

PROJECT NAME : SYSTEM J
JOB NUMBER :
PROJECT DESCRIPTION :
DESIGN FREQUENCY : 100 Years
MEASUREMENT UNITS: ENGLISH

OUTPUT FOR DESIGN FREQUENCY of: 100 Years
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Runoff Computation for Design Frequency.

ID	C Value	Area (acre)	Tc (min)	Tc Used (min)	Intensity (in/hr)	Supply Q (cfs)	Total Q (cfs)
J-1	0.9	0.67	10.00	10.00	9.80	0.000	5.901
J-2	0.812	0.32	10.00	10.00	9.80	0.000	2.584
	0.9	0.27	Pavement				
	0.35	0.05	Undeveloped				
J-8	0.748	0.38	10.00	10.00	9.80	0.000	2.792
	0.9	0.28	Pavement				
	0.35	0.11	Undeveloped				
J-7	0.748	1.06	10.00	10.00	9.80	0.000	7.751
	0.9	0.76	Pavement				
	0.35	0.29	Undeveloped				
J-3	0.9	0.70	10.00	10.00	9.80	0.000	6.175
J-4	0.9	0.28	10.00	10.00	9.80	0.000	2.455
J-5	0.9	0.76	10.00	10.00	9.80	0.000	6.746
J-6	0.9	0.28	10.00	10.00	9.80	0.000	2.430

On Grade Inlets Computation Data.

Inlet ID	Inlet Type	Total Q (cfs)	Intercept Capacity (cfs)	Q Bypass Allow (cfs)	Actual (cfs)	To Inlet ID	Required Length (ft)	Actual Length (ft)	Ponded Width (ft)
J-1	Curb	5.901	5.866	0.000	0.035	J-2	15.92	15.00	14.60
J-8	Curb	4.471	4.471	0.000	0.000	J-2	14.75	15.00	12.30
J-7	Curb	7.751	6.072	0.000	1.679	J-8	26.20	15.00	12.15
J-3	Curb	6.175	6.106	0.000	0.069	J-4	16.34	15.00	14.85
J-5	Curb	6.746	5.557	0.000	1.190	J-6	24.25	15.00	11.55
J-6	Curb	3.620	3.620	0.000	0.000	J-4	13.09	15.00	11.35

Sag Inlets Computation Data.

Inlet ID	Inlet Type	Length (ft)	Grate Perim (ft)	Area (sf)	Total Q (cfs)	Inlet Capacity (cfs)	Total Head (ft)	Ponded Left (ft)	Right (ft)	Width (ft)
J-2	Curb	15.00	n/a	n/a	2.619	11.503	0.155	13.70	10.50	
J-4	Curb	15.00	n/a	n/a	2.524	11.503	0.152	13.50	10.35	

Cumulative Junction Discharge Computations

Node I.D.	Node Type	Weighted C-Value	Cumulat. Dr. Area (acres)	Cumulat. Tc (min)	Intens. (in/hr)	User Supply Q (cfs)	Additional Q In Node (cfs)	Total Disch. (cfs)
J-1	Curb	0.798	2.43	11.31	9.58	0.000	0.00	18.594
J-2	Curb	0.759	1.76	10.85	9.66	0.000	0.00	12.933
J-8	Curb	0.748	1.44	10.39	9.73	0.000	0.00	10.473
J-7	Curb	0.748	1.06	10.00	9.80	0.000	0.00	7.754
J-3	Curb	0.900	2.02	11.36	9.57	0.000	0.00	17.387
J-4	Curb	0.900	1.32	10.86	9.65	0.000	0.00	11.457
J-5	Curb	0.900	0.76	10.00	9.80	0.000	0.00	6.749
J-6	Curb	0.900	1.04	10.41	9.73	0.000	0.00	9.112
JBND1	Junct	0.798	2.43	11.31	9.58	0.000	0.00	18.594
J-J1	Junct	0.844	4.45	11.56	9.53	0.000	0.00	35.838
OUT	Outlet	0.844	4.45	11.56	9.53	0.000	0.00	35.838

Conveyance Configuration Data

Run#	Node I.D.	Flowline US	Elev. DS (ft)	Shape #	Span (ft)	Rise (ft)	Length (ft)	Slope (%)	n-value	
1	J-7	J-8	501.42	497.37	Circ I	0.00	1.50	200.00	2.03	0.013
2	J-8	J-2	496.87	496.72	Circ I	0.00	2.00	91.74	0.16	0.013
3	J-2	J-1	496.22	496.04	Circ I	0.00	2.50	104.97	0.17	0.013
4	J-1	JBND1	496.04	495.97	Circ I	0.00	2.50	39.52	0.18	0.013
5	JBND1	J-J1	495.97	495.94	Circ I	0.00	2.50	16.53	0.17	0.013
6	J-J1	OUT	495.44	495.10	Circ I	0.00	3.00	203.61	0.17	0.013
7	J-5	J-6	501.42	497.42	Circ I	0.00	1.50	200.00	2.00	0.013
8	J-6	J-4	496.92	496.76	Circ I	0.00	2.00	91.74	0.17	0.013
9	J-4	J-3	496.26	496.07	Circ I	0.00	2.50	111.58	0.17	0.013
10	J-3	J-J1	496.07	495.69	Circ I	0.00	2.50	76.00	0.50	0.013

Conveyance Hydraulic Computations. Tailwater = 498.900 (ft)

Run#	US Elev (ft)	DS Elev (ft)	Fr. Slope (%)	Unif. Depth (ft)	Actual Depth (ft)	Unif. Velocity (f/s)	Actual Velocity (f/s)	Q (cfs)	Cap (cfs)	Junc Loss (ft)
1*	502.87	500.42	0.545	0.77	1.50	8.54	4.39	7.75	14.95	0.374
2	500.42	500.20	0.214	2.00	2.00	3.33	3.33	10.47	9.15	0.023
3	500.20	500.08	0.099	1.64	2.50	3.79	2.63	12.93	16.99	0.021
4	500.08	499.83	0.205	2.19	2.50	4.08	3.79	18.59	17.40	0.169
5	499.83	499.72	0.205	2.34	2.50	3.89	3.79	18.59	17.14	0.078
6	499.72	498.90	0.289	3.00	3.00	5.07	5.07	35.84	27.42	0.230
7*	502.71	500.28	0.413	0.71	1.50	8.21	3.82	6.75	14.86	0.283
8	500.28	500.11	0.162	1.63	2.00	3.33	2.90	9.11	9.45	0.017
9	500.11	500.01	0.078	1.48	2.50	3.77	2.33	11.46	16.93	0.019
10*	500.01	499.72	0.180	1.39	2.50	6.22	3.54	17.39	29.01	0.152

* Super critical flow.

NORMAL TERMINATION OF WINSTORM.

COMPUTATION SHEETS


- THIS OUTPUT FILE SHOWS RESULTS FOR ROCKWALL'S 100-YR DISCHARGE CONDITIONS FOR ENTIRE SYSTEM; HOWEVER, INLETS ARE SIZED AND PLACED BASED ON 25-YR CRITERIA, AND PIPES ARE DESIGNED BASED ON 100-YR CRITERIA.
- ALL COMPUTATIONS ARE BASED ON EXISTING WATERSHED CONDITIONS
- JUNCTION LOSSES WERE DETERMINED BASED ON CITY OF ROCKWALL "VELOCITY HEAD LOSS COEFFICIENTS FOR CLOSED CONDUITS"

RECORD DRAWING

This drawing is a compilation of the original sealed engineering drawing and modifications by addenda, change orders and information furnished by the contractor. Information shown that was provided by the contractor and others not associated with the design engineer cannot be verified for accuracy or completeness. Original sealed drawing is on file at the office of AECOM USA Group, Inc., TBPE REG. NO. F-3082

ORIGINAL DRAWING SEALED & SIGNED BY

Matthew L. Abbe, P.E.
TX NO. 92715

NO.	REVISION	BY	DATE
 City of Rockwall, Texas			
205 BYPASS PHASE 6			
HYDRAULIC DATA STORM SYSTEM J - 100 YR FLOWS			
4 OF 10			
TCB AECOM <small>TCB INC. WWW.TCB.AECOM.COM 17300 DALLAS PARKWAY, SUITE 1010 DALLAS, TEXAS 75248</small>			
Unit	PW-DAL-FW	Scales	Horz: AS SHOWN Vert: AS SHOWN
Designed	RI	Checked	TCB
Drawn	FG	Approved	TCB
Date	11/24/2009	Project No.	60004153
Sheet	71	of	216