INLET CALCULATIONS

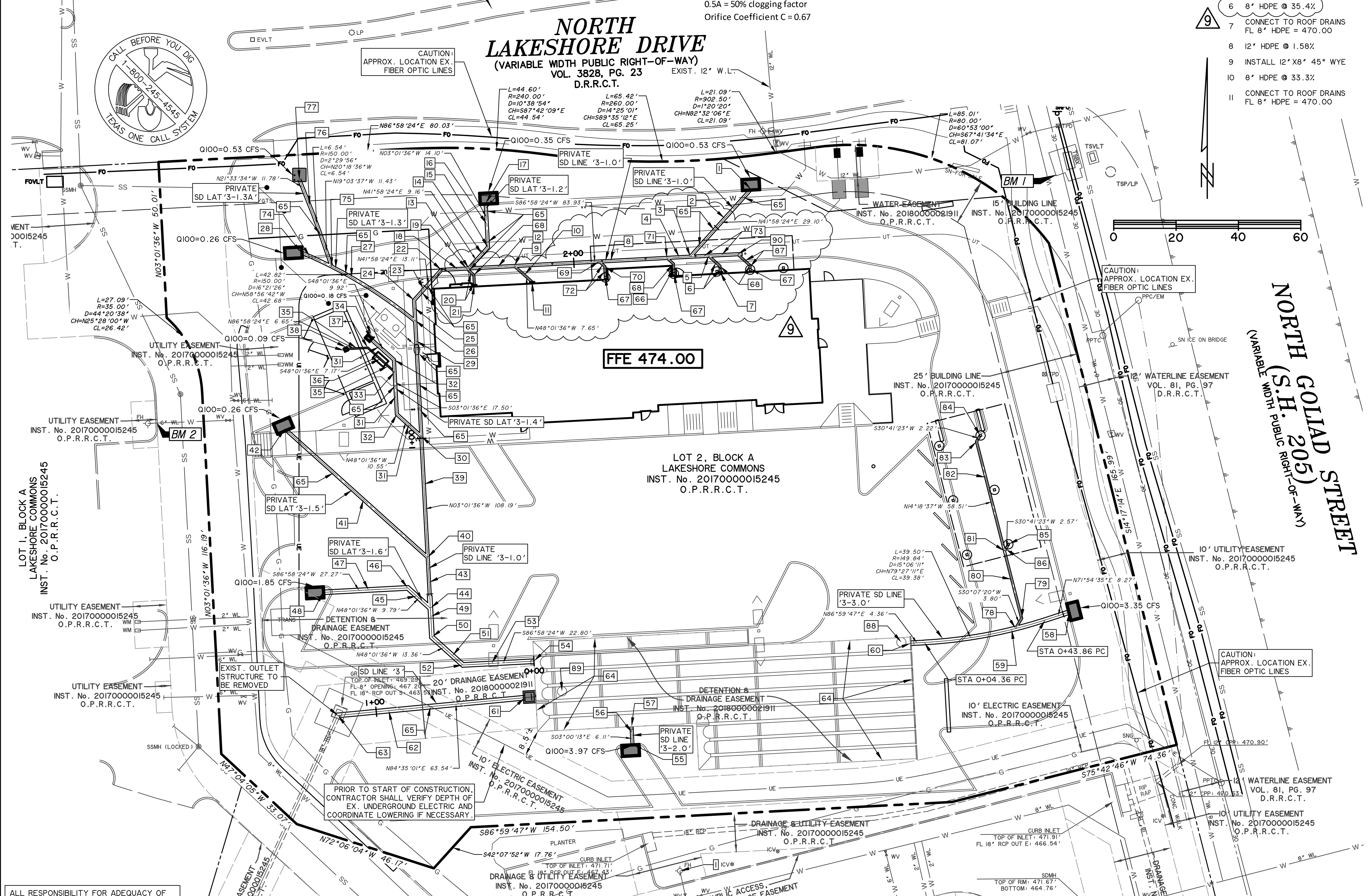
	Location				Area Runoff								Gutter Flow													Inlets Capacity													Inlets Bypass			
Inlet ID	Alignment	Station	Offset	Design Frequency	C	Area ID	Time of Conc T_c	Intensity I_{100}	Area A	Runoff Q_{100}	Upstream Bypass C*A	Total Gutter Flow Q_a	Thoroughfare Type	On-Grade/ Sag	Manning's n	Long Slope S	Crown Type	Cross Slope S_x	Depth a	Width W	(allow) T_{allow}	(actual) T_{actual}	(allow) y_{allow}	(actual) y_{actual}	Max Allowable Flow based on Max. Allowable Ponding Width $Q_{allow\ gutter}$	Area	Wetted Perimeter	Area	Wetted Perimeter	Depression Section K_w	Section Beyond Depression K_o	Ratio of Depression flow to Total Flow E_o	Equivalent Cross-Slope, S_e	Required $L_{Req'd}$ for Curb & Drop Inlets	Required $A_{Req'd}$ for Grate Inlet, including 50% clog	Actual L_{actual} for Curb & Drop Inlets	Actual A_{actual} for Grate Inlet	Inlet Capacity Q_c	Flow Q_{bypass}	C*A	To Inlet ID	Remarks
				yr			min	in/hr	acres	cfs	cfs	cfs				ft/ft		ft/ft	ft	ft	ft	ft	ft	ft	cfs	ft²	ft	ft²	ft	cfs	cfs		ft/ft	ft	in²	ft	in²	cfs	cfs			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	N/A	36	N/A	37	38	39	40	41
3-1.1	SD LINE 3-1.0	2+66.50	0	100	0.90	3-1.1	10	9.8	0.06	0.53	0	**0.53**	Parking	Sag	0.011	0.018	N/A	0.037	0.5	2	13.5	11.9	0.5	0.44	18.3	SAG/LOW POINT INLET (CURB)								**<0.5**	N/A	**5**	N/A	5.8	0	0	N/A	5' CURB INLET
3-1.2	SD LAT 3-1.2	0+23.26	0	100	0.90	3-1.2	10	9.8	0.04	0.35	0	**0.35**	Parking	Sag	0.011	0.02	N/A	0.037	0.5	2	13.5	13.5	0.5	0.5	19.3	SAG/LOW POINT INLET (CURB)								**<0.5**	N/A	**5**	N/A	7.0	0	0	N/A	5' CURB INLET
3-1.3a	SD LAT 3-1.3A	0+29.75	0	100	0.90	3-1.3a	10	9.8	0.06	0.53	0	**0.53**	Parking	Sag	0.011	0.022	N/A	0.092	N/A	N/A	5.4	2.2	0.5	0.2	8.1	SAG/LOW POINT INLET (DROP)								**1.9**	N/A	**8**	N/A	8.7	0	0	N/A	2'x2' DROP INLET
3-1.3	SD LAT 3-1.3	0+42.82	0	100	0.90	3-1.3	10	9.8	0.03	0.26	0	**0.26**	Parking	Sag	0.011	0.039	N/A	0.012	0.5	2	41.7	7.5	0.5	0.09	82.9	SAG/LOW POINT INLET (CURB)								**0.7**	N/A	**5**	N/A	0.5	0	0	N/A	5' CURB INLET
3-1.4	SD LAT 3-1.4	0+37.97	0	100	0.90	3-1.4	10	9.8	0.02	0.18	0	**0.18**	Parking	Sag	0.011	0.028	N/A	0.15	N/A	N/A	3.3	3.3	0.5	0.49	5.6	SAG/LOW POINT INLET (GRATE)								N/A	**13.5**	N/A	**12"x12", 76 sq.in. open area**	2.0	0	0	N/A	12"x12"-GRATE INLET w/ 0.49' depth. Accounts for 50% clog, See Note 6
3-1.4a	SD LAT 3-1.4A	0+15.59	0	100	0.90	3-1.4a	10	9.8	0.01	0.09	0	**0.09**	Parking	Sag	0.011	0.01	N/A	0.01	N/A	N/A	50.0	16.0	0.5	0.16	50.4	SAG/LOW POINT INLET (GRATE)								N/A	**11.8**	N/A	**12"x12", 76 sq.in. open area**	1.1	0	0	N/A	12"x12"-GRATE INLET w/ 0.16' depth. Accounts for 50% clog, See Note 6
3-1.5	SD LAT 3-1.5	0+61.70	0	100	0.90	3-1.5	10	9.8	0.03	0.26	0	**0.26**	Parking	Sag	0.011	0.021	N/A	0.01	0.5	2	50.0	20.0	0.5	0.2	73.0	SAG/LOW POINT INLET (CURB)								**<0.5**	N/A	**5**	N/A	1.8	0	0	N/A	5' CURB INLET
3-1.6	SD LAT 3-1.6	0+37.05	0	100	0.90	3-1.6	10	9.8	0.21	1.85	0	**1.85**	Parking	Sag	0.011	0.015	N/A	0.033	0.5	2	15.2	15.2	0.5	0.5	18.7	SAG/LOW POINT INLET (CURB)								**<0.5**	N/A	**5**	N/A	7.0	0	0	N/A	5' CURB INLET
3-2.0	SD LINE 3-2.0	0+06.11	0	100	0.90	3-2.0	10	9.8	0.45	3.97	0	**3.97**	Parking	Sag	0.011	0.015	N/A	0.06	0.5	2	8.3	8.3	0.5	0.5	10.3	SAG/LOW POINT INLET (CURB)								**1.3**	N/A	**5**	N/A	7.0	0	0	N/A	5' CURB INLET
3-3.0	SD LINE 3-3.0	0+52.13	0	100	0.90	3-3.0	10	9.8	0.29	2.56	0.08	**3.35**	Parking	Sag	0.011	0.0125	N/A	0.04	0.5	2	12.5	12.5	0.5	0.5	14.1	SAG/LOW POINT INLET (CURB)								**0.5**	N/A	**5**	N/A	7.0	0	0	N/A	5' CURB INLET, PICKS OFF OFF-SITE FLOW FROM GOLIAD, DA 3A

UTILITY CONTACTS

UTILITY	UTILITY COMPANY	CONTACT	PHONE
ELECTRIC	ONCOR	JAMES JACKSON	(972) 860-6647
WATER & WASTEWATER	CITY OF ROCKWALL	AMY WILLIAMS	(972) 771-7746
TELEPHONE/CABLE	AT&T	TYSON PATE	(903) 457-2302
GAS	ATMOS ENERGY	DINAH WOOD	(972) 485-6277
DETENTION SYSTEM	CONTECH	MARA SMITH	(817) 542-1362

INLET CALCS NOTES:

1. Drainage Area and Inlet 3-3.0 pick up runoff from Off-Site DA 3A
2. Column 16, Manning's n obtained from Table 3.4, Sheet Flow n Values from Rockwall Standards of Design & Construction, October 2016
3. Column 20, a = 0.5' from Figure 3.3
4. Column 21, W = 2.0 ft from Equation 3.18
5. Column 22, permissible spread width from Section 3.2.7.6
6. Orifice Equation: 0.5A = Q/[C(2gd)0.5]
   0.5A = 50% clogging factor
   Orifice Coefficient C = 0.67



ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN

ALL SANITARY SEWER WORK DESIGNATED AS "PRIVATE" IN THIS SET OF PLANS SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE, PERMITTED AND INSPECTED BY THE CITY BUILDING INSPECTION DEPARTMENT AND INSTALLED BY A LICENSED PLUMBER.

LAYOUT NOTES

1. INSTALL 5' CURB INLET TC = 473.14 FL 12" HDPE = 468.64
2. 12" HDPE @ 1.58%
3. INSTALL 12" 45° WYE
4. 12" HDPE @ 1.58%
5. INSTALL 12"X8" 45° WYE
6. 8" HDPE @ 35.4% (9)
7. CONNECT TO ROOF DRAINS FL 8" HDPE = 470.00
8. 12" HDPE @ 1.58%
9. INSTALL 12"X8" 45° WYE
10. 8" HDPE @ 33.3%
11. CONNECT TO ROOF DRAINS FL 8" HDPE = 470.00
12. 12" HDPE @ 1.58%
13. INSTALL 12"X12" 45° WYE
14. 12" HDPE @ 6.82%
15. INSTALL 12" 45° BEND
16. 12" HDPE @ 6.82%
17. INSTALL 5' CURB INLET TC = 473.14 FL 12" HDPE = 468.64
18. 12" HDPE @ 1.58%
19. INSTALL 12"X8" 45° WYE
20. 8" HDPE @ 44.3%
21. CONNECT TO ROOF DRAINS FL 8" HDPE = 470.00
22. INSTALL 12" 45° BEND
23. 12" HDPE @ 1.58%
24. INSTALL 12" 45° BEND
25. 12" HDPE @ 1.58%
26. INSTALL 15"X15" 45° WYE
27. 15" HDPE @ 2.0%
28. INSTALL 5' CURB INLET TC = 471.96 FL 12" HDPE = 467.46
29. 15" HDPE @ 1.58%
30. INSTALL 15"X12" 45° WYE
31. 12" HDPE @ 5.56%
32. INSTALL 12" 45° BEND
33. INSTALL 12"X6" 45° BEND
34. INSTALL 18"x18" CATCH BASIN OLD CASTLE CB-121218 OR APPROVED EQUAL TI=472.00 FL 12" HDPE=468.00
35. 6" HDPE @ 4.17%
36. INSTALL 200 GAL OLD CASTLE PRECAST OIL/WATER SEPARATOR OR EQUAL
37. INSTALL 6" 45° BEND
38. INSTALL DUMPSTER DRAIN PER P-32, SHEET P-901 TI = 472.24 FL 6" HDPE = 468.24
39. 15" HDPE @ 1.58%
40. INSTALL 15"X12" 45° WYE
41. 12" HDPE @ 3.41%
42. INSTALL 5' CURB INLET TC = 471.88 FL 12" HDPE = 467.38
43. 15" HDPE @ 1.58%
44. INSTALL 15"X12" 45° WYE
45. 12" HDPE @ 4.44%
46. INSTALL 12" 45° BEND
47. 12" HDPE @ 4.44%
48. INSTALL 5' CURB INLET TC = 471.16 FL 12" HDPE = 466.66
49. 15" HDPE @ 1.58%
50. INSTALL 15" 45° BEND
51. 15" HDPE @ 1.58%
52. INSTALL 15" 45° BEND
53. 15" HDPE @ 1.58%
54. CONNECT TO UNDERGROUND DETENTION POND & INSTALL CONCRETE COLLAR FL 15" HDPE = 464.17
55. INSTALL 5' CURB INLET TC = 470.12 FL 15" HDPE = 465.62
56. PROP. 15" HDPE @21.28%
57. CONNECT TO UNDERGROUND DETENTION POND AND INSTALL CONCRETE COLLAR FL 15" HDPE = 464.32
58. INSTALL 5' CURB INLET TC = 471.35 FL 18" HDPE = 466.85
59. 18" HDPE @ 3.99%
60. CONNECT TO UNDERGROUND DETENTION POND & INSTALL CONCRETE COLLAR FL 18" HDPE =464.77
61. INSTALL 3'X3' JUNCTION BOX JB-330 BY OLD CASTLE OR APPROVED EQUAL SEE SHEET PS-3.0 FOR LID AND OUTLET STRUCTURE DIMENSION DETAILS RIM = 470.79
62. 18" RCP @ 1.0%
63. REMOVE EXIST. OUTLET STRUCTURE AND CONNECT TO EXIST. 18" RCP INSTALL 18" 60° BEND
64. PROPOSED UNDERGROUND DETENTION POND SEE CONTECH DETAILS FOR PIPE AND BACKFILL DETAILS
65. MAINTAIN 2' VERTICAL SEPARATION AT UTILITY CROSSING
66. 8" HDPE @ 69.7%
67. CONNECT TO CANOPY DOWNSPOUT FL 8" HDPE = 472.41
68. INSTALL 8" 45° BEND
69. INSTALL 12"X8" 45° WYE
70. INSTALL 8" 45° BEND (9)
71. INSTALL 12"X8" 45° WYE FL 8" HDPE = 468.58
72. 8" HDPE @ 67.0%
73. 12" HDPE @1.0% (9)
74. 12" HDPE @ 2.0%
75. INSTALL 15"X12" 45° WYE
76. 15" HDPE @ 1.84%
77. INSTALL 2'X2' DROP INLET THROAT = 470.79 FL 8" HDPE = 467.54
78. INSTALL 18"X8" 45° WYE
79. INSTALL8" 45° BEND
80. 8" HDPE @ 5.70%
81. INSTALL 8"X8" 45° WYE
82. 8" HDPE @ 5.70%
83. INSTALL 8" 45° BEND
84. CONNECT TO CANOPY DOWNSPOUT FL 8" HDPE = 470.23
85. CONNECT TO CANOPY DOWNSPOUT FL 8" HDPE = 470.23
86. 8" HDPE @ 85.36% (9)
87. 8" HDPE @ 74.3%
88. RISER RIM = 472.22
89. RISER RIM = 470.78
90. INSTALL 12"X8" 45° WYE WITH 12" PLUG (9)

RECORD DRAWING
June 9, 2020
To the best of our knowledge Wier & Associates, Inc., states this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.

LEGEND

W	PROPOSED 12" OR SMALLER WATER MAIN
	PROPOSED GATE VALVE
	PROPOSED REDUCER
	PROPOSED WATER METER
	PROPOSED FIRE HYDRANT
SS	PROPOSED 12" OR SMALLER SANITARY SEWER
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER CLEANOUT
	PROPOSED STORM SEWER
	PROPOSED GRATE INLET
	PROPOSED STORM SEWER MANHOLE
	LIGHT POLE

CAUTION !!
EXISTING UTILITIES ARE INDICATED ON THE PLANS FROM AVAILABLE INFORMATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES, TO NOTIFY ALL UTILITY COMPANIES OF THE CONTRACTORS OPERATIONS, TO PROTECT ALL UTILITIES FROM DAMAGE, TO REPAIR ALL UTILITIES DAMAGED DUE TO THE CONTRACTORS OPERATIONS, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING UTILITIES.

DRAINAGE GENERAL NOTES

1. ALL WORK, UNLESS OTHERWISE NOTED, SHALL CONFORM TO CITY STANDARD SPECIFICATIONS.
2. THE HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING SUBSURFACE UTILITIES HAVE BEEN DETERMINED FROM DATA RECORDED BY OTHERS. CONTRACTOR SHALL VERIFY THAT NECESSARY CROSSING CLEARANCES BETWEEN EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION OF ANY SUCH CROSSING.
3. CONTRACTOR SHALL COORDINATE WITH THE OWNER, ENGINEER, OR HIS REPRESENTATIVE AND CITY REPRESENTATIVE REGARDING ANY DEVIATIONS FROM THESE PLANS.
4. CONTRACTOR SHALL MAINTAIN ONE SET OF RECORD DRAWINGS (AS BUILT) ON SITE WHICH WILL BE SUBMITTED TO THE ENGINEER UPON COMPLETION OF THIS PROJECT.
5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL PUBLIC UTILITIES IN THE CONSTRUCTION OF THIS PROJECT, ALL MANHOLES, CLEANOUTS, VALVE BOXES, FIRE HYDRANTS, SEWER LATERALS, WATER SERVICE, ETC..
6. THE CONTRACTOR SHALL SET UTILITIES TO PROPER LINE AND GRADE PRIOR TO THE PLACING OF PERMANENT PAVEMENT.
7. ALL STORM SEWER PIPE SHALL CONFORM TO CITY SPECIFICATIONS AND SHALL BE MANUFACTURED FROM ONE OF THE FOLLOWING MATERIALS:

	Diameter
a. CLASS III RCP UNLESS OTHERWISE NOTED	12"-60"
b. SDR 26 PVC (PRIVATE)	8"-15"
c. HDPE (PRIVATE)	6"-36"

8. ANY PIPE LOCATED WITHIN THE RIGHT-OF-WAY OR IN AN EASEMENT WILL BE RCP PIPE UNLESS OTHERWISE NOTED.
9. ALL STORM PIPES ARE PRIVATE EXCEPT THOSE SHOWN IN CITY & STATE R.O.W..
10. ALL RCP PIPE INSTALLATION SHALL CONFORM TO THE AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION MANUAL.
11. ALL HDPE PIPE INSTALLATION AND BEDDING SHALL CONFORM TO PIPE MANUFACTURER'S RECOMMENDATION.
12. ALL PIPE BENDS AND FITTINGS SHALL BE PREFABRICATED. COLLAR CONNECTIONS SHALL BE IN ACCORDANCE WITH THE CITY STANDARDS.
13. ALL CURB INLETS SHALL BE CONSTRUCTED PER CITY OF ROCKWALL STANDARDS.
14. ALL AREA DRAINS AND GRATE INLETS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
15. REFER TO DETAIL ON SHEET C-10.7 FOR HDPE CONNECTION TO CMP STUB.

VERTICAL DATUM NOTE:
REFERENCE DATUM = NORTH AMERICAN VERTICAL DATUM (NAD) 88 UTILIZING THE RTK NETWORK ADMINISTRATED BY WESTERN DATA SYSTEMS.

SITE BENCHMARK NO. 1 AN "X" CUT ON THE SOUTHWEST CORNER OF THE CONCRETE PAD OF A TRAFFIC SIGNAL BOX LOCATED AT THE SOUTHWEST CORNER OF N LAKESHORE DR AND N GOLIAD ST, 4'+/- SOUTHWEST OF THE SOUTHWEST CORNER OF THE TRAFFIC SIGNAL BOX, 16' +/- SOUTH OF A FIBER OPTIC PEDESTAL, AND 17' +/- WEST OF THE TRAFFIC SIGNAL POLE.

ELEVATION = 476.04'

SITE BENCHMARK NO. 2 AN "X" CUT IN CONCRETE BACK OF CURB WEST SIDE OF ACCESS DRIVE WEST OF LOT 2, LAKESHORE COMMONS, ±3' EAST OF FIRE HYDRANT AND ±12 SOUTHWEST OF SANITARY SEWER MAN HOLE.

ELEVATION = 471.87'

SITE BENCHMARK NO. 3 AN "X" CUT IN PAVERS BRICK MEDIAN OF NORTH LAKESHORE DRIVE ±45' DIRECTLY EAST OF A LIGHT POLE ±176' WEST OF INTERSECTION WITH NORTH GOLIAD STREET.

ELEVATION = 472.68'

PREPARED BY:
WIER & ASSOCIATES, INC.
ENGINEERS SURVEYORS LAND PLANNERS
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Texas Firm Registration No. F-2776 www.WierAssociates.com

5200 Buffington Rd.
Atlanta Georgia,
30349-2998

Revisions:

Mark	Date	By
3	12/17/19	RBC
ISSUED FOR CONSTRUCTION		
9	3/6/2020	
OMD CANOPY		

STATE OF TEXAS
PRIYA ACHARYA
110146
LICENSED PROFESSIONAL ENGINEER
3/24/2020

LOT 2, BLOCK A
LAKESHORE COMMONS
1979 NORTH LAKESHORE DRIVE
ROCKWALL, TEXAS
STORE# 03897

STORE
SERIES
P13-LSR

SHEET TITLE
STORM DRAIN PLAN

☐For Permit
☐For Bid
■For Construction

Job No. : 17144
Store : #03897
Date : 3/24/2020
Drawn By : RRW
Checked By: RSE

Sheet
PS-1.1

PRINTED: 3/24/2020 STB FILE: WIER-STORM DRAIN.STB LAST SAVED: 3/24/2020 11:13 AM SAVED BY: RILEYC FILE: PS-1.1 STORM DRAIN PLANS 17144.DWG