

COMPUTATION SHEET																																						
HYDRAULIC COMPUTATIONS FOR STORM DRAINS																																						
Design Point ID	Drainage Area				Rainfall Intensity				Design Flow			Design Conduit				Friction Loss		Hydraulic Grade Line			Velocity			Minor Loss			Ground/HGL Elev				Comments							
	Upstream Location (Design Point)	Downstream Location	Distance	Drainage Area	Total Drainage Area "A"	Runoff Coefficient "C"	Incremental "CA"	Total "CA"	Design Flood	Inlet Time	Travel Time in Conduit	Time of Concentration	Rainfall Intensity "I"	Design Runoff "Q"	Inlet Bypass "Q"	Pipe Discharge "Q"	No. of Conduits	Span Box Culvert	Pipe Diameter (Culvert Rise)	Slope of Conduit	Pipe Discharge "Q"	Friction Slope (S)	Friction Loss	Upstream HGL Elevation	Downstream HGL Elevation	Design Point Elevation	Upstream Velocity (V1)	Downstream Velocity (V2)	Upstream Velocity Head (V1 ² /2g)	Downstream Velocity Head (V2 ² /2g)		Minor Loss Coefficient K	K (V1 ² /2g)	Total Minor Loss	Upstream Ground Elev (Top of Curb)	Elev Difference Ground-HGL	Upstream Pipe Flowline	Downstream Pipe Flowline
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	36	37	38	39
LINE SD-1																																						
299.42	245.51	53.91	2.55	2.55	0.90	2.30	2.30	100	10	0	10	9.80	22.49	0	22.49	1	-	27	0.0100	22.49	0.0053	0.28	539.15	538.86	539.64	0.00	5.66	0.00	0.50	0.55	0.00	0.50	543.30	3.66	533.42	532.88	CONST 6" DIA MH	
245.51	154.27	91.24	0.06	2.61	0.90	2.35	4.64	100	10	0	10	9.80	23.02	0	23.02	1	-	27	0.0100	23.02	0.0055	0.50	538.59	538.09	538.86	5.66	5.79	0.50	0.52	0.50	0.25	0.27	541.90	3.04	532.88	531.97	27"x12"x45" WYE	
154.27	139.98	14.29	0.23	2.84	0.90	2.56	7.20	100	10	0	10	9.80	25.05	0	25.05	1	-	27	0.0100	25.05	0.0065	0.09	537.73	537.64	538.09	5.79	6.30	0.52	0.62	0.50	0.26	0.36	540.90	2.81	531.97	531.82	27"x12"x45" WYE	
139.98	75.00	64.98	1.13	3.97	0.90	3.57	10.77	100	10	0	10	9.80	35.02	0	35.02	1	-	27	0.0300	35.02	0.0128	0.83	536.77	535.94	537.64	6.30	8.81	0.62	1.20	0.55	0.34	0.87	540.80	3.16	531.82	529.88	CONST 6" DIA MH	
75.00	42.88	32.12	0.00	3.97	0.90	3.57	14.35	100	10	0	10	9.80	35.02	0	35.02	1	-	27	0.0050	35.02	0.0128	0.41	534.74	534.32	535.94	8.81	8.81	1.20	1.20	0.00	0.00	1.20	539.40	3.46	529.88	529.71	PVI	
42.88	15.48	27.40	0.46	4.43	0.90	3.99	18.33	100	10	0	10	9.80	39.07	0	39.07	1	-	27	0.0050	39.07	0.0159	0.44	533.25	532.81	534.32	8.81	9.83	1.20	1.50	0.35	0.42	1.08	538.20	3.88	529.71	529.58	27"x18"x60" WYE	
15.48	0.00	15.48	0.08	4.51	0.90	4.06	22.39	100	10	0	10	9.80	39.78	0	39.78	1	-	27	0.0050	39.78	0.0165	0.26	532.01	531.75	532.81	9.83	10.01	1.50	1.55	0.50	0.75	0.80	536.80	3.99	529.58	529.50	27"x8" LATERAL	
LINE SD-2																																						
43.00	0.00	43.00	1.13	1.13	0.90	1.02	1.02	100	10	0	10	9.80	9.97	0	9.97	1	-	18	0.0447	9.97	0.0220	0.94	537.72	536.77	538.18	5.64	8.81	0.49	1.20	1.50	0.74	0.46	543.08	4.90	534.50	532.58	INLET NO. 2	
LINE SD-3																																						
48.00	0.00	48.00	2.00	2.00	0.90	1.80	1.80	100	10	0	10	9.80	17.64	0	17.64	1	-	18	0.0300	17.64	0.0091	0.43	539.58	539.15	539.58	9.98	5.66	1.55	0.50	1.50	2.32	0.00	546.08	6.50	539.10	537.66	INLET NO. 3	
LINE SD-4																																						
242.59	227.26	15.33	0.11	0.11	0.90	0.10	0.10	100	10	0	10	9.80	0.97	0	0.97	1	-	18	0.0050	0.97	0.0001	0.00	539.97	539.97	539.98	0.00	0.55	0.00	0.00	1.50	0.00	0.00	541.70	1.72	537.70	537.63	INLET NO. 5	
227.26	192.28	34.98	0.00	0.11	0.90	0.10	0.20	100	10	0	10	9.80	0.97	0	0.97	1	-	18	0.0050	0.97	0.0001	0.00	539.97	539.97	539.97	0.55	0.55	0.00	0.00	0.50	1.00	0.00	541.80	1.83	537.63	537.45	18"x45" BEND	
192.28	41.12	151.16	0.00	0.11	0.90	0.10	0.30	100	10	0	10	9.80	0.97	0	0.97	1	-	18	0.0050	0.97	0.0001	0.01	539.97	539.95	539.97	0.55	0.55	0.00	0.00	0.50	0.00	0.00	543.10	3.13	537.45	536.70	18"x45" BEND	
41.12	0.00	41.12	0.44	0.55	0.90	0.50	0.79	100	10	0	10	9.80	4.85	0	4.85	1	-	18	0.0050	4.85	0.0091	0.37	539.52	539.15	539.95	2.75	5.66	0.12	0.50	0.55	0.06	0.43	542.00	2.05	536.70	536.49	CONST 6" DIA MH	
LINE SD-5																																						
131.14	22.93	108.21	0.11	0.11	0.90	0.10	0.10	100	10	0	10	9.80	0.97	0	0.97	1	-	12	0.0166	0.97	0.0007	0.08	534.50	534.42	534.52	0.00	1.24	0.00	0.02	0.55	0.00	0.02	538.10	3.58	536.60	534.80	CONST 6" DIA MH	
22.93	0.00	22.93	0.00	0.11	0.90	0.10	0.20	100	10	0	10	9.80	0.97	0	0.97	1	-	12	0.1003	0.97	0.0487	1.12	532.87	531.75	534.42	1.24	10.01	0.02	1.55	0.00	0.00	1.55	536.30	1.88	534.80	532.50	PVI	
LATERALS																																						
SD-1B	22.72	0.00	22.72	0.46	0.46	0.90	0.41	0.41	100	10	0	10	9.80	4.06	0	4.06	1	-	18	0.0044	4.06	0.0015	0.03	534.66	533.25	534.62	2.30	9.83	0.08	1.50	1.50	0.12	1.38	538.50	3.88	530.20	530.10	INLET NO. 1
SD-4	13.86	0.00	13.86	0.44	0.44	0.90	0.40	0.40	100	10	0	10	9.80	3.88	0	3.88	1	-	18	0.2220	3.88	0.0014	0.02	539.54	539.52	539.52	2.20	2.75	0.07	0.12	1.50	0.11	0.00	541.85	2.31	537.85	534.77	INLET NO. 4

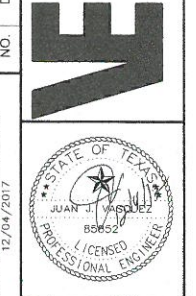
INLET CALCULATIONS (100-YR)																			
HYDRAULIC COMPUTATIONS FOR STORM DRAINS																			
Design Point ID	INLET		STORM	DRAINAGE AREA CHARACTERISTICS				FLOW					SAG INLET		INLET LENGTH				Comments
	Storm Line	Station		Type "S"=Sag "G"=On Grade	Design Flood	Runoff Coefficient "C"	Intensity "I"	Area "A"	Street "Qs"	Pipe "Qp"	Carryover Flow to Inlet "Qco"	Total Flow to Inlet "Qt"	Gutter or ROW Capacity	Weir (W) Orifice (O) Flow	Sag Depth	Inlet Bypass Flow/Carryover "Qco"	Flow Intercept by Inlet "Qi"	Inlet Flow Bypass to Design Point	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	LAT SD-1-B	0+22.72	G	100	0.90	9.80	0.46	4.06	4.06	0.00	4.06	-	W	0.50	0.00	4.06	0.00	4.19	10' CURB INLET NO. 1
2	LN SD-2	0+43.00	S	100	0.90	9.80	1.13	9.97	9.97	0.00	9.97	-	W	0.50	0.00	9.97	0.00	17.46	4'x4' Y INLET NO. 2
3	LN SD-3	0+48.00	S	100	0.90	9.80	2.00	17.64	17.64	0.00	17.64	-	W	0.50	0.00	17.64	0.00	21.83	5'x5' Y INLET NO. 3
4	LAT SD-4	0+13.86	S	100	0.90	9.80	0.44	3.88	3.88	0.00	3.88	-	W	0.50	0.00	3.88	0.00	6.99	5' CURB INLET NO. 4
5	LN SD-4	2+42.59	S	100	0.90	9.80	0.11	0.97	0.97	0.00	0.97	-	W	0.50	0.00	0.97	0.00	6.99	5' CURB INLET NO. 5

*Inlet capacities according to Figure 3.7 for Curb Inlet on grade from City of Rockwall Standards of Design and Construction
 *Inlet capacities according to Figure 3.10 for Curb Inlet in sag from City of Rockwall Standards of Design and Construction
 *Inlet capacities according to Figure 3.12 for Y Inlet from City of Rockwall Standards of Design and Construction

RELEASED FOR CONSTRUCTION
 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.

7-9-18

NO. DATE APP.
 VASQUEZ ENGINEERING, L.L.C.
 1919 S. Shiloh Road
 Suite 440, LB 44
 Garland, Texas 75042
 Ph: 972-278-2948
 TX Registration # F-12286



DEVELOPER:
 JAGH HOSPITALITY
 996 East I-30
 Rockwall, TX 75087

STORM SEWER CALCULATIONS
 LOT 1, BLOCK A
 BW PLUS EXECUTIVE RESIDENCY
 ROCKWALL, TEXAS

Scale: 1" = 20'
 Drawn by: JUV
 Checked by: JUV
 Date: 12/04/2017