

NOTES:
ADDITIONAL DISCHARGE REQUIRED WITH PHASE III DEVELOPMENT FROM AREA D2 TO EXISTING INLET B-2 LOCATED IN PARK PLACE BLVD. STORAGE VOLUME WILL BE INCREASED IN EXISTING POND A. REFER TO PARK PLACE WEST - PHASE TWO RECORD PLANS DATED 11/2/2006

EXISTING CONDITIONS FOR DRAINAGE AREA D2

DRAINAGE AREA (Acres)	COEFFICIENT c	INTENSITY (IN/HR)	Q100 (CFS)
PH 2	2.03	0.50	9.8

PROPOSED CONDITIONS FOR DRAINAGE AREA D2

DRAINAGE AREA (Acres)	COEFFICIENT c	INTENSITY (IN/HR)	Q100 (CFS)
PH 3	2.55	0.50	9.8

PER CONSTRUCTION RECORDS
PHASE 2 100-YEAR CONDITIONS
A. TOTAL BYPASS AREA (B4&D4) = 6.78 AC
B. DISCHARGE (BYPASS)=CIA=(0.90)(3.90)9.80 = 34.40 CFS
C. DISCHARGE (BYPASS)=CIA=(0.35)(2.88)8.3 = 8.37 CFS
D. TOTAL ON-SITE AREA = 28.67 AC
E. DISCHARGE (ON-SITE)=CIA=(0.35)(28.67)8.3 = 83.29
F. TOTAL ON-SITE BYPASS AREA(K1) = 1.29 AC
G. DISCHARGE (ON-SITE) BYPASS=CIA=(0.50)(1.29)9.8 = 6.32
H. ALLOWABLE ON-SITE DISCHARGE=83.29-6.32 = 76.97 CFS
I. ALLOWABLE DISCHARGE FROM POND=(B+C+H)=34.40+8.37+76.97=119.74 CFS

Determine Qp for developed off-site areas (bypass) 3.90 ac

Tc	A	C	I	Qp
10	3.90	0.90	9.80	34.40
20	3.90	0.90	8.30	29.13
30	3.90	0.90	6.90	24.22
40	3.90	0.90	5.80	20.36
50	3.90	0.90	5.00	17.55
60	3.90	0.90	4.50	15.8
70	3.90	0.90	4.00	14.04
80	3.90	0.90	3.75	13.16

Determine Storage Volume Required for developed Bypass Areas

Time	Inflow = Tc*Qp*60	Outflow = 0.5*(Tc+10)Qp*60	Storage
10	20639	20640	-1
20	34960	30660	4000
30	43594	41280	2314
40	48559	51600	-2741
50	52859	61920	-9270
60	56827	72240	-15378
70	59688	82560	-23592
80	63180	92880	-29700

Determine Qp for undeveloped off-site areas (bypass) 12.88 ac

Tc	A	C	I	Qp
20	2.88	0.35	8.30	8.37
30	2.88	0.35	6.90	6.96
40	2.88	0.35	5.80	5.85
50	2.88	0.35	5.00	5.04
60	2.88	0.35	4.50	4.54
70	2.88	0.35	4.00	4.03
80	2.88	0.35	3.75	3.78

Determine Storage Volume Required for undeveloped Bypass Areas

Time	Inflow = Tc*Qp*60	Outflow = 0.5*(Tc+10)Qp*60	Storage
20	10040	7533	2507
30	12519	10014	2475
40	14031	12555	1478
50	15120	15066	-54
60	16330	17577	-1247
70	16944	20088	-3154
80	18144	22599	-4455

Determine Qp for On-Site Areas (Excludes area K1 -bypass)

Tc	A	C	I	Qp
10	27.38	0.47	9.80	127.05
20	27.38	0.47	8.30	107.6
30	27.38	0.47	6.90	89.45
40	27.38	0.47	5.80	75.19
50	27.38	0.47	5.00	64.82
60	27.38	0.47	4.50	58.34
70	27.38	0.47	4.00	51.86
80	27.38	0.47	3.75	48.62

Determine Storage Volume Required for On-Site Areas

Time	Inflow = Tc*Qp*60	Outflow = 0.5*(Tc+10)Qp*60	Storage
10	76231	46182	30049
20	125126	69273	55853
30	161018	92364	68654
40	180465	115455	65010
50	194466	138546	55920
60	210024	161637	48387
70	217802	184728	33074
80	232369	207819	25541

Determine Water Surface Elev.

Layer	Surface Elevation	Average Layer	Cumulative Volume (cf)	100-year Volume (cf)	100-year WSEL
527	284048				
526	24093	26251	81469	73443	526.35
		21563	21563		
525	19032	16457	33566		
		11738	11738		
524	13882		17199		
		5295	5295	5461	
523	9593		166		
522	997				
521.5	0				

PROPOSED REVISED CONDITIONS

Add Additional Area from Drainage Area D2 = 0.52 Acres

Tc	A	C	I	Qp
10	27.90	0.47	9.80	128.51
20	27.90	0.47	8.30	108.84
30	27.90	0.47	6.90	90.48
40	27.90	0.47	5.80	76.06
50	27.90	0.47	5.00	65.57
60	27.90	0.47	4.50	59.01
70	27.90	0.47	4.00	52.45
80	27.90	0.47	3.75	49.17

Determine Storage Volume Required for On-Site Areas

Time	Inflow = Tc*Qp*60	Outflow = 0.5*(Tc+10)Qp*60	Storage
10	77106	46182	30824
20	130608	69273	61335
30	162864	92364	70500
40	182544	115455	67089
50	196710	138546	58164
60	212436	161637	50799
70	220290	184728	35562
80	236016	207819	28197

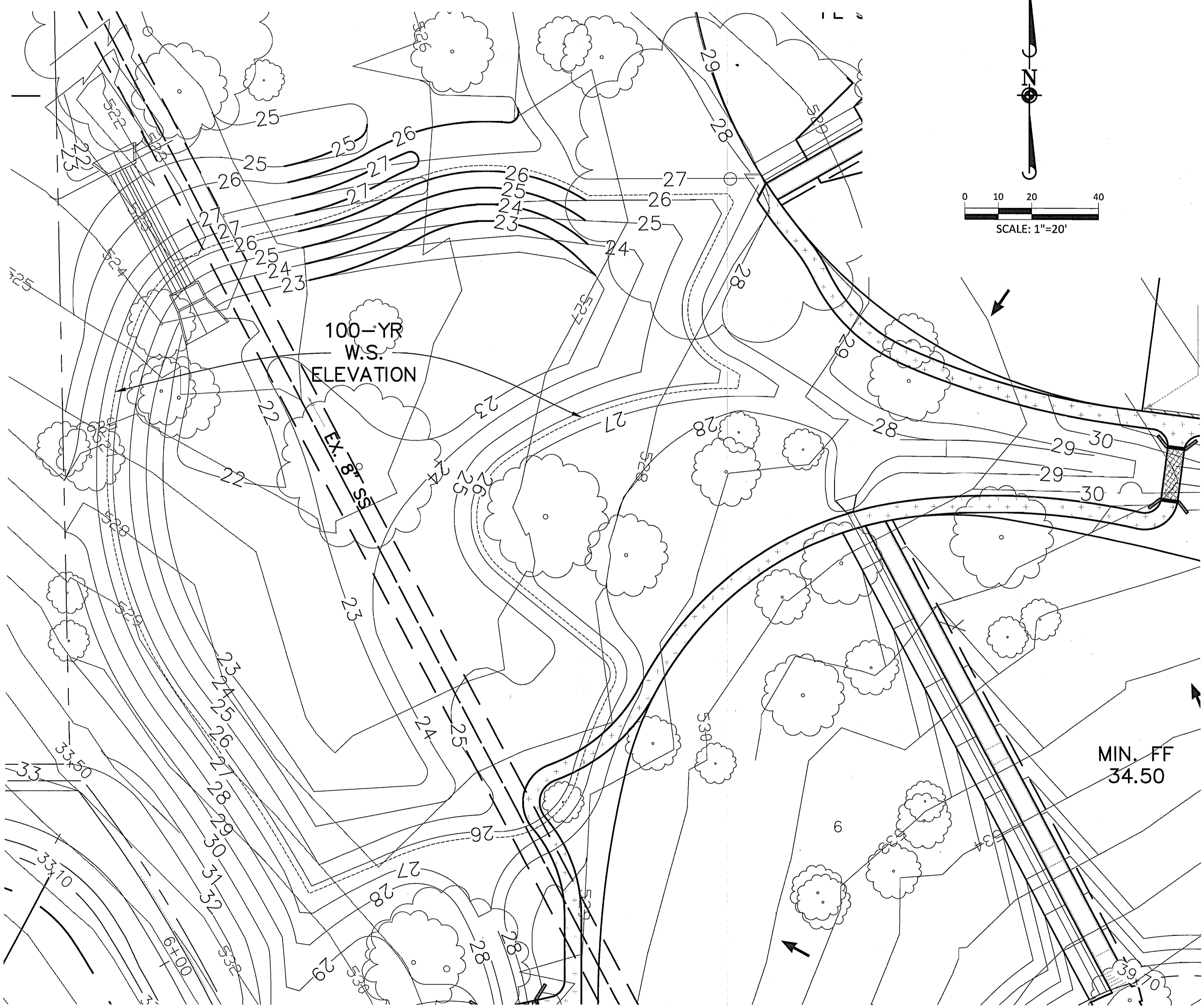
Total Combined Storage Required at 30 min. = 2,314 + 2,475 + 70,500 = 75,289 CF *

Difference in Pond Storage from existing conditions to proposed conditions requires 1,846 CF of dirt to be excavated from below the 100-year water surface elevation of 526.35' to allow for the additional discharge to be stored. This will allow for the addition of Drainage Area D2 to be stored with no affect to the 100-year WSEL.

POND A
PURPOSE OF POND "A" IS TO DETAIN ON SITE AREAS A1, B1-B3,B5, C1-2, D1-3, E1-3, F1-2, J1-J3 & K1 AND ALLOW OFF-SITE AREAS B4 & D4 TO PASS-THRU.

- EXISTING CONDITIONS
- OFFSITE (PASS-THRU) DRAINAGE
 - AREAS B4 & D4 = 6.78 ACRES
 - C=0.90 FOR DEVELOPED & 0.35 FOR UNDEVELOPED
 - Tc = 10 MIN. (DEV.) & 20 MIN. (UNDEV.)
 - ONSITE DRAINAGE
 - AREAS A1, B1-B3,B5, C1-2, D1-3, E1-3, F1-2, J1-J3 & K1 (Bypass) = 29.19 ACRES
 - C = 0.35
 - Tc = 20 MINUTES

- PROPOSED CONDITIONS
- ONSITE DRAINAGE (EXCLUDES AREA K1 WHICH IS A FREE BYPASS)
 - SF AREA = 23.10 ACRES AT C=0.50
 - OPEN SPACE AREA = 4.80 ACRES AT C=0.35
 - CA = 13.23
 - Tc = 10 MINUTES



CONSTRUCTION RECORDS
DATE: 10-10-2019 BY: [Signature]
THIS DRAWING INDICATES THE WORK COMPLETED PER INFORMATION SUPPLIED BY THE CONTRACTOR. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION HAS NOT BEEN VERIFIED. ACTUAL GROUND SURVEY VERIFICATION WAS NOT PERFORMED EXCEPT AS SPECIFICALLY NOTED. TOMDEN ENGINEERING, L.L.P. SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY BE INCORPORATED AS A RESULT OF ERRONEOUS INFORMATION PROVIDED BY OTHERS.
TOMDEN ENGINEERING, L.L.P.

BENCHMARKS
TBM ON THE SOUTH EDGE OF PAVEMENT OF WASHINGTON STREET AT THE INTERSECTION OF ALUMINUM PLANT ROAD. ELEVATION = 542.81'
TBM ON THE EAST EDGE OF PAVEMENT OF RENRO STREET APPROXIMATELY 340' SOUTH OF THE INTERSECTION ON HARMAN. ELEVATION = 535.43'

DESIGNED BY: TPE
DRAWN BY: BBD
CHECKED BY: TPJ
JOB NO.: 09-19-2018
DATE: AS SHOWN
SCALE: AS SHOWN
DESCRIPTION: DETENTION POND A EXCAVATION PLAN
TOMDEN ENGINEERING, L.L.P.
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FIRM No. 19244
PARK PLACE WEST - PHASE III
R. BALLARD SURVEY ABSTRACT NO. 29
ROCKWALL, ROCKWALL COUNTY, TEXAS
Sheet No: C38 OF 38