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ON-SITE DRAINAGE AREA MAP
 LOT 1, BLOCK A
 PEAR PEDI MEDICAL OFFICE
 J.M. ALLEN SURVEY, ABST. 2
 CITY OF ROCKWALL
 ROCKWALL COUNTY, TEXAS

CITY REVIEW 6-12-14
 REVISION

WLD.
 CHECKED

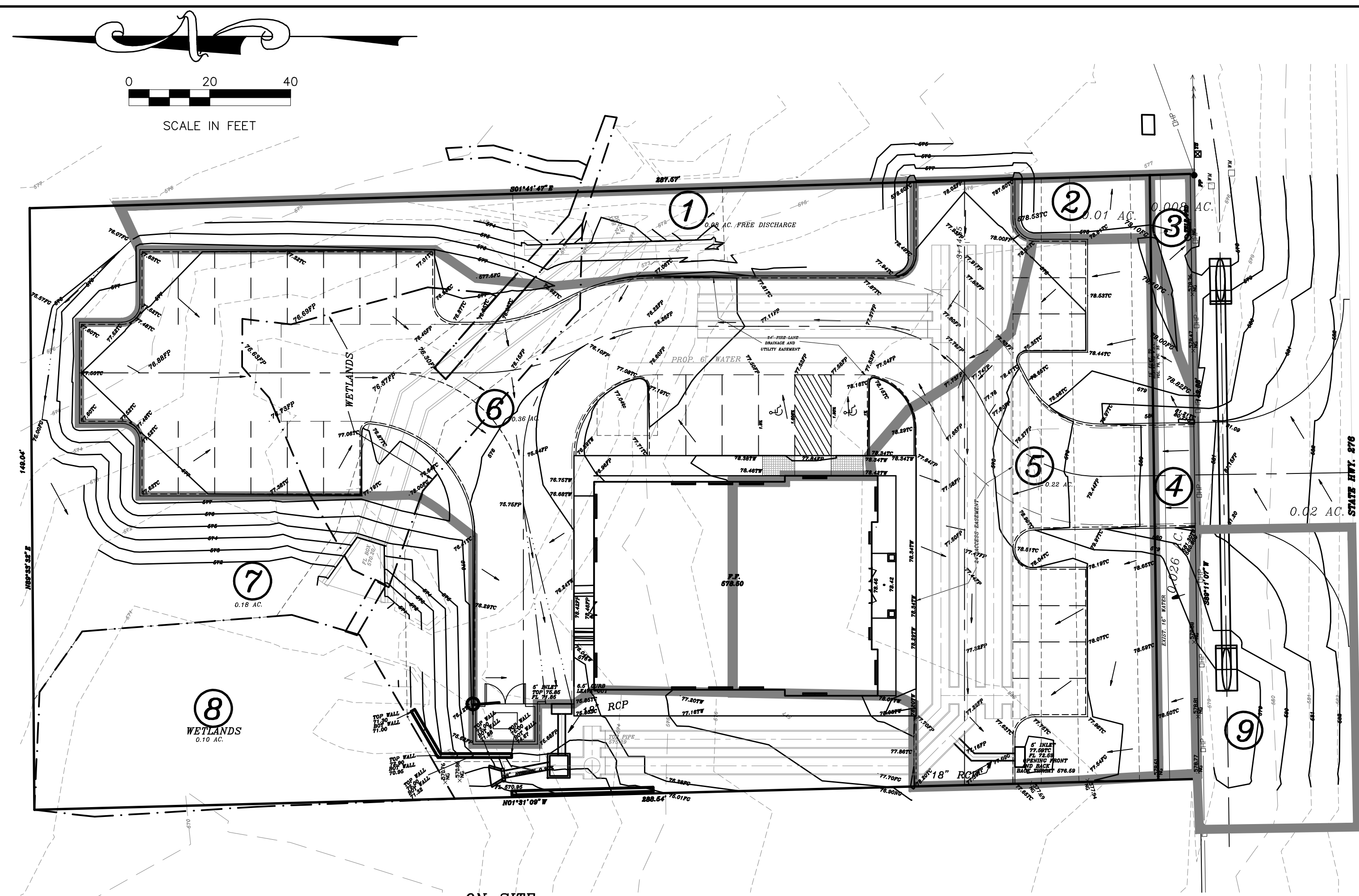
G.C.W.
 DRAWN

SCALE
 1" = 20'H
 1" = 5' V

DATE

PROJECT
 13029

6 OF 10



ON-SITE DRAINAGE TABLE PRE-CONSTRUCTION

DRAINAGE AREA NO.	ACRES	T.C.	C	I 100 YR.	Q 100 YR.	SUM Q 100 YR.	COMMENTS
FREE DISCHARGE						98.07	FROM OFF-SITE D.A. MAP
1	0.08	15	0.35	9.0	0.25	98.32	
2	0.01	"	0.35	"	0.03	98.60	
3	0.008	"	"	"	0.025	98.905	NEW R.O.W.
4	0.026	"	"	"	0.08	99.29	NEW R.O.W.
5	0.22	"	"	"	0.69	100.365	
6	0.36	"	"	"	1.13	102.57	
7	0.18	"	"	"	0.57	105.345	
8	0.10	"	"	"	0.32	108.44	WETLANDS
9	0.07	"	"	"	0.22	108.66	EXIST. R.O.W.

PRE-CONSTRUCTION CONDITIONS = 0.99 AC. LESS R.O.W. DEDICATION AND LESS WETLANDS
 PRE-CONSTRUCTION CONDITIONS = 0.99 AC. - AREAS 3, 4 AND 8
 0.99 AC -0.034, -0.10
 0.856 AC.
 ALLOWABLE RELEASE = 2.47cfs

ON-SITE DRAINAGE TABLE POST CONSTRUCTION

DRAINAGE AREA NO.	ACRES	T.C.	C	I 100 YR.	Q 100 YR.	SUM Q 100 YR.	COMMENTS
FREE DISCHARGE						160.99	OFF-SITE D.A. MAP
1	0.08	10	0.9	9.8	0.71	161.70	BYPASS TO BOX CULVERT
2	0.01	"	"	"	0.09	0.09	BYPASS TO BOX CULVERT
3	0.008	"	"	"	0.07	0.16	NEW R.O.W. - BYPASS TO BOX CULVERT
7	0.18	"	"	"	1.59	1.75	BYPASS
8	0.10	"	"	"	0.88	2.63	WETLANDS FREE DISCHARGE
9	0.07	"	"	"	0.62	3.25	EXIST. R.O.W. - BYPASS TO BOX CULVERT
TO DETENTION							
4	0.026	"	"	"	0.23	0.23	NEW R.O.W. PASS THROUGH POND
5	0.22	"	0.9	"	1.94	2.35	TO DETENTION
6	0.36	"	"	"	3.18	5.53	TO DETENTION

POST CONSTRUCTION CONDITIONS = .99 AC.
 - 0.10 AC. UNDISTURBED WETLANDS
 - 0.034 AC. R.O.W. DEDICATION
 0.856 AC.

AREAS BYPASSED = 1, 2 AND 7 = 0.27 AC.
 Q BYPASSED = .27*9*9.8 = 2.38 cfs
 ALLOWED RELEASE RATE = 2.47-2.38cfs+PASS THROUGH AREA 4
 = 2.47-2.38cfs+.23 cfs
 = 0.32 cfs
 POST CONSTRUCTION RUN-OFF = 7.55cfs

Present Conditions			
Q=CIA			
A =	0.884		
C =	0.35		
Tc =	20		
I ₁₀₀ =	8.3		
Q ₁₀₀ =	2.56802		

Future Conditions (Developed)		Offsite Conditions (Undeveloped)		Bypass	
A =	0.85	A =	0.026	A =	0.27
Aadj =	0.58				
C =	0.9	C =	0.9	C =	0.9
Tc =	10	Tc =	10	Tc =	10
I ₁₀₀ =	9.8	I ₁₀₀ =	9.8	I ₁₀₀ =	9.8
Q ₁₀₀ =	7.497	Q ₁₀₀ =	0.22932	Q ₁₀₀ =	2.3814

Flow for Storm Durations (Developed)				Flow for Storm Durations (Offsite)			
Time	L	C	Q	Time	L	C	Q
10 min	9.8	0.9	5.1156	10 min	9.8	0.9	0.22932
15 min	9	0.9	4.698	15 min	9	0.9	0.2106
20 min	8.3	0.9	4.3326	20 min	8.3	0.9	0.19422
30 min	6.9	0.9	3.6018	30 min	6.9	0.9	0.16146
40 min	5.8	0.9	3.0276	40 min	5.8	0.9	0.13572
50 min	5	0.9	2.61	50 min	5	0.9	0.117
60 min	4.5	0.9	2.349	60 min	4.5	0.9	0.1053
70 min	4	0.9	2.088	70 min	4	0.9	0.0936
80 min	3.7	0.9	1.9314	80 min	3.7	0.9	0.08658
90 min	3.5	0.9	1.827	90 min	3.5	0.9	0.0819
100 min	3.3	0.9	1.7226	100 min	3.3	0.9	0.07722
110 min	2.9	0.9	1.5138	110 min	2.9	0.9	0.06786

Storage Calculations			
10 min			
Inflow	3206.952	Storage	3016.65
Outflow	190.302		
15 min			
Inflow	4417.74	Storage	4179.863
Outflow	237.8775		
20 min			
Inflow	5432.184	Storage	5146.731
Outflow	285.453		
30 min			
Inflow	6773.868	Storage	6393.264
Outflow	380.604		
40 min			
Inflow	7591.968	Storage	7116.213
Outflow	475.755		
50 min			
Inflow	8181	Storage	7610.094
Outflow	570.906		
60 min			
Inflow	8835.48	Storage	8169.423
Outflow	666.057		
70 min			
Inflow	9162.72	Storage	8401.512
Outflow	761.208		
80 min			
Inflow	9686.304	Storage	8829.945
Outflow	856.359		
90 min			
Inflow	10308.06	Storage	9356.55
Outflow	951.51		
100 min			
Inflow	10796.92	Storage	9752.259
Outflow	1046.661		
110 min			
Inflow	9489.86	Storage	8348.148
Outflow	1141.812		
		STORAGE REQUIRED	9,752 C.F.

NOTE:
 DETENTION SHALL BE INSTALLED
 AND FUNCTIONING PRIOR TO ANY
 PAVING INCLUDING SLAB

REVISED TO CONFORM TO CONSTRUCTION RECORDS.
 _____ DATE: 12-15-15