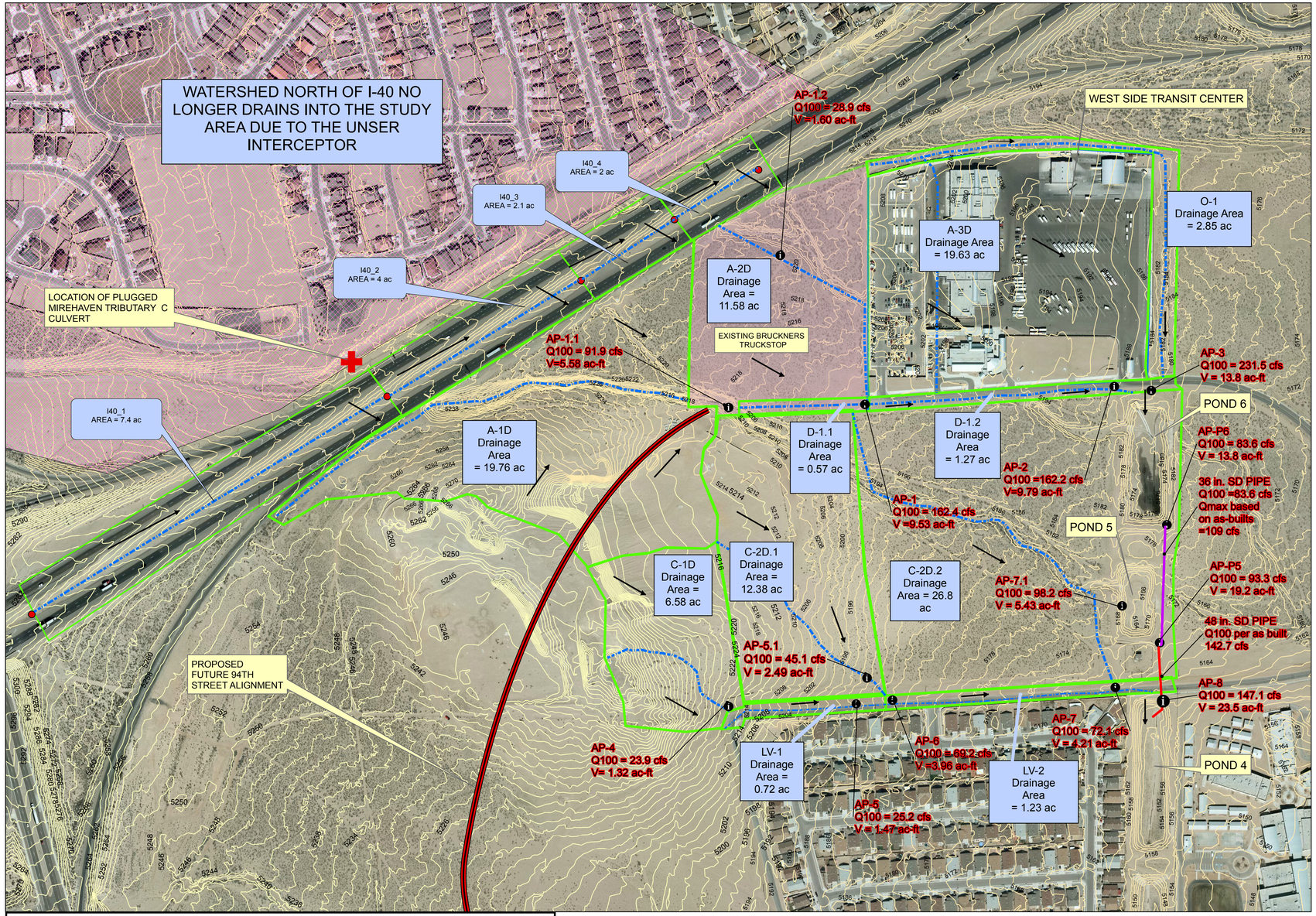

DEVEX - Option 1 Summary of Input and Output Parameters

Sub-basin	Area	Weighted Curve Number	Percent of Hydrologic Soil Group				% Impervious	Tc	Q100	cfs/acre	V100
	(acres)		A	B	C	D	%	(mins)	(cfs)		(ac-ft)
A-1D	19.8	90	58	42	0	0	90	12	72.20	3.65	3.99
A-2D	11.6	90	53	47	0	0	90	12	42.30	3.65	2.34
A-3D	19.6	89	28	72	0	0	90	12	71.40	3.64	3.95
C-1D	6.6	89	100	0	0	0	90	12	24.00	3.65	1.33
C-2D.1	12.4	90	86	14	0	0	90	12	45.10	3.64	2.50
C-2D.2	26.8	91	58	42	0	0	90	12	98.20	3.66	5.43
D-1.1	0.6	87	37	63	0	0	90	12	2.10	3.78	0.120
D-1.2	1.3	87	37	63	0	0	90	12	4.62	3.64	0.256
LV-1	0.7	87	32	68	0	0	90	12	2.60	3.61	0.15
LV-2	1.2	87	32	68	0	0	90	12	4.42	3.61	0.25
O-1	2.9	66	72	27	0	0	0	16	1.00	0.35	0.08
I40_1	7.4	89	0	100	0	0	90	18	21.90	2.97	1.49
I40_2	4.0	89	0	100	0	0	90	12	14.40	3.64	0.80
I40_3	2.1	89	0	100	0	0	90	12	7.55	3.64	0.42
I40_4	2.0	83	100	0	0	0	90	12	7.03	3.56	0.39

Summary of Pond Routings

Pond	Model Description	Design Volume	100 Yr-24 Hr Peak Storage Volume	100 Yr-24 Hr Inflow Volume	100 Yr-24 Hr Outflow Volume	100 Yr-24 Hr Inflow	100 Yr-24 Hr Outflow	Elevation of Emergency Spillway	100 Yr-24 Hr Peak Water Surface Elevation	Freeboard from Emergency Spillway	Available Storage	Comments
		ac-ft	ac-ft	ac-ft	cfs	cfs	cfs	ft	ft	ft	ac-ft	
		a						a		b		
Pond 4	DEVEX 2 Conditions Modeled with most current data using HEC-HMS	8.51	6.07	23.5	23.5	215.9	106.9	5155.1	5154.2	0.9	2.44	Watershed modeled as fully developed commercial/business site at 90% impervious, using latest NOAA 14 100-Yr-24Hr rainfall depth of 2.52 in. Basin C-2D.2 drains to Pond 5 with existing outfall structure
Pond 5	"	4.73	1.59	5.4	5.4	98.2	78.4	5168.8	5164.86	3.9	3.14	
Pond 6	"	9.01	6.90	13.8	13.8	231.4	83.1	5177.9	5177.5	0.4	2.11	
Pond 4	DEVEX Option 1	8.51	4.93	23.5	23.5	147.1	96.4	5155.1	5153.33	1.8	3.58	Watershed modeled as fully developed commercial/business site at 90% impervious, using latest NOAA 14 100-Yr-24Hr rainfall depth of 2.52 in. Basin C-2D.2 drains to Pond 5 with modified outfall restricting discharge using a 12" outlet pipe as principal spillway
Pond 5	DEVEX Option 1	4.73	3.14	5.43	5.4	98.2	10.5	5168.8	5167.66	1.1	1.59	
Pond 6	DEVEX Option 1	9.01	6.90	13.8	13.8	231.4	83.1	5177.9	5177.5	0.4	2.11	

a- All values reported on this table are taken directly from The Master Drainage Plan for the West Side Transit Facility
100 Yr 24 Hr rainfall depth based on lates NOAA Atlas 14 data
b - Freeboard = Elevation of Emergency Spillway - Peak Water Surface Elevation

DEVEX CONDITIONS HEC-HMS INPUT PARAMETERS

General Subbasin Data				Time of Concentration (Tc) Data																Lag Time Results		Tc and tp Results				
				Upper Reach or Entire Reach (0 to 400-ft length)										Middle Reach (400 to1600-ft length)												
Sub-basin	Sub-basin Area	Sub-basin Area	Number of Reaches	L Length of Longest Water-course	Lca Centroid Length	Sc Composite Slope	Kc Composite K	Top Elevation at beginning of water course	Bottom Elevation	Length (L_U)	Slope (S_U)	K_{UC}	K_T	V_T	Elevation at lower end of water course	Length (L_U)	Slope (S_U)	K_{MC}	K_T	V_T	Lag Time	Lag Time	Actual Tc	Final Tc	Tp	Composite CN	Sub-basin
	acres	sq mi		ft	ft	ft/ft		ft	ft	ft	ft/ft			ft/sec	ft	ft	ft/ft			ft/sec	ft	ft	hours	hours	hours		
a	acres	a		a	a	i	j	a	a	a	d	b	e		a	a	d	b	e		(k)	(minutes)	f	g	h		a
A-1D	19.758	0.0309	2	1,442	NA	0.0292	1.4457	5258	5252	400	0.0150		1.0	1.22	5210	1,242	0.0338						0.18	0.30	0.13	90	A-1D
A-2D	11.581	0.0181	2	986	NA	0.0144	1.2671	5221.19	5210	400	0.0280		1.0	1.67	5207	586	0.0051				2.0	1.43	0.15	9	0.18	0.30	0.13	90	A-2D
A-3D	19.628	0.0307	2	878	NA	0.0207	1.4012	5203.2	5193	400	0.0255		1.0	1.60	5185	478	0.0167				2.0	2.59	0.15	9	0.12	0.20	0.13	89	A-3D
C-1D	6.581	0.0103	2	832	NA	0.0433	0.9790	5256	5250	400	0.0150		1.0	1.22	5220	432	0.0694				2.0	5.27	0.15	9	0.11	0.20	0.13	89	C-1D
C-2D.1	12.376	0.0193	2	1,261	NA	0.0222	1.4201	5216	5210	400	0.0150		1.0	1.22	5188	861	0.0256				2.0	3.20	0.15	9	0.17	0.20	0.13	90	C-2D.1
C-2D.2	26.803	0.0419	2	1,544	NA	0.0233	1.6145	5206	5192	400	0.0350		1.0	1.87	5170	1,144	0.0192				2.0	2.77	0.15	9	0.17	0.30	0.13	91	C-2D.2
D-1.1	0.556	0.0009	2	460	NA	0.0130	1.0571	5212	5207	400	0.0125		1.0	1.12	5206	60	0.0167				2.0	2.58	0.15	9	0.11	0.20	0.13	87	D-1.1
D-1.2	1.268	0.0020	2	953	NA	0.0210	1.3981	5206	5198	400	0.0200		1.0	1.41	5186	553	0.0217				2.0	2.95	0.15	9	0.13	0.20	0.13	87	D-1.2
LV-1	0.721	0.0011	2	607	NA	0.0478	1.2222	5217	5196	400	0.0525		1.0	2.29	5188	207	0.0386				2.0	3.93	0.15	9	0.06	0.20	0.13	87	LV-1
LV-2	1.225	0.0019	2	967	NA	0.0248	1.4428	5188	5175	400	0.0325		1.0	1.80	5164	567	0.0194				2.0	2.79	0.15	9	0.12	0.20	0.13	87	LV-2
O-1	2.852	0.0045	2	1,870	NA	0.0171	1.4742	5214	5200	400	0.0350		0.7	1.31	5182	1,470	0.0122				2.0	2.21	0.20	12	0.27	0.27	0.18	66	O-1
I40_1	7.3624	0.0115	2	1,479	NA	0.0176	1.0249	5276	5273.5	400	0.0063		0.7	0.55	5250	1079	0.0218				2.0	3.0	0.23	14	0.30	0.30	0.20	89	I40_1
I40_2	3.959	0.0062	2	806	NA	0.0199	1.0426	5250	5242	400	0.0200		0.7	0.99	5234	406	0.0197				2.0	3	0.15	9	0.15	0.20	0.13	89	I40_2
I40_3	2.0761	0.0032	2	409	NA	0.0171	0.6681	5234	5228	400	0.0150		0.7	0.86	5227	9	0.1111				2.0	7	0.15	9	0.13	0.20	0.13	89	I40_3
I40_4	1.9764	0.0031	1	341	NA	0.0176	0.7000	5227	5221	341	0.0176		0.7	0.93	5221	1	0.0000				2.0	0	0.15	9	0.10	0.30	0.13	83	I40_4

(a) All measurements were obtained from the Drainage Basin Maps, based on Lidar contour mapping dated 2010.
(b) Obtained from Table F-5 in the DPM, pg. 22-64.
(d) Obtained from Table F-6 in the DPM , pg. 22-64.
(e) V= 10*K^0.5 - determined from V=K * (S^100)^0.5
(f) See DPM, pages 22-63 through 22-65 for following formulas :
If L < 4000 ft, then
Tc= (L1/V1 + L2/V2 + L3/V3)3600 sec/hour
If L is between 4,000 ft and 12,000 ft, then
Tc= (12,000-L) / (72,000*K^0.5) + ((L-4000)*Kn^(Lca/L)^0.33 / (552.2*v^0.165)) (ignore upper reach K - it is insignificant for long lengths and assume middle reach K for this equation)
If L > 12000 ft, then
Tc= (4/3)*26*Kn^((L*Lca)/(5280^2))*(5280/(v^0.5))^0.33)
(g) Tc< if Tc is computed to be less than 0.2 hours, then use 0.2 hours DPM pg. 22-37
(h) Tp= (2/3)*Tc per DPM pg. 22-36
(i) Sc= (L1*S1+L2*S2+L3*S3)/L per DPM pg. 22-65
(j) Kc= (L/S^0.5) / (L1/K1*S1^0.5) + L2/(K2*S2^0.5) + L3/(K3*S3^0.5)) per DPM pg. 22-65

LEGEND

- SUBBASIN BOUNDARY
- LONGEST FLOWPATH FOR Tc
- A-2D — SUBBASIN ID
- AP-1 — ANALYSIS POINT
- FLOW DIRECTION
- I40 MEDIAN DROP INLETS

N

0 50 100 200 Feet

EX POND 6 RATING CURVE

Elevation	Storage	Disharge
ft.	ac-ft.	cfs
5170	0	0
5171	0.14	4
5172	0.83	6.2
5173	1.77	7.9
5174	2.79	9.2
5175	3.87	10.4
5176	5.04	11.5
5177	6.27	79.5
5178	7.46	86.1
5179	9.01	93.2

DATA FROM MASTER DRAINAGE PLAN FOR THE WEST SIDE TRANSIT FACILITY

EX POND 4 RATING CURVE

Elevation	Storage	Disharge
ft.	ac-ft.	cfs
5147	0	0
5148	0.08	0
5149	0.51	3
5150	1.3	5.7
5151	2.29	7.5
5151.9	3.26	8.7
5152	3.37	11.7
5152.5	3.94	50.6
5153	4.52	92.5
5154	5.76	104.3
5155	7.18	115.9
5156	8.51	124.6

DATA FROM MASTER DRAINAGE PLAN FOR THE WEST SIDE TRANSIT FACILITY

EX POND 5 RATING CURVE

Elevation	Storage	Disharge
ft.	ac-ft.	cfs
5160	0	0
5161	0.02	4
5162	0.37	6.5
5163	0.76	8.2
5164	1.19	9.7
5164.5	1.42	41.6
5165	1.66	93
5165.5	1.89	106.3
5166	2.12	116.7
5167	2.74	132.6
5168	3.35	146.8
5168.8	3.87	157.2
5169	4.01	160
5170	4.73	172

DATA FROM MASTER DRAINAGE PLANE FOR THE WEST SIDE TRANSIT FACILITY

DEVEX Option 1 POND 5 RATING CURVE WITH 12 IN. ORIFICE

Elevation	Storage	Discharge
ft.	ac-ft.	cfs
a	a	b
5160	0	0.0
5161	0.02	3.8
5162	0.37	5.3
5163	0.76	6.5
5164	1.19	7.6
5164.5	1.42	8.0
5165	1.66	8.5
5165.5	1.89	8.9
5166	2.12	9.3
5167	2.74	10.0
5168	3.35	10.7
5168.8	3.87	11.2
5169	4.01	11.3
5170	4.73	12.0

a- DATA FROM MASTER DRAINAGE PLAN FOR THE WEST SIDE TRANSIT FACILITY
b- DISCHARGE BASED ON ORIFICE EQN. SEE APPENDIX B.4 FOR COMPUTATION

EASTERLING CONSULTANTS

I-40 SOUTH AND UNSER DIVERSION MINI DMP
PLATE 2

FINAL DEVELOPED CONDITIONS DRAINAGE BASIN MAP
JULY, 2014

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