RECORD DRAWINGS (July 2013)

INFORMATION PROVIDED BY: Rogers-O'Brien Construction Company

Inlet Design Calculations

Project Name :	Methodist Pavilion One	Date:	7/8/2011
Project No. :	69306200	Designed By:	LJR
Project Description :		Checked By:	BWP

Inlet No.	Drainage Area	Design Storm Frequency	Runoff (Q=CIA) Time of Conc. T_c	Rainfall Intensity I	Runoff Coeff. C	Area A	Runoff Q	Carryover from Upstream Inlet	Total Gutter Flow	Gutter Capacity	Gutter Slope	Crown Type	Selected Inlet Length L_i	Type	Inlet Capacity	Carry Over to Downstream Inlet
		(yrs)	(min)	(in/hr)		(ac)	(cfs)	(cfs)	(cfs)	(cfs)	(%)		(ft)		(cfs)	(cfs)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
B1	DA-B1	100	10	8.74	0.90	0.01	0.08	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
B2	DA-B2	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
B3	DA-B3	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
B4	DA-B4	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
B5	DA-B5	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D1	DA-D1	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D2	DA-D2	100	10	8.74	0.90	0.03	0.24	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D3	DA-D3	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D4	DA-D4	100	10	8.74	0.90	0.02	0.16	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D5	DA-D5	100	10	8.74	0.90	0.03	0.24	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D6	DA-D6	100	10	8.74	0.90	0.03	0.24	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D7	DA-D7	100	10	8.74	0.90	0.03	0.24	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
D8	DA-D8	100	10	8.74	0.90	0.03	0.24	-	-	-	-	N/A	N/A	12" x 12" Grate Inlet	0.65	-
E1	DA-E	100	10	8.74	0.90	0.37	2.91	-	-	-	-	N/A	4'	Curb Inlet at Low Point	4.24	-
F1	DA-F	100	10	8.74	0.90	0.43	3.38	-	-	-	-	N/A	4'	Curb Inlet at Low Point	4.24	-
A-1	DA-A	100	10	8.74	0.90	0.31	2.44	-	-	-	-	N/A	6'	2 Grate Inlet	4.21	-
A-2	DA-G	100	10	8.74	0.90	0.40	3.15	-	-	-	-	N/A	6'	2 Grate Inlet	4.21	-
H-1	DA-J	100	10	8.74	0.90	1.46	11.48	-	-	-	-	N/A	8'	Curb Inlet at Low Point	17.5	-

Runoff Collection Point: Downstream Station	Upstream Station	Distance Between Collection Points "L" (ft.)	Drainage Area: Drainage Area Name	Increm. "A" (acres)	Accum. "A" (acres)	Runoff Coeff. "C"	Accum. "CA" (acres)	Intensity "I" (in/hr) 100 yr.	Stormwater Runoff: Increm. "Q" (c.f.s)	Accum. "Q" (c.f.s)	Proposed Storm Sewer: Pipe or box	Round Pipe: Diameter "d" (in.)	Rectangular Box: Width "w" (ft.)	Height "h" (ft.)	Proposed Storm Sewer Slope "S_o" (ft./ft.)	Slope of Hydraulic Gradient Based on Pipe Slop "S" (ft./ft.)	Full Flow Capacity "Q" (c.f.s.)	Q_{100} Flow Velocity "V_o" (f.p.s.)	Head Loss Coeff. K_j	Head Loss at Upstream Station $\frac{V_o^2-V_u^2}{2g}$ (ft.)	Adjusted Head Loss (ft.)	Pipe Flowline Elev. Downstream (ft.)	Pipe Flowline Elev. Upstream (ft.)	Top of Pipe Elev. Downstream (ft.)	Top of Pipe Elev. Upstream (ft.)	HGL Downstream (ft.)	HGL Upstream (ft.)
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
Storm Sewer Line A																											
3+37.23																						634.98		636.98		637.93	
	3+37.23	5.77	3'x3' Inlet	0.40	0.40	0.90	0.36	8.74	3.15	3.15	Pipe	24	-	-	0.0050	0.0002	16.00	1.00	1.25	0.02	0.10		634.98		636.98		637.83
3+31.46																						634.95		636.95		637.83	
	3+31.46	151.14	45 Degree Bend	0.00	0.40	0.90	0.36	8.74	0.00	3.15	Pipe	24	-	-	0.0050	0.0002	16.00	1.00	0.25	0.00	0.10		634.95		636.95		637.73
1+80.32																						634.20		636.20		637.70	
	1+80.32	9.09	45 Degree Bend	0.00	0.40	0.90	0.36	8.74	0.00	3.15	Pipe	24	-	-	0.0050	0.0002	16.00	1.00	0.25	0.00	0.10		634.20		636.20		637.60
1+71.23																						634.15		636.15		637.60	
	1+71.23	15.91	60 Degree Wye (Lat A-1)	0.31	0.71	0.90	0.64	8.74	2.44	5.58	Pipe	24	-	-	0.0050	0.0006	16.00	1.78	0.75	0.04	0.10		634.15		636.15		637.50
1+55.32																						634.07		636.07		637.49	
	1+55.32	31.12	45 Degree Bend	0.00	0.71	0.90	0.64	8.74	0.00	5.58	Pipe	24	-	-	0.0050	0.0006	16.00	1.78	0.25	0.01	0.10		634.07		636.07		637.39
1+24.20																						633.92		635.92		637.37	
	1+24.20	4.65	45 Degree Wye (Line B)	0.12	0.83	0.90	0.75	8.74	0.94	6.53	Pipe	24	-	-	0.0050	0.0008	16.00	2.08	0.75	0.03	0.10		633.92		635.92		637.27
1+19.55																						633.89		635.89		637.27	
	1+19.55	19.55	45 Degree Wye (Line D)	0.21	1.04	0.90	0.94	8.74	1.65	8.18	Pipe	24			0.0050	0.0013	16.00	2.60	0.75	0.05	0.10		633.89		635.89		637.17
1+00.00																						633.80		635.80		637.14	
Storm Sewer Line B																											
3+11.92																						634.98		636.48		637.98	
	3+11.92	2.25	End & Plug	0.00	0.00	0.90	0.00	8.74	0.00	0.00	Pipe	18	-	-	0.0050	0.0000	7.43	0.00	0.00	0.00	0.00		634.98		636.98		637.98
3+09.67																						634.97		636.47		637.98	
	3+09.67	37.55	45 Degree Bend -Wye (Lat B-5)	0.03	0.03	0.90	0.03	8.74	0.24	0.24	Pipe	18	-	-	0.0050	0.0000	7.43	0.13	0.45	0.00	0.10		634.97		636.97		637.88
2+72.12																						634.78		636.28		637.88	
	2+72.12	50.69	45 Degree Wye (Lat B-4)	0.03	0.06	0.90	0.05	8.74	0.24	0.47	Pipe	18	-	-	0.0050	0.0000	7.43	0.27	0.75	0.00	0.10		634.78		636.78		637.78
2+21.43																						634.52		636.02		637.78	
	2+21.43	32.01	45 Degree Wye (Lat B-3)	0.02	0.08	0.90	0.07	8.74	0.16	0.63	Pipe	18	-	-	0.0050	0.0000	7.43	0.36	0.75	0.00	0.10		634.52		636.52		637.68
1+89.42																						634.36		635.86		637.68	
	1+89.42	42.99	45 Degree Wye (Lat B-2)	0.02	0.10	0.90	0.09	8.74	0.16	0.79	Pipe	18	-	-	0.0050	0.0001	7.43	0.45	0.75	0.00	0.10		634.36		636.36		637.58
1+46.43																						634.15		635.65		637.57	
	1+46.43	32.29	45 Degree Wye (Lat B-1)	0.02	0.12	0.90	0.11	8.74	0.16	0.94	Pipe	18	-	-	0.0050	0.0001	7.43	0.53	0.75	0.00	0.10		634.15		636.15		637.47
1+14.14																						633.99		635.49		637.47	
	1+14.14	14.14	45 Degree Bend	0.00	0.12	0.90	0.11	8.74	0.00	0.94	Pipe	18	-	-	0.0050	0.0001	7.43	0.53	0.35	0.00	0.10		633.99		635.99		637.37
1+00.00																						633.92		635.42		637.37	
Storm Sewer Line C																											
1+49.13																						633.35		634.85		636.28	
	1+49.13	13.74	Detention System							3.83	Pipe	18	-	-	0.0050	0.0013	7.43	2.17	0.00	0.00	0.00		633.35		635.35		636.28
1+35.39																						633.28		634.78		636.26	
	1+35.39	21.79	Connect to Existing							3.83	Pipe	18	-	-	0.0050	0.0013	7.43	2.17	0.00	0.00	0.00		633.28		635.28		636.26
1+13.60																						633.17		634.67		636.23	
	1+13.60	13.60	30 Degree Bend							3.83	Pipe	18	-	-	0.0050	0.0013	7.43	2.17	0.25	0.02	0.10		633.17		635.17		636.13
1+00.00																						633.10		634.60		635.11	
Storm Sewer Line D																											
4+55.86																						635.67		637.17		638.40	
	4+55.86	2.99	End & Plug	0.00	0.00	0.90	0.00	8.74	0.00	0.00	Pipe	18	-	-	0.0050	0.0000	7.43	0.00	0.00	0.00	0.00		635.67		637.67		638.40
4+52.87																						635.66		637.16		638.40	
	4+52.87	50.00	45 Degree Bend- Wye (D-8)	0.03	0.03	0.90	0.03	8.74	0.24	0.24	Pipe	18	-	-	0.0050	0.0000	7.43	0.13	0.35	0.00	0.10		635.66		637.66		638.30
4+02.87																						635.41		636.91		638.30	
	4+02.87	50.00	45 Degree Wye (D-7)	0.03	0.06	0.90	0.05	8.74	0.24	0.47	Pipe	18	-	-	0.0050	0.0000	7.43	0.27	0.75	0.00	0.10		635.41		637.41		638.20
3+52.87																						635.16		636.66		638.20	
	3+52.87	50.00	45 Degree Wye (D-6)	0.03	0.09	0.90	0.08	8.74	0.24	0.71	Pipe	18	-	-	0.0050	0.0000	7.43	0.40	0.75	0.00	0.10		635.16		637.16		638.10
3+02.87																						634.91		636.41		638.10	
	3+02.87	36.51	45 Degree Wye (D-5)	0.03	0.12	0.90	0.11	8.74	0.24	0.94	Pipe	18	-	-	0.0050	0.0001	7.43	0.53	0.75	0.00	0.10		634.91		636.91		638.00
2+66.36																						634.73		636.23		638.00	
	2+65.36	4.24	45 Degree Bend	0.00	0.12	0.90	0.11	8.74	0.00	0.94	Pipe	18	-	-	0.0050	0.0001	7.43	0.53	0.35	0.00	0.10		634.73		636.73		637.90
2+62.12																						634.70		636.20		637.90	
	2+62.12	5.60	45 Degree Bend	0.00	0.12	0.90	0.11	8.74	0.00	0.94	Pipe	18	-	-	0.0050	0.0001	7.43	0.53	0.35	0.00	0.10		634.70		636.70		637.80
2+56.52																						634.68		636.18		637.80	
	2+56.52	6.40	45 Degree Wye (D-4)	0.02	0.14	0.90	0.13	8.74	0.16	1.10	Pipe	18	-	-	0.0050	0.0001	7.43	0.62	0.75	0.00	0.10		634.68		636.68		637.70
2+50.12																						634.64		636.14		637.70	
	2+50.12	50.00	45 Degree Wye (D-3)	0.02	0.16	0.90	0.14	8.74	0.16	1.26	Pipe	18	-	-	0.0050	0.0001	7.43	0.71	0.75	0.00	0.10		634.64		636.64		637.60
2+00.12																						634.39		635.89		637.59	
	2+00.12	50.00	45 Degree Wye (D-2)	0.03	0.19	0.90	0.17	8.74	0.24	1.49	Pipe	18	-	-	0.0050	0.0002	7.43	0.85	0.75	0.01	0.10		634.39		636.39		637.49
1+50.12																						634.14		635.64		637.48	
	1+50.12	13.50	45 Degree Wye (D-1)	0.02	0.21	0.90	0.19	8.74	0.16	1.65	Pipe	18	-	-	0.0050	0.0002	7.43	0.93	0.75	0.01	0.10		634.14		636.14		637.38
1+36.62																						634.08		635.58		637.37	
	1+36.62	36.62	45 Degree Bend	0.00	0.21	0.90	0.19	8.74	0.00	1.65	Pipe	18	-	-	0.0050	0.0002	7.43	0.93	0.35	0.00	0.10		634.08		636.08		637.27
1+00.00																						633.89		635.39		637.27	
Storm Sewer Line E																											
1+23.73																						632.74		634.24		635.68	
	1+23.73	23.73	Curb Inlet E1 (DA-E)	0.37	0.37	0.90	0.33	8.74	2.91	2.91	Pipe	18	-	-	0.0322	0.0008	18.86	1.65	1.25	0.05	0.10		632.74		634.74		635.58
1+00.00																						631.98		633.48		635.56	
Storm Sewer Line F																											
1+18.13																						634.00		635.50		637.26	
	1+18.13	18.13	Curb Inlet F1 (DA-F)	0.43	0.43	0.90	0.39	8.74	3.38	3.38	Pipe	18	-	-	0.0228	0.0010	15.86	1.91	1.25	0.07	0.10		634.00		636.00		637.16
1+00.00																						633.59		635.09		637.14	
Storm Sewer Line H																											
1+25.27																						637.13		638.63		640.09	
	1+25.27	25.27	Curb Inlet H-1	1.46	1.46	0.90	1.31	8.74	11.48	11.48	Pipe	18	-	-	0.0051	0.0120	7.53	6.50	1.25	0.82	0.82		637.13		639.13		639.27
1+00.00																						637.00		638.50		638.97	
Storm Sewer Line I																											
1+52.20																						636.50		638.00		638.41	
	1+52.27	52.27	Outfall Structure	2.40	2.40	0.29	0.70	8.74	6.08	6.08	Pipe	18	-	-	0.0192	0.0034	14.56	3.44	1.25	0.23	0.23		636.50		638.50		638.18
1+00.00																						635.50		637.00		638.00	

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DAVID K. KOCHALKA
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LICENSED
PROFESSIONAL ENGINEER
6/15/12

METHODIST PAVILION ONE
TOWN OF ADDISON, DALLAS COUNTY, TEXAS

STORM SEWER CALCULATIONS

Scale: AS SHOWN
Designed by: DKK
Drawn by: RK
Checked by: DKK
Date: 06/12/2012
Project No. 69306200

SHEET
C-07

IMAGES
NAMES
PLOTTED BY MULLOIN, TODD 6/12/2012 5:03 PM
LAYOUT SAVED 6/12/2012 4:59 PM
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LAST SAVED