

6: C:\CIVIL\PAW-Webb\DRNG\NOTEPAW.DWG Tue Jul 18 14:17:52 2000

DRAINAGE ANALYSIS SUMMARY PAWNEE ROAD IMPROVEMENTS: OAK KNOLL TO WEBB ROAD																			FHWA REG NO.	STATE	PROJECT NO.	YEAR	SHEET NO	TOTAL SHEETS
Area ID**	Classification	Area ac	Accum. Area ac	C5	C100	Flow Length	Flow Slope	Tc5 Calc	Tc100 Calc	Tc5 min	Tc100 min	I5 in/hr	I100 in/hr	Q5 cfs	Q100 cfs	Inlet Size ft	Pipe Size mm	Min Slope %						
7	KANSAS																		STP-N012(901)	1999	98	131		
W: Drainage to West Box																								
W0:	South ROW to E. End W2	0.41		0.69	0.80	360.00	0.00556	17.03	12.46	17	15	4.31	7.37	1.23	2.44	5.00			Inlet @ W1 + W2					
W1:	S. of Oak Knoll	Light Industrial	8.66	0.69	0.80	1250.00	0.00960	26.45	19.35	26	19	3.50	6.68	20.91	46.28	End Sect.	600	0.80%	End Section Intake @ Ditch Invert					
W2:	Apartments/Vacant Land	1/4 ac SF "D"	7.88	0.54	0.76	1066.00	0.00938	33.62	20.41	34	20	3.05	6.53	12.98	39.11	Local			Apartment Local System w/~10 Area Inlets					
W1 + W2			16.541	0.62	0.78	1450.00	0.00966	33.39	22.13	33	22	3.05	6.26	31.20	80.86		900	0.60%	Pipe under Capri					
W3:	Capri St. Area	1/4 ac SF "D"	4.31	0.54	0.76	820.00	0.00976	29.10	17.67	29	18	3.30	7.00	7.67	22.91	Local	600	0.60%	1 - 5 ft inlet Each Side (Exist) Replace Capri System discharge					
W1 thru W3			20.847	0.60	0.78	1500.00	0.01000	34.70	22.54	35	23	3.01	6.26	37.79	101.35		900	0.50%	Match Crown of Capri System Pipe					
W4:	Pawnee S. ROW	ROW	0.68	0.69	0.80	260.00	0.01000	11.90	8.71	15	15	4.56	7.37	2.13	3.99	5			N. End Dalton in Sump - Intercept intervening flow					
W1 thru W4			21.524	0.61	0.78	1750.00	0.00971	37.63	24.53	38	25	2.88	6.01	37.51	100.56		900	0.50%	Match Crown of Dalton System					
W5:	Oak Knoll Area	1/4 ac SF "D"	16.58	0.54	0.76	1900.00	0.01000	43.94	26.68	44	27	2.64	5.79	23.63	72.94	Local			N. End Dalton in Sump					
W1 thru W5			38.101	0.58	0.77	1900.00	0.01000	41.05	25.91	41	26	2.72	5.90	59.77	173.05		1050	0.20%	Match Invert of Dalton System					
W6:	Back Yards Dalton-Linden	1/4 ac SF "D"	4.05	0.54	0.76	1170.00	0.00940	35.20	21.37	35	21	2.98	6.39	6.52	19.68		DITCH		Special grading to ditch inlet in sump use 53 x 34= 0.95m					
W7:	Towne Parc Area	1/4 ac SF "D"	14.56	0.54	0.76	2000.00	0.01000	45.08	27.37	45	27	2.57	5.69	20.21	62.97	Local			Towne Parc System (Existing)					
W8:	South Right of Way	ROW	1.03	0.69	0.80	450.00	0.01000	15.66	11.46	16	15	4.56	7.37	3.23	6.04	5			Sump @ 7 x 4 Box US end					
W6 thru W8			19.639	0.55	0.76	2000.00	0.01000	44.45	27.20	44	27	2.61	5.69	28.08	85.16									
W1 thru W8			57.740	0.57	0.77	2000.00	0.01000	42.91	26.79	43	27	2.68	5.79	87.73	256.48		7 x 4 RCB	0.50%	100-year design					
W9:	North Right of Way	ROW	1.44	0.69	0.80	820.00	0.00976	21.31	15.59	21	16	3.90	7.37	3.88	8.51	5	450	0.30%						
A: Webb Rd. S. of Pawnee N. to Co. Yard Drive																								
A1Ea:	Co Yd Dr. S. to Pawnee	Light Industrial	3.27	0.69	0.80	650.00	0.00615	22.12	16.19	22	16	3.81	7.18	8.61	18.80	5			Back of inlet open					
A1Eb:	E Right of Way	ROW	1.01	0.69	0.80	200.00	0.00500	13.15	9.62	15	15	4.56	7.37	3.18	5.97	5			In sump along accel lane					
A1E			4.286	0.69	0.80	650.00	0.00615	22.12	16.19	22	16	3.81	7.18	11.27	24.62		600	0.40%	5-year to Pawnee E box: excess east of Webb to Spring Creek					
A1W:	Co Yd Dr. S. to Pawnee	ROW	1.25	0.69	0.80	200.00	0.00500	13.15	9.62	15	15	4.56	7.37	3.92	7.35	5			In sump along accel lane					
A1 Total			5.532	0.69	0.80	650.00	0.00615	22.12	16.19	22	16	3.81	7.18	14.54	31.78		750	0.40%	To Pawnee E System					
A2E:	Webb S. of Pawnee East	ROW	0.58	0.69	0.80	540.00	0.00444	22.47	16.44	22	16	3.81	7.18	1.51	3.31	5	450	0.30%	Sump					
A2W:	Webb S. of Pawnee West	ROW	1.08	0.69	0.80	540.00	0.00444	22.47	16.44	22	16	3.81	7.18	2.83	6.18	5			Sump					
A2			1.653	0.69	0.80	650.00	0.00462	24.35	17.81	24	18	3.65	7.00	4.16	9.26		450	0.30%						
A			7.185	0.69	0.80	650.00	0.00615	22.12	16.19	22	16	3.81	7.18	18.89	41.27		750	0.30%						
E: Drainage to East Box																								
E1:	North Right of Way	ROW	0.47	0.69	0.80	360.00	0.00833	14.88	10.89	15	15	4.56	7.37	1.48	2.78	5	450	0.40%						
E2a:	Vacant Parcel	Commercial	3.94	0.69	0.80	700.00	0.01000	19.53	14.29	20	15	4.10	7.37	11.15	23.25	End Sect	600	0.50%	Grade ROW to drain					
E2b:	South Right of Way	ROW	0.47	0.69	0.80	360.00	0.00833	14.88	10.89	15	15	4.56	7.37	1.48	2.78	5								
E2			4.414	0.69	0.80	700.00	0.01000	19.53	14.29	20	15	4.10	7.37	12.49	26.03		750	0.40%	Pipe under Cypress					
E1 + E2			4.886	0.69	0.80	700.00	0.01000	19.53	14.29	20	15	4.10	7.37	13.82	28.81									
A + E1- E2			12.071	0.69	0.80	1300.00	0.01000	26.61	19.47	27	19	3.50	6.68	29.15	64.51		750	0.70%						
E3:	South Right of Way @ Laurel	ROW	0.26	0.69	0.80	200.00	0.01000	10.44	7.64	15	15	4.56	7.37	0.81	1.52	5			VG assumed					
E4:	Laurel S. of Pawnee	1/4 ac SF "D"	1.57	0.54	0.76	310.00	0.00968	17.94	10.89	18	15	4.31	7.37	3.66	8.81	Local			Local system on Laurel					
E3 - E4			1.831	0.56	0.77	310.00	0.00968	17.26	10.71	17	15	4.31	7.37	4.43	10.33									
A + E1- E4			13.901	0.67	0.80	1500.00	0.01000	29.77	21.23	30	21	3.30	6.39	30.88	70.66		750	0.70%						
E5Sa:	Reserve Laurel to Cooper	1/4 ac SF "D"	2.39	0.54	0.76	520.00	0.00769	25.09	15.23	25	15	3.57	7.37	4.61	13.39	Local	600	0.10%	Reserve Area Discharge thru 600mm CMP. Construct MH, Connect to System					
A + E1- E4 + E5Sa			16.293	0.65	0.79	1500.00	0.01000	31.13	21.59	31	22	3.19	6.39	33.97	82.28		750	0.70%						
E5Sb:	South Right of Way	ROW	0.54	0.69	0.80	280.00	0.01071	12.07	8.83	15	15	4.56	7.37	1.71	3.21	5								
E5N:	North Right of Way	ROW	0.51	0.69	0.80	440.00	0.00909	15.98	11.69	16	15	4.56	7.37	1.62	3.03	5	450	0.20%						
E5 ROW			1.059	0.69	0.80	440.00	0.00909	15.98	11.69	16	15	4.56	7.37	3.33	6.24									
A + E1- E5			17.351	0.66	0.79	1940.00	0.00979	35.47	24.68	35	25	2.98	6.01	33.91	82.47		750	0.70%						
E6:	Southeast Turtle Run	1/4 ac SF "D"	38.42	0.54	0.76	2130.00	0.01080	45.35	27.53	45	28	2.57	5.69	53.32	166.14	Local			Possible problem area. Use existing local system					
A + E1- E6			55.771	0.58	0.77	2130.00	0.01080	42.43	26.75	42	27	2.68	5.79	86.09	248.51		1050	1.56%						
E7:	Cypress	1/4 ac SF "D"	2.67	0.54	0.76	230.00	0.01000	15.29	9.28	15	15	4.56	7.37	6.58	14.96				Interior area to box Culvert (2.44 x 1.52)					
E8:	Southeast Towne Parc	1/4 ac SF "D"	31.58	0.54	0.76	2130.00	0.01080	45.35	27.53	45	28	2.57	5.69	43.82	136.54				Interior area to box Culvert (2.44 x 1.52)					
E7 - E8			34.246	0.54	0.76	2130.00	0.01080	45.35	27.53	45	28	2.57	5.69	47.53	148.09				Interior area to box Culvert (2.44 x 1.52)					
A + E1- E8			90.017	0.56	0.77	2130.00	0.01080	43.54	27.05	44	27	2.64	5.69	133.63	392.32				Partial flow to RCB					
E9:	South Right of Way	ROW	1.15	0.69	0.80	460.00	0.01000	15.83	11.58	16	15	4.56	7.37	3.62	6.78	5								
E10:	South Right of Way	ROW	0.71	0.69	0.80	270.00	0.01111	11.71	8.57	15	15	4.56	7.37	2.24	4.20	5								
E9 - E10			1.864	0.69	0.80	740.00	0.01081	19.56	14.31	20	15	4.10	7.37	5.27	10.99									
E11:	North Right of Way	ROW	0.85	0.69	0.80	740.00	0.01081	19.56	14.31	20	15	4.10	7.37	2.41	5.03	5	450	0.15%						
E9 - E11			2.717	0.69	0.80	740.00	0.01081	19.56	14.31	20	15	4.10	7.37	7.69	16.02		750	0.20%	To west side Cypress					
E12:	Portion of Towne Parc	1/4 ac SF "D"	10.55	0.54	0.76	1260.00	0.01032	35.41	21.50	35	21	2.98	6.39	16.97	51.22									
E9 - E12			13.264	0.57	0.77	1260.00	0.01032	33.47	20.98	33	21	3.05	6.53	23.09	66.54		750	0.80%	To east side Cypress					
A + E1- E12			103.281	0.56	0.77	2130.00	0.01080																	