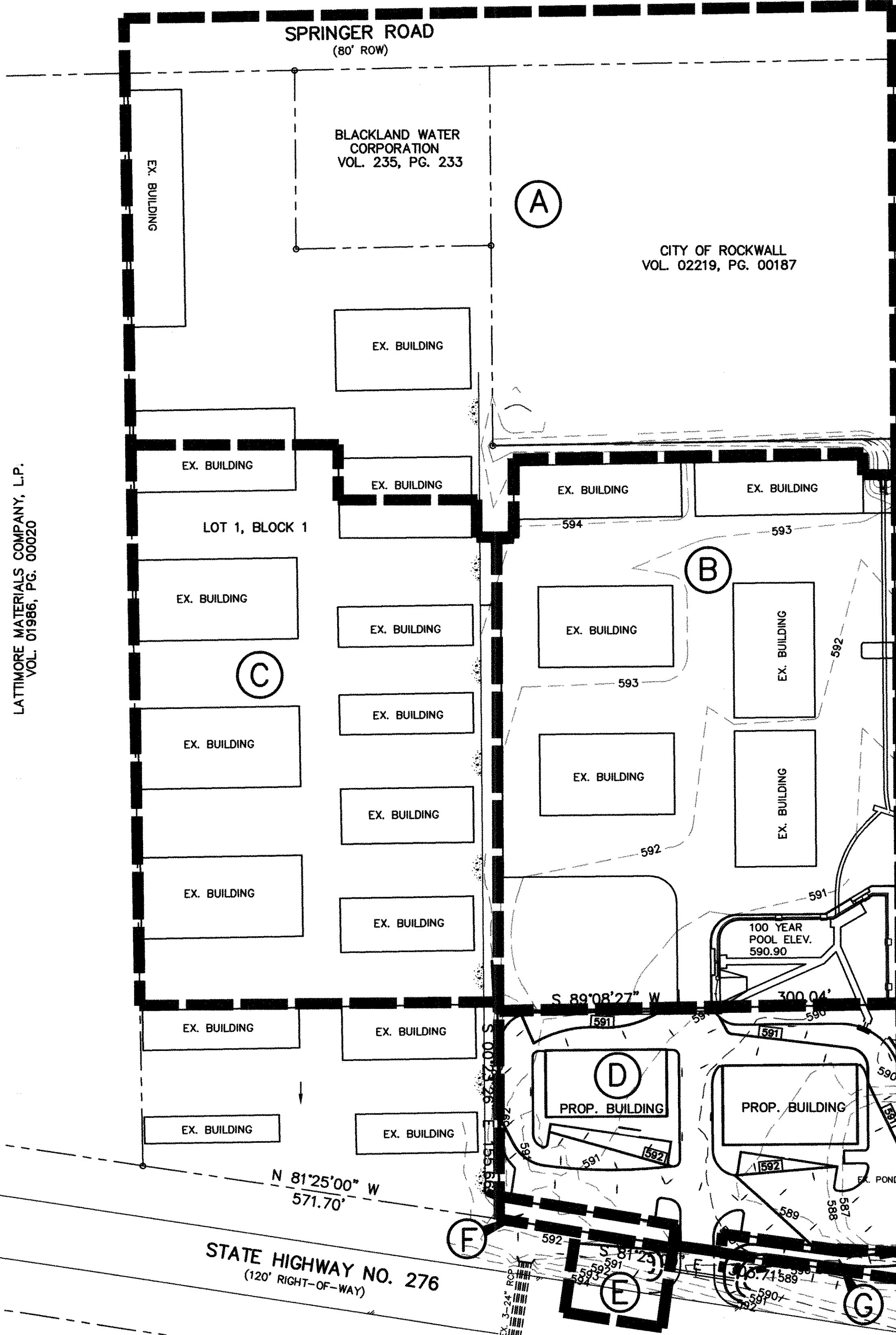


6:\2005\25143\DRAINAGEAREA.dwg Thu Apr 09 09:40:31 2009

HUEY - MIN YU
VOL. 1061, PG. 213



LATIMORE MATERIALS COMPANY, LP.
VOL. 01986, PG. 00020

BLACKLAND WATER CORPORATION
VOL. 235, PG. 233

CITY OF ROCKWALL
VOL. 02219, PG. 00187

RELEASE RATE CALCULATION

STORM EVENT	VOLUME REQ.	DEPTH OF POND	ALLOWABLE DISCHARGE*	ACTUAL DISCHARGE
10 yr	23,940	2.7'	26.0 cfs	24.2 cfs
25 yr	27,258	3.1'	28.8 cfs	27.9 cfs
50 yr	30,780	3.3'	31.7 cfs	29.4 cfs
100 yr	37,692	4.1'	34.7 cfs	34.7 cfs

* ALLOWABLE DISCHARGE IS BASED ON AREA B & D UNDEVELOPED AND AREA C FULLY DEVELOPED FLOWS.

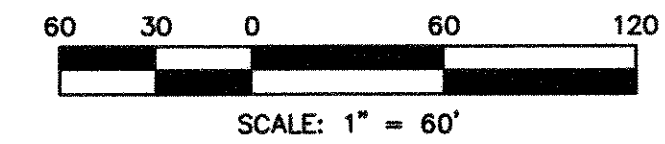
HOLT PROPERTIES, INC.
VOL. 02128, PG. 00146

STERLING FARMS ADDITION
CAB. C, PG. 395

RATING TABLE

DEPTH (ft)	DISCHARGE (cfs)
0.0	N/A
0.5	0.7
1.0	7.2
1.5	10.3
2.0	23.8
2.5	23.0
3.0	27.2
4.0	34.7

*THIS TABLE IS BASED ON PLACEMENT OF STEEL PLATE OVER PIPE AT OUTLET STRUCTURE (SEE SHEET C2)



STORM WATER RUNOFF CALCULATIONS

AREA NO.	ACRES	TC (min)	"c"	"I100" (IN./HR.)	"Q100" (cfs)	DISCHARGE TO
A	4.14	10	0.9	9.8	36.5	30" RCP
B	2.77	10	0.9	9.8	24.4	DETENTION POND
C	2.60	10	0.9	9.8	22.9	THROUGH DETENTION POND
D	1.14	10	0.9	9.8	10.1	DETENTION POND
E	0.07	10	0.9	9.8	0.6	18" CULVERT
F	0.04	10	0.9	9.8	0.3	EX. 24" PIPES
G	0.04	10	0.9	9.8	0.3	EX. DITCH

DETENTION CALCULATIONS

FOR AREAS B & D ONLY WITH DIRECT OFFSITE OF DRAINAGE AREAS F & G

Allowable Discharge
Area = 4.0 Acres
Cres = 0.35
I100 = 8.3
TC = 20 min

Q(allowable) = 11.6 cfs less 0.6 cfs (F & G) = 11.0 cfs

Storm Duration calculations CA = (0.9)(4.0) = 3.6
 10min = 9.8 Q = 35.28
 20min = 8.3 Q = 29.88
 30min = 6.9 Q = 24.84
 40min = 5.8 Q = 20.88
 50min = 5.0 Q = 18.00
 60min = 4.5 Q = 16.20
 70min = 4.2 Q = 15.12
 80min = 3.9 Q = 14.04
 90min = 3.5 Q = 12.60

Volume Determination

10min	10 x 35.28 x 60 = 21,168	0.5 x 20 x 11.0 x 60 = 6,600	14,568 c.f.
20min	20 x 29.88 x 60 = 35,856	0.5 x 30 x 11.0 x 60 = 9,900	25,956 c.f.
30min	30 x 24.84 x 60 = 44,712	0.5 x 40 x 11.0 x 60 = 13,200	31,512 c.f.
40min	40 x 20.88 x 60 = 50,112	0.5 x 50 x 11.0 x 60 = 16,500	33,612 c.f.
50min	50 x 18.00 x 60 = 54,000	0.5 x 60 x 11.0 x 60 = 19,800	34,200 c.f.
60min	60 x 16.20 x 60 = 58,320	0.5 x 70 x 11.0 x 60 = 23,100	35,220 c.f.
70min	70 x 15.12 x 60 = 63,504	0.5 x 80 x 11.0 x 60 = 26,400	37,104 c.f.
80min	80 x 14.04 x 60 = 67,392	0.5 x 90 x 11.0 x 60 = 29,700	37,692 c.f. *
90min	90 x 12.60 x 60 = 68,040	0.5 x 100 x 11.0 x 60 = 33,000	35,040 c.f.

* Volume Required: 37,692 cf
 Volume Provided: 37,779 cf
 Volume Provided is based on the pond size of 8995 sf with an average depth of 4.2 feet.
 Normal 100 Year Pool Elev. - 590.90

Allowable Discharge from pond this Phase
 Area B 8.1cfs
 Area C 22.9cfs
 Area D 3.7cfs
 Total 34.7cfs

Based on Areas B & D at undeveloped rate and Area C at developed rate

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LICENSED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY MARC O. BENTLEY, P.E. NO. 64980 ON 10/27/05

DRAINAGE AREA MAP
HIGHWAY 276 RETAIL
CITY OF ROCKWALL, TEXAS

RECORD DRAWING

No. _____ Date _____
Revision _____

Scale: 1"=60'
File Name: DRAINAGEAREA
Date: SEPT. 2005
Project No.: 25143

Sheet **C3**

RECORD DRAWING

IMPROVEMENTS INDICATED ON THESE PLANS ARE BASED ON VISUAL OBSERVATION AND SURVEY WORK PERFORMED AT THE SITE BY BEI OR SURVEY SUBCONTRACTOR.
DATE: DECEMBER 19, 2008