	DISCHG	.53	.53	.53	.53	.53	.53	.53
.53	.53	.53	.53					
18.00	DISCHG	.53	.53	.53	.53	.53	.53	.53
.54	.54	.54	.54					
19.00	DISCHG	.54	.53	.52	.49	.46	.42	
.39	.36	.33	.30					
20.00	DISCHG	.28	.27	.28	.31	.35	.40	
.44	.45	.45	.43					
21.00	DISCHG	.40	.38	.37	.37	.38	.40	
.40	.41	.40	.38					
22.00	DISCHG	.37	.36	.35	.34	.34	.33	
.33	.33	.33	.33					
23.00	DISCHG	.33	.33	.34	.35	.36	.38	
.38	.37	.32	.26					
24.00	DISCHG	.19	.14	.10	.07	.05	.03	
.02	.02	.01	.01					
25.00	DISCHG	.01	.00					

OPERATION ADDHYD CROSS SECTION 90

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6842.04	6.30	55.88	
6841.20	12.62	4.07	
6841.17	14.20	3.39	
6841.07	23.60	1.46	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .09 SQ.MI.		
5.00	DISCHG .01	.01	.02 .03 .04
.08	.47 1.83 12.79		
6.00	DISCHG 22.38 44.58	53.62	55.88 53.99 50.29
46.24	42.89 40.36 38.36		
7.00	DISCHG 36.73 35.41	33.31	30.30 27.72 25.50
23.57	21.85 20.24 18.76		
8.00	DISCHG 17.42 16.24	15.11	14.60 14.28 13.96
13.67	13.42 13.20 13.01		

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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9.00	DISCHG	12.84	12.68	12.53	12.39	12.25	12.11
11.99	11.86	11.47	10.86				



10.00	DISCHG	10.30	9.79	9.32	8.89	8.49	8.13
7.79	7.43	7.02	6.59				
11.00	DISCHG	6.17	5.80	5.51	5.33	5.24	5.19
5.13	5.02	4.83	4.59				
12.00	DISCHG	4.35	4.13	3.99	3.94	3.98	4.03
4.07	4.05	3.95	3.78				
13.00	DISCHG	3.61	3.44	3.30	3.18	3.07	2.98
2.91	2.89	2.96	3.09				
14.00	DISCHG	3.22	3.34	3.39	3.35	3.23	3.10
2.98	2.88	2.79	2.72				
15.00	DISCHG	2.66	2.60	2.56	2.52	2.48	2.45
2.42	2.39	2.37	2.34				
16.00	DISCHG	2.32	2.31	2.29	2.28	2.26	2.25
2.24	2.23	2.22	2.21				
17.00	DISCHG	2.20	2.19	2.19	2.18	2.17	2.17
2.17	2.16	2.16	2.15				
18.00	DISCHG	2.15	2.15	2.15	2.14	2.14	2.14
2.14	2.14	2.14	2.13				
19.00	DISCHG	2.13	2.13	2.10	2.05	1.97	1.89
1.82	1.75	1.67	1.59				
20.00	DISCHG	1.51	1.45	1.43	1.46	1.52	1.60
1.67	1.70	1.70	1.66				
21.00	DISCHG	1.62	1.57	1.55	1.55	1.56	1.58
1.59	1.60	1.58	1.55				
22.00	DISCHG	1.52	1.49	1.47	1.45	1.43	1.42
1.40	1.39	1.38	1.37				
23.00	DISCHG	1.36	1.36	1.36	1.38	1.41	1.44
1.46	1.44	1.35	1.23				
24.00	DISCHG	1.09	.97	.86	.77	.69	.62
.56	.51	.46	.42				
25.00	DISCHG	.39	.35	.32	.29	.27	.25
.23	.21	.20	.20				
26.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.20				
27.00	DISCHG	.20	.20	.20	.20	.20	.20
.20	.20	.20	.19				
28.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
29.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				

OPERATION RUNOFF CROSS SECTION 80

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.26	48.47	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.06 SQ. MI.	
5.00	DISCHG	.00	.00
.08	.86	3.90	11.30
6.00	DISCHG	24.05	37.82
24.97	19.05	14.93	11.91
7.00	DISCHG	9.78	8.26
5.58	5.36	5.10	4.85

8.00	DISCHG		4.64	4.44	4.19	3.84	3.43	3.06
2.76	2.55	2.42	2.33					
9.00	DISCHG		2.27	2.23	2.21	2.19	2.18	2.18
2.17	2.17	2.17	2.17					
10.00	DISCHG		2.18	2.18	2.18	2.18	2.19	2.19
2.16	2.08	1.93	1.74					
11.00	DISCHG		1.56	1.44	1.43	1.52	1.67	1.82
1.92	1.92	1.83	1.67					
12.00	DISCHG		1.52	1.42	1.41	1.51	1.67	1.83
1.93	1.94	1.84	1.69					
13.00	DISCHG		1.53	1.40	1.31	1.25	1.21	1.19
1.20	1.27	1.43	1.62					
14.00	DISCHG		1.80	1.92	1.94	1.85	1.70	1.54
1.41	1.32	1.26	1.22					
15.00	DISCHG		1.20	1.18	1.17	1.16	1.16	1.15
1.15	1.15	1.15	1.15					
16.00	DISCHG		1.15	1.15	1.15	1.15	1.15	1.15
1.15	1.15	1.15	1.15					
17.00	DISCHG		1.15	1.16	1.16	1.16	1.16	1.16
1.16	1.16	1.16	1.16					
18.00	DISCHG		1.16	1.16	1.16	1.16	1.16	1.16
1.16	1.17	1.17	1.17					
19.00	DISCHG		1.17	1.16	1.12	1.05	.97	.89
.83	.77	.70	.64					
20.00	DISCHG		.59	.57	.60	.68	.79	.90
.98	1.00	.98	.92					
21.00	DISCHG		.86	.82	.80	.81	.84	.87
.89	.89	.86	.83					
22.00	DISCHG		.80	.77	.75	.74	.73	.72
.72	.72	.71	.71					
23.00	DISCHG		.71	.72	.73	.76	.80	.84
.84	.79	.68	.53					
24.00	DISCHG		.38	.26	.18	.13	.09	.06
.04	.03	.02	.01					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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25.00 DISCHG .01 .00

OPERATION ADDHYD CROSS SECTION 80

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(NULL)	6.28	104.13	
(NULL)	11.58	7.05	
(NULL)	12.65	6.01	

(NULL) 14.18 5.34  
 (NULL) 23.58 2.30

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =					
.10 HOURS	DRAINAGE AREA =	.15 SQ.MI.						
5.00	DISCHG	.01	.01	.01	.02	.03	.04	
.16	1.34	5.73	24.09					
6.00	DISCHG	46.43	82.40	100.72	103.88	95.95	83.41	
71.21	61.94	55.29	50.27					
7.00	DISCHG	46.51	43.67	40.54	36.85	33.82	31.31	
29.15	27.21	25.34	23.60					
8.00	DISCHG	22.06	20.68	19.30	18.44	17.71	17.02	
16.43	15.97	15.62	15.34					
9.00	DISCHG	15.11	14.91	14.74	14.58	14.43	14.29	
14.16	14.03	13.64	13.03					
10.00	DISCHG	12.48	11.97	11.50	11.07	10.68	10.32	
9.95	9.51	8.95	8.33					
11.00	DISCHG	7.73	7.24	6.93	6.85	6.91	7.00	
7.04	6.95	6.66	6.27					
12.00	DISCHG	5.87	5.55	5.40	5.46	5.65	5.85	
6.00	5.99	5.79	5.47					
13.00	DISCHG	5.14	4.84	4.61	4.43	4.28	4.17	
4.11	4.16	4.39	4.71					
14.00	DISCHG	5.02	5.26	5.33	5.19	4.93	4.65	
4.39	4.20	4.06	3.94					
15.00	DISCHG	3.86	3.79	3.73	3.68	3.64	3.60	
3.57	3.54	3.52	3.49					
16.00	DISCHG	3.47	3.46	3.44	3.43	3.41	3.40	
3.39	3.38	3.37	3.36					
17.00	DISCHG	3.36	3.35	3.34	3.34	3.33	3.33	
3.32	3.32	3.32	3.31					
18.00	DISCHG	3.31	3.31	3.31	3.31	3.31	3.30	
3.30	3.30	3.30	3.30					
19.00	DISCHG	3.30	3.28	3.22	3.10	2.95	2.79	
2.65	2.51	2.37	2.23					
20.00	DISCHG	2.11	2.02	2.03	2.14	2.31	2.50	
2.65	2.71	2.67	2.58					
21.00	DISCHG	2.48	2.39	2.35	2.36	2.40	2.44	
2.48	2.48	2.44	2.38					
22.00	DISCHG	2.32	2.26	2.22	2.18	2.16	2.14	
2.12	2.11	2.10	2.08					
23.00	DISCHG	2.08	2.08	2.10	2.15	2.21	2.28	
2.30	2.23	2.03	1.75					
24.00	DISCHG	1.47	1.23	1.04	.90	.78	.68	
.60	.54	.48	.44					
25.00	DISCHG	.39	.35	.32	.29	.27	.25	
.23	.21	.20	.20					
26.00	DISCHG	.20	.20	.20	.20	.20	.20	
.20	.20	.20	.20					
27.00	DISCHG	.20	.20	.20	.20	.20	.20	
.20	.20	.20	.19					
28.00	DISCHG	.19	.19	.19	.19	.19	.19	
.19	.19	.19	.19					
29.00	DISCHG	.19	.19	.19	.19	.19	.19	
.19	.19	.19	.19					

\*\*\* WARNING REACH 5 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 5  
 1

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6822.35	6.28	104.13	
6821.35	11.58	7.05	
6821.29	12.65	6.01	
6821.26	14.18	5.34	
6821.11	23.58	2.30	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .15 SQ.MI.		
5.00	DISCHG .01	.01	.02 .03 .04
.16	1.34 5.73 24.09		
6.00	DISCHG 46.43 82.40	100.72	103.88 95.95 83.41
71.21	61.94 55.29 50.27		
7.00	DISCHG 46.51 43.67	40.54	36.85 33.82 31.31
29.15	27.21 25.34 23.60		
8.00	DISCHG 22.06 20.68	19.30	18.44 17.71 17.02
16.43	15.97 15.62 15.34		
9.00	DISCHG 15.11 14.91	14.74	14.58 14.43 14.29
14.16	14.03 13.64 13.03		
10.00	DISCHG 12.48 11.97	11.50	11.07 10.68 10.32
9.95	9.51 8.95 8.33		
11.00	DISCHG 7.73 7.24	6.93	6.85 6.91 7.00
7.04	6.95 6.66 6.27		
12.00	DISCHG 5.87 5.55	5.40	5.46 5.65 5.85
6.00	5.99 5.79 5.47		
13.00	DISCHG 5.14 4.84	4.61	4.43 4.28 4.17
4.11	4.16 4.39 4.71		
14.00	DISCHG 5.02 5.26	5.33	5.19 4.93 4.65
4.39	4.20 4.06 3.94		
15.00	DISCHG 3.86 3.79	3.73	3.68 3.64 3.60
3.57	3.54 3.52 3.49		
16.00	DISCHG 3.47 3.46	3.44	3.43 3.41 3.40
3.39	3.38 3.37 3.36		

17.00	DISCHG		3.36	3.35	3.34	3.34	3.33	3.33
3.32	3.32	3.32	3.31					
18.00	DISCHG		3.31	3.31	3.31	3.31	3.31	3.30
3.30	3.30	3.30	3.30					
19.00	DISCHG		3.30	3.28	3.22	3.10	2.95	2.79
2.65	2.51	2.37	2.23					
20.00	DISCHG		2.11	2.02	2.03	2.14	2.31	2.50
2.65	2.71	2.67	2.58					
21.00	DISCHG		2.48	2.39	2.35	2.36	2.40	2.44
2.48	2.48	2.44	2.38					
22.00	DISCHG		2.32	2.26	2.22	2.18	2.16	2.14
2.12	2.11	2.10	2.08					
23.00	DISCHG		2.08	2.08	2.10	2.15	2.21	2.28
2.30	2.23	2.03	1.75					
24.00	DISCHG		1.47	1.23	1.04	.90	.78	.68
.60	.54	.48	.44					
25.00	DISCHG		.39	.35	.32	.29	.27	.25
.23	.21	.20	.20					
26.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.20					
27.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.19					
28.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					
29.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					

OPERATION RUNOFF CROSS SECTION 125

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.03	123.02	
(RUNOFF)	10.36	2.36	
(RUNOFF)	11.50	2.29	
(RUNOFF)	12.50	2.29	
(RUNOFF)	14.00	2.29	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .04 SQ.MI.		
4.00	DISCHG .00 .00	.00 .00	.01 .04
.10	.19 .29 .38		
5.00	DISCHG .48 .70	1.28 1.97	2.57 3.30
11.63	42.76 80.27 106.63		
6.00	DISCHG 122.14 118.26	81.28 43.80	25.08 16.47
12.15	9.24 7.33 6.43		

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2

7.00	DISCHG		6.04	5.93	5.88	5.86	5.85	5.85
5.73	5.36	5.01	4.83					
8.00	DISCHG		4.75	4.48	3.71	3.00	2.64	2.48
2.41	2.37	2.36	2.35					
9.00	DISCHG		2.35	2.35	2.35	2.35	2.35	2.35
2.35	2.35	2.35	2.35					
10.00	DISCHG		2.35	2.35	2.35	2.35	2.36	2.35
2.23	1.86	1.51	1.33					
11.00	DISCHG		1.25	1.33	1.69	2.03	2.21	2.29
2.20	1.85	1.50	1.32					
12.00	DISCHG		1.25	1.33	1.69	2.04	2.21	2.29
2.21	1.85	1.50	1.33					
13.00	DISCHG		1.25	1.21	1.19	1.19	1.18	1.19
1.30	1.68	2.03	2.22					
14.00	DISCHG		2.29	2.21	1.85	1.50	1.33	1.25
1.21	1.20	1.19	1.18					
15.00	DISCHG		1.18	1.18	1.18	1.18	1.18	1.18
1.18	1.18	1.18	1.18					
16.00	DISCHG		1.18	1.18	1.18	1.18	1.18	1.18
1.18	1.18	1.18	1.18					
17.00	DISCHG		1.18	1.18	1.18	1.18	1.18	1.18
1.18	1.18	1.18	1.18					
18.00	DISCHG		1.18	1.18	1.18	1.18	1.18	1.19
1.19	1.19	1.19	1.19					
19.00	DISCHG		1.18	1.13	.98	.84	.77	.74
.70	.62	.54	.50					
20.00	DISCHG		.49	.56	.78	.99	1.10	1.14
1.12	.98	.84	.77					
21.00	DISCHG		.74	.75	.82	.88	.92	.93
.92	.85	.78	.74					
22.00	DISCHG		.73	.72	.71	.71	.71	.71
.71	.71	.71	.71					
23.00	DISCHG		.71	.73	.80	.87	.90	.91
.83	.54	.27	.14					
24.00	DISCHG		.07	.04	.02	.01	.00	

\*\*\* WARNING REACH 124 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER  
REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 124

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6926.71	6.03	123.02	
6924.22	10.36	2.36	
6924.21	11.50	2.29	
6924.21	12.50	2.29	

TIME (HRS)	FIRST HYDROGRAPH POINT =				.00 HOURS		TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA = .04 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.01	.04	
.10	.19	.29	.38					
5.00	DISCHG	.48	.70	1.28	1.97	2.57	3.30	
11.63	42.76	80.27	106.63					
6.00	DISCHG	122.14	118.26	81.28	43.80	25.08	16.47	
12.15	9.24	7.33	6.43					
7.00	DISCHG	6.04	5.93	5.88	5.86	5.85	5.85	
5.73	5.36	5.01	4.83					
8.00	DISCHG	4.75	4.48	3.71	3.00	2.64	2.48	
2.41	2.37	2.36	2.35					
9.00	DISCHG	2.35	2.35	2.35	2.35	2.35	2.35	
2.35	2.35	2.35	2.35					
10.00	DISCHG	2.35	2.35	2.35	2.35	2.36	2.35	
2.23	1.86	1.51	1.33					
11.00	DISCHG	1.25	1.33	1.69	2.03	2.21	2.29	
2.20	1.85	1.50	1.32					
12.00	DISCHG	1.25	1.33	1.69	2.04	2.21	2.29	
2.21	1.85	1.50	1.33					
13.00	DISCHG	1.25	1.21	1.19	1.19	1.18	1.19	
1.30	1.68	2.03	2.22					
14.00	DISCHG	2.29	2.21	1.85	1.50	1.33	1.25	
1.21	1.20	1.19	1.18					
15.00	DISCHG	1.18	1.18	1.18	1.18	1.18	1.18	
1.18	1.18	1.18	1.18					
16.00	DISCHG	1.18	1.18	1.18	1.18	1.18	1.18	
1.18	1.18	1.18	1.18					
17.00	DISCHG	1.18	1.18	1.18	1.18	1.18	1.18	
1.18	1.18	1.18	1.18					
18.00	DISCHG	1.18	1.18	1.18	1.18	1.18	1.19	
1.19	1.19	1.19	1.19					
19.00	DISCHG	1.18	1.13	.98	.84	.77	.74	
.70	.62	.54	.50					
20.00	DISCHG	.49	.56	.78	.99	1.10	1.14	
1.12	.98	.84	.77					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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21.00	DISCHG	.74	.75	.82	.88	.92	.93	
.92	.85	.78	.74					
22.00	DISCHG	.73	.72	.71	.71	.71	.71	
.71	.71	.71	.71					
23.00	DISCHG	.71	.73	.80	.87	.90	.91	
.83	.54	.27	.14					
24.00	DISCHG	.07	.04	.02	.01	.00		

OPERATION RUNOFF CROSS SECTION 124

ELEVATION (FEET)		PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK	
(RUNOFF)		6.03	32.05			
TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =	
.10 HOURS	DRAINAGE AREA =		.01 SQ.MI.			
4.00	DISCHG	.00	.00	.00	.00	.01
.03	.05	.08	.10			
5.00	DISCHG	.13	.19	.34	.52	.67
3.22	11.53	21.32	28.07			
6.00	DISCHG	31.89	30.63	20.53	10.83	6.20
3.05	2.32	1.86	1.64			4.08
7.00	DISCHG	1.56	1.53	1.52	1.52	1.51
1.48	1.38	1.29	1.25			
8.00	DISCHG	1.23	1.16	.95	.77	.68
.62	.61	.61	.61			.64
9.00	DISCHG	.61	.61	.61	.61	.61
.61	.61	.61	.61			.61
10.00	DISCHG	.61	.61	.61	.61	.61
.58	.48	.38	.34			
11.00	DISCHG	.32	.35	.44	.53	.58
.57	.47	.38	.34			.59
12.00	DISCHG	.32	.35	.44	.53	.58
.57	.47	.38	.34			.59
13.00	DISCHG	.32	.31	.31	.31	.31
.34	.44	.53	.58			.31
14.00	DISCHG	.60	.57	.47	.38	.34
.31	.31	.31	.31			.32
15.00	DISCHG	.31	.31	.31	.31	.31
.31	.31	.31	.31			.31
16.00	DISCHG	.31	.31	.31	.31	.31
.31	.31	.31	.31			.31
17.00	DISCHG	.31	.31	.31	.31	.31
.31	.31	.31	.31			.31
18.00	DISCHG	.31	.31	.31	.31	.31
.31	.31	.31	.31			.31
19.00	DISCHG	.31	.29	.25	.22	.20
.18	.16	.14	.13			.19
20.00	DISCHG	.13	.14	.20	.26	.29
.29	.25	.22	.20			.30
21.00	DISCHG	.19	.19	.21	.23	.24
.24	.22	.20	.19			.24
22.00	DISCHG	.19	.19	.18	.18	.18
.18	.18	.18	.18			.18
23.00	DISCHG	.18	.19	.21	.23	.23
.21	.14	.07	.03			.24
24.00	DISCHG	.02	.01	.01	.00	

OPERATION ADDHYD CROSS SECTION 124

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
------------------	-----------------	----------------------	------



6927.35	6.03	155.06
6924.27	10.36	2.97
6924.27	11.50	2.88
6924.27	12.50	2.88
6924.27	14.00	2.89
6924.11	23.46	1.16

TIME (HRS)                      FIRST HYDROGRAPH POINT = .00 HOURS                      TIME INCREMENT =  
.10 HOURS                      DRAINAGE AREA = .05 SQ.MI.  
4.00    DISCHG                      .00                      .00                      .00                      .01                      .05  
.13                      .24                      .36                      .48  
5.00    DISCHG                      .60                      .88                      1.62                      2.49                      3.24                      4.14  
14.85    54.29    101.59    134.70  
6.00    DISCHG                      154.04                      148.89                      101.81                      54.64                      31.27                      20.55  
15.19    11.56                      9.19                      8.07  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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7.00	DISCHG	7.59	7.46	7.40	7.38	7.37	7.36
7.21	6.74	6.30	6.08				
8.00	DISCHG	5.98	5.63	4.66	3.76	3.32	3.12
3.03	2.99	2.97	2.96				
9.00	DISCHG	2.96	2.96	2.96	2.96	2.96	2.96
2.96	2.96	2.96	2.96				
10.00	DISCHG	2.96	2.96	2.96	2.96	2.96	2.96
2.81	2.33	1.89	1.66				
11.00	DISCHG	1.57	1.68	2.13	2.57	2.79	2.88
2.77	2.32	1.89	1.66				
12.00	DISCHG	1.57	1.68	2.13	2.57	2.79	2.88
2.78	2.32	1.89	1.67				
13.00	DISCHG	1.57	1.52	1.50	1.49	1.49	1.49
1.64	2.12	2.57	2.79				
14.00	DISCHG	2.89	2.78	2.33	1.89	1.67	1.57
1.52	1.50	1.49	1.49				
15.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49				
16.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49				
17.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49				
18.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49				
19.00	DISCHG	1.49	1.43	1.24	1.06	.97	.93
.88	.77	.68	.63				

20.00	DISCHG	.62	.70	.98	1.25	1.38	1.44
1.41	1.23	1.06	.97				
21.00	DISCHG	.93	.94	1.03	1.12	1.16	1.18
1.16	1.06	.98	.93				
22.00	DISCHG	.91	.90	.90	.90	.90	.90
.90	.90	.90	.90				
23.00	DISCHG	.90	.92	1.01	1.09	1.13	1.15
1.04	.68	.34	.17				
24.00	DISCHG	.09	.05	.03	.01	.00	

\*\*\* WARNING REACH 123 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 123

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6896.78	6.03	155.06	
6894.28	10.36	2.97	
6894.27	11.50	2.88	
6894.27	12.50	2.88	
6894.27	14.00	2.89	
6894.11	23.46	1.16	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .05 SQ.MI.		
4.00	DISCHG .00 .00	.00	.05
.13	.24 .36 .48		
5.00	DISCHG .60 .88	1.62	4.14
14.85	54.29 101.59 134.70		
6.00	DISCHG 154.04 148.89	101.81	20.55
15.19	11.56 9.19 8.07		
7.00	DISCHG 7.59 7.46	7.40	7.36
7.21	6.74 6.30 6.08		
8.00	DISCHG 5.98 5.63	4.66	3.12
3.03	2.99 2.97 2.96		
9.00	DISCHG 2.96 2.96	2.96	2.96
2.96	2.96 2.96 2.96		
10.00	DISCHG 2.96 2.96	2.96	2.96
2.81	2.33 1.89 1.66		
11.00	DISCHG 1.57 1.68	2.13	2.88
2.77	2.32 1.89 1.66		
12.00	DISCHG 1.57 1.68	2.13	2.88
2.78	2.32 1.89 1.67		
13.00	DISCHG 1.57 1.52	1.50	1.49
1.64	2.12 2.57 2.79		
14.00	DISCHG 2.89 2.78	2.33	1.57
1.52	1.50 1.49 1.49		
15.00	DISCHG 1.49 1.49	1.49	1.49
1.49	1.49 1.49 1.49		

16.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49					
17.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49					
18.00	DISCHG	1.49	1.49	1.49	1.49	1.49	1.49	1.49
1.49	1.49	1.49	1.49					
19.00	DISCHG	1.49	1.43	1.24	1.06	.97	.93	
.88	.77	.68	.63					

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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20.00	DISCHG	.62	.70	.98	1.25	1.38	1.44
1.41	1.23	1.06	.97				
21.00	DISCHG	.93	.94	1.03	1.12	1.16	1.18
1.16	1.06	.98	.93				
22.00	DISCHG	.91	.90	.90	.90	.90	.90
.90	.90	.90	.90				
23.00	DISCHG	.90	.92	1.01	1.09	1.13	1.15
1.04	.68	.34	.17				
24.00	DISCHG	.09	.05	.03	.01	.00	

OPERATION RUNOFF CROSS SECTION 123

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
	5.97	36.20	

(RUNOFF)

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
4.00	DISCHG .00	.00	.00
.04	.07 .10	.12	.02
5.00	DISCHG .15	.26	.49
6.22	19.74 28.92	33.59	.67
6.00	DISCHG 35.87	28.55	12.26
2.32	1.83 1.65	1.59	5.45
7.00	DISCHG 1.57	1.57	3.39
1.49	1.35 1.29	1.27	2.74
8.00	DISCHG 1.26	1.11	1.57
.63	.63 .63	.63	1.57
9.00	DISCHG .63	.63	.68
.63	.63 .63	.63	.65
10.00	DISCHG .63	.63	.63
.55	.40 .34	.32	.63
11.00	DISCHG .32	.39	.63
.55	.40 .34	.32	.63
12.00	DISCHG .32	.39	.63
.56	.40 .34	.32	.63

13.00	DISCHG	.32	.32	.32	.32	.32	.32
.40	.55	.61	.63				
14.00	DISCHG	.63	.56	.40	.34	.33	.32
.32	.32	.32	.32				
15.00	DISCHG	.32	.32	.32	.32	.32	.32
.32	.32	.32	.32				
16.00	DISCHG	.32	.32	.32	.32	.32	.32
.32	.32	.32	.32				
17.00	DISCHG	.32	.32	.32	.32	.32	.32
.32	.32	.32	.32				
18.00	DISCHG	.32	.32	.32	.32	.32	.32
.32	.32	.32	.32				
19.00	DISCHG	.32	.29	.23	.20	.19	.19
.18	.15	.13	.13				
20.00	DISCHG	.13	.17	.26	.30	.31	.32
.29	.23	.20	.19				
21.00	DISCHG	.19	.21	.24	.25	.25	.25
.24	.21	.20	.19				
22.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
23.00	DISCHG	.19	.21	.23	.24	.25	.25
.19	.07	.03	.01				
24.00	DISCHG	.01	.01	.00			

OPERATION ADDHYD CROSS SECTION 123

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6897.20	6.01	190.21	
6894.34	10.36	3.60	
6894.33	11.48	3.51	
6894.33	12.48	3.52	
6894.33	13.99	3.52	
6894.17	18.86	1.81	
6894.13	23.46	1.41	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
.10 HOURS DRAINAGE AREA = .06 SQ.MI.  
4.00 DISCHG .00 .00 .00 .00 .01 .07  
.18 .31 .46 .60  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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5.00	DISCHG		.75	1.14	2.11	3.16	4.06	5.14
21.07	74.03	130.51	168.28					
6.00	DISCHG		189.91	177.44	114.07	60.09	34.66	23.29
17.51	13.39	10.84	9.66					
7.00	DISCHG		9.17	9.03	8.97	8.95	8.94	8.93
8.71	8.09	7.59	7.35					
8.00	DISCHG		7.24	6.74	5.47	4.45	3.96	3.75
3.66	3.62	3.60	3.59					
9.00	DISCHG		3.59	3.59	3.59	3.59	3.59	3.59
3.59	3.59	3.59	3.59					
10.00	DISCHG		3.59	3.60	3.60	3.60	3.60	3.59
3.36	2.74	2.23	1.99					
11.00	DISCHG		1.89	2.07	2.68	3.17	3.41	3.51
3.33	2.73	2.23	1.99					
12.00	DISCHG		1.89	2.07	2.68	3.18	3.42	3.51
3.33	2.73	2.23	1.99					
13.00	DISCHG		1.89	1.84	1.82	1.81	1.81	1.81
2.04	2.67	3.17	3.42					
14.00	DISCHG		3.52	3.34	2.73	2.23	2.00	1.89
1.84	1.82	1.81	1.81					
15.00	DISCHG		1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81					
16.00	DISCHG		1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81					
17.00	DISCHG		1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81					
18.00	DISCHG		1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81					
19.00	DISCHG		1.81	1.71	1.46	1.26	1.16	1.12
1.05	.92	.81	.76					
20.00	DISCHG		.74	.88	1.25	1.55	1.70	1.76
1.69	1.46	1.26	1.16					
21.00	DISCHG		1.12	1.15	1.27	1.36	1.41	1.43
1.39	1.27	1.17	1.13					
22.00	DISCHG		1.10	1.09	1.09	1.09	1.09	1.09
1.09	1.09	1.09	1.09					
23.00	DISCHG		1.09	1.13	1.24	1.34	1.38	1.39
1.23	.75	.36	.18					
24.00	DISCHG		.10	.06	.03	.01	.00	

\*\*\* WARNING REACH 122 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 122

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6895.20	6.01	190.21	
6892.34	10.36	3.60	
6892.33	11.48	3.51	
6892.33	12.48	3.52	

6892.33	13.99	3.52
6892.17	18.86	1.81
6892.13	23.46	1.41

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .06 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.01	.07	
.18	.31	.46	.60					
5.00	DISCHG	.75	1.14	2.11	3.16	4.06	5.14	
21.07	74.03	130.51	168.28					
6.00	DISCHG	189.91	177.44	114.07	60.09	34.66	23.29	
17.51	13.39	10.84	9.66					
7.00	DISCHG	9.17	9.03	8.97	8.95	8.94	8.93	
8.71	8.09	7.59	7.35					
8.00	DISCHG	7.24	6.74	5.47	4.45	3.96	3.75	
3.66	3.62	3.60	3.59					
9.00	DISCHG	3.59	3.59	3.59	3.59	3.59	3.59	
3.59	3.59	3.59	3.59					
10.00	DISCHG	3.59	3.60	3.60	3.60	3.60	3.59	
3.36	2.74	2.23	1.99					
11.00	DISCHG	1.89	2.07	2.68	3.17	3.41	3.51	
3.33	2.73	2.23	1.99					
12.00	DISCHG	1.89	2.07	2.68	3.18	3.42	3.51	
3.33	2.73	2.23	1.99					
13.00	DISCHG	1.89	1.84	1.82	1.81	1.81	1.81	
2.04	2.67	3.17	3.42					
14.00	DISCHG	3.52	3.34	2.73	2.23	2.00	1.89	
1.84	1.82	1.81	1.81					
15.00	DISCHG	1.81	1.81	1.81	1.81	1.81	1.81	
1.81	1.81	1.81	1.81					
16.00	DISCHG	1.81	1.81	1.81	1.81	1.81	1.81	
1.81	1.81	1.81	1.81					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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17.00	DISCHG	1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81				
18.00	DISCHG	1.81	1.81	1.81	1.81	1.81	1.81
1.81	1.81	1.81	1.81				
19.00	DISCHG	1.81	1.71	1.46	1.26	1.16	1.12
1.05	.92	.81	.76				
20.00	DISCHG	.74	.88	1.25	1.55	1.70	1.76
1.69	1.46	1.26	1.16				
21.00	DISCHG	1.12	1.15	1.27	1.36	1.41	1.43
1.39	1.27	1.17	1.13				
22.00	DISCHG	1.10	1.09	1.09	1.09	1.09	1.09
1.09	1.09	1.09	1.09				

23.00	DISCHG	1.09	1.13	1.24	1.34	1.38	1.39
1.23	.75	.36	.18				
24.00	DISCHG	.10	.06	.03	.01	.00	

OPERATION RUNOFF CROSS SECTION 122

ELEVATION (FEET)		PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK		
(RUNOFF)		6.03	61.16				
TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS		TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =		.02 SQ. MI.				
4.00	DISCHG	.00	.00	.00	.00	.00	.02
.05	.10	.14	.19				
5.00	DISCHG	.24	.35	.65	.99	1.29	1.60
6.15	22.00	40.69	53.56				
6.00	DISCHG	60.86	58.46	39.17	20.67	11.82	7.79
5.81	4.43	3.55	3.13				
7.00	DISCHG	2.97	2.92	2.90	2.89	2.89	2.89
2.83	2.64	2.47	2.38				
8.00	DISCHG	2.35	2.20	1.81	1.46	1.29	1.22
1.19	1.17	1.16	1.16				
9.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.16
1.16	1.16	1.16	1.16				
10.00	DISCHG	1.16	1.16	1.16	1.16	1.16	1.16
1.10	.91	.73	.65				
11.00	DISCHG	.61	.66	.84	1.01	1.10	1.13
1.09	.90	.73	.65				
12.00	DISCHG	.61	.66	.85	1.02	1.10	1.13
1.09	.90	.73	.65				
13.00	DISCHG	.61	.60	.59	.59	.58	.58
.65	.84	1.02	1.10				
14.00	DISCHG	1.14	1.09	.91	.73	.65	.61
.60	.59	.59	.58				
15.00	DISCHG	.58	.58	.58	.58	.58	.58
.58	.58	.58	.58				
16.00	DISCHG	.58	.58	.58	.58	.58	.58
.58	.58	.58	.58				
17.00	DISCHG	.58	.59	.59	.59	.59	.59
.59	.59	.59	.59				
18.00	DISCHG	.59	.59	.59	.59	.59	.59
.59	.59	.59	.59				
19.00	DISCHG	.58	.56	.48	.41	.38	.36
.34	.30	.27	.25				
20.00	DISCHG	.24	.28	.39	.50	.55	.57
.55	.48	.41	.38				
21.00	DISCHG	.36	.37	.41	.44	.46	.46
.45	.42	.38	.37				
22.00	DISCHG	.36	.35	.35	.35	.35	.35
.35	.35	.35	.35				
23.00	DISCHG	.35	.36	.40	.43	.45	.45
.41	.26	.13	.06				
24.00	DISCHG	.03	.02	.01	.00		

OPERATION ADDHYD CROSS SECTION 122

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6895.94	6.02	251.33	
6892.45	10.36	4.76	
6892.44	11.49	4.65	
6892.44	12.49	4.65	
6892.44	13.99	4.66	
6892.23	18.86	2.40	
6892.18	23.46	1.87	

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ.MI.	
4.00	DISCHG	.00 .00 .00 .00	.01 .09
.23	.41 .60 .80		
5.00	DISCHG	.99 1.50 2.75 4.16	5.35 6.74
27.23	96.03 171.20 221.85		
6.00	DISCHG	250.76 235.90 153.24 80.76	46.48 31.08
23.32	17.81 14.38 12.79		
7.00	DISCHG	12.14 11.95 11.87 11.84	11.83 11.82
11.54	10.73 10.05 9.73		
8.00	DISCHG	9.59 8.94 7.28 5.91	5.26 4.97
4.84	4.79 4.76 4.75		
9.00	DISCHG	4.75 4.75 4.75 4.75	4.75 4.75
4.75	4.76 4.76 4.76		
10.00	DISCHG	4.76 4.76 4.76 4.76	4.76 4.76
4.46	3.64 2.97 2.64		
11.00	DISCHG	2.50 2.73 3.52 4.19	4.51 4.64
4.42	3.63 2.96 2.64		
12.00	DISCHG	2.50 2.73 3.53 4.19	4.52 4.65
4.42	3.63 2.97 2.64		
13.00	DISCHG	2.50 2.44 2.41 2.40	2.39 2.39
2.69	3.51 4.19 4.52		
14.00	DISCHG	4.66 4.43 3.64 2.97	2.65 2.50
2.44	2.41 2.40 2.39		
15.00	DISCHG	2.39 2.39 2.39 2.39	2.39 2.39
2.39	2.39 2.39 2.39		
16.00	DISCHG	2.39 2.39 2.39 2.39	2.39 2.39
2.39	2.39 2.39 2.39		



17.00	DISCHG		2.39	2.39	2.39	2.39	2.39	2.39
2.39	2.39	2.39	2.39					
18.00	DISCHG		2.39	2.39	2.40	2.40	2.40	2.40
2.40	2.40	2.40	2.40					
19.00	DISCHG		2.39	2.27	1.95	1.67	1.54	1.48
1.40	1.22	1.08	1.01					
20.00	DISCHG		.98	1.15	1.64	2.05	2.24	2.33
2.25	1.94	1.67	1.54					
21.00	DISCHG		1.49	1.52	1.67	1.80	1.87	1.89
1.85	1.69	1.56	1.49					
22.00	DISCHG		1.46	1.45	1.44	1.44	1.44	1.44
1.44	1.44	1.44	1.44					
23.00	DISCHG		1.44	1.49	1.64	1.77	1.83	1.85
1.63	1.01	.49	.25					
24.00	DISCHG		.13	.08	.04	.01	.00	
0	*** WARNING -	INFLOW EXCEEDED MAX.FLOW IN XSECTN TABLE 121 BY	50.8	CFS				

\*\*\* WARNING REACH 121 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 121

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6884.22	6.02	251.33	
6880.41	10.36	4.76	
6880.40	11.49	4.65	
6880.40	12.49	4.65	
6880.40	13.99	4.66	
6880.40	18.86	2.40	
6880.21	23.46	1.87	
6880.16			

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.09 SQ.MI.	
4.00	DISCHG	.00 .00	.00 .00 .01 .09
.23	.41 .60 .80		
5.00	DISCHG	.99 1.50	2.75 4.16 5.35 6.74
27.23	96.03 171.20 221.85		
6.00	DISCHG	250.76 235.90	153.24 80.76 46.48 31.08
23.32	17.81 14.38 12.79		
7.00	DISCHG	12.14 11.95	11.87 11.84 11.83 11.82
11.54	10.73 10.05 9.73		
8.00	DISCHG	9.59 8.94	7.28 5.91 5.26 4.97
4.84	4.79 4.76 4.75		
9.00	DISCHG	4.75 4.75	4.75 4.75 4.75 4.75
4.75	4.76 4.76 4.76		
10.00	DISCHG	4.76 4.76	4.76 4.76 4.76 4.76
4.46	3.64 2.97 2.64		

11.00	DISCHG	2.50	2.73	3.52	4.19	4.51	4.64
4.42	3.63	2.96	2.64				

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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12.00	DISCHG	2.50	2.73	3.53	4.19	4.52	4.65
4.42	3.63	2.97	2.64				
13.00	DISCHG	2.50	2.44	2.41	2.40	2.39	2.39
2.69	3.51	4.19	4.52				
14.00	DISCHG	4.66	4.43	3.64	2.97	2.65	2.50
2.44	2.41	2.40	2.39				
15.00	DISCHG	2.39	2.39	2.39	2.39	2.39	2.39
2.39	2.39	2.39	2.39				
16.00	DISCHG	2.39	2.39	2.39	2.39	2.39	2.39
2.39	2.39	2.39	2.39				
17.00	DISCHG	2.39	2.39	2.39	2.39	2.39	2.39
2.39	2.39	2.39	2.39				
18.00	DISCHG	2.39	2.39	2.40	2.40	2.40	2.40
2.40	2.40	2.40	2.40				
19.00	DISCHG	2.39	2.27	1.95	1.67	1.54	1.48
1.40	1.22	1.08	1.01				
20.00	DISCHG	.98	1.15	1.64	2.05	2.24	2.33
2.25	1.94	1.67	1.54				
21.00	DISCHG	1.49	1.52	1.67	1.80	1.87	1.89
1.85	1.69	1.56	1.49				
22.00	DISCHG	1.46	1.45	1.44	1.44	1.44	1.44
1.44	1.44	1.44	1.44				
23.00	DISCHG	1.44	1.49	1.64	1.77	1.83	1.85
1.63	1.01	.49	.25				
24.00	DISCHG	.13	.08	.04	.01	.00	

OPERATION RUNOFF CROSS SECTION 121

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.04	4.12	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.	
5.00	DISCHG	.00	.00
.00	.12	1.05	2.58
6.00	DISCHG	4.01	3.79
.38	.30	.27	.27
7.00	DISCHG	.26	.26
.26	.23	.22	.22
8.00	DISCHG	.22	.19
.11	.11	.11	.11

9.00	DISCHG		.11	.11	.11	.11	.11	.11
.11	.11	.11	.11	.11				.11
10.00	DISCHG		.11	.11	.12	.12	.12	.12
.10	.07	.06	.06	.06				
11.00	DISCHG		.06	.07	.10	.11	.12	.12
.10	.08	.06	.06	.06				
12.00	DISCHG		.06	.07	.10	.11	.12	.12
.10	.08	.06	.06	.06				
13.00	DISCHG		.06	.06	.06	.06	.06	.06
.07	.10	.11	.12	.11				
14.00	DISCHG		.12	.11	.08	.07	.06	.06
.06	.06	.06	.06	.06				
15.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06	.06				
16.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06	.06				
17.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06	.06				
18.00	DISCHG		.06	.06	.06	.06	.06	.06
.06	.06	.06	.06	.06				
19.00	DISCHG		.06	.06	.04	.04	.04	.04
.03	.03	.03	.03	.03				
20.00	DISCHG		.03	.03	.05	.06	.06	.06
.06	.04	.04	.04	.04				
21.00	DISCHG		.04	.04	.05	.05	.05	.05
.05	.04	.04	.04	.04				
22.00	DISCHG		.04	.04	.04	.04	.04	.04
.04	.04	.04	.04	.04				
23.00	DISCHG		.04	.04	.05	.05	.05	.05
.04	.01	.01	.00					

OPERATION ADDHYD CROSS SECTION 121

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6884.28	6.02	255.41	
6880.42	10.37	4.88	
6880.41	11.49	4.77	
6880.41	12.49	4.77	
6880.41	13.99	4.78	

6880.21	18.86	2.46
6880.17	23.46	1.92

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .09 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.01	.09	
.23	.41	.60	.80					
5.00	DISCHG	.99	1.50	2.75	4.16	5.35	6.74	
27.23	96.15	172.25	224.42					
6.00	DISCHG	254.77	239.69	154.96	81.56	47.01	31.52	
23.70	18.12	14.66	13.05					
7.00	DISCHG	12.40	12.22	12.14	12.11	12.10	12.09	
11.80	10.96	10.27	9.96					
8.00	DISCHG	9.81	9.14	7.42	6.03	5.37	5.08	
4.96	4.90	4.88	4.87					
9.00	DISCHG	4.86	4.86	4.87	4.87	4.87	4.87	
4.87	4.87	4.87	4.87					
10.00	DISCHG	4.87	4.87	4.87	4.88	4.88	4.87	
4.56	3.72	3.03	2.70					
11.00	DISCHG	2.56	2.81	3.62	4.30	4.63	4.76	
4.52	3.70	3.03	2.70					
12.00	DISCHG	2.56	2.81	3.63	4.31	4.63	4.77	
4.53	3.71	3.03	2.70					
13.00	DISCHG	2.56	2.50	2.47	2.45	2.45	2.45	
2.76	3.61	4.30	4.64					
14.00	DISCHG	4.77	4.54	3.71	3.03	2.71	2.56	
2.50	2.47	2.46	2.45					
15.00	DISCHG	2.45	2.45	2.45	2.45	2.45	2.45	
2.45	2.45	2.45	2.45					
16.00	DISCHG	2.45	2.45	2.45	2.45	2.45	2.45	
2.45	2.45	2.45	2.45					
17.00	DISCHG	2.45	2.46	2.46	2.46	2.46	2.46	
2.46	2.46	2.46	2.46					
18.00	DISCHG	2.46	2.46	2.46	2.46	2.46	2.46	
2.46	2.46	2.46	2.46					
19.00	DISCHG	2.46	2.33	1.99	1.71	1.58	1.52	
1.43	1.25	1.11	1.04					
20.00	DISCHG	1.01	1.19	1.69	2.11	2.31	2.39	
2.30	1.98	1.71	1.58					
21.00	DISCHG	1.52	1.56	1.72	1.85	1.92	1.94	
1.90	1.73	1.59	1.53					
22.00	DISCHG	1.50	1.49	1.48	1.48	1.48	1.48	
1.48	1.48	1.48	1.48					
23.00	DISCHG	1.48	1.53	1.69	1.81	1.87	1.89	
1.67	1.03	.50	.25					
24.00	DISCHG	.13	.08	.04	.01	.00		

OPERATION RESVOR STRUCTURE 20

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
6887.35	6.33	73.24

	12.60	4.39
6878.65		
	14.20	3.73
6878.52		
	23.58	1.66
6878.11		

TIME (HRS)                      FIRST HYDROGRAPH POINT = .00 HOURS                      TIME INCREMENT =

.10 HOURS                      DRAINAGE AREA = .09 SQ.MI.

4.00	DISCHG	.00	.00	.00	.00	.00	.01
.05	.12	.22	.35				
5.00	DISCHG	.49	.69	1.07	1.35	1.72	2.19
3.81	10.13	14.59	37.49				
6.00	DISCHG	62.03	68.22	71.94	73.16	72.92	72.04
70.77	69.33	67.79	66.02				
7.00	DISCHG	64.27	62.45	60.63	57.97	49.80	43.08
37.54	32.87	28.91	25.56				
8.00	DISCHG	22.77	20.40	18.24	16.45	16.14	15.82
15.51	15.20	14.90	14.61				
9.00	DISCHG	14.33	14.05	13.79	13.53	13.28	13.03
12.80	12.57	12.34	12.13				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 76

10.00	DISCHG	11.92	11.71	11.51	11.32	10.67	10.04
9.46	8.88	8.28	7.69				
11.00	DISCHG	7.13	6.65	6.27	6.02	5.85	5.72
5.61	5.44	5.22	4.96				
12.00	DISCHG	4.70	4.48	4.35	4.30	4.32	4.36
4.39	4.36	4.26	4.10				
13.00	DISCHG	3.94	3.79	3.65	3.52	3.40	3.30
3.22	3.22	3.30	3.43				
14.00	DISCHG	3.57	3.69	3.73	3.69	3.60	3.50
3.39	3.29	3.20	3.12				
15.00	DISCHG	3.05	2.98	2.93	2.87	2.83	2.79
2.75	2.72	2.69	2.66				
16.00	DISCHG	2.64	2.62	2.60	2.59	2.57	2.56
2.55	2.54	2.53	2.52				
17.00	DISCHG	2.51	2.51	2.50	2.50	2.49	2.49
2.48	2.48	2.48	2.48				
18.00	DISCHG	2.47	2.47	2.47	2.47	2.47	2.47
2.47	2.46	2.46	2.46				
19.00	DISCHG	2.46	2.46	2.42	2.36	2.28	2.20
2.12	2.04	1.94	1.85				
20.00	DISCHG	1.76	1.69	1.66	1.69	1.74	1.81
1.87	1.90	1.89	1.86				
21.00	DISCHG	1.83	1.80	1.78	1.78	1.79	1.81
1.82	1.82	1.80	1.78				
22.00	DISCHG	1.75	1.72	1.69	1.67	1.65	1.63
1.61	1.60	1.59	1.57				

23.00	DISCHG	1.56	1.56	1.56	1.58	1.61	1.64
1.66	1.62	1.53	1.40				
24.00	DISCHG	1.27	1.14	.92	.68	.51	.37
.27	.20	.15	.11				
25.00	DISCHG	.08	.06	.04	.03	.02	.02
.01	.01	.01					

OPERATION RUNOFF CROSS SECTION 120

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
(RUNOFF)					
6.05		7.39			
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.			
5.00	DISCHG	.00	.00	.00	.00
.15	1.30	3.43	5.56		
6.00	DISCHG	7.20	7.18	4.51	2.25
.72	.56	.47	.43		
7.00	DISCHG	.42	.41	.41	.41
.40	.37	.35	.34		
8.00	DISCHG	.34	.31	.25	.20
.17	.17	.17	.17		
9.00	DISCHG	.17	.17	.17	.17
.17	.17	.17	.17		
10.00	DISCHG	.17	.17	.17	.17
.16	.13	.10	.09		
11.00	DISCHG	.09	.10	.13	.15
.16	.13	.10	.09		
12.00	DISCHG	.09	.10	.13	.15
.16	.13	.10	.09		
13.00	DISCHG	.09	.09	.09	.09
.10	.13	.16	.17		
14.00	DISCHG	.17	.16	.13	.10
.09	.09	.09	.09		
15.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09		
16.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09		
17.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09		
18.00	DISCHG	.09	.09	.09	.09
.09	.09	.09	.09		
19.00	DISCHG	.09	.08	.07	.06
.05	.04	.04	.04		
20.00	DISCHG	.04	.04	.06	.08
.08	.07	.06	.06		
21.00	DISCHG	.05	.06	.06	.07
.07	.06	.06	.05		
22.00	DISCHG	.05	.05	.05	.05
.05	.05	.05	.05		
23.00	DISCHG	.05	.06	.06	.07
.06	.03	.02	.01		
24.00	DISCHG	.00			

OPERATION RESVOR      STRUCTURE 10

1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 77

PEAK TIME (HRS)		PEAK DISCHARGE (CFS)		PEAK	
ELEVATION (FEET)					
6882.30		6.19	4.88		
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =		
.10 HOURS	DRAINAGE AREA = .00 SQ.MI.				
5.00	DISCHG .00	.00	.00	.00	.00
.05	.48 1.68 3.47				
6.00	DISCHG 4.60 4.80	4.88	4.76	4.53	2.61
1.47	.95 .67 .53				
7.00	DISCHG .46 .43	.42	.41	.41	.41
.41	.40 .37 .35				
8.00	DISCHG .34 .33	.30	.25	.21	.19
.18	.17 .17 .17				
9.00	DISCHG .17 .17	.17	.17	.17	.17
.17	.17 .17 .17				
10.00	DISCHG .17 .17	.17	.17	.17	.17
.17	.15 .13 .11				
11.00	DISCHG .10 .09	.11	.13	.15	.16
.16	.15 .13 .11				
12.00	DISCHG .10 .09	.11	.13	.15	.16
.16	.15 .13 .11				
13.00	DISCHG .10 .09	.09	.09	.09	.09
.09	.11 .13 .15				
14.00	DISCHG .16 .16	.15	.13	.11	.10
.09	.09 .09 .09				
15.00	DISCHG .09 .09	.09	.09	.09	.09
.09	.09 .09 .09				
16.00	DISCHG .09 .09	.09	.09	.09	.09
.09	.09 .09 .09				
17.00	DISCHG .09 .09	.09	.09	.09	.09
.09	.09 .09 .09				
18.00	DISCHG .09 .09	.09	.09	.09	.09
.09	.09 .09 .09				
19.00	DISCHG .09 .09	.08	.07	.06	.06
.05	.05 .04 .04				
20.00	DISCHG .04 .04	.05	.06	.07	.08
.08	.08 .07 .06				
21.00	DISCHG .06 .06	.06	.06	.07	.07
.07	.07 .06 .06				
22.00	DISCHG .06 .05	.05	.05	.05	.05
.05	.05 .05 .05				

23.00	DISCHG	.05	.05	.06	.06	.06	.07
.07	.05	.04	.02				
24.00	DISCHG	.01	.00				

\*\*\* WARNING REACH 120 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 120

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6878.59	6.19	4.88	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.	
5.00	DISCHG	.00	.00
.05	.48	1.68	3.47
6.00	DISCHG	4.60	4.80
1.47	.95	.67	.53
7.00	DISCHG	.46	.43
.41	.40	.37	.35
8.00	DISCHG	.34	.33
.18	.17	.17	.17
9.00	DISCHG	.17	.17
.17	.17	.17	.17
10.00	DISCHG	.17	.17
.17	.15	.13	.11
11.00	DISCHG	.10	.09
.16	.15	.13	.11
12.00	DISCHG	.10	.09
.16	.15	.13	.11
13.00	DISCHG	.10	.09
.09	.11	.13	.15
14.00	DISCHG	.16	.16
.09	.09	.09	.09
15.00	DISCHG	.09	.09
.09	.09	.09	.09
16.00	DISCHG	.09	.09
.09	.09	.09	.09
17.00	DISCHG	.09	.09
.09	.09	.09	.09
18.00	DISCHG	.09	.09
.09	.09	.09	.09

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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19.00	DISCHG	.09	.09	.08	.07	.06	.06
.05	.05	.04	.04				



20.00	DISCHG	.04	.04	.05	.06	.07	.08
.08	.08	.07	.06				
21.00	DISCHG	.06	.06	.06	.06	.07	.07
.07	.07	.06	.06				
22.00	DISCHG	.06	.05	.05	.05	.05	.05
.05	.05	.05	.05				
23.00	DISCHG	.05	.05	.06	.06	.06	.07
.07	.05	.04	.02				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 100

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(NULL)	6.32	77.95	
(NULL)	12.59	4.56	
(NULL)	14.19	3.89	
(NULL)	23.57	1.72	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .09 SQ. MI.		
4.00	DISCHG	.00	.00
.05	.12	.22	.35
5.00	DISCHG	.49	.69
3.85	10.60	16.26	40.96
6.00	DISCHG	66.63	73.02
72.25	70.28	68.47	66.55
7.00	DISCHG	64.74	62.88
37.94	33.27	29.28	25.92
8.00	DISCHG	23.11	20.73
15.69	15.37	15.07	14.78
9.00	DISCHG	14.50	14.22
12.96	12.74	12.51	12.30
10.00	DISCHG	12.08	11.88
9.63	9.03	8.41	7.79
11.00	DISCHG	7.23	6.74
5.77	5.59	5.34	5.07
12.00	DISCHG	4.80	4.58
4.56	4.51	4.38	4.21
13.00	DISCHG	4.04	3.88
3.31	3.32	3.43	3.58
14.00	DISCHG	3.73	3.85
3.49	3.38	3.29	3.21
15.00	DISCHG	3.14	3.07
2.84	2.80	2.78	2.75
16.00	DISCHG	2.73	2.71
2.63	2.62	2.61	2.61
17.00	DISCHG	2.60	2.59
2.57	2.57	2.57	2.56
18.00	DISCHG	2.56	2.56
2.55	2.55	2.55	2.55

19.00	DISCHG		2.55	2.54	2.50	2.43	2.34	2.26
2.18	2.09	1.99	1.89					
20.00	DISCHG		1.80	1.73	1.71	1.75	1.82	1.89
1.95	1.98	1.96	1.93					
21.00	DISCHG		1.89	1.85	1.84	1.84	1.86	1.88
1.89	1.89	1.86	1.83					
22.00	DISCHG		1.80	1.77	1.75	1.72	1.70	1.68
1.67	1.65	1.64	1.63					
23.00	DISCHG		1.62	1.61	1.62	1.64	1.68	1.71
1.72	1.68	1.57	1.42					
24.00	DISCHG		1.28	1.14	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

\*\*\* WARNING REACH .45 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 45  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6866.53	6.32	77.95	
6865.25	12.59	4.56	
6865.21	14.19	3.89	
6865.09	23.57	1.72	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .09 SQ.MI.		
4.00	DISCHG .00 .00	.00	.00
.05	.12 .22 .35		
5.00	DISCHG .49 .69	1.07	1.35
3.85	10.60 16.26 40.96		
6.00	DISCHG 66.63 73.02	76.82	77.92
72.25	70.28 68.47 66.55		
7.00	DISCHG 64.74 62.88	61.05	58.39
37.94	33.27 29.28 25.92		
8.00	DISCHG 23.11 20.73	18.54	16.70
15.69	15.37 15.07 14.78		
9.00	DISCHG 14.50 14.22	13.96	13.70
12.96	12.74 12.51 12.30		

10.00	DISCHG		12.08	11.88	11.68	11.49	10.84	10.21
9.63	9.03	8.41	7.79					
11.00	DISCHG		7.23	6.74	6.38	6.15	6.00	5.88
5.77	5.59	5.34	5.07					
12.00	DISCHG		4.80	4.58	4.45	4.43	4.47	4.52
4.56	4.51	4.38	4.21					
13.00	DISCHG		4.04	3.88	3.73	3.60	3.49	3.38
3.31	3.32	3.43	3.58					
14.00	DISCHG		3.73	3.85	3.88	3.82	3.71	3.60
3.49	3.38	3.29	3.21					
15.00	DISCHG		3.14	3.07	3.01	2.96	2.91	2.87
2.84	2.80	2.78	2.75					
16.00	DISCHG		2.73	2.71	2.69	2.67	2.66	2.65
2.63	2.62	2.61	2.61					
17.00	DISCHG		2.60	2.59	2.59	2.58	2.58	2.57
2.57	2.57	2.57	2.56					
18.00	DISCHG		2.56	2.56	2.56	2.56	2.56	2.55
2.55	2.55	2.55	2.55					
19.00	DISCHG		2.55	2.54	2.50	2.43	2.34	2.26
2.18	2.09	1.99	1.89					
20.00	DISCHG		1.80	1.73	1.71	1.75	1.82	1.89
1.95	1.98	1.96	1.93					
21.00	DISCHG		1.89	1.85	1.84	1.84	1.86	1.88
1.89	1.89	1.86	1.83					
22.00	DISCHG		1.80	1.77	1.75	1.72	1.70	1.68
1.67	1.65	1.64	1.63					
23.00	DISCHG		1.62	1.61	1.62	1.64	1.68	1.71
1.72	1.68	1.57	1.42					
24.00	DISCHG		1.28	1.14	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 45

PEAK TIME (HRS)                      PEAK DISCHARGE (CFS)                      PEAK  
ELEVATION (FEET)                      5.98    25.80  
(RUNOFF)

TIME (HRS)                      FIRST HYDROGRAPH POINT = .00 HOURS                      TIME INCREMENT =  
.10 HOURS                      DRAINAGE AREA = .01 SQ.MI.

5.00	DISCHG	.00	.01	.06	.15	.24	.35
3.63	12.55	19.33	23.32				
6.00	DISCHG	25.55	19.19	7.25	3.28	2.20	1.91
1.63	1.29	1.19	1.16				
7.00	DISCHG	1.15	1.15	1.15	1.15	1.15	1.15
1.09	.97	.94	.93				
8.00	DISCHG	.93	.79	.56	.49	.47	.47
.46	.46	.46	.46				
9.00	DISCHG	.47	.47	.47	.47	.47	.47
.47	.47	.47	.47				
10.00	DISCHG	.47	.47	.47	.47	.47	.47
.40	.28	.25	.24				
11.00	DISCHG	.24	.30	.42	.45	.46	.47
.40	.28	.25	.24				

12.00	DISCHG	.24	.30	.42	.46	.47	.47
.40	.29	.25	.24				
13.00	DISCHG	.24	.23	.23	.23	.23	.24
.31	.42	.46	.47				
14.00	DISCHG	.47	.40	.29	.25	.24	.24
.24	.24	.24	.24				
15.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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16.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
17.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
18.00	DISCHG	.24	.24	.24	.24	.24	.24
.24	.24	.24	.24				
19.00	DISCHG	.24	.21	.16	.15	.14	.14
.13	.10	.10	.10				
20.00	DISCHG	.10	.14	.21	.23	.23	.24
.21	.16	.15	.14				
21.00	DISCHG	.14	.16	.18	.19	.19	.19
.18	.15	.15	.14				
22.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14				
23.00	DISCHG	.14	.16	.18	.18	.18	.18
.13	.04	.02	.01				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 45

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6866.70	6.05	93.22	
6865.27	12.51	4.99	
6865.23	14.09	4.25	
6865.10	23.49	1.89	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.10 SQ.MI.	
4.00	DISCHG	.00	.00
.05	.12	.22	.35
5.00	DISCHG	.49	.70
7.49	23.15	35.59	64.28

6.00	DISCHG	92.18	92.21	84.07	81.20	79.66	76.56
73.87	71.57	69.65	67.71				
7.00	DISCHG	65.89	64.03	62.20	59.54	51.37	44.65
39.03	34.24	30.22	26.85				
8.00	DISCHG	24.04	21.52	19.10	17.19	16.82	16.48
16.15	15.84	15.54	15.24				
9.00	DISCHG	14.96	14.69	14.42	14.16	13.91	13.67
13.43	13.20	12.98	12.76				
10.00	DISCHG	12.55	12.35	12.15	11.96	11.31	10.68
10.02	9.31	8.65	8.03				
11.00	DISCHG	7.47	7.05	6.80	6.60	6.46	6.35
6.17	5.88	5.59	5.31				
12.00	DISCHG	5.04	4.88	4.87	4.89	4.94	4.99
4.96	4.80	4.63	4.45				
13.00	DISCHG	4.28	4.12	3.97	3.84	3.72	3.62
3.62	3.74	3.88	4.04				
14.00	DISCHG	4.20	4.25	4.17	4.07	3.95	3.83
3.72	3.62	3.53	3.44				
15.00	DISCHG	3.37	3.31	3.25	3.20	3.15	3.11
3.07	3.04	3.01	2.99				
16.00	DISCHG	2.96	2.94	2.92	2.91	2.89	2.88
2.87	2.86	2.85	2.84				
17.00	DISCHG	2.84	2.83	2.82	2.82	2.81	2.81
2.81	2.80	2.80	2.80				
18.00	DISCHG	2.80	2.80	2.79	2.79	2.79	2.79
2.79	2.79	2.79	2.79				
19.00	DISCHG	2.79	2.75	2.66	2.58	2.49	2.40
2.31	2.19	2.09	1.98				
20.00	DISCHG	1.89	1.86	1.91	1.98	2.05	2.13
2.16	2.14	2.11	2.07				
21.00	DISCHG	2.03	2.01	2.02	2.03	2.05	2.07
2.06	2.04	2.01	1.98				
22.00	DISCHG	1.95	1.92	1.89	1.87	1.85	1.83
1.81	1.79	1.78	1.77				
23.00	DISCHG	1.76	1.77	1.80	1.83	1.86	1.89
1.85	1.72	1.58	1.43				
24.00	DISCHG	1.29	1.14	.92	.68	.51	.37
.27	.20	.15	.11				
25.00	DISCHG	.08	.06	.04	.03	.02	.02
.01	.01	.01					

\*\*\* WARNING REACH 35 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 35  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6864.08	6.05	93.22	
6862.33	12.51	4.99	
6862.28	14.09	4.25	
6862.13	23.49	1.89	

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .10 SQ. MI.							
4.00	DISCHG	.00	.00	.00	.00	.00	.00	.01
.05	.12	.22	.35					
5.00	DISCHG	.49	.70	1.13	1.49	1.95	2.54	
7.49	23.15	35.59	64.28					
6.00	DISCHG	92.18	92.21	84.07	81.20	79.66	76.56	
73.87	71.57	69.65	67.71					
7.00	DISCHG	65.89	64.03	62.20	59.54	51.37	44.65	
39.03	34.24	30.22	26.85					
8.00	DISCHG	24.04	21.52	19.10	17.19	16.82	16.48	
16.15	15.84	15.54	15.24					
9.00	DISCHG	14.96	14.69	14.42	14.16	13.91	13.67	
13.43	13.20	12.98	12.76					
10.00	DISCHG	12.55	12.35	12.15	11.96	11.31	10.68	
10.02	9.31	8.65	8.03					
11.00	DISCHG	7.47	7.05	6.80	6.60	6.46	6.35	
6.17	5.88	5.59	5.31					
12.00	DISCHG	5.04	4.88	4.87	4.89	4.94	4.99	
4.96	4.80	4.63	4.45					
13.00	DISCHG	4.28	4.12	3.97	3.84	3.72	3.62	
3.62	3.74	3.88	4.04					
14.00	DISCHG	4.20	4.25	4.17	4.07	3.95	3.83	
3.72	3.62	3.53	3.44					
15.00	DISCHG	3.37	3.31	3.25	3.20	3.15	3.11	
3.07	3.04	3.01	2.99					
16.00	DISCHG	2.96	2.94	2.92	2.91	2.89	2.88	
2.87	2.86	2.85	2.84					
17.00	DISCHG	2.84	2.83	2.82	2.82	2.81	2.81	
2.81	2.80	2.80	2.80					
18.00	DISCHG	2.80	2.80	2.79	2.79	2.79	2.79	
2.79	2.79	2.79	2.79					
19.00	DISCHG	2.79	2.75	2.66	2.58	2.49	2.40	
2.31	2.19	2.09	1.98					
20.00	DISCHG	1.89	1.86	1.91	1.98	2.05	2.13	
2.16	2.14	2.11	2.07					
21.00	DISCHG	2.03	2.01	2.02	2.03	2.05	2.07	
2.06	2.04	2.01	1.98					
22.00	DISCHG	1.95	1.92	1.89	1.87	1.85	1.83	
1.81	1.79	1.78	1.77					
23.00	DISCHG	1.76	1.77	1.80	1.83	1.86	1.89	
1.85	1.72	1.58	1.43					
24.00	DISCHG	1.29	1.14	.92	.68	.51	.37	
.27	.20	.15	.11					
25.00	DISCHG	.08	.06	.04	.03	.02	.02	
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 40

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)		PEAK
(RUNOFF)	5.96	17.65		
TIME (HRS)	FIRST HYDROGRAPH POINT =		.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =		.01 SQ. MI.	
4.00	DISCHG	.00	.00	.00 .00 .00 .01
.03	.04	.05	.06	
5.00	DISCHG	.07	.16	.27 .34 .40 .46
4.92	11.77	14.89	16.30	
6.00	DISCHG	17.01	10.02	2.91 1.48 1.20 1.15
.96	.77	.73	.72	
7.00	DISCHG	.72	.72	.72 .72 .72 .72
.66	.59	.58	.58	
8.00	DISCHG	.58	.45	.32 .30 .29 .29
.29	.29	.29	.29	
9.00	DISCHG	.29	.29	.29 .29 .29 .29
.29	.29	.29	.29	
10.00	DISCHG	.29	.29	.29 .29 .29 .29
.23	.16	.15	.15	
11.00	DISCHG	.15	.21	.28 .29 .29 .29
.23	.16	.15	.15	
12.00	DISCHG	.15	.21	.28 .29 .29 .29
.23	.16	.15	.15	
13.00	DISCHG	.15	.15	.15 .15 .15 .15
.21	.28	.29	.29	
14.00	DISCHG	.29	.23	.16 .15 .15 .15
.15	.15	.15	.15	

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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15.00	DISCHG	.15	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15					
16.00	DISCHG	.15	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15					
17.00	DISCHG	.15	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15					
18.00	DISCHG	.15	.15	.15	.15	.15	.15	.15
.15	.15	.15	.15					
19.00	DISCHG	.15	.12	.09	.09	.09	.09	.09
.07	.06	.06	.06					
20.00	DISCHG	.06	.10	.14	.14	.15	.15	.15
.12	.09	.09	.09					
21.00	DISCHG	.09	.10	.11	.12	.12	.12	.12
.10	.09	.09	.09					

22.00	DISCHG	.09	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09	.09	.10	.11	.11	.11
23.00	DISCHG	.09	.10	.11	.11	.11	.11	.11
.06	.02	.01	.00					

\*\*\* WARNING REACH 35 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6862.82	5.96	17.65	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
4.00	DISCHG	.00	.00
.03	.04	.05	.06
5.00	DISCHG	.07	.16
4.92	11.77	14.89	16.30
6.00	DISCHG	17.01	10.02
.96	.77	.73	.72
7.00	DISCHG	.72	.72
.66	.59	.58	.58
8.00	DISCHG	.58	.45
.29	.29	.29	.29
9.00	DISCHG	.29	.29
.29	.29	.29	.29
10.00	DISCHG	.29	.29
.23	.16	.15	.15
11.00	DISCHG	.15	.21
.23	.16	.15	.15
12.00	DISCHG	.15	.21
.23	.16	.15	.15
13.00	DISCHG	.15	.15
.21	.28	.29	.29
14.00	DISCHG	.29	.23
.15	.15	.15	.15
15.00	DISCHG	.15	.15
.15	.15	.15	.15
16.00	DISCHG	.15	.15
.15	.15	.15	.15
17.00	DISCHG	.15	.15
.15	.15	.15	.15
18.00	DISCHG	.15	.15
.15	.15	.15	.15
19.00	DISCHG	.15	.12
.07	.06	.06	.06
20.00	DISCHG	.06	.10
.12	.09	.09	.09
21.00	DISCHG	.09	.10
.10	.09	.09	.09
22.00	DISCHG	.09	.09
.09	.09	.09	.09



23.00 DISCHG .09 .10 .11 .11 .11 .11  
 .06 .02 .01 .00

OPERATION ADDHYD CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6864.20	6.03	110.83	
6862.35	12.49	5.28	
6862.30	14.04	4.50	
6862.13	23.48	2.01	

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.11 SQ.MI.	
4.00	DISCHG	.00 .00 .00 .00	.03
.08	.16	.27 .41	
5.00	DISCHG	.57 .85 1.40 1.84	2.36 2.99
12.41	34.93	50.48 80.57	
6.00	DISCHG	109.18 102.23 86.98 82.68	80.86 77.71
74.83	72.34	70.38 68.43	
7.00	DISCHG	66.61 64.75 62.92 60.26	52.09 45.37
39.69	34.84	30.80 27.42	
8.00	DISCHG	24.62 21.97 19.42 17.49	17.11 16.77
16.44	16.13	15.83 15.53	
9.00	DISCHG	15.25 14.98 14.71 14.45	14.20 13.96
13.72	13.49	13.27 13.05	
10.00	DISCHG	12.84 12.64 12.44 12.25	11.60 10.97
10.25	9.47	8.80 8.18	
11.00	DISCHG	7.61 7.26 7.07 6.89	6.75 6.64
6.39	6.04	5.74 5.45	
12.00	DISCHG	5.18 5.10 5.15 5.18	5.23 5.28
5.18	4.96	4.78 4.60	
13.00	DISCHG	4.42 4.26 4.12 3.98	3.87 3.77
3.83	4.02	4.17 4.33	
14.00	DISCHG	4.49 4.47 4.33 4.22	4.10 3.98
3.87	3.76	3.67 3.59	
15.00	DISCHG	3.52 3.45 3.39 3.34	3.30 3.26
3.22	3.19	3.16 3.13	
16.00	DISCHG	3.11 3.09 3.07 3.05	3.04 3.03
3.02	3.01	3.00 2.99	
17.00	DISCHG	2.98 2.98 2.97 2.97	2.96 2.96
2.95	2.95	2.95 2.95	

18.00	DISCHG	2.94	2.94	2.94	2.94	2.94	2.94	2.94
2.94	2.94	2.93	2.93					
19.00	DISCHG	2.93	2.87	2.76	2.67	2.58	2.49	
2.38	2.25	2.14	2.04					
20.00	DISCHG	1.95	1.96	2.05	2.12	2.20	2.27	
2.28	2.23	2.20	2.16					
21.00	DISCHG	2.12	2.11	2.13	2.15	2.16	2.18	
2.17	2.13	2.10	2.06					
22.00	DISCHG	2.03	2.00	1.98	1.95	1.93	1.91	
1.90	1.88	1.87	1.86					
23.00	DISCHG	1.85	1.87	1.91	1.94	1.98	2.01	
1.92	1.74	1.59	1.43					
24.00	DISCHG	1.29	1.14	.92	.68	.51	.37	
.27	.20	.15	.11					
25.00	DISCHG	.08	.06	.04	.03	.02	.02	
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 35

\*\*\* WARNING-MAIN TIME INCREMENT MAY BE TOO LARGE.

COMPUTED PEAK( 4.83) AT EXCEEDS MAX. ADJACENT  
HYDROGRAPH COORDINATE BY 5 %.

+ XSECTION 35

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK  
ELEVATION( FEET) 5.96 4.83  
(RUNOFF)

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ. MI.	
5.00	DISCHG	.00	.00
1.29	2.97	3.86	4.33
6.00	DISCHG	4.59	1.97
.24	.20	.20	.20
7.00	DISCHG	.20	.20
.17	.16	.16	.16
8.00	DISCHG	.16	.11
.08	.08	.08	.08
9.00	DISCHG	.08	.08
.08	.08	.08	.08
10.00	DISCHG	.08	.08
.06	.04	.04	.04
11.00	DISCHG	.04	.07
.06	.04	.04	.04
12.00	DISCHG	.04	.07
.06	.04	.04	.04
13.00	DISCHG	.04	.04
.07	.08	.08	.08
14.00	DISCHG	.08	.06
.04	.04	.04	.04
15.00	DISCHG	.04	.04
.04	.04	.04	.04
16.00	DISCHG	.04	.04
.04	.04	.04	.04

17.00	DISCHG		.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
18.00	DISCHG		.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					

1

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83 (.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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19.00	DISCHG		.04	.03	.03	.02	.02	.02
.02	.02	.02	.02					
20.00	DISCHG		.02	.03	.04	.04	.04	.04
.03	.03	.02	.02					
21.00	DISCHG		.02	.03	.03	.03	.03	.03
.03	.02	.02	.02					
22.00	DISCHG		.02	.02	.02	.02	.02	.02
.02	.02	.02	.02					
23.00	DISCHG		.02	.03	.03	.03	.03	.03
.01	.00							

OPERATION ADDHYD CROSS SECTION 35

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6864.21	6.03	114.98	
6862.35	12.48	5.37	
6862.30	14.03	4.58	
6862.13	23.47	2.04	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .11 SQ.MI.		
4.00	DISCHG .00 .00	.00	.03
.08	.16 .27 .41		
5.00	DISCHG .57 .85	1.42	3.06
13.70	37.90 54.34 84.90		
6.00	DISCHG 113.77 104.19	87.50	78.02
75.07	72.54 70.58 68.63		
7.00	DISCHG 66.81 64.95	63.12	45.57
39.86	35.00 30.96 27.58		
8.00	DISCHG 24.78 22.08	19.51	16.85
16.52	16.21 15.91 15.61		
9.00	DISCHG 15.33 15.06	14.79	14.04
13.80	13.57 13.35 13.13		
10.00	DISCHG 12.92 12.72	12.52	11.05
10.30	9.52 8.84 8.22		
11.00	DISCHG 7.65 7.32	7.15	6.72
6.45	6.08 5.78 5.49		

12.00	DISCHG	5.22	5.16	5.23	5.26	5.31	5.36
5.24	5.00	4.82	4.64				
13.00	DISCHG	4.46	4.30	4.16	4.03	3.91	3.81
3.89	4.10	4.25	4.42				
14.00	DISCHG	4.57	4.53	4.38	4.26	4.14	4.02
3.91	3.81	3.71	3.63				
15.00	DISCHG	3.56	3.49	3.43	3.38	3.34	3.30
3.26	3.23	3.20	3.17				
16.00	DISCHG	3.15	3.13	3.11	3.10	3.08	3.07
3.06	3.05	3.04	3.03				
17.00	DISCHG	3.02	3.02	3.01	3.01	3.00	3.00
2.99	2.99	2.99	2.99				
18.00	DISCHG	2.98	2.98	2.98	2.98	2.98	2.98
2.98	2.98	2.98	2.97				
19.00	DISCHG	2.97	2.90	2.78	2.69	2.60	2.51
2.40	2.27	2.16	2.06				
20.00	DISCHG	1.97	1.99	2.09	2.16	2.24	2.31
2.31	2.26	2.22	2.18				
21.00	DISCHG	2.14	2.14	2.16	2.18	2.20	2.22
2.20	2.15	2.12	2.09				
22.00	DISCHG	2.06	2.03	2.00	1.98	1.96	1.94
1.92	1.91	1.89	1.88				
23.00	DISCHG	1.87	1.90	1.94	1.97	2.01	2.04
1.93	1.74	1.59	1.43				
24.00	DISCHG	1.29	1.14	.92	.68	.51	.37
.27	.20	.15	.11				
25.00	DISCHG	.08	.06	.04	.03	.02	.02
.01	.01	.01					

\*\*\* WARNING REACH 30 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6841.80	6.03	114.98	
6840.28	12.48	5.37	
6840.24	14.03	4.58	
6840.11	23.47	2.04	
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .11 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.00	.00	.03
.08	.16	.27	.41					
5.00	DISCHG	.57	.85	1.42	1.87	2.41	3.06	
13.70	37.90	54.34	84.90					
6.00	DISCHG	113.77	104.19	87.50	83.01	81.17	78.02	
75.07	72.54	70.58	68.63					
7.00	DISCHG	66.81	64.95	63.12	60.46	52.29	45.57	
39.86	35.00	30.96	27.58					
8.00	DISCHG	24.78	22.08	19.51	17.57	17.19	16.85	
16.52	16.21	15.91	15.61					
9.00	DISCHG	15.33	15.06	14.79	14.53	14.28	14.04	
13.80	13.57	13.35	13.13					
10.00	DISCHG	12.92	12.72	12.52	12.33	11.68	11.05	
10.30	9.52	8.84	8.22					
11.00	DISCHG	7.65	7.32	7.15	6.97	6.83	6.72	
6.45	6.08	5.78	5.49					
12.00	DISCHG	5.22	5.16	5.23	5.26	5.31	5.36	
5.24	5.00	4.82	4.64					
13.00	DISCHG	4.46	4.30	4.16	4.03	3.91	3.81	
3.89	4.10	4.25	4.42					
14.00	DISCHG	4.57	4.53	4.38	4.26	4.14	4.02	
3.91	3.81	3.71	3.63					
15.00	DISCHG	3.56	3.49	3.43	3.38	3.34	3.30	
3.26	3.23	3.20	3.17					
16.00	DISCHG	3.15	3.13	3.11	3.10	3.08	3.07	
3.06	3.05	3.04	3.03					
17.00	DISCHG	3.02	3.02	3.01	3.01	3.00	3.00	
2.99	2.99	2.99	2.99					
18.00	DISCHG	2.98	2.98	2.98	2.98	2.98	2.98	
2.98	2.98	2.98	2.97					
19.00	DISCHG	2.97	2.90	2.78	2.69	2.60	2.51	
2.40	2.27	2.16	2.06					
20.00	DISCHG	1.97	1.99	2.09	2.16	2.24	2.31	
2.31	2.26	2.22	2.18					
21.00	DISCHG	2.14	2.14	2.16	2.18	2.20	2.22	
2.20	2.15	2.12	2.09					
22.00	DISCHG	2.06	2.03	2.00	1.98	1.96	1.94	
1.92	1.91	1.89	1.88					
23.00	DISCHG	1.87	1.90	1.94	1.97	2.01	2.04	
1.93	1.74	1.59	1.43					
24.00	DISCHG	1.29	1.14	.92	.68	.51	.37	
.27	.20	.15	.11					
25.00	DISCHG	.08	.06	.04	.03	.02	.02	
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	6.00	30.38	

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.							

5.00	DISCHG	.00	.00	.00	.00	.03	.12
2.20	10.32	19.53	26.15				
6.00	DISCHG	30.37	26.54	13.08	6.01	3.58	2.74
2.28	1.79	1.57	1.51				
7.00	DISCHG	1.48	1.48	1.48	1.48	1.48	1.48
1.43	1.29	1.23	1.20				
8.00	DISCHG	1.20	1.08	.80	.67	.62	.61
.60	.60	.60	.60				
9.00	DISCHG	.60	.60	.60	.60	.60	.60
.60	.60	.60	.60				
10.00	DISCHG	.60	.60	.60	.60	.60	.60
.54	.41	.34	.31				
11.00	DISCHG	.31	.37	.50	.57	.59	.60
.54	.41	.34	.32				
12.00	DISCHG	.31	.37	.50	.57	.60	.60
.54	.41	.34	.32				
13.00	DISCHG	.31	.31	.30	.30	.30	.31
.37	.50	.57	.60				
14.00	DISCHG	.60	.55	.41	.34	.32	.31
.31	.31	.31	.31				
15.00	DISCHG	.31	.31	.31	.31	.31	.31
.31	.31	.31	.31				
16.00	DISCHG	.31	.31	.31	.31	.31	.31
.31	.31	.31	.31				
17.00	DISCHG	.31	.31	.31	.31	.31	.31
.31	.31	.31	.31				
18.00	DISCHG	.31	.31	.31	.31	.31	.31
.31	.31	.31	.31				
19.00	DISCHG	.31	.28	.23	.20	.19	.19
.17	.14	.13	.13				
20.00	DISCHG	.12	.16	.24	.29	.30	.31
.28	.23	.20	.19				
21.00	DISCHG	.19	.20	.23	.24	.24	.25
.23	.21	.19	.19				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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22.00	DISCHG	.19	.19	.19	.19	.19	.19
.19	.19	.19	.19				
23.00	DISCHG	.19	.20	.22	.23	.24	.24
.19	.09	.03	.02				
24.00	DISCHG	.01	.01	.00			

OPERATION ADDHYD CROSS SECTION 30

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6842.05	6.02	145.19	

6840.32	12.48	5.97
6840.27	14.01	5.18
6840.12	23.47	2.29

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .12 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.00	.00	.03
.08	.16	.27	.41					
5.00	DISCHG	.57	.85	1.42	1.87	2.44	3.18	
15.90	48.22	73.86	111.05					
6.00	DISCHG	144.15	130.74	100.58	89.03	84.76	80.77	
77.35	74.33	72.15	70.14					
7.00	DISCHG	68.29	66.43	64.60	61.94	53.77	47.05	
41.29	36.29	32.19	28.79					
8.00	DISCHG	25.97	23.15	20.31	18.24	17.81	17.45	
17.12	16.81	16.51	16.21					
9.00	DISCHG	15.93	15.66	15.39	15.13	14.88	14.64	
14.40	14.17	13.95	13.74					
10.00	DISCHG	13.53	13.32	13.12	12.93	12.29	11.65	
10.85	9.92	9.18	8.53					
11.00	DISCHG	7.96	7.69	7.65	7.54	7.43	7.32	
6.99	6.49	6.12	5.81					
12.00	DISCHG	5.53	5.53	5.73	5.83	5.90	5.97	
5.78	5.41	5.16	4.95					
13.00	DISCHG	4.77	4.61	4.46	4.33	4.21	4.11	
4.26	4.60	4.83	5.01					
14.00	DISCHG	5.17	5.08	4.79	4.60	4.46	4.33	
4.21	4.11	4.02	3.94					
15.00	DISCHG	3.86	3.80	3.74	3.69	3.64	3.60	
3.57	3.53	3.50	3.48					
16.00	DISCHG	3.46	3.44	3.42	3.40	3.39	3.37	
3.36	3.35	3.34	3.34					
17.00	DISCHG	3.33	3.32	3.32	3.31	3.31	3.31	
3.30	3.30	3.30	3.29					
18.00	DISCHG	3.29	3.29	3.29	3.29	3.29	3.29	
3.28	3.28	3.28	3.28					
19.00	DISCHG	3.28	3.18	3.01	2.89	2.79	2.70	
2.57	2.42	2.29	2.18					
20.00	DISCHG	2.09	2.15	2.33	2.45	2.54	2.62	
2.59	2.49	2.42	2.37					
21.00	DISCHG	2.33	2.34	2.39	2.42	2.44	2.46	
2.43	2.36	2.31	2.28					
22.00	DISCHG	2.24	2.21	2.19	2.16	2.14	2.12	
2.11	2.09	2.08	2.07					
23.00	DISCHG	2.06	2.09	2.16	2.21	2.25	2.28	
2.12	1.82	1.62	1.45					
24.00	DISCHG	1.30	1.15	.92	.68	.51	.37	
.27	.20	.15	.11					
25.00	DISCHG	.08	.06	.04	.03	.02	.02	
.01	.01	.01						

\*\*\* WARNING REACH 20 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6827.05	6.02	145.19	
6825.32	12.48	5.97	
6825.27	14.01	5.18	
6825.12	23.47	2.29	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
 .10 HOURS DRAINAGE AREA = .12 SQ.MI.  
 1

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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4.00	DISCHG	.00	.00	.00	.00	.00	.03
.08	.16	.27	.41				
5.00	DISCHG	.57	.85	1.42	1.87	2.44	3.18
15.90	48.22	73.86	111.05				
6.00	DISCHG	144.15	130.74	100.58	89.03	84.76	80.77
77.35	74.33	72.15	70.14				
7.00	DISCHG	68.29	66.43	64.60	61.94	53.77	47.05
41.29	36.29	32.19	28.79				
8.00	DISCHG	25.97	23.15	20.31	18.24	17.81	17.45
17.12	16.81	16.51	16.21				
9.00	DISCHG	15.93	15.66	15.39	15.13	14.88	14.64
14.40	14.17	13.95	13.74				
10.00	DISCHG	13.53	13.32	13.12	12.93	12.29	11.65
10.85	9.92	9.18	8.53				
11.00	DISCHG	7.96	7.69	7.65	7.54	7.43	7.32
6.99	6.49	6.12	5.81				
12.00	DISCHG	5.53	5.53	5.73	5.83	5.90	5.97
5.78	5.41	5.16	4.95				
13.00	DISCHG	4.77	4.61	4.46	4.33	4.21	4.11
4.26	4.60	4.83	5.01				
14.00	DISCHG	5.17	5.08	4.79	4.60	4.46	4.33
4.21	4.11	4.02	3.94				
15.00	DISCHG	3.86	3.80	3.74	3.69	3.64	3.60
3.57	3.53	3.50	3.48				
16.00	DISCHG	3.46	3.44	3.42	3.40	3.39	3.37
3.36	3.35	3.34	3.34				
17.00	DISCHG	3.33	3.32	3.32	3.31	3.31	3.31
3.30	3.30	3.30	3.29				
18.00	DISCHG	3.29	3.29	3.29	3.29	3.29	3.29
3.28	3.28	3.28	3.28				



19.00	DISCHG		3.28	3.18	3.01	2.89	2.79	2.70
2.57	2.42	2.29	2.18					
20.00	DISCHG		2.09	2.15	2.33	2.45	2.54	2.62
2.59	2.49	2.42	2.37					
21.00	DISCHG		2.33	2.34	2.39	2.42	2.44	2.46
2.43	2.36	2.31	2.28					
22.00	DISCHG		2.24	2.21	2.19	2.16	2.14	2.12
2.11	2.09	2.08	2.07					
23.00	DISCHG		2.06	2.09	2.16	2.21	2.25	2.28
2.12	1.82	1.62	1.45					
24.00	DISCHG		1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 27

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.99	16.46	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
5.00	DISCHG .00	.00	.02 .07
1.45	6.42 11.18 14.38		
6.00	DISCHG 16.42	13.10	5.33 2.41 1.55 1.31
1.11	.88 .80 .78		
7.00	DISCHG .77	.77	.77 .77 .77 .77
.73	.66 .63 .62		
8.00	DISCHG .62	.54	.39 .33 .32 .31
.31	.31 .31 .31		
9.00	DISCHG .31	.31	.31 .31 .31 .31
.31	.31 .31 .31		
10.00	DISCHG .31	.31	.31 .31 .31 .31
.27	.20 .17 .16		
11.00	DISCHG .16	.20	.28 .30 .31 .31
.27	.20 .17 .16		
12.00	DISCHG .16	.20	.28 .31 .31 .32
.27	.20 .17 .16		
13.00	DISCHG .16	.16	.16 .16 .16 .16
.20	.28 .31 .31		
14.00	DISCHG .32	.28	.20 .17 .16 .16
.16	.16 .16 .16		
15.00	DISCHG .16	.16	.16 .16 .16 .16
.16	.16 .16 .16		
16.00	DISCHG .16	.16	.16 .16 .16 .16
.16	.16 .16 .16		
17.00	DISCHG .16	.16	.16 .16 .16 .16
.16	.16 .16 .16		
18.00	DISCHG .16	.16	.16 .16 .16 .16
.16	.16 .16 .16		
19.00	DISCHG .16	.14	.11 .10 .10 .10
.09	.07 .07 .06		
20.00	DISCHG .06	.09	.14 .15 .16 .16
.14	.11 .10 .10		

21.00	DISCHG	.10	.11	.12	.13	.13	.13
.12	.10	.10	.10	.10	.10	.10	.10
22.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10
23.00	DISCHG	.10	.10	.12	.12	.13	.13
.09	.03	.01	.01				

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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24.00 DISCHG .00

\*\*\* WARNING REACH 25 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
 REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6846.73	5.99	16.46	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
5.00	DISCHG	.00	.00
1.45	6.42	11.18	14.38
6.00	DISCHG	16.42	13.10
1.11	.88	.80	.78
7.00	DISCHG	.77	.77
.73	.66	.63	.62
8.00	DISCHG	.62	.54
.31	.31	.31	.31
9.00	DISCHG	.31	.31
.31	.31	.31	.31
10.00	DISCHG	.31	.31
.27	.20	.17	.16
11.00	DISCHG	.16	.20
.27	.20	.17	.16
12.00	DISCHG	.16	.20
.27	.20	.17	.16
13.00	DISCHG	.16	.16
.20	.28	.31	.31
14.00	DISCHG	.32	.28
.16	.16	.16	.16
15.00	DISCHG	.16	.16
.16	.16	.16	.16
16.00	DISCHG	.16	.16
.16	.16	.16	.16
17.00	DISCHG	.16	.16
.16	.16	.16	.16

18.00	DISCHG	.16	.16	.16	.16	.16	.16	.16
.16	.16	.16	.16					
19.00	DISCHG	.16	.14	.11	.10	.10	.10	.10
.09	.07	.07	.06					
20.00	DISCHG	.06	.09	.14	.15	.16	.16	.16
.14	.11	.10	.10					
21.00	DISCHG	.10	.11	.12	.13	.13	.13	.13
.12	.10	.10	.10					
22.00	DISCHG	.10	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10					
23.00	DISCHG	.10	.10	.12	.12	.13	.13	.13
.09	.03	.01	.01					
24.00	DISCHG	.00						

OPERATION RUNOFF CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.98	29.05	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ.MI.	
4.00	DISCHG	.00	.00
.03	.05	.08	.10
5.00	DISCHG	.12	.20
4.41	14.66	22.52	26.75
6.00	DISCHG	28.93	24.15
1.97	1.54	1.36	1.30
7.00	DISCHG	1.29	1.28
1.23	1.11	1.05	1.03
8.00	DISCHG	1.03	.92
.51	.51	.51	.51
9.00	DISCHG	.51	.51
.51	.51	.51	.51
10.00	DISCHG	.51	.51
.46	.34	.29	.27
11.00	DISCHG	.26	.31
.46	.35	.29	.27
12.00	DISCHG	.26	.31
.46	.35	.29	.27
13.00	DISCHG	.26	.26
.31	.43	.49	.51

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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14.00	DISCHG	.51	.46	.35	.29	.27	.26
.26	.26	.26	.26				

15.00	DISCHG	.26	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
16.00	DISCHG	.26	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
17.00	DISCHG	.26	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
18.00	DISCHG	.26	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
19.00	DISCHG	.26	.24	.19	.17	.16	.16	.16
.15	.12	.11	.11					
20.00	DISCHG	.10	.14	.21	.24	.25	.25	.26
.24	.19	.17	.16					
21.00	DISCHG	.16	.17	.19	.20	.21	.21	.21
.20	.17	.16	.16					
22.00	DISCHG	.16	.16	.16	.16	.16	.16	.16
.16	.16	.16	.16					
23.00	DISCHG	.16	.17	.19	.20	.20	.20	.20
.16	.07	.03	.01					
24.00	DISCHG	.01	.00					

OPERATION ADDHYD CROSS SECTION 25

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6847.30	5.98	45.50	
6846.12	7.45	2.06	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.02 SQ. MI.	
4.00	DISCHG	.00	.00
.03	.05	.08	.10
5.00	DISCHG	.12	.20
5.86	21.08	33.70	41.13
6.00	DISCHG	45.35	37.25
3.08	2.42	2.16	2.08
7.00	DISCHG	2.06	2.05
1.96	1.77	1.69	1.66
8.00	DISCHG	1.65	1.46
.83	.83	.83	.83
9.00	DISCHG	.83	.83
.83	.83	.83	.83
10.00	DISCHG	.83	.83
.73	.54	.46	.43
11.00	DISCHG	.42	.51
.74	.54	.46	.43
12.00	DISCHG	.42	.51
.74	.54	.46	.43
13.00	DISCHG	.42	.42
.51	.71	.79	.82
14.00	DISCHG	.83	.74
.42	.42	.42	.42
15.00	DISCHG	.42	.42
.42	.42	.42	.42

16.00	DISCHG		.42	.42	.42	.42	.42	.42
.42	.42	.42	.42	.42	.42	.42	.42	.42
17.00	DISCHG		.42	.42	.42	.42	.42	.42
.42	.42	.42	.42	.42	.42	.42	.42	.42
18.00	DISCHG		.42	.42	.42	.42	.42	.42
.42	.42	.42	.42	.42	.42	.42	.42	.42
19.00	DISCHG		.42	.38	.30	.27	.26	.25
.23	.19	.18	.17					
20.00	DISCHG		.17	.23	.34	.40	.41	.42
.38	.30	.27	.26					
21.00	DISCHG		.25	.27	.31	.33	.33	.34
.32	.28	.26	.25					
22.00	DISCHG		.25	.25	.25	.25	.25	.25
.25	.25	.25	.25					
23.00	DISCHG		.25	.27	.31	.32	.33	.33
.25	.11	.04	.02					
24.00	DISCHG		.01	.00				

\*\*\* WARNING REACH 22 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER  
REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 22  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83(.2)  
tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
PAGE 90

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6835.30	5.98	45.50	
6834.12	7.45	2.06	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.02 SQ.MI.	
4.00	DISCHG	.00	.00
.03	.05	.08	.10
5.00	DISCHG	.12	.20
5.86	21.08	33.70	41.13
6.00	DISCHG	45.35	37.25
3.08	2.42	2.16	2.08
7.00	DISCHG	2.06	2.05
1.96	1.77	1.69	1.66
8.00	DISCHG	1.65	1.46
.83	.83	.83	.83
9.00	DISCHG	.83	.83
.83	.83	.83	.83
10.00	DISCHG	.83	.83
.73	.54	.46	.43

11.00	DISCHG	.42	.51	.70	.79	.82	.83
.74	.54	.46	.43				
12.00	DISCHG	.42	.51	.71	.79	.82	.83
.74	.54	.46	.43				
13.00	DISCHG	.42	.42	.42	.42	.42	.42
.51	.71	.79	.82				
14.00	DISCHG	.83	.74	.55	.46	.43	.42
.42	.42	.42	.42				
15.00	DISCHG	.42	.42	.42	.42	.42	.42
.42	.42	.42	.42				
16.00	DISCHG	.42	.42	.42	.42	.42	.42
.42	.42	.42	.42				
17.00	DISCHG	.42	.42	.42	.42	.42	.42
.42	.42	.42	.42				
18.00	DISCHG	.42	.42	.42	.42	.42	.42
.42	.42	.42	.42				
19.00	DISCHG	.42	.38	.30	.27	.26	.25
.23	.19	.18	.17				
20.00	DISCHG	.17	.23	.34	.40	.41	.42
.38	.30	.27	.26				
21.00	DISCHG	.25	.27	.31	.33	.33	.34
.32	.28	.26	.25				
22.00	DISCHG	.25	.25	.25	.25	.25	.25
.25	.25	.25	.25				
23.00	DISCHG	.25	.27	.31	.32	.33	.33
.25	.11	.04	.02				
24.00	DISCHG	.01	.00				

OPERATION RUNOFF CROSS SECTION 22

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(RUNOFF)	5.97	11.01	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ. MI.	
5.00	DISCHG	.00	.00
1.92	5.90	8.50	9.95
.65	6.00	DISCHG	10.78
.44	.51	.48	.48
.19	7.00	DISCHG	.48
.19	.40	.39	.38
.19	8.00	DISCHG	.38
.19	.19	.19	.19
.16	9.00	DISCHG	.19
.16	.19	.19	.19
.16	10.00	DISCHG	.19
.16	.11	.10	.10
.16	11.00	DISCHG	.10
.16	.11	.10	.10
.14	12.00	DISCHG	.10
.14	.11	.10	.10
	13.00	DISCHG	.10
	.18	.19	.19

14.00	DISCHG	.19	.16	.11	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10
15.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10
16.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10
17.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10
18.00	DISCHG	.10	.10	.10	.10	.10	.10
.10	.10	.10	.10	.10	.10	.10	.10

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TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 91

19.00	DISCHG	.10	.08	.06	.06	.06	.06
.05	.04	.04	.04	.06	.09	.10	.10
20.00	DISCHG	.04	.06	.09	.10	.10	.10
.08	.06	.06	.06	.08	.08	.08	.08
21.00	DISCHG	.06	.07	.08	.08	.08	.08
.07	.06	.06	.06	.06	.06	.06	.06
22.00	DISCHG	.06	.06	.06	.06	.06	.06
.06	.06	.06	.06	.07	.08	.08	.08
23.00	DISCHG	.06	.07	.07	.08	.08	.08
.05	.01	.00					

OPERATION ADDHYD CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6826.24	5.98	56.47	
6825.13	7.45	2.54	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .02 SQ.MI.		
4.00	DISCHG .00	.00	.01
.03	.05 .08 .10		
5.00	DISCHG .12 .20	.41 .59	1.02
7.78	26.98 42.20 51.09		
6.00	DISCHG 56.13 44.33	19.10 8.68	5.46 4.44
3.73	2.94 2.64 2.56		
7.00	DISCHG 2.53 2.52	2.52 2.53	2.53 2.53
2.40	2.17 2.07 2.04		
8.00	DISCHG 2.03 1.77	1.30 1.10	1.04 1.03
1.02	1.02 1.02 1.02		
9.00	DISCHG 1.02 1.02	1.02 1.02	1.02 1.02
1.02	1.02 1.02 1.02		
10.00	DISCHG 1.02 1.02	1.02 1.02	1.02 1.02
.89	.65 .56 .53		

11.00	DISCHG	.52	.65	.88	.98	1.01	1.02
.89	.65	.56	.53				
12.00	DISCHG	.52	.65	.89	.98	1.01	1.02
.89	.66	.56	.53				
13.00	DISCHG	.52	.51	.51	.51	.51	.51
.65	.89	.99	1.02				
14.00	DISCHG	1.02	.89	.66	.56	.53	.52
.52	.52	.52	.52				
15.00	DISCHG	.52	.52	.52	.52	.52	.52
.52	.52	.52	.52				
16.00	DISCHG	.52	.52	.52	.52	.52	.52
.52	.52	.52	.52				
17.00	DISCHG	.52	.52	.52	.52	.52	.52
.52	.52	.52	.52				
18.00	DISCHG	.52	.52	.52	.52	.52	.52
.52	.52	.52	.52				
19.00	DISCHG	.52	.46	.37	.33	.32	.31
.28	.24	.22	.21				
20.00	DISCHG	.21	.29	.43	.49	.51	.51
.46	.37	.33	.32				
21.00	DISCHG	.31	.34	.39	.41	.41	.41
.39	.34	.32	.31				
22.00	DISCHG	.31	.31	.31	.31	.31	.31
.31	.31	.31	.31				
23.00	DISCHG	.31	.34	.38	.40	.40	.40
.30	.12	.04	.02				
24.00	DISCHG	.01	.00				

OPERATION ADDHYD CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6827.50	6.01	200.60	
6825.45	11.24	8.56	
6825.37	12.47	7.01	
6825.33	13.99	6.20	
6825.14	23.46	2.70	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .14 SQ. MI.		
4.00	DISCHG .00 .00	.00 .00	.00 .04
.11	.22 .35 .51		
5.00	DISCHG .68 1.05	1.83 2.47	3.21 4.20
23.68	75.20 116.06 162.13		

1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2



6.00	DISCHG	200.27	175.07	119.68	97.71	90.22	85.20
81.08	77.27	74.80	72.69				
7.00	DISCHG	70.82	68.96	67.12	64.47	56.30	49.58
43.69	38.46	34.26	30.83				
8.00	DISCHG	28.01	24.92	21.61	19.34	18.86	18.48
18.14	17.83	17.52	17.23				
9.00	DISCHG	16.95	16.68	16.41	16.15	15.90	15.66
15.42	15.19	14.97	14.76				
10.00	DISCHG	14.55	14.34	14.15	13.95	13.31	12.67
11.74	10.58	9.73	9.06				
11.00	DISCHG	8.48	8.33	8.54	8.52	8.44	8.34
7.88	7.14	6.68	6.33				
12.00	DISCHG	6.05	6.17	6.61	6.81	6.92	6.99
6.68	6.07	5.72	5.48				
13.00	DISCHG	5.29	5.12	4.97	4.84	4.73	4.63
4.91	5.49	5.81	6.03				
14.00	DISCHG	6.20	5.97	5.44	5.16	4.99	4.85
4.73	4.63	4.53	4.45				
15.00	DISCHG	4.38	4.31	4.26	4.20	4.16	4.12
4.08	4.05	4.02	3.99				
16.00	DISCHG	3.97	3.95	3.93	3.92	3.90	3.89
3.88	3.87	3.86	3.85				
17.00	DISCHG	3.85	3.84	3.83	3.83	3.83	3.82
3.82	3.82	3.81	3.81				
18.00	DISCHG	3.81	3.81	3.81	3.80	3.80	3.80
3.80	3.80	3.80	3.80				
19.00	DISCHG	3.80	3.65	3.38	3.22	3.11	3.01
2.86	2.65	2.51	2.39				
20.00	DISCHG	2.30	2.44	2.77	2.94	3.05	3.13
3.05	2.85	2.75	2.69				
21.00	DISCHG	2.64	2.68	2.78	2.83	2.85	2.87
2.82	2.70	2.63	2.59				
22.00	DISCHG	2.56	2.53	2.50	2.48	2.45	2.44
2.42	2.40	2.39	2.38				
23.00	DISCHG	2.37	2.43	2.54	2.60	2.65	2.68
2.43	1.94	1.66	1.46				
24.00	DISCHG	1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11				
25.00	DISCHG	.08	.06	.04	.03	.02	.02
.01	.01	.01					

0 \*\*\* WARNING - INFLOW EXCEEDED MAX.FLOW IN XSECTN TABLE 21 BY 80.3 CFS

\*\*\* WARNING REACH 21 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 21

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6829.43	6.01	200.60	

6825.51	11.24	8.56
	12.47	7.01
6825.42	13.99	6.20
6825.37	23.46	2.70
6825.16		

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .14 SQ. MI.							
4.00	DISCHG	.00	.00	.00	.00	.00	.00	.04
.11	.22	.35	.51					
5.00	DISCHG	.68	1.05	1.83	2.47	3.21	4.20	
23.68	75.20	116.06	162.13					
6.00	DISCHG	200.27	175.07	119.68	97.71	90.22	85.20	
81.08	77.27	74.80	72.69					
7.00	DISCHG	70.82	68.96	67.12	64.47	56.30	49.58	
43.69	38.46	34.26	30.83					
8.00	DISCHG	28.01	24.92	21.61	19.34	18.86	18.48	
18.14	17.83	17.52	17.23					
9.00	DISCHG	16.95	16.68	16.41	16.15	15.90	15.66	
15.42	15.19	14.97	14.76					
10.00	DISCHG	14.55	14.34	14.15	13.95	13.31	12.67	
11.74	10.58	9.73	9.06					
11.00	DISCHG	8.48	8.33	8.54	8.52	8.44	8.34	
7.88	7.14	6.68	6.33					
12.00	DISCHG	6.05	6.17	6.61	6.81	6.92	6.99	
6.68	6.07	5.72	5.48					
13.00	DISCHG	5.29	5.12	4.97	4.84	4.73	4.63	
4.91	5.49	5.81	6.03					
14.00	DISCHG	6.20	5.97	5.44	5.16	4.99	4.85	
4.73	4.63	4.53	4.45					
15.00	DISCHG	4.38	4.31	4.26	4.20	4.16	4.12	
4.08	4.05	4.02	3.99					
16.00	DISCHG	3.97	3.95	3.93	3.92	3.90	3.89	
3.88	3.87	3.86	3.85					
1								

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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17.00	DISCHG	3.85	3.84	3.83	3.83	3.83	3.82
3.82	3.82	3.81	3.81				
18.00	DISCHG	3.81	3.81	3.81	3.80	3.80	3.80
3.80	3.80	3.80	3.80				
19.00	DISCHG	3.80	3.65	3.38	3.22	3.11	3.01
2.86	2.65	2.51	2.39				
20.00	DISCHG	2.30	2.44	2.77	2.94	3.05	3.13
3.05	2.85	2.75	2.69				
21.00	DISCHG	2.64	2.68	2.78	2.83	2.85	2.87
2.82	2.70	2.63	2.59				

22.00	DISCHG		2.56	2.53	2.50	2.48	2.45	2.44
2.42	2.40	2.39	2.38					
23.00	DISCHG		2.37	2.43	2.54	2.60	2.65	2.68
2.43	1.94	1.66	1.46					
24.00	DISCHG		1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 20

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
(RUNOFF)	5.97	12.54

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =					
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.						
5.00	DISCHG	.00	.01	.04	.08	.12	.17	
2.23	6.78	9.72	11.36					
6.00	DISCHG	12.26	7.98	2.51	1.21	.93	.86	
.73	.58	.55	.54	.54	.54	.54	.54	.54
7.00	DISCHG	.44	.44	.54	.54	.54	.54	.54
.50	.45	.44	.44	.54	.54	.54	.54	.54
8.00	DISCHG	.44	.35	.25	.23	.22	.22	.22
.22	.22	.22	.22	.22	.22	.22	.22	.22
9.00	DISCHG	.22	.22	.22	.22	.22	.22	.22
.22	.22	.22	.22	.22	.22	.22	.22	.22
10.00	DISCHG	.22	.22	.22	.22	.22	.22	.22
.18	.13	.11	.11	.21	.22	.22	.22	.22
11.00	DISCHG	.11	.15	.21	.22	.22	.22	.22
.18	.13	.11	.11	.21	.22	.22	.22	.22
12.00	DISCHG	.11	.15	.21	.22	.22	.22	.22
.18	.13	.11	.11	.21	.22	.22	.22	.22
13.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.15	.21	.22	.22	.13	.11	.11	.11	.11
14.00	DISCHG	.22	.18	.13	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11	.11	.11	.11
15.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11	.11	.11	.11
16.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11	.11	.11	.11
17.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11	.11	.11	.11
18.00	DISCHG	.11	.11	.11	.11	.11	.11	.11
.11	.11	.11	.11	.11	.11	.11	.11	.11
19.00	DISCHG	.11	.09	.07	.07	.07	.07	.07
.06	.05	.05	.04	.10	.11	.11	.11	.11
20.00	DISCHG	.04	.07	.10	.11	.11	.11	.11
.09	.07	.07	.07	.09	.09	.09	.09	.09
21.00	DISCHG	.07	.08	.09	.09	.09	.09	.09
.08	.07	.07	.07	.09	.09	.09	.09	.09
22.00	DISCHG	.07	.07	.07	.07	.07	.07	.07
.07	.07	.07	.07	.09	.09	.09	.09	.09
23.00	DISCHG	.07	.08	.09	.09	.09	.09	.09
.05	.01	.00						

OPERATION ADDHYD CROSS SECTION 20

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6827.60	6.01	212.70	
6825.46	11.25	8.75	
6825.38	12.47	7.23	
6825.34	13.99	6.42	
6825.15	23.46	2.79	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
 .10 HOURS DRAINAGE AREA = .14 SQ.MI.  
 4.00 DISCHG .00 .00 .00 .00 .00 .04  
 .11 .22 .35 .51  
 1

TR20 XEQ 02-10-09 09:50 POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 HR.5&100YR. STORM JOB 1 PASS 2  
 REV PC 09/83(.2) DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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5.00	DISCHG	.68	1.06	1.86	2.54	3.33	4.37
25.90	81.97	125.78	173.50				
6.00	DISCHG	212.53	183.05	122.19	98.92	91.15	86.06
81.81	77.85	75.35	73.24				
7.00	DISCHG	71.36	69.50	67.66	65.01	56.84	50.13
44.19	38.91	34.70	31.27				
8.00	DISCHG	28.44	25.27	21.86	19.57	19.08	18.70
18.36	18.04	17.74	17.45				
9.00	DISCHG	17.17	16.90	16.63	16.37	16.12	15.88
15.64	15.41	15.19	14.98				
10.00	DISCHG	14.77	14.56	14.37	14.17	13.53	12.89
11.91	10.70	9.85	9.17				
11.00	DISCHG	8.59	8.49	8.74	8.74	8.66	8.56
8.06	7.27	6.79	6.44				
12.00	DISCHG	6.16	6.33	6.82	7.03	7.14	7.21
6.85	6.20	5.83	5.59				
13.00	DISCHG	5.40	5.23	5.09	4.95	4.84	4.74
5.06	5.69	6.03	6.25				
14.00	DISCHG	6.42	6.15	5.57	5.28	5.10	4.96
4.84	4.74	4.65	4.56				
15.00	DISCHG	4.49	4.42	4.37	4.32	4.27	4.23
4.19	4.16	4.13	4.11				
16.00	DISCHG	4.08	4.06	4.04	4.03	4.01	4.00
3.99	3.98	3.97	3.96				
17.00	DISCHG	3.96	3.95	3.95	3.94	3.94	3.93
3.93	3.93	3.92	3.92				

18.00	DISCHG		3.92	3.92	3.92	3.92	3.91	3.91
3.91	3.91	3.91	3.91					
19.00	DISCHG		3.91	3.74	3.45	3.29	3.17	3.08
2.91	2.70	2.55	2.44					
20.00	DISCHG		2.34	2.51	2.87	3.05	3.16	3.24
3.15	2.93	2.82	2.76					
21.00	DISCHG		2.71	2.75	2.86	2.91	2.94	2.96
2.90	2.77	2.70	2.66					
22.00	DISCHG		2.62	2.59	2.57	2.54	2.52	2.50
2.49	2.47	2.46	2.45					
23.00	DISCHG		2.44	2.50	2.62	2.69	2.74	2.77
2.48	1.96	1.66	1.46					
24.00	DISCHG		1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

\*\*\* WARNING REACH 10 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 10

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6824.60	6.01	212.70	
6822.46	11.25	8.75	
6822.38	12.47	7.23	
6822.34	13.99	6.42	
6822.15	23.46	2.79	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .14 SQ. MI.		
4.00	DISCHG .00	.00	.00
.11	.22 .35 .51		.04
5.00	DISCHG .68 1.06	1.86	3.33
25.90	81.97 125.78 173.50	2.54	4.37
6.00	DISCHG 212.53 183.05	122.19	91.15
81.81	77.85 75.35 73.24	98.92	86.06
7.00	DISCHG 71.36 69.50	67.66	56.84
44.19	38.91 34.70 31.27	65.01	50.13
8.00	DISCHG 28.44 25.27	21.86	19.08
18.36	18.04 17.74 17.45	19.57	18.70
9.00	DISCHG 17.17 16.90	16.63	16.12
15.64	15.41 15.19 14.98	16.37	15.88
10.00	DISCHG 14.77 14.56	14.37	13.53
11.91	10.70 9.85 9.17	14.17	12.89
11.00	DISCHG 8.59 8.49	8.74	8.66
8.06	7.27 6.79 6.44	8.74	8.56
12.00	DISCHG 6.16 6.33	8.74	8.66
6.85	6.20 5.83 5.59	6.82	7.14
		7.03	7.21

13.00	DISCHG		5.40	5.23	5.09	4.95	4.84	4.74
5.06	5.69	6.03	6.25					
14.00	DISCHG		6.42	6.15	5.57	5.28	5.10	4.96
4.84	4.74	4.65	4.56					
15.00	DISCHG		4.49	4.42	4.37	4.32	4.27	4.23
4.19	4.16	4.13	4.11					
16.00	DISCHG		4.08	4.06	4.04	4.03	4.01	4.00
3.99	3.98	3.97	3.96					
17.00	DISCHG		3.96	3.95	3.95	3.94	3.94	3.93
3.93	3.93	3.92	3.92					

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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18.00	DISCHG		3.92	3.92	3.92	3.92	3.91	3.91
3.91	3.91	3.91	3.91					
19.00	DISCHG		3.91	3.74	3.45	3.29	3.17	3.08
2.91	2.70	2.55	2.44					
20.00	DISCHG		2.34	2.51	2.87	3.05	3.16	3.24
3.15	2.93	2.82	2.76					
21.00	DISCHG		2.71	2.75	2.86	2.91	2.94	2.96
2.90	2.77	2.70	2.66					
22.00	DISCHG		2.62	2.59	2.57	2.54	2.52	2.50
2.49	2.47	2.46	2.45					
23.00	DISCHG		2.44	2.50	2.62	2.69	2.74	2.77
2.48	1.96	1.66	1.46					
24.00	DISCHG		1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11					
25.00	DISCHG		.08	.06	.04	.03	.02	.02
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 55

PEAK TIME (HRS)	5.97	PEAK DISCHARGE (CFS)	16.52	PEAK
ELEVATION (FEET)				
(RUNOFF)				

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.01 SQ. MI.	
4.00	DISCHG	.00	.00
.02	.03	.05	.06
5.00	DISCHG	.07	.12
3.13	9.47	13.41	15.36
6.00	DISCHG	16.30	12.43
1.02	.81	.74	.71
7.00	DISCHG	.71	.71
.67	.60	.58	.57
8.00	DISCHG	.57	.49
.28	.28	.28	.28

9.00	DISCHG	.28	.28	.28	.28	.28	.28
.28	.29	.29	.29	.29	.29	.29	.29
10.00	DISCHG	.29	.29	.29	.29	.29	.29
.25	.18	.15	.15	.15	.15	.15	.15
11.00	DISCHG	.14	.18	.25	.28	.28	.28
.25	.18	.15	.15	.15	.15	.15	.15
12.00	DISCHG	.14	.18	.25	.28	.28	.28
.25	.18	.15	.15	.15	.15	.15	.15
13.00	DISCHG	.14	.14	.14	.14	.14	.14
.18	.25	.28	.28	.28	.28	.28	.28
14.00	DISCHG	.29	.25	.18	.15	.15	.14
.14	.14	.14	.14	.14	.14	.14	.14
15.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14	.14	.14
16.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14	.14	.14
17.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14	.14	.14
18.00	DISCHG	.14	.14	.14	.14	.14	.14
.14	.14	.14	.14	.14	.14	.14	.14
19.00	DISCHG	.14	.13	.10	.09	.09	.09
.08	.06	.06	.06	.06	.06	.06	.06
20.00	DISCHG	.06	.08	.12	.14	.14	.14
.13	.10	.09	.09	.09	.09	.09	.09
21.00	DISCHG	.09	.09	.11	.11	.11	.11
.11	.09	.09	.09	.09	.09	.09	.09
22.00	DISCHG	.09	.09	.09	.09	.09	.09
.09	.09	.09	.09	.09	.09	.09	.09
23.00	DISCHG	.09	.09	.11	.11	.11	.11
.08	.03	.01	.00	.00	.00	.00	.00

\*\*\* WARNING REACH 50 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 50

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6825.73	5.97	16.52	
TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .01 SQ.MI.		
4.00	DISCHG .00 .00	.00	.00 .00 .01
.02	.03 .05 .06		
5.00	DISCHG .07 .12	.23	.31 .37 .46
3.13	9.47 13.41 15.36		
6.00	DISCHG 16.30 12.43	4.92	2.20 1.42 1.20
1.02	.81 .74 .71		
1			







7.00	DISCHG		1.26	1.26	1.26	1.26	1.27	1.27
1.17	1.06	1.03	1.02					
8.00	DISCHG		1.02	.83	.60	.53	.51	.51
.51	.51	.51	.51					
9.00	DISCHG		.51	.51	.51	.51	.51	.51
.51	.51	.51	.51					
10.00	DISCHG		.51	.51	.51	.51	.51	.51
.42	.30	.27	.26					
11.00	DISCHG		.26	.35	.47	.50	.51	.51
.42	.30	.27	.26					
12.00	DISCHG		.26	.35	.47	.50	.51	.51
.42	.30	.27	.26					
13.00	DISCHG		.26	.26	.26	.26	.26	.26
.35	.47	.50	.51					
14.00	DISCHG		.51	.42	.30	.27	.26	.26
.26	.26	.26	.26					
15.00	DISCHG		.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
16.00	DISCHG		.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
17.00	DISCHG		.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
18.00	DISCHG		.26	.26	.26	.26	.26	.26
.26	.26	.26	.26					
19.00	DISCHG		.26	.22	.17	.16	.16	.15
.14	.11	.11	.10					
20.00	DISCHG		.10	.16	.23	.25	.26	.26
.22	.17	.16	.16					
21.00	DISCHG		.16	.17	.20	.20	.21	.21
.19	.16	.16	.16					
22.00	DISCHG		.16	.15	.15	.15	.15	.15
.15	.15	.16	.16					
23.00	DISCHG		.16	.17	.19	.20	.20	.20
.13	.04	.01	.00					

\*\*\* WARNING REACH 12 ATT-KIN COEFF. (C) GREATER THAN 0.667, CONSIDER REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 12

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6822.99	5.97	29.68	
TIME (HRS)                      FIRST HYDROGRAPH POINT = .00 HOURS                      TIME INCREMENT = .10 HOURS                      DRAINAGE AREA = .01 SQ. MI.			
4.00	DISCHG	.00	.00
.02	.03	.05	.06
5.00	DISCHG	.07	.13
5.92	17.04	23.77	27.23
6.00	DISCHG	29.02	19.54
1.74	1.39	1.29	1.27
7.00	DISCHG	1.26	1.26
1.17	1.06	1.03	1.02

8.00	DISCHG	1.02	.83	.60	.53	.51	.51
.51	.51	.51	.51	.51	.51	.51	.51
9.00	DISCHG	.51	.51	.51	.51	.51	.51
.51	.51	.51	.51	.51	.51	.51	.51
10.00	DISCHG	.51	.51	.51	.51	.51	.51
.42	.30	.27	.26	.26	.26	.26	.26
11.00	DISCHG	.26	.35	.47	.50	.51	.51
.42	.30	.27	.26	.26	.26	.26	.26
12.00	DISCHG	.26	.35	.47	.50	.51	.51
.42	.30	.27	.26	.26	.26	.26	.26
13.00	DISCHG	.26	.26	.26	.26	.26	.26
.35	.47	.50	.51	.51	.51	.51	.51
14.00	DISCHG	.51	.42	.30	.27	.26	.26
.26	.26	.26	.26	.26	.26	.26	.26
15.00	DISCHG	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26	.26	.26	.26	.26
16.00	DISCHG	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26	.26	.26	.26	.26
17.00	DISCHG	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26	.26	.26	.26	.26

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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18.00	DISCHG	.26	.26	.26	.26	.26	.26
.26	.26	.26	.26	.26	.26	.26	.26
19.00	DISCHG	.26	.22	.17	.16	.16	.15
.14	.11	.11	.10	.10	.10	.10	.10
20.00	DISCHG	.10	.16	.23	.25	.26	.26
.22	.17	.16	.16	.16	.16	.16	.16
21.00	DISCHG	.16	.17	.20	.20	.21	.21
.19	.16	.16	.16	.16	.16	.16	.16
22.00	DISCHG	.16	.15	.15	.15	.15	.15
.15	.15	.16	.16	.16	.16	.16	.16
23.00	DISCHG	.16	.17	.19	.20	.20	.20
.13	.04	.01	.00	.00	.00	.00	.00

OPERATION ADDHYD CROSS SECTION 10

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6824.83	6.00	241.56	
6822.49	11.28	9.24	
6822.41	12.46	7.75	
6822.37	13.98	6.94	

23.46

3.00

6822.15

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS				TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .15 SQ.MI.							
4.00	DISCHG	.00	.00	.00	.00	.00	.00	.05
.13	.25	.40	.56					
5.00	DISCHG	.75	1.19	2.13	2.94	3.84	5.00	
31.83	99.02	149.55	200.73					
6.00	DISCHG	241.56	202.59	129.12	102.18	93.47	88.14	
83.55	79.24	76.64	74.51					
7.00	DISCHG	72.63	70.76	68.93	66.27	58.11	51.39	
45.36	39.97	35.73	32.29					
8.00	DISCHG	29.46	26.10	22.45	20.10	19.59	19.21	
18.87	18.55	18.25	17.96					
9.00	DISCHG	17.68	17.41	17.14	16.88	16.63	16.39	
16.15	15.92	15.70	15.49					
10.00	DISCHG	15.28	15.07	14.88	14.69	14.04	13.40	
12.33	11.00	10.12	9.43					
11.00	DISCHG	8.84	8.84	9.21	9.24	9.17	9.07	
8.48	7.57	7.06	6.70					
12.00	DISCHG	6.42	6.68	7.29	7.53	7.65	7.72	
7.27	6.50	6.10	5.85					
13.00	DISCHG	5.66	5.49	5.34	5.21	5.09	4.99	
5.42	6.16	6.53	6.76					
14.00	DISCHG	6.93	6.57	5.87	5.54	5.36	5.22	
5.10	4.99	4.90	4.82					
15.00	DISCHG	4.75	4.68	4.62	4.57	4.53	4.49	
4.45	4.42	4.39	4.36					
16.00	DISCHG	4.34	4.32	4.30	4.29	4.27	4.26	
4.25	4.24	4.23	4.22					
17.00	DISCHG	4.21	4.21	4.20	4.20	4.19	4.19	
4.19	4.18	4.18	4.18					
18.00	DISCHG	4.18	4.18	4.17	4.17	4.17	4.17	
4.17	4.17	4.17	4.17					
19.00	DISCHG	4.17	3.96	3.63	3.45	3.33	3.23	
3.05	2.81	2.66	2.54					
20.00	DISCHG	2.45	2.67	3.10	3.30	3.42	3.50	
3.37	3.10	2.98	2.91					
21.00	DISCHG	2.86	2.93	3.06	3.12	3.15	3.17	
3.09	2.93	2.86	2.81					
22.00	DISCHG	2.78	2.75	2.72	2.70	2.68	2.66	
2.64	2.63	2.61	2.60					
23.00	DISCHG	2.59	2.68	2.82	2.89	2.94	2.97	
2.61	2.00	1.67	1.46					
24.00	DISCHG	1.30	1.15	.92	.68	.51	.37	
.27	.20	.15	.11					
25.00	DISCHG	.08	.06	.04	.03	.02	.02	
.01	.01	.01						

OPERATION RUNOFF CROSS SECTION 15

\*\*\* WARNING-MAIN TIME INCREMENT MAY BE TOO LARGE.

COMPUTED PEAK( 15.39) AT EXCEEDS MAX. ADJACENT  
HYDROGRAPH COORDINATE BY 6 %.

+

XSECTION 15

	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)	5.95	15.39	
(RUNOFF)			
1			

TR20 XEQ 02-10-09 09:50	POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24
HR.5&100YR. STORM	JOB 1 PASS 2
REV PC 09/83(.2)	DEVELOPED CONDITIONS W/ DETENTION INPUT :
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TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ.MI.	
4.00	DISCHG	.00	.00
.02	.04	.05	.05
5.00	DISCHG	.06	.16
5.86	11.11	13.14	14.05
6.00	DISCHG	14.47	5.95
.74	.63	.61	.61
7.00	DISCHG	.61	.61
.53	.50	.49	.49
8.00	DISCHG	.49	.33
.25	.25	.25	.25
9.00	DISCHG	.25	.25
.25	.25	.25	.25
10.00	DISCHG	.25	.25
.17	.13	.12	.12
11.00	DISCHG	.12	.20
.17	.13	.12	.12
12.00	DISCHG	.12	.20
.17	.13	.12	.12
13.00	DISCHG	.12	.12
.20	.24	.25	.25
14.00	DISCHG	.25	.17
.12	.12	.12	.12
15.00	DISCHG	.12	.12
.12	.12	.12	.12
16.00	DISCHG	.12	.12
.12	.12	.12	.12
17.00	DISCHG	.12	.12
.12	.12	.12	.12
18.00	DISCHG	.12	.12
.12	.12	.12	.12
19.00	DISCHG	.12	.09
.06	.05	.05	.05
20.00	DISCHG	.05	.10
.09	.08	.07	.07
21.00	DISCHG	.07	.09
.08	.08	.07	.07
22.00	DISCHG	.07	.07
.07	.07	.07	.07

12.00	DISCHG	6.59	6.94	7.61	7.88	8.00	8.07
7.53	6.69	6.28	6.03				
13.00	DISCHG	5.83	5.66	5.52	5.39	5.27	5.17
5.68	6.49	6.88	7.11				
14.00	DISCHG	7.28	6.83	6.07	5.73	5.54	5.39
5.27	5.17	5.08	5.00				
15.00	DISCHG	4.92	4.86	4.80	4.75	4.70	4.66
4.63	4.59	4.57	4.54				
16.00	DISCHG	4.52	4.50	4.48	4.46	4.45	4.44
4.43	4.42	4.41	4.40				
17.00	DISCHG	4.39	4.39	4.38	4.38	4.37	4.37
4.37	4.36	4.36	4.36				
18.00	DISCHG	4.36	4.35	4.35	4.35	4.35	4.35
4.35	4.35	4.35	4.35				
19.00	DISCHG	4.35	4.10	3.74	3.56	3.44	3.34
3.14	2.89	2.73	2.62				
20.00	DISCHG	2.52	2.80	3.26	3.48	3.59	3.68
3.51	3.22	3.09	3.02				
21.00	DISCHG	2.97	3.05	3.20	3.26	3.29	3.31
3.21	3.05	2.97	2.92				
22.00	DISCHG	2.89	2.86	2.83	2.81	2.78	2.77
2.75	2.73	2.72	2.71				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 PASS 2  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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23.00	DISCHG	2.70	2.80	2.95	3.03	3.08	3.11
2.68	2.02	1.68	1.46				
24.00	DISCHG	1.30	1.15	.92	.68	.51	.37
.27	.20	.15	.11				
25.00	DISCHG	.08	.06	.04	.03	.02	.02
.01	.01	.01					

OPERATION RESVOR STRUCTURE 5

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6827.50	6.32	104.80	
6820.19	14.14	6.54	
6819.54	23.52	2.95	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .16 SQ.MI.		
4.00	DISCHG .00	.00	.00
.01	.03 .06 .10		
5.00	DISCHG .16	.24	.39
3.08	12.83 49.80 71.99		

6.00	DISCHG	87.56	98.90	103.81	104.77	104.41	103.59
102.48	101.13	99.63	98.07				
7.00	DISCHG	96.48	94.87	93.24	91.18	88.55	85.47
82.08	78.47	74.74	70.82				
8.00	DISCHG	66.88	63.01	53.85	43.25	35.66	30.42
26.79	24.24	22.44	21.12				
9.00	DISCHG	20.15	19.40	18.82	18.34	17.93	17.58
17.26	16.97	16.70	16.58				
10.00	DISCHG	16.43	16.28	16.12	15.96	15.75	15.47
15.09	14.56	13.92	13.26				
11.00	DISCHG	12.60	12.01	11.57	11.23	10.95	10.70
10.43	10.07	9.64	9.21				
12.00	DISCHG	8.80	8.46	8.27	8.18	8.14	8.12
8.07	7.91	7.67	7.42				
13.00	DISCHG	7.17	6.94	6.71	6.50	6.31	6.13
6.01	6.02	6.13	6.28				
14.00	DISCHG	6.43	6.53	6.52	6.42	6.29	6.15
6.01	5.88	5.76	5.64				
15.00	DISCHG	5.52	5.46	5.40	5.34	5.29	5.23
5.18	5.13	5.08	5.03				
16.00	DISCHG	4.99	4.94	4.90	4.86	4.83	4.79
4.76	4.73	4.70	4.67				
17.00	DISCHG	4.65	4.62	4.60	4.58	4.56	4.55
4.53	4.52	4.50	4.49				
18.00	DISCHG	4.48	4.47	4.46	4.45	4.44	4.43
4.42	4.42	4.41	4.40				
19.00	DISCHG	4.40	4.38	4.34	4.28	4.21	4.13
4.05	3.96	3.86	3.75				
20.00	DISCHG	3.64	3.55	3.51	3.49	3.50	3.51
3.52	3.50	3.47	3.43				
21.00	DISCHG	3.39	3.36	3.34	3.33	3.32	3.32
3.32	3.30	3.27	3.24				
22.00	DISCHG	3.21	3.18	3.15	3.12	3.09	3.06
3.04	3.01	2.98	2.96				
23.00	DISCHG	2.94	2.92	2.92	2.92	2.93	2.95
2.94	2.89	2.80	2.69				
24.00	DISCHG	2.57	2.45	2.32	2.18	2.04	1.89
1.75	1.61	1.48	1.36				
25.00	DISCHG	1.25	1.14	1.04	.95	.87	.79
.72	.66	.60	.54				
26.00	DISCHG	.50	.45	.41	.37	.34	.31
.28	.26	.23	.21				
27.00	DISCHG	.19	.17	.16	.14	.13	.12
.11	.10	.09	.08				
28.00	DISCHG	.07	.07	.06	.06	.05	.05
.04	.04	.03	.03				
29.00	DISCHG	.03	.03	.02	.02	.02	.02
.02	.01	.01	.01				

\*\*\* WARNING REACH 5 ATT-KIN COEFF.(C) GREATER THAN 0.667, CONSIDER  
REDUCING MAIN TIME INCREMENT \*\*\*

OPERATION REACH CROSS SECTION 5

PEAK TIME (HRS) PEAK DISCHARGE (CFS) PEAK  
ELEVATION (FEET)

6822.35	6.32	104.80
6821.32	14.14	6.54
6821.14	23.52	2.95
1		

TR20 XEQ 02-10-09 09:50	POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24
HR.5&100YR. STORM	JOB 1 PASS 2
REV PC 09/83(.2)	DEVELOPED CONDITIONS W/ DETENTION INPUT :
tusc100a	PAGE 103

TIME (HRS)	FIRST HYDROGRAPH POINT = .00 HOURS			TIME INCREMENT =			
.10 HOURS	DRAINAGE AREA = .16 SQ.MI.						
4.00	DISCHG	.00	.00	.00	.00	.00	.00
.01	.03	.06	.10				
5.00	DISCHG	.16	.24	.39	.61	.89	1.24
3.08	12.83	49.80	71.99				
6.00	DISCHG	87.56	98.90	103.81	104.77	104.41	103.59
102.48	101.13	99.63	98.07				
7.00	DISCHG	96.48	94.87	93.24	91.18	88.55	85.47
82.08	78.47	74.74	70.82				
8.00	DISCHG	66.88	63.01	53.85	43.25	35.66	30.42
26.79	24.24	22.44	21.12				
9.00	DISCHG	20.15	19.40	18.82	18.34	17.93	17.58
17.26	16.97	16.70	16.58				
10.00	DISCHG	16.43	16.28	16.12	15.96	15.75	15.47
15.09	14.56	13.92	13.26				
11.00	DISCHG	12.60	12.01	11.57	11.23	10.95	10.70
10.43	10.07	9.64	9.21				
12.00	DISCHG	8.80	8.46	8.27	8.18	8.14	8.12
8.07	7.91	7.67	7.42				
13.00	DISCHG	7.17	6.94	6.71	6.50	6.31	6.13
6.01	6.02	6.13	6.28				
14.00	DISCHG	6.43	6.53	6.52	6.42	6.29	6.15
6.01	5.88	5.76	5.64				
15.00	DISCHG	5.52	5.46	5.40	5.34	5.29	5.23
5.18	5.13	5.08	5.03				
16.00	DISCHG	4.99	4.94	4.90	4.86	4.83	4.79
4.76	4.73	4.70	4.67				
17.00	DISCHG	4.65	4.62	4.60	4.58	4.56	4.55
4.53	4.52	4.50	4.49				
18.00	DISCHG	4.48	4.47	4.46	4.45	4.44	4.43
4.42	4.42	4.41	4.40				
19.00	DISCHG	4.40	4.38	4.34	4.28	4.21	4.13
4.05	3.96	3.86	3.75				
20.00	DISCHG	3.64	3.55	3.51	3.49	3.50	3.51
3.52	3.50	3.47	3.43				
21.00	DISCHG	3.39	3.36	3.34	3.33	3.32	3.32
3.32	3.30	3.27	3.24				
22.00	DISCHG	3.21	3.18	3.15	3.12	3.09	3.06
3.04	3.01	2.98	2.96				



23.00	DISCHG		2.94	2.92	2.92	2.92	2.93	2.95
2.94	2.89	2.80	2.69					
24.00	DISCHG		2.57	2.45	2.32	2.18	2.04	1.89
1.75	1.61	1.48	1.36					
25.00	DISCHG		1.25	1.14	1.04	.95	.87	.79
.72	.66	.60	.54					
26.00	DISCHG		.50	.45	.41	.37	.34	.31
.28	.26	.23	.21					
27.00	DISCHG		.19	.17	.16	.14	.13	.12
.11	.10	.09	.08					
28.00	DISCHG		.07	.07	.06	.06	.05	.05
.04	.04	.03	.03					
29.00	DISCHG		.03	.03	.02	.02	.02	.02
.02	.01	.01	.01					

OPERATION RUNOFF CROSS SECTION 5

PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
ELEVATION (FEET)		
(RUNOFF)		
6.08	4.09	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA =	.00 SQ. MI.	
5.00	DISCHG	.00	.00
.01	.21	1.00	2.26
6.00	DISCHG	3.55	4.07
.52	.40	.33	.29
7.00	DISCHG	.27	.27
.26	.25	.23	.23
8.00	DISCHG	.22	.21
.11	.11	.11	.11
9.00	DISCHG	.11	.11
.11	.11	.11	.11
10.00	DISCHG	.11	.11
.11	.09	.07	.06
11.00	DISCHG	.06	.06
.11	.09	.07	.06
12.00	DISCHG	.06	.07
.11	.09	.07	.07
13.00	DISCHG	.06	.06
.06	.08	.10	.11
14.00	DISCHG	.11	.11
.06	.06	.06	.06
15.00	DISCHG	.06	.06
.06	.06	.06	.06
16.00	DISCHG	.06	.06
.06	.06	.06	.06
17.00	DISCHG	.06	.06
.06	.06	.06	.06

1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2

18.00	DISCHG	.06	.06	.06	.06	.06	.06	.06
.06	.06	.06	.06					
19.00	DISCHG	.06	.06	.05	.04	.04	.04	.04
.04	.03	.03	.03					
20.00	DISCHG	.02	.03	.04	.05	.06	.06	.06
.06	.05	.04	.04					
21.00	DISCHG	.04	.04	.04	.05	.05	.05	.05
.05	.04	.04	.04					
22.00	DISCHG	.04	.04	.04	.04	.04	.04	.04
.04	.04	.04	.04					
23.00	DISCHG	.04	.04	.04	.04	.04	.05	.05
.04	.03	.01	.01					
24.00	DISCHG	.00						

OPERATION ADDHYD CROSS SECTION 5

ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
6822.35	6.27	106.09	
6821.35	11.58	7.16	
6821.30	12.64	6.12	
6821.27	14.18	5.43	
6821.12	23.57	2.35	

TIME (HRS)	FIRST HYDROGRAPH POINT =	.00 HOURS	TIME INCREMENT =
.10 HOURS	DRAINAGE AREA = .15 SQ.MI.		
5.00	DISCHG .01 .01	.01 .02	.03 .04
.17	1.55 6.72 26.35		
6.00	DISCHG 49.98 86.47	103.72 105.54	96.94 84.08
71.72	62.34 55.61 50.56		
7.00	DISCHG 46.78 43.94	40.81 37.12	34.09 31.57
29.42	27.45 25.58 23.83		
8.00	DISCHG 22.28 20.89	19.47 18.58	17.83 17.13
16.54	16.09 15.73 15.46		
9.00	DISCHG 15.22 15.02	14.85 14.69	14.54 14.40
14.27	14.14 13.75 13.14		
10.00	DISCHG 12.59 12.08	11.61 11.19	10.80 10.43
10.06	9.60 9.02 8.39		
11.00	DISCHG 7.79 7.30	7.01 6.94	7.01 7.11
7.15	7.04 6.74 6.33		
12.00	DISCHG 5.93 5.62	5.48 5.56	5.75 5.96
6.11	6.08 5.87 5.54		
13.00	DISCHG 5.20 4.90	4.67 4.48	4.34 4.23
4.17	4.25 4.49 4.82		
14.00	DISCHG 5.14 5.37	5.43 5.27	5.00 4.71
4.45	4.26 4.11 4.00		

15.00	DISCHG		3.91	3.84	3.79	3.74	3.69	3.66
3.63	3.60	3.57	3.55					
16.00	DISCHG		3.53	3.51	3.50	3.48	3.47	3.46
3.45	3.44	3.43	3.42					
17.00	DISCHG		3.41	3.41	3.40	3.40	3.39	3.39
3.38	3.38	3.38	3.37					
18.00	DISCHG		3.37	3.37	3.37	3.37	3.36	3.36
3.36	3.36	3.36	3.36					
19.00	DISCHG		3.36	3.34	3.27	3.14	2.98	2.83
2.68	2.55	2.40	2.26					
20.00	DISCHG		2.13	2.05	2.06	2.19	2.37	2.56
2.70	2.76	2.71	2.62					
21.00	DISCHG		2.52	2.43	2.39	2.40	2.44	2.49
2.53	2.52	2.48	2.42					
22.00	DISCHG		2.35	2.30	2.25	2.22	2.19	2.17
2.16	2.14	2.13	2.12					
23.00	DISCHG		2.11	2.11	2.14	2.19	2.26	2.32
2.34	2.26	2.04	1.76					
24.00	DISCHG		1.47	1.23	1.04	.90	.78	.68
.60	.54	.48	.44					
25.00	DISCHG		.39	.35	.32	.29	.27	.25
.23	.21	.20	.20					
26.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.20					
27.00	DISCHG		.20	.20	.20	.20	.20	.20
.20	.20	.20	.19					
28.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					
29.00	DISCHG		.19	.19	.19	.19	.19	.19
.19	.19	.19	.19					

OPERATION ADDHYD CROSS SECTION 4  
1

TR20 XEQ 02-10-09 09:50  
HR.5&100YR. STORM  
REV PC 09/83 (.2)  
tuscl100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
JOB 1 PASS 2  
DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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ELEVATION (FEET)	PEAK TIME (HRS)	PEAK DISCHARGE (CFS)	PEAK
(NULL)	6.27	210.71	
(NULL)	12.58	14.18	
(NULL)	14.16	11.97	
(NULL)	23.56	5.30	

TIME (HRS) FIRST HYDROGRAPH POINT = .00 HOURS TIME INCREMENT =  
.10 HOURS DRAINAGE AREA = .31 SQ.MI.

4.00	DISCHG	.00	.00	.00	.00	.00	.00	.00
.01	.03	.06	.10					
5.00	DISCHG	.17	.25	.40	.63	.91	1.28	
3.25	14.39	56.52	98.34					
6.00	DISCHG	137.54	185.37	207.53	210.31	201.34	187.67	
174.20	163.47	155.24	148.63					
7.00	DISCHG	143.26	138.81	134.05	128.30	122.64	117.05	
111.50	105.92	100.32	94.65					
8.00	DISCHG	89.16	83.90	73.32	61.83	53.50	47.56	
43.33	40.33	38.17	36.58					
9.00	DISCHG	35.37	34.43	33.66	33.02	32.47	31.98	
31.53	31.12	30.46	29.72					
10.00	DISCHG	29.02	28.36	27.74	27.14	26.54	25.90	
25.15	24.16	22.95	21.65					
11.00	DISCHG	20.39	19.32	18.58	18.18	17.97	17.82	
17.59	17.11	16.38	15.55					
12.00	DISCHG	14.74	14.08	13.75	13.74	13.89	14.09	
14.17	13.99	13.54	12.96					
13.00	DISCHG	12.37	11.84	11.38	10.99	10.65	10.35	
10.18	10.27	10.62	11.09					
14.00	DISCHG	11.57	11.91	11.95	11.69	11.28	10.86	
10.47	10.14	9.87	9.64					
15.00	DISCHG	9.44	9.30	9.18	9.08	8.98	8.89	
8.81	8.73	8.65	8.58					
16.00	DISCHG	8.52	8.46	8.40	8.35	8.30	8.25	
8.21	8.17	8.13	8.09					
17.00	DISCHG	8.06	8.03	8.01	7.98	7.96	7.93	
7.91	7.90	7.88	7.86					
18.00	DISCHG	7.85	7.84	7.82	7.81	7.80	7.79	
7.79	7.78	7.77	7.77					
19.00	DISCHG	7.76	7.72	7.62	7.42	7.19	6.96	
6.74	6.50	6.26	6.01					
20.00	DISCHG	5.77	5.60	5.57	5.68	5.87	6.07	
6.22	6.26	6.19	6.05					
21.00	DISCHG	5.91	5.79	5.73	5.73	5.77	5.81	
5.84	5.83	5.76	5.66					
22.00	DISCHG	5.57	5.48	5.40	5.34	5.29	5.24	
5.19	5.15	5.12	5.08					
23.00	DISCHG	5.05	5.03	5.05	5.11	5.19	5.27	
5.29	5.15	4.84	4.45					
24.00	DISCHG	4.04	3.68	3.36	3.08	2.82	2.57	
2.35	2.15	1.97	1.80					
25.00	DISCHG	1.64	1.49	1.36	1.25	1.14	1.04	
.95	.87	.80	.74					
26.00	DISCHG	.69	.65	.61	.57	.54	.51	
.48	.45	.43	.41					
27.00	DISCHG	.39	.37	.36	.34	.33	.32	
.30	.29	.29	.28					
28.00	DISCHG	.27	.26	.26	.25	.24	.24	
.24	.23	.23	.22					
29.00	DISCHG	.22	.22	.22	.21	.21	.21	
.21	.21	.21	.20					

EXECUTIVE CONTROL OPERATION ENDCMP  
RECORD ID

+

COMPUTATIONS COMPLETED FOR PASS 2

EXECUTIVE CONTROL OPERATION ENDJOB  
 RECORD ID  
 1

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL  
 INSTRUCTIONS IN THE ORDER PERFORMED  
 (A STAR(\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS)  
 VALUES INDICATES A FLAT TOP HYDROGRAPH  
 A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST  
 POINT.)

SECTION/ PEAK DISCHARGE STRUCTURE RUNOFF	STANDARD CONTROL	DRAINAGE AREA	RAIN TABLE	ANTEC MOIST	MAIN TIME	PRECIPITATION		
ID	OPERATION ELEVATION	AREA TIME (SQ MI)	# RATE (CFS)	COND RATE (CSM)	INCREM (HR)	BEGIN (HR)	AMOUNT (IN)	DURATION (HR)
ALTERNATE	1	STORM	1					
+								
XSECTION 135	RUNOFF	.01	7	2	.10	.0	2.75	24.00
2.01	---	5.97	27.53	1925.4				
XSECTION 134	REACH	.01	7	2	.10	.0	2.75	24.00
2.01	6934.36	5.97	27.53	1925.4				
XSECTION 134	RUNOFF	.01	7	2	.10	.0	2.75	24.00
2.02	---	6.01	13.65	1728.0				
XSECTION 134	ADDHYD	.02	7	2	.10	.0	2.75	24.00
2.02	6934.90	5.97	40.94	1844.2				
XSECTION 133	REACH	.02	7	2	.10	.0	2.75	24.00
2.02	6915.29	5.97	40.94	1844.2				
XSECTION 133	RUNOFF	.01	7	2	.10	.0	2.75	24.00
2.02	---	5.97	9.64	1890.2				
XSECTION 133	ADDHYD	.03	7	2	.10	.0	2.75	24.00
2.02	6915.49	5.97	50.58	1852.7				
XSECTION 132	REACH	.03	7	2	.10	.0	2.75	24.00
2.02	6883.27	5.97	50.58	1852.7				
XSECTION 132	RUNOFF	.01	7	2	.10	.0	2.75	24.00
2.00	---	5.96	19.69	1969.4				
XSECTION 132	ADDHYD	.04	7	2	.10	.0	2.75	24.00
2.01	6883.51	5.97	70.22	1882.6				

XSECTION 132 REACH	.04	7	2	.10	.0	2.75	24.00
2.01 6883.51 5.97		70.22	1882.6				
XSECTION 131 RUNOFF	.01	7	2	.10	.0	2.75	24.00
2.02 --- 5.98		24.84	1813.3				
XSECTION 132 REACH	.01	7	2	.10	.0	2.75	24.00
2.02 6882.82 5.98		24.84	1813.3				
XSECTION 130 ADDHYD	.05	7	2	.10	.0	2.75	24.00
2.01 6843.30 5.97		95.00	1862.8				
XSECTION 130 RUNOFF	.01	7	2	.10	.0	2.75	24.00
.40 --- 6.20		1.53	198.1				
XSECTION 130 ADDHYD	.06	7	2	.10	.0	2.75	24.00
1.80 6843.30 5.97		95.50	1626.9				
STRUCTURE 30 RESVOR	.06	7	2	.10	.0	2.75	24.00
1.44 6883.87 6.34		12.64	215.3				
XSECTION 130 REACH	.06	7	2	.10	.0	2.75	24.00
1.44 6842.52 6.47		12.61	214.8				
XSECTION 90 RUNOFF	.03	7	2	.10	.0	2.75	24.00
.54 --- 6.32		5.91	217.1				
XSECTION 90 ADDHYD	.09	7	2	.10	.0	2.75	24.00
1.16 6841.60 6.35		18.42	214.4				
XSECTION 80 RUNOFF	.06	7	2	.10	.0	2.75	24.00
.54 --- 6.30		13.47	227.6				
XSECTION 80 ADDHYD	.15	7	2	.10	.0	2.75	24.00
.91 --- 6.32		31.81	219.2				
XSECTION 5 REACH	.15	7	2	.10	.0	2.75	24.00
.91 6821.77 6.32		31.81	219.2				
XSECTION 125 RUNOFF	.04	7	2	.10	.0	2.75	24.00
1.93 --- 6.05		66.43	1578.0				
XSECTION 124 REACH	.04	7	2	.10	.0	2.75	24.00
1.93 6925.74 6.05		66.43	1578.0				
XSECTION 124 RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.93 --- 6.04		17.32	1589.2				
XSECTION 124 ADDHYD	.05	7	2	.10	.0	2.75	24.00
1.93 6926.01 6.05		83.75	1580.3				
XSECTION 123 REACH	.05	7	2	.10	.0	2.75	24.00
1.93 6895.90 6.05		83.75	1580.3				
XSECTION 123 RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.93 --- 5.99		19.78	1750.4				
XSECTION 123 ADDHYD	.06	7	2	.10	.0	2.75	24.00
1.93 6896.14 6.03		102.74	1597.8				
XSECTION 122 REACH	.06	7	2	.10	.0	2.75	24.00
1.93 6894.14 6.03		102.74	1597.8				
XSECTION 122 RUNOFF	.02	7	2	.10	.0	2.75	24.00
1.93 --- 6.04		33.05	1589.2				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED

(A STAR(\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS)

VALUES INDICATES A FLAT TOP HYDROGRAPH

A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST POINT.)

SECTION/ PEAK DISCHARGE STRUCTURE RUNOFF	STANDARD CONTROL	DRAINAGE	RAIN TABLE	ANTEC MOIST	MAIN TIME	PRECIPITATION		
ID	OPERATION	AREA	#	COND	INCREM	BEGIN	AMOUNT	DURATION
AMOUNT	ELEVATION	TIME	RATE	RATE	(HR)	(HR)	(IN)	(HR)
(IN)	(FT)	(HR)	(CFS)	(CSM)				
ALTERNATE	1	STORM	1					
+								
XSECTION 122	ADDHYD	.09	7	2	.10	.0	2.75	24.00
1.93	6894.54	6.03	135.75	1595.1				
XSECTION 121	REACH	.09	7	2	.10	.0	2.75	24.00
1.93	6882.45	6.03	135.75	1595.1				
XSECTION 121	RUNOFF	.00	7	2	.10	.0	2.75	24.00
.40	---	6.10	1.04	297.3				
XSECTION 121	ADDHYD	.09	7	2	.10	.0	2.75	24.00
1.87	6882.46	6.03	136.73	1543.2				
STRUCTURE 20	RESVOR	.09	7	2	.10	.0	2.75	24.00
1.87	6883.74	6.30	53.51	603.9				
XSECTION 120	RUNOFF	.00	7	2	.10	.0	2.75	24.00
1.04	---	6.07	3.16	878.5				
STRUCTURE 10	RESVOR	.00	7	2	.10	.0	2.75	24.00
1.04	6881.18	6.15	2.66	738.6				
XSECTION 120	REACH	.00	7	2	.10	.0	2.75	24.00
1.04	6878.32	6.15	2.66	738.6				
XSECTION 100	ADDHYD	.09	7	2	.10	.0	2.75	24.00
1.83	---	6.28	55.47	601.6				
XSECTION 45	REACH	.09	7	2	.10	.0	2.75	24.00
1.83	6866.28	6.28	55.47	601.6				
XSECTION 45	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.60	---	5.99	13.13	1508.8				
XSECTION 45	ADDHYD	.10	7	2	.10	.0	2.75	24.00
1.81	6866.31	6.25	58.01	575.0				
XSECTION 35	REACH	.10	7	2	.10	.0	2.75	24.00
1.81	6863.59	6.25	58.01	575.0				
XSECTION 40	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.92	---	5.97	9.77	1878.3				
XSECTION 35	REACH	.01	7	2	.10	.0	2.75	24.00
1.92	6862.65	5.97	9.77	1878.3				
XSECTION 35	ADDHYD	.11	7	2	.10	.0	2.75	24.00
1.82	6863.60	6.22	59.01	556.1				

XSECTION	35	RUNOFF	.00	7	2	.10	.0	2.75	24.00
1.58	---	5.97		2.51	1675.2				
XSECTION	35	ADDHYD	.11	7	2	.10	.0	2.75	24.00
1.82	6863.61	6.21		59.23	550.5				
XSECTION	30	REACH	.11	7	2	.10	.0	2.75	24.00
1.82	6841.26	6.21		59.23	550.5				
XSECTION	30	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.38	---	6.02		14.42	1232.5				
XSECTION	30	ADDHYD	.12	7	2	.10	.0	2.75	24.00
1.77	6841.39	6.12		71.25	597.2				
XSECTION	20	REACH	.12	7	2	.10	.0	2.75	24.00
1.77	6826.39	6.12		71.25	597.2				
XSECTION	27	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.38	---	6.00		7.87	1289.9				
XSECTION	25	REACH	.01	7	2	.10	.0	2.75	24.00
1.38	6846.47	6.00		7.87	1289.9				
XSECTION	25	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.93	---	5.99		15.83	1720.1				
XSECTION	25	ADDHYD	.02	7	2	.10	.0	2.75	24.00
1.71	6846.87	6.00		23.69	1548.1				
XSECTION	22	REACH	.02	7	2	.10	.0	2.75	24.00
1.71	6834.87	6.00		23.69	1548.1				
XSECTION	22	RUNOFF	.00	7	2	.10	.0	2.75	24.00
1.60	---	5.98		5.64	1567.6				
XSECTION	20	ADDHYD	.02	7	2	.10	.0	2.75	24.00
1.69	6825.84	5.99		29.29	1549.9				
XSECTION	20	ADDHYD	.14	7	2	.10	.0	2.75	24.00
1.76	6826.63	6.08		95.46	690.8				
XSECTION	21	REACH	.14	7	2	.10	.0	2.75	24.00
1.76	6827.10	6.08		95.46	690.8				
XSECTION	20	RUNOFF	.00	7	2	.10	.0	2.75	24.00
1.60	---	5.98		6.43	1567.8				
XSECTION	20	ADDHYD	.14	7	2	.10	.0	2.75	24.00
1.76	6826.68	6.07		100.40	705.5				
XSECTION	10	REACH	.14	7	2	.10	.0	2.75	24.00
1.76	6823.68	6.07		100.40	705.5				
XSECTION	55	RUNOFF	.01	7	2	.10	.0	2.75	24.00
1.93	---	5.98		9.05	1773.8				
XSECTION	50	REACH	.01	7	2	.10	.0	2.75	24.00
1.93	6825.54	5.98		9.05	1773.8				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL INSTRUCTIONS IN THE ORDER PERFORMED



(A STAR(\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS)  
VALUES INDICATES A FLAT TOP HYDROGRAPH  
A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST  
POINT.)

SECTION/ PEAK DISCHARGE STRUCTURE RUNOFF	STANDARD CONTROL	DRAINAGE AREA	RAIN TABLE	ANTEC MOIST	MAIN TIME	PRECIPITATION		
ID	OPERATION ELEVATION	TIME (SQ MI)	# RATE	COND RATE	INCREM (HR)	BEGIN (HR)	AMOUNT (IN)	DURATION (HR)
(IN)	(FT)	(HR)	(CFS)	(CSM)				
ALTERNATE 1 STORM 1								
+								
XSECTION 1.59	50 RUNOFF	.00	7	2	.10	.0	2.75	24.00
---	---	5.97	6.79	1617.5				
XSECTION 1.78	50 ADDHYD	.01	7	2	.10	.0	2.75	24.00
6825.72	6825.72	5.98	15.83	1702.6				
XSECTION 1.78	12 REACH	.01	7	2	.10	.0	2.75	24.00
6822.72	6822.72	5.98	15.83	1702.6				
XSECTION 1.76	10 ADDHYD	.15	7	2	.10	.0	2.75	24.00
6823.78	6823.78	6.05	112.30	740.8				
XSECTION 1.90	15 RUNOFF	.00	7	2	.10	.0	2.75	24.00
---	---	5.96	8.58	1950.8				
XSECTION 1.90	11 REACH	.00	7	2	.10	.0	2.75	24.00
6822.52	6822.52	5.96	8.58	1950.8				
XSECTION 1.76	10 ADDHYD	.16	7	2	.10	.0	2.75	24.00
6823.84	6823.84	6.03	119.32	764.9				
XSECTION .28	10 RUNOFF	.00	7	2	.10	.0	2.75	24.00
---	---	6.10	.62	176.9				
XSECTION 1.73	10 ADDHYD	.16	7	2	.10	.0	2.75	24.00
6823.84	6823.84	6.03	119.78	751.0				
STRUCTURE 1.73	5 RESVOR	.16	7	2	.10	.0	2.75	24.00
6823.70	6823.70	6.31	69.85	437.9				
XSECTION 1.73	5 REACH	.16	7	2	.10	.0	2.75	24.00
6822.13	6822.13	6.31	69.85	437.9				
XSECTION .62	5 RUNOFF	.00	7	2	.10	.0	2.75	24.00
---	---	6.11	1.32	455.5				
XSECTION .90	5 ADDHYD	.15	7	2	.10	.0	2.75	24.00
6821.77	6821.77	6.31	32.35	218.5				
XSECTION 1.33	4 ADDHYD	.31	7	2	.10	.0	2.75	24.00
---	---	6.31	102.19	332.3				
ALTERNATE 1 STORM 2								
+								
XSECTION 3.70	135 RUNOFF	.01	7	2	.10	.0	4.50	24.00
---	---	5.96	49.00	3426.5				
XSECTION 3.70	134 REACH	.01	7	2	.10	.0	4.50	24.00
6935.22	6935.22	5.96	49.00	3426.5				
XSECTION 3.71	134 RUNOFF	.01	7	2	.10	.0	4.50	24.00
---	---	6.00	24.71	3127.3				

XSECTION 134	ADDHYD	.02	7	2	.10	.0	4.50	24.00
3.71	6936.20	5.97	73.43	3307.7				
XSECTION 133	REACH	.02	7	2	.10	.0	4.50	24.00
3.71	6915.91	5.97	73.43	3307.7				
XSECTION 133	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.71	---	5.96	17.22	3375.8				
XSECTION 133	ADDHYD	.03	7	2	.10	.0	4.50	24.00
3.71	6916.23	5.97	90.64	3320.2				
XSECTION 132	REACH	.03	7	2	.10	.0	4.50	24.00
3.71	6883.76	5.97	90.64	3320.2				
XSECTION 132	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.69	---	5.96	34.89	3488.9				
XSECTION 132	ADDHYD	.04	7	2	.10	.0	4.50	24.00
3.70	6884.19	5.96	125.48	3364.1				
XSECTION 132	REACH	.04	7	2	.10	.0	4.50	24.00
3.70	6884.19	5.96	125.48	3364.1				
XSECTION 131	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.72	---	5.97	44.69	3261.7				
XSECTION 132	REACH	.01	7	2	.10	.0	4.50	24.00
3.72	6883.17	5.97	44.69	3261.7				
XSECTION 130	ADDHYD	.05	7	2	.10	.0	4.50	24.00
3.71	6843.60	5.96	170.11	3335.5				
XSECTION 130	RUNOFF	.01	7	2	.10	.0	4.50	24.00
1.33	---	6.15	6.55	850.6				
XSECTION 130	ADDHYD	.06	7	2	.10	.0	4.50	24.00
3.39	6843.61	5.97	173.78	2960.5				
STRUCTURE 30	RESVOR	.06	7	2	.10	.0	4.50	24.00
3.02	6886.04	6.28	34.63	589.9				
XSECTION 130	REACH	.06	7	2	.10	.0	4.50	24.00
3.04	6842.80	6.38	34.63	589.9				
XSECTION 90	RUNOFF	.03	7	2	.10	.0	4.50	24.00
1.60	---	6.28	21.41	787.0				
XSECTION 90	ADDHYD	.09	7	2	.10	.0	4.50	24.00
2.58	6842.04	6.30	55.88	650.6				
XSECTION 80	RUNOFF	.06	7	2	.10	.0	4.50	24.00
1.60	---	6.26	48.47	818.8				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL  
 INSTRUCTIONS IN THE ORDER PERFORMED  
 (A STAR(\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS)  
 VALUES INDICATES A FLAT TOP HYDROGRAPH  
 A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST  
 POINT.)

SECTION/ PEAK DISCHARGE STRUCTURE RUNOFF	STANDARD CONTROL	DRAINAGE	RAIN TABLE	ANTEC MOIST	MAIN TIME	PRECIPITATION			
ID	OPERATION	AREA	#	COND	INCREM	BEGIN	AMOUNT	DURATION	
AMOUNT	ELEVATION	TIME	RATE	RATE	(HR)	(HR)	(IN)	(HR)	
(IN)	(FT)	(HR)	(CFS)	(CSM)					
ALTERNATE		1	STORM	2					
+									
XSECTION 2.18	80	ADDHYD	.15	7	2	.10	.0	4.50	24.00
---		6.28	104.13	717.7					
XSECTION 2.18	5	REACH	.15	7	2	.10	.0	4.50	24.00
6822.35		6.28	104.13	717.7					
XSECTION 3.60	125	RUNOFF	.04	7	2	.10	.0	4.50	24.00
---		6.03	123.02	2922.0					
XSECTION 3.60	124	REACH	.04	7	2	.10	.0	4.50	24.00
6926.71		6.03	123.02	2922.0					
XSECTION 3.60	124	RUNOFF	.01	7	2	.10	.0	4.50	24.00
---		6.03	32.05	2940.6					
XSECTION 3.60	124	ADDHYD	.05	7	2	.10	.0	4.50	24.00
6927.35		6.03	155.06	2925.7					
XSECTION 3.60	123	REACH	.05	7	2	.10	.0	4.50	24.00
6896.78		6.03	155.06	2925.7					
XSECTION 3.61	123	RUNOFF	.01	7	2	.10	.0	4.50	24.00
---		5.97	36.20	3203.7					
XSECTION 3.60	123	ADDHYD	.06	7	2	.10	.0	4.50	24.00
6897.20		6.01	190.21	2958.2					
XSECTION 3.60	122	REACH	.06	7	2	.10	.0	4.50	24.00
6895.20		6.01	190.21	2958.2					
XSECTION 3.60	122	RUNOFF	.02	7	2	.10	.0	4.50	24.00
---		6.03	61.16	2940.6					
XSECTION 3.60	122	ADDHYD	.09	7	2	.10	.0	4.50	24.00
6895.94		6.02	251.33	2953.3					
XSECTION 3.60	121	REACH	.09	7	2	.10	.0	4.50	24.00
6884.22		6.02	251.33	2953.3					
XSECTION 1.33	121	RUNOFF	.00	7	2	.10	.0	4.50	24.00
---		6.04	4.12	1176.8					
XSECTION 3.51	121	ADDHYD	.09	7	2	.10	.0	4.50	24.00
6884.28		6.02	255.41	2882.7					
STRUCTURE 3.51	20	RESVOR	.09	7	2	.10	.0	4.50	24.00
6887.35		6.33	73.24	826.6					
XSECTION 2.43	120	RUNOFF	.00	7	2	.10	.0	4.50	24.00
---		6.05	7.39	2053.9					
STRUCTURE 2.42	10	RESVOR	.00	7	2	.10	.0	4.50	24.00
6882.30		6.19	4.88	1354.7					
XSECTION 2.42	120	REACH	.00	7	2	.10	.0	4.50	24.00
6878.59		6.19	4.88	1354.7					
XSECTION 3.47	100	ADDHYD	.09	7	2	.10	.0	4.50	24.00
---		6.32	77.95	845.5					

XSECTION	45	REACH	.09	7	2	.10	.0	4.50	24.00
3.47	6866.53	6.32		77.95	845.5				
XSECTION	45	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.20	---	5.98		25.80	2965.1				
XSECTION	45	ADDHYD	.10	7	2	.10	.0	4.50	24.00
3.45	6866.70	6.05		93.22	923.8				
XSECTION	35	REACH	.10	7	2	.10	.0	4.50	24.00
3.45	6864.08	6.05		93.22	923.8				
XSECTION	40	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.59	---	5.96		17.65	3393.6				
XSECTION	35	REACH	.01	7	2	.10	.0	4.50	24.00
3.59	6862.82	5.96		17.65	3393.6				
XSECTION	35	ADDHYD	.11	7	2	.10	.0	4.50	24.00
3.45	6864.20	6.03		110.83	1044.6				
XSECTION	35	RUNOFF	.00	7	2	.10	.0	4.50	24.00
3.16	---	5.96		4.83	3221.1				
XSECTION	35	ADDHYD	.11	7	2	.10	.0	4.50	24.00
3.45	6864.21	6.03		114.98	1068.6				
XSECTION	30	REACH	.11	7	2	.10	.0	4.50	24.00
3.45	6841.80	6.03		114.98	1068.6				
XSECTION	30	RUNOFF	.01	7	2	.10	.0	4.50	24.00
2.91	---	6.00		30.38	2596.3				
XSECTION	30	ADDHYD	.12	7	2	.10	.0	4.50	24.00
3.40	6842.05	6.02		145.19	1217.0				
XSECTION	20	REACH	.12	7	2	.10	.0	4.50	24.00
3.40	6827.05	6.02		145.19	1217.0				
XSECTION	27	RUNOFF	.01	7	2	.10	.0	4.50	24.00
2.91	---	5.99		16.46	2698.1				
XSECTION	25	REACH	.01	7	2	.10	.0	4.50	24.00
2.91	6846.73	5.99		16.46	2698.1				
XSECTION	25	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.61	---	5.98		29.05	3157.3				

TR20 XEQ 02-10-09 09:50  
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POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
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SUMMARY TABLE 1 - SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL  
 INSTRUCTIONS IN THE ORDER PERFORMED  
 (A STAR(\*) AFTER THE PEAK DISCHARGE TIME AND RATE (CFS)  
 VALUES INDICATES A FLAT TOP HYDROGRAPH  
 A QUESTION MARK(?) INDICATES A HYDROGRAPH WITH PEAK AS LAST  
 POINT.)

SECTION/ PEAK DISCHARGE STRUCTURE RUNOFF	STANDARD CONTROL	DRAINAGE	RAIN TABLE	ANTEC MOIST	MAIN TIME	PRECIPITATION
-----						

ID	OPERATION	AREA	#	COND	INCREM	BEGIN	AMOUNT	DURATION	
AMOUNT	ELEVATION	TIME	RATE	RATE	(HR)	(HR)	(IN)	(HR)	
(IN)	(FT)	(HR)	(SQ MI)	(CSM)					
			(CFS)						
ALTERNATE	1	STORM	2						
+									
XSECTION	25	ADDHYD	.02	7	2	.10	.0	4.50	24.00
3.33	6847.30	5.98	45.50	2973.8					
XSECTION	22	REACH	.02	7	2	.10	.0	4.50	24.00
3.33	6835.30	5.98	45.50	2973.8					
XSECTION	22	RUNOFF	.00	7	2	.10	.0	4.50	24.00
3.19	---	5.97	11.01	3058.2					
XSECTION	20	ADDHYD	.02	7	2	.10	.0	4.50	24.00
3.31	6826.24	5.98	56.47	2987.6					
XSECTION	20	ADDHYD	.14	7	2	.10	.0	4.50	24.00
3.38	6827.50	6.01	200.60	1451.5					
XSECTION	21	REACH	.14	7	2	.10	.0	4.50	24.00
3.38	6829.43	6.01	200.60	1451.5					
XSECTION	20	RUNOFF	.00	7	2	.10	.0	4.50	24.00
3.19	---	5.97	12.54	3057.7					
XSECTION	20	ADDHYD	.14	7	2	.10	.0	4.50	24.00
3.38	6827.60	6.01	212.70	1494.7					
XSECTION	10	REACH	.14	7	2	.10	.0	4.50	24.00
3.38	6824.60	6.01	212.70	1494.7					
XSECTION	55	RUNOFF	.01	7	2	.10	.0	4.50	24.00
3.61	---	5.97	16.52	3239.3					
XSECTION	50	REACH	.01	7	2	.10	.0	4.50	24.00
3.61	6825.73	5.97	16.52	3239.3					
XSECTION	50	RUNOFF	.00	7	2	.10	.0	4.50	24.00
3.18	---	5.96	13.16	3134.2					
XSECTION	50	ADDHYD	.01	7	2	.10	.0	4.50	24.00
3.42	6825.99	5.97	29.68	3191.3					
XSECTION	12	REACH	.01	7	2	.10	.0	4.50	24.00
3.42	6822.99	5.97	29.68	3191.3					
XSECTION	10	ADDHYD	.15	7	2	.10	.0	4.50	24.00
3.38	6824.83	6.00	241.56	1593.4					
XSECTION	15	RUNOFF	.00	7	2	.10	.0	4.50	24.00
3.56	---	5.95	15.39	3496.9					
XSECTION	11	REACH	.00	7	2	.10	.0	4.50	24.00
3.56	6822.71	5.95	15.39	3496.9					
XSECTION	10	ADDHYD	.16	7	2	.10	.0	4.50	24.00
3.39	6824.95	6.00	256.08	1641.5					
XSECTION	10	RUNOFF	.00	7	2	.10	.0	4.50	24.00
1.08	---	6.06	3.23	923.8					
XSECTION	10	ADDHYD	.16	7	2	.10	.0	4.50	24.00
3.33	6824.98	6.00	259.00	1623.8					
STRUCTURE	5	RESVOR	.16	7	2	.10	.0	4.50	24.00
3.33	6827.50	6.32	104.80	657.1					
XSECTION	5	REACH	.16	7	2	.10	.0	4.50	24.00
3.33	6822.35	6.32	104.80	657.1					











+ 5	50	70	6.3	70	6.3		0	1.73	
1.35	.000	1.000	5	1.00?	.00	.00			
+							32	6.3	
ALTERNATE 1 STORM 2									
+	-----								
9.46									
+134	400	47	6.0	47	6.0		0	3.70	.10
1.26	.004	1.000	24	1.00?	.00	.00			
+							72	6.0	
7.58									
+133	840	72	6.0	72	6.0		0	3.71	.10
1.38	.005	1.000	43	1.00?	.00	.00			
+							89	6.0	
10.2									
+132	370	89	6.0	89	6.0		0	3.71	.10
1.38	.001	1.000	14	1.00?	.00	.00			
+							122	6.0	
10.4									
+132	180	122	6.0	122	6.0		0	3.70	.10
1.36	.000	1.000	7	1.00?	.00	.00			
+							---	---	
10.0									
+132	180	44	6.0	44	6.0		0	3.72	.10
1.41	.000	1.000	8	1.00?	.00	.00			
+							---	---	
3.07									
+130	1400	35	6.3	35	6.4		0	3.02	.10
1.35	.005	1.000	181	1.00?	.10	.05			
+							---	---	
1									

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 112

SUMMARY TABLE 2 - SELECTED MODIFIED ATT-KIN REACH ROUTINGS IN ORDER OF STANDARD EXECUTIVE CONTROL INSTRUCTIONS

(A STAR(\*) AFTER VOLUME ABOVE BASE(IN) INDICATES A HYDROGRAPH TRUNCATED AT A VALUE EXCEEDING BASE + 10% OF PEAK

A QUESTION MARK(?) AFTER COEFF.(C) INDICATES PARAMETERS OUTSIDE ACCEPTABLE LIMITS, SEE PREVIOUS WARNINGS)

HYDROGRAPH INFORMATION

ROUTING PARAMETERS

PEAK





+	5	50	105	6.3	105	6.3	0	3.33	.10	0
1.34	.000	1.000	5	1.00?	.00	.00				
+						106	6.3			
1										

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 113

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 STRUCTURE 30	.06		
+			
ALTERNATE 1		12.64	34.63
0 STRUCTURE 20	.09		
+			
ALTERNATE 1		53.51	73.24
0 STRUCTURE 10	.00		
+			
ALTERNATE 1		2.66	4.88
0 STRUCTURE 5	.16		
+			
ALTERNATE 1		69.85	104.80
0 XSECTION 4	.31		
+			
ALTERNATE 1		102.19	210.71
0 XSECTION 5	.15		
+			
ALTERNATE 1		32.35	106.09
0 XSECTION 10	.16		
+			
ALTERNATE 1		119.78	259.00
0 XSECTION 11	.00		
+			
ALTERNATE 1		8.58	15.39
0 XSECTION 12	.01		
+			
ALTERNATE 1		15.83	29.68
0 XSECTION 15	.00		
+			
ALTERNATE 1		8.58	15.39
0 XSECTION 20	.14		
+			
ALTERNATE 1		100.40	212.70
0 XSECTION 21	.14		
+			
ALTERNATE 1		95.46	200.60

0 XSECTION	22	.00		
+				
ALTERNATE	1		5.64	11.01
0 XSECTION	25	.02		
+				
ALTERNATE	1		23.69	45.50
1				

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tusc100a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 114

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 27	.01		
+			
ALTERNATE 1		7.87	16.46
0 XSECTION 30	.12		
+			
ALTERNATE 1		71.25	145.19
0 XSECTION 35	.11		
+			
ALTERNATE 1		59.23	114.98
0 XSECTION 40	.01		
+			
ALTERNATE 1		9.77	17.65
0 XSECTION 45	.10		
+			
ALTERNATE 1		58.01	93.22
0 XSECTION 50	.01		
+			
ALTERNATE 1		15.83	29.68
0 XSECTION 55	.01		
+			
ALTERNATE 1		9.05	16.52
0 XSECTION 80	.15		
+			
ALTERNATE 1		31.81	104.13
0 XSECTION 90	.09		
+			
ALTERNATE 1		18.42	55.88
0 XSECTION 100	.09		
+			
ALTERNATE 1		55.47	77.95
0 XSECTION 120	.00		
+			
ALTERNATE 1		2.66	4.88

0 XSECTION 121	.09		
+			
ALTERNATE 1		136.73	255.41
0 XSECTION 122	.09		
+			
ALTERNATE 1		135.75	251.33
0 XSECTION 123	.06		
+			
ALTERNATE 1		102.74	190.21
1			

TR20 XEQ 02-10-09 09:50  
 HR.5&100YR. STORM  
 REV PC 09/83(.2)  
 tuscl00a

POWERWOOD RETAIL DEVELOPMENT - TR20 RUN 24  
 JOB 1 SUMMARY  
 DEVELOPED CONDITIONS W/ DETENTION INPUT :  
 PAGE 115

SUMMARY TABLE 3 - DISCHARGE (CFS) AT XSECTIONS AND STRUCTURES FOR ALL STORMS AND ALTERNATES

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.....	
		1	2
0 XSECTION 124	.05		
+			
ALTERNATE 1		83.75	155.06
0 XSECTION 125	.04		
+			
ALTERNATE 1		66.43	123.02
0 XSECTION 130	.06		
+			
ALTERNATE 1		12.61	34.63
0 XSECTION 131	.01		
+			
ALTERNATE 1		24.84	44.69
0 XSECTION 132	.01		
+			
ALTERNATE 1		24.84	44.69
0 XSECTION 133	.03		
+			
ALTERNATE 1		50.58	90.64
0 XSECTION 134	.02		
+			
ALTERNATE 1		40.94	73.43
0 XSECTION 135	.01		
+			
ALTERNATE 1		27.53	49.00

1END OF 1 JOBS IN THIS RUN

**APPENDIX C**

**TR-20 MAPS**



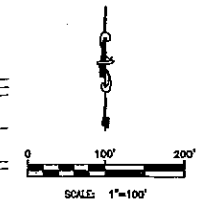
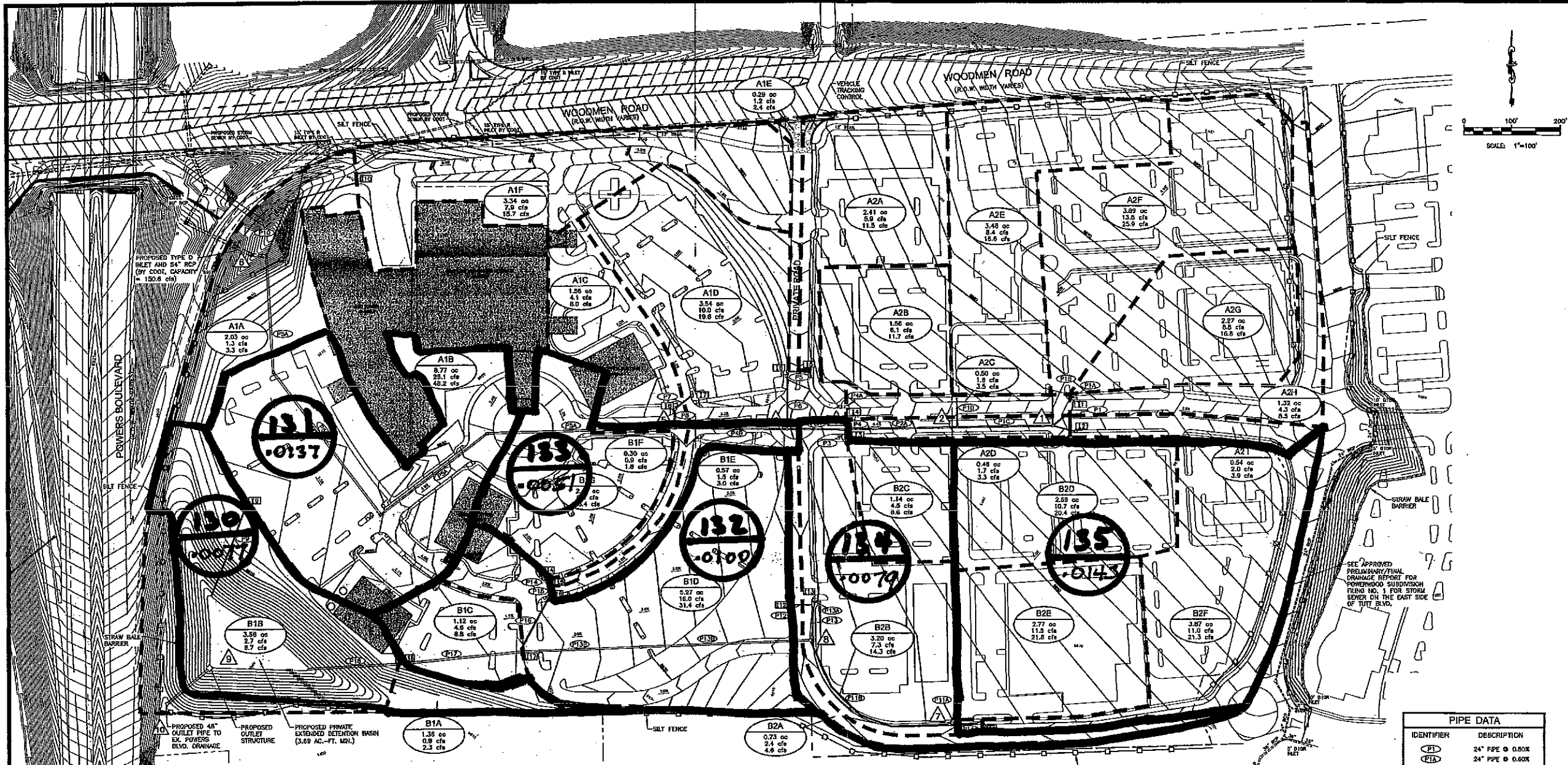


Kiawa Engineering Corporation  
 1604 South 21st Street  
 Colorado Springs, Colorado 80904  
 719) 630-7342

**POWERWOOD SUBDIVISION FILING NO. 1  
 DRAINAGE PLAN - DEVELOPED CONDITIONS  
 POWERS BOULEVARD & WOODMEN ROAD  
 COLORADO SPRINGS, COLORADO**

Project No.: 03067  
 Date: June 16, 2004  
 Design: NRR  
 Drawn: NRR  
 Check: AW/Mc  
 Revisions:

**EXHIBIT 1**

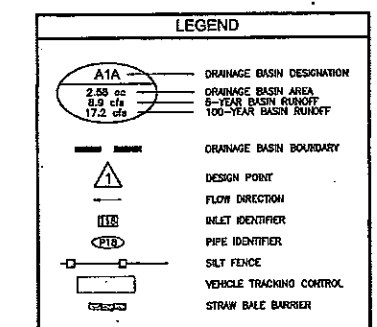


PROPOSED TYPE D  
 INLET AND 14" RCP  
 (BY CODE, CAPACITY  
 = 150.6 cfs)

SEE APPROVED  
 PRELIMINARY/FINAL  
 DRAINAGE REPORT FOR  
 POWERWOOD SUBDIVISION  
 FILING NO. 1 FOR STORM  
 SEWER ON THE EAST SIDE  
 OF TUTT BLVD.

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS

ITEM	QUAN.	UNIT	COST	AMOUNT
VEHICLE TRACKING CONTROL	1	EA	\$1,000.00	\$ 1,000.00
SILT FENCE	7654	LF	1.50	\$11,481.00
SEED AND MULCH	34.5	AD	\$600.00	\$20,700.00
INLET PROTECTION	17	EA	\$500.00	\$ 8,500.00
<b>TOTAL</b>				<b>\$41,681.00</b>



**DRAINAGE BASIN FLOWS**

BASIN	5-YEAR	100-YEAR	BASIN	5-YEAR	100-YEAR
A1A	1.3 cfs	3.3 cfs	B1A	0.9 cfs	2.3 cfs
A1B	25.1 cfs	48.2 cfs	B1B	2.7 cfs	8.7 cfs
A1C	4.1 cfs	8.0 cfs	B1C	4.6 cfs	8.8 cfs
A1D	10.0 cfs	19.8 cfs	B1D	16.0 cfs	31.4 cfs
A1E	1.2 cfs	2.4 cfs	B1E	1.5 cfs	3.0 cfs
A1F	7.9 cfs	15.7 cfs	B1F	0.9 cfs	1.8 cfs
A1G	3.34 ac	7.9 cfs	B1G	0.5 cfs	1.8 cfs
A1H	2.03 ac	1.3 cfs	B1H	0.5 cfs	1.8 cfs
A1I	1.26 ac	4.1 cfs	B1I	0.5 cfs	1.8 cfs
A2A	5.9 cfs	11.5 cfs	B2A	2.4 cfs	4.6 cfs
A2B	8.1 cfs	11.7 cfs	B2B	7.3 cfs	14.3 cfs
A2C	1.5 cfs	3.5 cfs	B2C	4.5 cfs	8.6 cfs
A2D	1.7 cfs	3.5 cfs	B2D	10.7 cfs	20.4 cfs
A2E	8.4 cfs	15.6 cfs	B2E	11.5 cfs	21.8 cfs
A2F	3.48 ac	8.4 cfs	B2F	11.0 cfs	21.3 cfs
A2G	3.89 ac	13.5 cfs			
A2H	4.3 cfs	8.5 cfs			
A2I	2.0 cfs	3.9 cfs			

**DESIGN POINT FLOWS**

	5-YEAR	100-YEAR
1	25.4 cfs	48.9 cfs
2	33.8 cfs	63.5 cfs
3	42.8 cfs	79.2 cfs
4	45.6 cfs	83.6 cfs
5	65.8 cfs	128.9 cfs
6	77.0 cfs	145.8 cfs
7	17.3 cfs	30.7 cfs
8	48.4 cfs	95.8 cfs
9	108.7 cfs	197.3 cfs
10	19.2 cfs (Historic)	37.2 cfs (Historic)

**INLET DATA**

IDENTIFIER	DESCRIPTION
I1	10' D-10-R CURB INLET
I2	5' D-10-R CURB INLET
I3	5' D-10-R CURB INLET
I4	10' D-10-R CURB INLET
I5	10' D-10-R CURB INLET
I6	5' D-10-R CURB INLET
I7	12' D-10-R CURB INLET
I8	6' D-10-R CURB INLET
I9	15' D-10-R CURB INLET
I10	5' D-10-R CURB INLET
I11	15' D-10-R CURB INLET
I12	4' D-10-R CURB INLET
I13	12' D-10-R CURB INLET
I14	6' D-10-R CURB INLET
I15	6' D-10-R CURB INLET
I16	6' D-10-R CURB INLET
I17	15' D-10-R CURB INLET
I18	4' D-10-R CURB INLET

**PIPE DATA**

IDENTIFIER	DESCRIPTION
P1	24" PPE @ 0.60%
P2	24" PPE @ 0.60%
P3	24" PPE @ 1.50%
P4	24" PPE @ 0.60%
P5	15" PPE @ 0.50%
P6	30" PPE @ 2.50%
P7	15" PPE @ 0.50%
P8	30" PPE @ 4.00%
P9	24" PPE @ 0.50%
P10	18" PPE @ 1.30%
P11	30" PPE @ 4.40%
P12	15" PPE @ 0.50%
P13	42" PPE @ 1.70%
P14	15" PPE @ 0.50%
P15	24" PPE @ 1.80%
P16	30" PPE @ 1.20%
P17	24" PPE @ 3.20%
P18	15" PPE @ 0.60%
P19	18" PPE @ 1.00%
P20	24" PPE @ 1.00%
P21	24" PPE @ 1.80%
P22	15" PPE @ 0.60%
P23	30" PPE @ 1.00%
P24	24" PPE @ 1.70%
P25	36" PPE @ 2.10%
P26	24" PPE @ 0.60%
P27	24" PPE @ 0.60%
P28	24" PPE @ 0.60%
P29	42" PPE @ 2.40%
P30	42" PPE @ 2.70%

**OFF-SITE TR-20 MAP**

