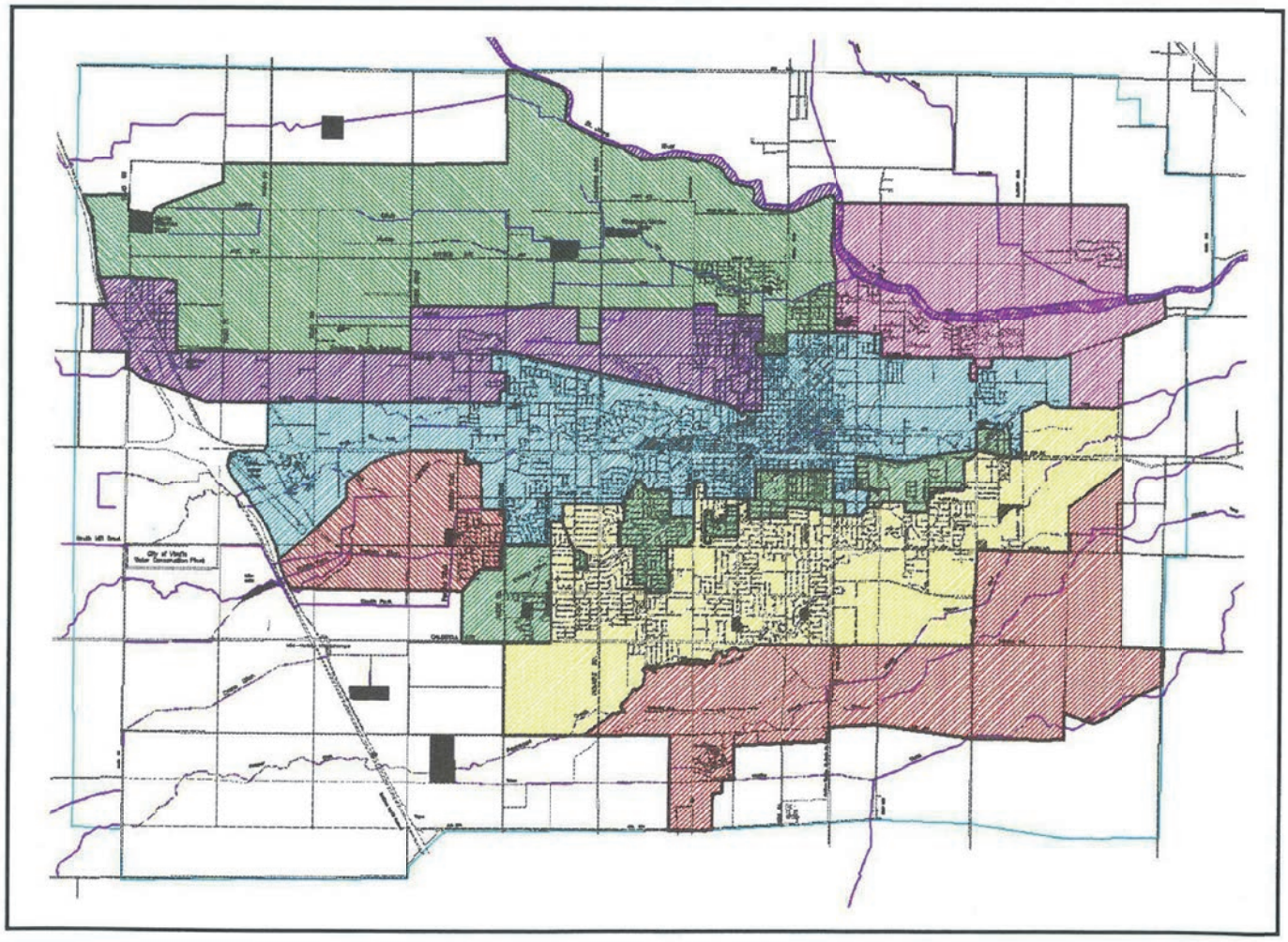
City of Visalia

Storm Water Master Plan
and Management Program

VOLUME 2
BASIN REPORTS



Boyle Engineering Corporation

City of Visalia
Storm Water Master Plan
and
Management Program

BASIN REPORTS

March 1993

PREFACE

In July, 1991, the City of Visalia contracted with Boyle Engineering Corporation to review and update a Storm Water Master Plan developed in 1987 and develop a computerized Facility Management System for the entire City. The results of the study are presented in the following documents:

Storm Water Master Plan	Contains a discussion of the existing conditions, basis of design, alternatives, proposed improvements including cost estimates, a capital improvement plan and water quality measures.
Basin Reports	Contains all reports generated by the Storm Water Facilities Management System.
Storm Water Atlas Sheets	Provides digitized maps of existing storm water facilities.
User's Manual	Documents the use of the Storm Water Facilities Management System.

This document is the **Basin Reports.**

BASIN REPORTS

This document contains the reports generated by the Storm Water Facilities Management System and includes:

- **BASIN WIDE SUMMARY REPORTS**
  - Unit Cost Rates
  - Proposed Works Cost Estimate Summary
  - Capital Improvement Plan Cost Estimate Summary
  - Capital Improvement Plan Cost Estimate
  - Land Use Summary
  - Land Use Summary By Basin
  - Rainfall Data
  - Overland Flow Parameters
  - CN and Percent Impervious

- **INDIVIDUAL BASIN REPORTS**
  - Proposed Works Cost Estimate
  - Pipes and Channel Summary
  - Storage Basin and Pump Summary
  - Land Use Drainage Basin Summary
  - Drainage Area Model Data
  - HEC1 Input Data for 10 Year Storm

City of Visalia
Storm Water Master Plan and Management Program

UNIT COST RATES 03/25/93

Group	Cost Code	Description	Unit	Rate
PIPE	18	18 INCH DIA RCP	LF	42.00
PIPE	24	24 INCH DIA RCP	LF	50.00
PIPE	27	27 INCH DIA RCP	LF	59.00
PIPE	30	30 INCH DIA RCP	LF	58.00
PIPE	36	36 INCH DIA RCP	LF	80.00
PIPE	42	42 INCH DIA RCP	LF	100.00
PIPE	48	48 INCH DIA RCP	LF	120.00
PIPE	54	54 INCH DIA RCP	LF	155.00
PIPE	60	60 INCH DIA RCP	LF	190.00
PIPE	66	66 INCH DIA RCP	LF	220.00
PIPE	72	72 INCH DIA RCP	LF	245.00
CHANNEL	1000	CHANNEL EARTHWORKS	CY	5.00
CHANNEL	1010	CHANNEL LINING ·	CY	200.00
BASIN	2000	BASIN EARTHWORKS	CY	2.00
BASIN	2010	LANDSCAPE BASIN A1	ACRE	45,000.00
BASIN	2020	LANDSCAPE BASIN A2	ACRE	40,000.00
BASIN	2030	LANDSCAPE BASIN B	ACRE	50,000.00
BASIN	2040	LANDSCAPE BASIN C	ACRE	35,000.00
PUMP	3010	0+ - 10 CFS	EA	35,000.00
PUMP	3020	10+ - 20 CFS	EA	42,000.00
PUMP	3030	20+ - 50 CFS	EA	80,000.00
PUMP	3040	50+ - 100 CFS	EA	130,000.00
PUMP	3050	100+ - 150 CFS	EA	200,000.00
CONTINGENCY	9999	CONTINGENCY	%	20.00

City of Visalia
Storm Water Master Plan and Management Program

PROPOSED WORKS COST ESTIMATE SUMMARY

09/14/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
CAMERON CREEK DRAINAGE BASIN									
FUTURE DEVELOPMENT				432,471	355,076		4,717,636	1,101,036	6,606,219
				432,471	355,076		4,717,636	1,101,036	6,606,219
EVANS DITCH DRAINAGE BASIN									
FUTURE DEVELOPMENT		70,000	227,864	106,168	108,093			102,425	614,551
		70,000	227,864	106,168	108,093			102,425	614,551
GOSHEN DRAIN DRAINAGE BASIN									
FUTURE DEVELOPMENT		70,000	399,130	641,030	467,867		4,567,247	1,229,055	7,374,328
		70,000	399,130	641,030	467,867		4,567,247	1,229,055	7,374,328
MILL CREEK DRAINAGE BASIN									
EXISTING DEFICIENCIES		105,000	577,384	1,489,514	965,692		791,809	785,880	4,715,278
FUTURE DEVELOPMENT							1,786,824	357,365	2,144,189
		105,000	577,384	1,489,514	965,692		2,578,633	1,143,244	6,859,467
MODOC DITCH DRAINAGE BASIN									
EXISTING DEFICIENCIES		42,000						8,400	50,400
FUTURE DEVELOPMENT		70,000	168,581	2,054,849	1,019,791		11,133,487	2,889,342	17,336,050
		112,000	168,581	2,054,849	1,019,791		11,133,487	2,897,742	17,386,450
PACKWOOD CREEK DRAINAGE BASIN									
FUTURE DEVELOPMENT		350,000	961,267	1,049,097	595,320		2,678,304	1,126,798	6,760,786
		350,000	961,267	1,049,097	595,320		2,678,304	1,126,798	6,760,786

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
PERSIAN WATSON DRAINAGE BASIN									
FUTURE DEVELOPMENT		35,000		55,068	37,431		156,800	56,860	341,159
		35,000		55,068	37,431		156,800	56,860	341,159
ST. JOHN'S DRAINAGE BASIN									
FUTURE DEVELOPMENT		70,000	189,845	995,065	375,078		2,147,344	755,467	4,532,799
		70,000	189,845	995,065	375,078		2,147,344	755,467	4,532,799
TOTAL CITY IMPROVEMENTS		812,000	2,524,071	6,823,263	3,924,347		27,979,451	8,412,626	50,475,759

City of Visalia
Storm Water Master Plan and Management Program

CAPITAL IMPROVEMENT PLAN COST ESTIMATE SUMMARY

09/14/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
CAPITAL IMPROVEMENT PLAN YEAR: 2000										
EXISTING DEFICIENCIES		147,000	577,384	1,489,514	965,692		791,809	794,280	4,765,678	6,522,160
FUTURE DEVELOPMENT		595,000	1,756,842	3,218,682	1,715,957		16,859,196	4,829,135	28,974,813	39,654,032
		742,000	2,334,226	4,708,196	2,681,649		17,651,005	5,623,415	33,740,491	46,176,191
CAPITAL IMPROVEMENT PLAN YEAR: 2010										
FUTURE DEVELOPMENT				1,120,001	530,434		6,773,560	1,684,799	10,108,795	20,478,563
				1,120,001	530,434		6,773,560	1,684,799	10,108,795	20,478,563
CAPITAL IMPROVEMENT PLAN YEAR: 2020										
FUTURE DEVELOPMENT		70,000	189,845	995,065	712,265		3,554,886	1,104,412	6,626,474	19,870,828
		70,000	189,845	995,065	712,265		3,554,886	1,104,412	6,626,474	19,870,828
TOTAL CITY IMPROVEMENTS		812,000	2,524,071	6,823,263	3,924,347		27,979,451	8,412,626	50,475,759	86,525,583

City of Visalia
Storm Water Master Plan and Management Program

CAPITAL IMPROVEMENT PLAN COST ESTIMATE

09/14/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
CAPITAL IMPROVEMENT PLAN YEAR: 2000										
EXISTING DEFICIENCIES										
MC-S32	BASIN	35,000	126,816	190,224	61,307			82,669	496,016	678,832
MC-S33	BASIN	35,000	230,070	345,105	129,067			147,848	887,089	1,214,043
MC-S34	BASIN	35,000	220,498	330,748	122,613			141,772	850,631	1,164,147
MC-S50	BASIN			623,438	429,147			210,517	1,263,101	1,728,641
MD-S3	PUMP	42,000						8,400	50,400	68,976
MC0031-MC0006	PIPE						104,320	20,864	125,184	171,323
MC0032-MC0007	PIPE						305,815	61,163	366,978	502,235
MC0033-MC0007	PIPE						102,320	20,464	122,784	168,038
MC0034-MC0008	PIPE						217,310	43,462	260,772	356,884
MC0035-MC0009	PIPE						24,160	4,832	28,992	39,678
MC0036-MC0014	PIPE						37,884	7,577	45,461	62,216
MC0012-MC0013	UNLINED CHANNEL				47,956			9,591	57,547	78,757
MC0013-MC0014	UNLINED CHANNEL				14,133			2,827	16,960	23,211
MC0015-MC0016	UNLINED CHANNEL				78,364			15,673	94,037	128,697
MC0016-MC0017	UNLINED CHANNEL				13,748			2,750	16,498	22,578
MC0017-MC0018	UNLINED CHANNEL				69,357			13,871	83,228	113,904
SUBTOTAL EXISTING DEFICIENCIES		147,000	577,384	1,489,514	965,692		791,809	794,280	4,765,678	6,522,160
FUTURE DEVELOPMENT										
ED-S10	BASIN	35,000	157,085		80,667			54,550	327,302	447,936
ED-S15	BASIN	35,000	70,779	106,168	27,427			47,875	287,249	393,119
GD-S39	BASIN	35,000	24,412	78,954	238,773			75,428	452,568	619,371
GD-S40	BASIN	35,000	374,717	562,076	229,093			240,177	1,441,064	1,972,196
MD-S31	BASIN	35,000	168,581	202,298	38,720			88,920	533,519	730,157
PC-S19	BASIN	35,000	253,836	79,324	145,200			102,672	616,032	843,082
PC-S20	BASIN	35,000	100,796	31,499	45,173			42,494	254,961	348,932
PC-S21	BASIN			274,219	188,760			92,596	555,575	760,342
PC-S41	BASIN	35,000	107,491	128,989	19,360			58,168	349,009	477,643
PC-S42	BASIN	35,000	197,453	236,943	48,400			103,559	621,355	850,367

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
PC-S43	BASIN	35,000	225,638	270,766	58,080			117,897	707,380	968,099
PC-S44	BASIN	35,000	13,875	27,358	67,760			28,799	172,792	236,477
PW-S17	BASIN			46,875	32,267			15,828	94,970	129,973
MD-S4	PUMP	35,000						7,000	42,000	57,480
PC-S14	PUMP	35,000						7,000	42,000	57,480
PC-S16	PUMP	35,000						7,000	42,000	57,480
PC-S17	PUMP	35,000						7,000	42,000	57,480
PW-S11	PUMP	35,000						7,000	42,000	57,480
GD0001-GD0002	PIPE						314,880	62,976	377,856	517,122
GD0002-GD0003	PIPE						517,940	103,588	621,528	850,604
GD0003-GD0004	PIPE						189,385	37,877	227,262	311,024
GD0005-GD0006	PIPE						194,184	38,837	233,021	318,905
GD0006-GD0007	PIPE						382,920	76,584	459,504	628,863
GD0008-GD0010	PIPE						230,600	46,120	276,720	378,710
GD0009-GD0020	PIPE						223,680	44,736	268,416	367,346
GD0010-GD0011	PIPE						129,700	25,940	155,640	213,004
GD0011-GD0012	PIPE						150,742	30,148	180,890	247,561
GD0017-GD0007	PIPE						77,604	15,521	93,125	127,448
GD0101-GD0002	PIPE						314,880	62,976	377,856	517,122
GD0102-GD0003	PIPE						238,320	47,664	285,984	391,389
GD0103-GD0005	PIPE						287,400	57,480	344,880	471,992
GD0104-GD0006	PIPE						168,200	33,640	201,840	276,232
GD0106-GD0009	PIPE						212,400	42,480	254,880	348,821
GD0107-GD0007	PIPE						174,174	34,835	209,009	286,043
GD0109-GD0009	PIPE						160,254	32,051	192,305	263,182
GD0110-GD0010	PIPE						132,850	26,570	159,420	218,177
GD0111-GD0011	PIPE						109,284	21,857	131,141	179,475
GD0112-GD0012	PIPE						131,250	26,250	157,500	215,550
GD0113-GD0013	PIPE						130,150	26,030	156,180	213,743
GD0114-GD0015	PIPE						96,450	19,290	115,740	158,398
MD0026-MD0004	PIPE						132,000	26,400	158,400	216,781
MD0027-MD0028	PIPE						309,960	61,992	371,952	509,042
MD0028-MD0029	PIPE						478,420	95,684	574,104	785,701

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
MD0029-MD0006	PIPE						404,005	80,801	484,806	663,490
MD0030-MD0031	PIPE						81,960	16,392	98,352	134,602
MD0032-MD0033	PIPE						155,100	31,020	186,120	254,718
MD0034-MD0035	PIPE						103,900	20,780	124,680	170,633
MD0038-MD0011	PIPE						173,700	34,740	208,440	285,265
MD0039-MD0013	PIPE						210,720	42,144	252,864	346,062
MD0040-MD0014	PIPE						254,400	50,880	305,280	417,797
MD0041-MD0042	PIPE						263,700	52,740	316,440	433,070
MD0042-MD0015	PIPE						453,150	90,630	543,780	744,200
MD0043-MD0044	PIPE						266,100	53,220	319,320	437,011
MD0044-MD0016	PIPE						408,270	81,654	489,924	670,495
MD0045-MD0046	PIPE						262,700	52,540	315,240	431,428
MD0046-MD0017	PIPE						414,625	82,925	497,550	680,932
MD0047-MD0048	PIPE						259,500	51,900	311,400	426,172
MD0048-MD0018	PIPE						418,655	83,731	502,386	687,550
MD0049-MD0050	PIPE						256,400	51,280	307,680	421,081
MD0050-MD0019	PIPE						420,050	84,010	504,060	689,841
MD0101-MD0027	PIPE						186,240	37,248	223,488	305,859
MD0102-MD0027	PIPE						243,360	48,672	292,032	399,666
MD0103-MD0028	PIPE						242,760	48,552	291,312	398,681
MD0105-MD0029	PIPE						394,200	78,840	473,040	647,388
MD0106-MD0107	PIPE						156,240	31,248	187,488	256,590
MD0107-MD0030	PIPE						202,800	40,560	243,360	333,055
MD0108-MD0007	PIPE						184,100	36,820	220,920	302,344
MD0110-MD0008	PIPE						204,600	40,920	245,520	336,011
MD0113-MD0010	PIPE						391,200	78,240	469,440	642,461
MD0116-MD0038	PIPE						216,100	43,220	259,320	354,897
MD0118-MD0039	PIPE						166,320	33,264	199,584	273,144
MD0120-MD0040	PIPE						251,160	50,232	301,392	412,476
MD0122-MD0041	PIPE						107,900	21,580	129,480	177,202
MD0124-MD0043	PIPE						113,400	22,680	136,080	186,235
MD0125-MD0017	PIPE						126,700	25,340	152,040	208,077
MD0126-MD0045	PIPE						119,200	23,840	143,040	195,760

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
MD0127-MD0018	PIPE						121,800	24,360	146,160	200,030
MD0128-MD0047	PIPE						125,000	25,000	150,000	205,285
PC0025-PC0026	PIPE						259,400	51,880	311,280	426,008
PC0027-PC0028	PIPE						95,886	19,177	115,063	157,472
PC0028-PC0006	PIPE						80,350	16,070	96,420	131,957
PC0029-PC0008	PIPE						39,732	7,946	47,678	65,251
PC0030-PC0013	PIPE						47,750	9,550	57,300	78,419
PC0031-PC0032	PIPE						49,850	9,970	59,820	81,868
PC0032-PC0019	PIPE						393,200	78,640	471,840	645,746
PC0033-PC0020	PIPE						360,200	72,040	432,240	591,550
PC0034-PC0035	PIPE						201,520	40,304	241,824	330,953
PC0035-PC0021	PIPE						122,800	24,560	147,360	201,672
PC0051-PC0010	PIPE						95,676	19,135	114,811	157,127
PC0101-PC0025	PIPE						118,200	23,640	141,840	194,118
PC0102-PC0003	PIPE						191,200	38,240	229,440	314,004
PC0103-PC0003	PIPE						202,900	40,580	243,480	333,219
PC0104-PC0027	PIPE						175,300	35,060	210,360	287,892
PC0105-PC0033	PIPE						98,900	19,780	118,680	162,422
PC0106-PC0034	PIPE						145,440	29,088	174,528	238,854
PW0008-PW0004	PIPE						156,800	31,360	188,160	257,510
SJ0005-SJ0006	PIPE						87,450	17,490	104,940	143,618
SJ0006-SJ0007	PIPE						89,000	17,800	106,800	146,163
MD0016-MD0017	UNLINED CHANNEL			290,194	102,956			78,630	471,781	645,664
MD0017-MD0018	UNLINED CHANNEL			320,463	126,692			89,431	536,585	734,354
MD0018-MD0019	UNLINED CHANNEL			341,554	145,892			97,489	584,934	800,523
MD0019-MD0020	UNLINED CHANNEL			212,810	92,986			61,159	366,955	502,204
PW0006-PW0007	UNLINED CHANNEL			8,193	5,164			2,672	16,029	21,937
PC-S22	BASIN	35,000	62,178		22,587			23,953	143,718	196,688
SUBTOTAL FUTURE DEVELOPMENT		595,000	1,756,842	3,218,682	1,715,957		16,859,196	4,829,135	28,974,813	39,654,032
TOTAL YEAR: 2000		742,000	2,334,226	4,708,196	2,681,649		17,651,005	5,623,415	33,740,491	46,176,191

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
CAPITAL IMPROVEMENT PLAN YEAR: 2010										
FUTURE DEVELOPMENT										
CC-S21	BASIN			358,594	246,840			121,087	726,521	1,471,797
CC0014-CC0015	PIPE						148,828	29,766	178,594	361,798
CC0015-CC0004	PIPE						275,800	55,160	330,960	670,464
CC0016-CC0017	PIPE						206,480	41,296	247,776	501,949
CC0017-CC0018	PIPE						315,480	63,096	378,576	766,926
CC0018-CC0005	PIPE						626,430	125,286	751,716	1,522,839
CC0019-CC0011	PIPE						179,100	35,820	214,920	435,388
CC0020-CC0021	PIPE						62,450	12,490	74,940	151,815
CC0021-CC0012	PIPE						218,520	43,704	262,224	531,218
CC0106-CC0003	PIPE						226,880	45,376	272,256	551,541
CC0108-CC0004	PIPE						230,160	46,032	276,192	559,514
CC0110-CC0006	PIPE						249,200	49,840	299,040	605,800
CC0111-CC0006	PIPE						116,400	23,280	139,680	282,966
CC0112-CC0007	PIPE						285,720	57,144	342,864	694,580
CC0113-CC0007	PIPE						69,368	13,874	83,242	168,632
CC0114-CC0008	PIPE						392,100	78,420	470,520	953,187
CC0115-CC0009	PIPE						275,200	55,040	330,240	669,006
CC0116-CC0019	PIPE						265,900	53,180	319,080	646,398
MC0026-MC0027	PIPE						175,682	35,136	210,818	427,079
MC0028-MC0029	PIPE						161,762	32,352	194,114	393,240
MC0037-MC0038	PIPE						468,255	93,651	561,906	1,138,318
MC0039-MC0015	PIPE						70,700	14,140	84,840	171,870
MC0101-MC0029	PIPE						371,845	74,369	446,214	903,948
MC0102-MC0020	PIPE						393,080	78,616	471,696	955,570
MC0103-MC0020	PIPE						145,500	29,100	174,600	353,708
MD0036-MD0010	PIPE						309,040	61,808	370,848	751,270
MD0037-MD0012	PIPE						156,020	31,204	187,224	379,281
MD0104-MD0105	PIPE						156,360	31,272	187,632	380,108
MD0109-MD0032	PIPE						221,300	44,260	265,560	537,976
CC0008-CC0009	UNLINED CHANNEL			73,877	108,236			36,422	218,535	442,712

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
MD0013-MD0014	UNLINED CHANNEL			218,306	47,830			53,227	319,362	646,970
MD0014-MD0015	UNLINED CHANNEL			211,273	48,693			51,993	311,959	631,972
MD0015-MD0016	UNLINED CHANNEL			257,952	78,835			67,358	404,145	818,724
SUBTOTAL FUTURE DEVELOPMENT				1,120,001	530,434		6,773,560	1,684,799	10,108,795	20,478,563
TOTAL YEAR: 2010				1,120,001	530,434		6,773,560	1,684,799	10,108,795	20,478,563

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
CAPITAL IMPROVEMENT PLAN YEAR: 2020										
FUTURE DEVELOPMENT										
MD-S23	BASIN				337,187			67,437	404,624	1,213,347
SJ-S35	BASIN	35,000	167,006	250,509	87,120			107,927	647,562	1,941,845
SJ-S36	BASIN	35,000	22,839	69,506	206,507			66,770	400,622	1,201,348
CC0101-CC0102	PIPE						95,004	19,001	114,005	341,867
CC0103-CC0104	PIPE						92,626	18,525	111,151	333,309
CC0105-CC0002	PIPE						164,140	32,828	196,968	590,649
CC0107-CC0014	PIPE						108,518	21,704	130,222	390,496
CC0109-CC0016	PIPE						113,332	22,666	135,998	407,819
MD0111-MD0112	PIPE						154,880	30,976	185,856	557,327
MD0112-MD0036	PIPE						162,880	32,576	195,456	586,115
MD0114-MD0115	PIPE						120,756	24,151	144,907	434,534
MD0115-MD0037	PIPE						89,494	17,899	107,393	322,039
MD0117-MD0013	PIPE						75,052	15,010	90,062	270,070
MD0119-MD0014	PIPE						89,950	17,990	107,940	323,680
MD0121-MD0015	PIPE						188,160	37,632	225,792	677,083
MD0123-MD0016	PIPE						129,200	25,840	155,040	464,919
SJ0001-SJ0002	PIPE						99,760	19,952	119,712	358,981
SJ0101-SJ0001	PIPE						145,464	29,093	174,557	523,444
SJ0102-SJ0103	PIPE						144,880	28,976	173,856	521,343
SJ0103-SJ0002	PIPE						192,480	38,496	230,976	692,628
SJ0104-SJ0002	PIPE						202,640	40,528	243,168	729,189
SJ0105-SJ0016	PIPE						142,158	28,432	170,590	511,548
SJ0106-SJ0016	PIPE						90,850	18,170	109,020	326,919
SJ0107-SJ0017	PIPE						141,926	28,385	170,311	510,713
SJ0108-SJ0017	PIPE						88,900	17,780	106,680	319,902
SJ0109-SJ0018	PIPE						143,028	28,606	171,634	514,678
SJ0110-SJ0018	PIPE						87,850	17,570	105,420	316,123
SJ0111-SJ0019	PIPE						144,826	28,965	173,791	521,148
SJ0112-SJ0019	PIPE						87,800	17,560	105,360	315,943
SJ0113-SJ0020	PIPE						146,624	29,325	175,949	527,618

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total Current ($)	Total @ 4.0% Inflation ($)
SJ0114-SJ0022	PIPE						111,708	22,342	134,050	401,975
SJ0016-SJ0017	UNLINED CHANNEL			138,397	10,337			29,747	178,480	535,210
SJ0017-SJ0018	UNLINED CHANNEL			138,185	14,484			30,534	183,202	549,368
SJ0018-SJ0019	UNLINED CHANNEL			159,446	20,198			35,929	215,573	646,439
SJ0019-SJ0020	UNLINED CHANNEL			168,223	25,075			38,660	231,958	695,573
SJ0020-SJ0021	UNLINED CHANNEL			70,800	11,358			16,432	98,589	295,640
SUBTOTAL FUTURE DEVELOPMENT		70,000	189,845	995,065	712,265		3,554,886	1,104,412	6,626,474	19,870,828
TOTAL YEAR: 2020		70,000	189,845	995,065	712,265		3,554,886	1,104,412	6,626,474	19,870,828

City of Visalia
Storm Water Master Plan and Management Program

LAND USE SUMMARY

07/28/93

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	1,151.15	20.00	230.23
	LOW DENSITY	LDR	13,517.18	43.00	5,812.39
	MEDIUM DENSITY	MDR	864.24	70.00	604.97
	HIGH DENSITY	HDR	316.10	80.00	252.88
TOTAL RESIDENTIAL			15,848.66	43.54	6,900.46
	CONVENIENCE CENTER	CC	29.76	95.00	28.27
	NEIGHBORHOOD CENTER	CNC	35.13	85.00	29.86
	SHOPPING/OFFICE CENTER	CSO	355.78	80.00	284.62
	COMMUNITY CENTER	CCM	276.83	75.00	207.62
	CENTRAL BUSINESS DISTRICT	CBD	264.02	95.00	250.82
	REGIONAL CENTER	CR	580.40	90.00	522.36
	HIGHWAY	CH	360.48	95.00	342.45
	SERVICE	CS	517.55	95.00	491.67
	PROFESSIONAL/ADMINISTRATIO	PA	1,202.57	70.00	841.80
TOTAL COMMERCIAL/OFFICE			3,622.51	82.80	2,999.48
	PUBLIC/INSTITUTIONAL	PI	1,716.60	60.00	1,029.96
TOTAL COMMUNITY FACILITIES			1,716.60	60.00	1,029.96
	LIGHT	IL	39.96	80.00	31.97
TOTAL INDUSTRY			39.96	80.00	31.97
	AGRICULTURE	OSA	1,790.44	1.00	17.90
	CONSERVATION	OSC	1,387.14	1.00	13.87
	PARKS	OSP	1,375.65	15.00	206.35
TOTAL OPEN SPACE			4,553.23	5.23	238.12
	URBAN RESERVE	UR	5,237.75	15.00	785.66
TOTAL URBAN RESERVE			5,237.75	15.00	785.66
	LIGHT WITH STORAGE	IL-S	865.15	10.00	86.52
	HEAVY WITH STORAGE	IH-S	3,048.63	10.00	304.86
TOTAL INDUSTRY WITH STORAGE			3,913.78	10.00	391.38
TOTAL STUDY AREA			34,932.49	35.43	12,377.03

City of Visalia
Storm Water Master Plan and Management Program
LAND USE SUMMARY BY BASIN

 07/28/93

Basin	Area (acres)	Percent Impervious	Impervious Area (acres)
CAMERON CREEK DRAINAGE BASIN	4,780.88	34.04	1,627.44
EVANS DITCH DRAINAGE BASIN	1,613.64	48.05	775.29
GOSHEN DRAIN DRAINAGE BASIN	3,243.35	34.87	1,130.94
MILL CREEK DRAINAGE BASIN	6,149.41	50.47	3,103.69
MODOC DITCH DRAINAGE BASIN	8,246.76	25.24	2,081.45
PACKWOOD CREEK DRAINAGE BASIN	5,879.91	44.54	2,618.73
PERSIAN WATSON DRAINAGE BASIN	1,625.55	17.93	291.53
ST. JOHN'S DRAINAGE BASIN	3,393.00	22.04	747.96
TOTAL STUDY	34,932.49	35.43	12,377.03

Return Period: 2 years

Duration	Precipitation
5 minutes	0.140
15 minutes	0.200
60 minutes	0.340
2 hours	0.500
3 hours	0.600
6 hours	0.780
12 hours	1.030
24 hours	1.280
2 days	1.550
4 days	0.000
7 days	0.000
10 days	0.000

Return Period: 10 years

Duration	Precipitation
5 minutes	0.220
15 minutes	0.320
60 minutes	0.560
2 hours	0.800
3 hours	0.980
6 hours	1.280
12 hours	1.680
24 hours	2.090
2 days	2.640
4 days	0.000
7 days	0.000
10 days	0.000

Return Period: 50 years

Duration	Precipitation
5 minutes	0.290
15 minutes	0.430
60 minutes	0.740
2 hours	1.070
3 hours	1.310
6 hours	1.710
12 hours	2.240
24 hours	2.770
2 days	3.590
4 days	4.390
7 days	5.140
10 days	5.670

City of Visalia
Storm Water Master Plan and Management Program
OVERLAND FLOW PARAMETERS

03/25/93

Group	Land Use Codes	Pervious Surface		Impervious Surface	
		Length (ft)	Roughness N	Length (ft)	Roughness N
1	RA,UR,OSC,OSP	300	0.200	100	0.100
2	LDR,MDR	150	0.300	50	0.100
3	CC,CNC,CSO,CBD,PA,IL,CS,HDR	20	0.400	200	0.100
4	CCM,CR,CH,IH	20	0.400	500	0.100
5	PI	200	0.300	200	0.100
6	OSA	800	0.200	100	0.100

City of Visalia
Storm Water Master Plan and Management Program
CN AND PERCENT IMPERVIOUS

 03/25/93

Group	Land Use	Code	Soil Group	Percent Impervious	CN
1. RESIDENTIAL	1. RURAL	RA	B	20	68
			C	20	79
			D	20	84
	2. LOW DENSITY	LDR	B	43	77
			C	43	84
			D	43	88
	3. MEDIUM DENSITY	MDR	B	70	87
			C	70	91
			D	70	93
	4. HIGH DENSITY	HDR	B	80	91
			C	80	93
			D	80	94
2. COMMERCIAL/OFFICE	1. CONVENIENCE CENTER	CC	B	95	96
			C	95	97
			D	95	97
	2. NEIGHBORHOOD CENTER	CNC	B	85	92
			C	85	94
			D	85	95
	3. SHOPPING/OFFICE CENTER	CSO	B	80	91
			C	80	93
			D	80	94
	4. COMMUNITY CENTER	CCM	B	75	89
			C	75	92
			D	75	92
	5. CENTRAL BUSINESS DISTRICT	CBD	B	95	96
			C	95	97
			D	95	97
	6. REGIONAL CENTER	CR	B	90	94
			C	90	96
			D	90	96
	7. HIGHWAY	CH	B	95	96
			C	95	97
			D	95	97
	8. SERVICE	CS	B	95	96
			C	95	97
			D	95	97
	9. PROFESSIONAL/ADMINISTRATIO	PA	B	70	87
			C	70	91
			D	70	93
3. COMMUNITY FACILITIES	1. PUBLIC/INSTITUTIONAL	PI	B	60	83
			C	60	88
			D	60	91
4. INDUSTRY	1. LIGHT	IL	B	80	91
			C	80	93
			D	80	94
	2. HEAVY	IH	B	90	94
			C	90	96
			D	90	96

Group	Land Use	Code	Soil Group	Percent Impervious	CN
5. OPEN SPACE	1. AGRICULTURE	OSA	B	1	75
			C	1	82
			D	1	86
	2. CONSERVATION	OSC	B	1	69
			C	1	79
			D	1	84
	3. PARKS	OSP	B	15	61
			C	15	74
			D	15	80
6. URBAN RESERVE	1. URBAN RESERVE	UR	B	15	69
			C	15	79
			D	15	84
7. INDUSTRY WITH STORAGE	1. LIGHT WITH STORAGE	IL-S	B	10	66
			C	10	66
			D	10	66
	2. HEAVY WITH STORAGE	IH-S	B	10	66
			C	10	66
			D	10	66

City of Visalia
Storm Water Master Plan and Management Program
CAMERON CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
CC-S21	BASIN TYPE X1			358,594	246,840			121,087	726,521
SUBTOTAL				358,594	246,840			121,087	726,521
COLLECTOR DRAINS									
CC0014-CC0015	PIPE						148,828	29,766	178,594
CC0015-CC0004	PIPE						275,800	55,160	330,960
CC0016-CC0017	PIPE						206,480	41,296	247,776
CC0017-CC0018	PIPE						315,480	63,096	378,576
CC0018-CC0005	PIPE						626,430	125,286	751,716
CC0019-CC0011	PIPE						179,100	35,820	214,920
CC0020-CC0021	PIPE						62,450	12,490	74,940
CC0021-CC0012	PIPE						218,520	43,704	262,224
CC0101-CC0102	PIPE						95,004	19,001	114,005
CC0103-CC0104	PIPE						92,626	18,525	111,151
CC0105-CC0002	PIPE						164,140	32,828	196,968
CC0106-CC0003	PIPE						226,880	45,376	272,256
CC0107-CC0014	PIPE						108,518	21,704	130,222
CC0108-CC0004	PIPE						230,160	46,032	276,192
CC0109-CC0016	PIPE						113,332	22,666	135,998
CC0110-CC0006	PIPE						249,200	49,840	299,040
CC0111-CC0006	PIPE						116,400	23,280	139,680
CC0112-CC0007	PIPE						285,720	57,144	342,864
CC0113-CC0007	PIPE						69,368	13,874	83,242
CC0114-CC0008	PIPE						392,100	78,420	470,520
CC0115-CC0009	PIPE						275,200	55,040	330,240
CC0116-CC0019	PIPE						265,900	53,180	319,080

City of Visalia
Storm Water Master Plan and Management Program
CAMERON CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
SUBTOTAL							4,717,636	943,527	5,661,163
MAIN DRAINS									
CC0008-CC0009	UNLINED CHANNEL			73,877	108,236			36,422	218,535
SUBTOTAL				73,877	108,236			36,422	218,535
TOTAL FUTURE DEVELOPMENT				432,471	355,076		4,717,636	1,101,036	6,606,219
TOTAL BASIN IMPROVEMENTS				432,471	355,076		4,717,636	1,101,036	6,606,219

City of Visalia
Storm Water Master Plan and Management Program
CAMERON CREEK DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/15/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
CC0014-CC0015	~~2,566~~							9	19	9	19	0.0010	30			PIPE	13		$178,594
CC0015-CC0004	~~2,758~~							27	54	27	54	0.0010	42			PIPE	32		$330,960
CC0016-CC0017	~~2,581~~							18	35	18	35	0.0010	36			PIPE	21		$247,776
CC0017-CC0018	~~2,629~~							42	86	42	86	0.0010	48			PIPE	45		$378,576
CC0018-CC0005	3,297							89	176	89	176	0.0010	60			PIPE	82		$751,716
~~CC0019-CC0011~~ =CC0019-CC0011	~~1,791~~ 1,791							31	71	31	71	0.0010	~~42~~ 42			PIPE	32		$214,920
CC0020-CC0021	~~1,249~~							5	11	5	11	0.0010	24			PIPE	7		$74,940
CC0021-CC0012	~~1,821~~							43	85	43	85	0.0010	48			PIPE	45		$262,224
CC0101-CC0102	~~1,638~~							10	21	10	21	0.0010	30			PIPE	13		$114,005
CC0103-CC0104	~~1,597~~							10	21	10	21	0.0010	30			PIPE	13		$111,151
CC0105-CC0002	~~2,830~~							9	20	9	20	0.0010	30			PIPE	13		$196,968
CC0106-CC0003	~~2,836~~							22	43	22	43	0.0010	36			PIPE	21		$272,256
CC0107-CC0014	~~1,871~~							9	19	9	19	0.0010	30			PIPE	13		$130,222
CC0108-CC0004	~~1,918~~							41	80	41	80	0.0010	48			PIPE	45		$276,192
CC0109-CC0016	~~1,954~~							13	26	13	26	0.0010	30			PIPE	13		$135,998
CC0110-CC0006	~~2,492~~							23	46	23	46	0.0010	42			PIPE	32		$299,040
CC0111-CC0006	~~970~~							40	77	40	77	0.0010	48			PIPE	45		$139,680
CC0112-CC0007	~~2,381~~							36	70	36	70	0.0010	48			PIPE	45		$342,864
CC0113-CC0007	~~1,196~~							10	20	10	20	0.0010	30			PIPE	13		$83,242
CC0114-CC0008	~~3,921~~							24	46	24	46	0.0010	42			PIPE	32		$470,520
CC0115-CC0009	~~2,752~~							29	58	29	58	0.0010	42			PIPE	32		$330,240
~~CC0116-CC0019~~ =CC0116-CC0019	~~2,659~~ 2,659							32	71	32	71	0.0010	~~42~~ 42			PIPE	32		$319,080
	49,707																		$5,661,163
MAIN DRAINS																			
CC0001-CC0002	1,443	0.0010	0.030		175	40	734	10	21										
CC0002-CC0003	2,439	0.0010	0.030		175	40	734	19	40										

GREEN HILITE = CITY INSTALLED
DEVELOPER INSTALLED:
24" : 1,249 @ $42/FT = 52,458
30" = 13,652' @ $37/FT = 505,124
36" = 5,412 @ $43/FT = 232,931
42 = 11,923 @ $50/FT = 596,150
48 9,719 @ $57/FT = 553,983
60 : 3,297 @ 71/FT = 234,087
2,174,733
+ CITY INSTALLED : 963,125
$3,137,858

City of Visalia
Storm Water Master Plan and Management Program
CAMERON CREEK DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/15/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
CC0003-CC0004	3,898	0.0010	0.030		175	40	734	28	58										
CC0004-CC0005	4,471	0.0010	0.030		175	40	734	92	187										
CC0005-CC0006	2,092	0.0010	0.030		142	36	554	188	382										
CC0006-CC0007	3,095	0.0010	0.030		142	36	554	230	464										
CC0007-CC0008	3,210	0.0010	0.030		142	36	554	257	515										
CC0008-CC0009	3,479	0.0010	0.030		116	36	397	275	554		157			30.0	4.0	UNLINED CHANNEL	592	12,500	$218,535
CC0009-CC0010	485	0.0010	0.030		203	50	810	297	596										
CC0010-CC0011	3,331	0.0010	0.030		203	50	810	298	600										
CC0011-CC0012	1,335	0.0010	0.030		228	46	1,036	332	672										
CC0012-CC0013	12,766	0.0010	0.030		281	50	1,402	372	754										
CC0102-CC0104	1,200	0.0010	0.030		175	40	734	10	21										
CC0104-CC0001	1,073	0.0010	0.030		175	40	734	10	21										
	44,317																		$218,535
BASIN TOTAL	94,024															BASIN TOTAL			$5,879,698

City of Visalia
Storm Water Master Plan and Management Program
CAMERON CREEK DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
CC-S21					129.0	299.0	477.0	129.0	299.0	477.0	X1		153.0		12,500	726,521

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	235.72	20.00	47.14
	LOW DENSITY	LDR	1,765.60	43.00	759.21
	MEDIUM DENSITY	MDR	120.08	70.00	84.05
	HIGH DENSITY	HDR	50.99	80.00	40.79
TOTAL RESIDENTIAL			2,172.39	42.87	931.20
	SHOPPING/OFFICE CENTER	CSO	73.20	80.00	58.56
	COMMUNITY CENTER	CCM	39.08	75.00	29.31
	REGIONAL CENTER	CR	245.81	90.00	221.23
	PROFESSIONAL/ADMINISTRATIO	PA	86.63	70.00	60.64
TOTAL COMMERCIAL/OFFICE			444.72	83.14	369.74
	PUBLIC/INSTITUTIONAL	PI	81.07	60.00	48.64
TOTAL COMMUNITY FACILITIES			81.07	60.00	48.64
	AGRICULTURE	OSA	34.75	1.00	0.35
	CONSERVATION	OSC	211.96	1.00	2.12
	PARKS	OSP	457.02	15.00	68.55
TOTAL OPEN SPACE			703.73	10.09	71.02
	URBAN RESERVE	UR	1,378.97	15.00	206.85
TOTAL URBAN RESERVE			1,378.97	15.00	206.85
TOTAL CAMERON CREEK DRAINAGE BASIN			4,780.88	34.04	1,627.44

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
CC01	0.33310	84	16	76	98	205	6	2	0	0	0	1
CC02	0.33757	85	15	76	98	209	7	0	0	0	0	1
CC03	0.21457	60	40	74	98	12	125	0	0	0	0	2
CC04	0.41766	55	45	74	98	15	216	19	0	17	0	2
CC05	0.30219	85	15	76	98	193	0	0	0	0	0	1
CC06	0.26109	63	37	74	98	63	103	1	0	0	0	2
CC07	0.08887	55	45	74	98	7	49	1	0	0	0	2
CC08	0.47967	85	15	70	98	302	0	0	0	0	5	1
CC09	0.18386	86	14	76	98	104	0	0	0	0	13	1
CC10	0.22926	66	34	74	98	75	64	8	0	0	0	1
CC11	0.24981	69	31	74	98	80	68	0	0	8	5	1
CC12	0.24618	48	52	74	98	0	102	27	0	28	0	2
CC13	0.25953	57	43	74	98	0	160	1	0	0	5	2
CC14	0.19355	42	58	74	98	10	44	70	0	0	0	3
CC15	0.41098	58	42	74	98	9	239	0	0	10	6	2
CC16	0.30200	66	34	75	98	49	143	1	0	0	0	2
CC17	0.34605	54	46	72	98	11	187	24	0	0	0	2
CC18	0.10984	62	38	74	98	10	60	0	0	0	0	2
CC19	0.31191	65	35	74	98	75	115	6	0	4	0	2
CC20	0.16387	86	14	76	98	105	0	0	0	0	0	1
CC21	0.44439	66	34	75	98	142	120	5	17	0	0	1
CC22	0.09466	87	13	76	98	61	0	0	0	0	0	1
CC23	0.34711	37	63	77	98	78	1	0	143	0	0	4
CC24	0.15136	85	15	70	98	97	0	0	0	0	0	1
CC25	0.35147	61	39	74	98	118	23	69	0	14	1	1
CC26	0.08924	77	23	75	98	50	0	7	0	0	0	1
CC27	0.36453	51	49	76	98	89	49	9	86	0	0	1
CC28	0.18581	85	15	76	98	114	5	0	0	0	0	1

```
ID CC-10                                                                    10
IT     5                   300                                              20
IO     5                                                                    30
KK  CC01 BASIN                                                              40
BA 0.333                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      76       0       0      98       0                           80
UK   300  0.0010    0.20      84                                           90
UK   100  0.0010    0.10      16                                          100
RK   660   .0010    .020     .01    TRAP      20       1                  110
RK  2000   .0010    .020    .047    TRAP      20       1                  120
RK  3500   .0010    .020            TRAP      20       1      NO          130
KK 01-02 ROUTE                                                             140
RK  1443   .0010    .035            TRAP      14     1.5                  150
KK  CC02 BASIN                                                             160
BA 0.338                                                                   170
LS     0      76       0       0      98       0                          180
UK   300  0.0010    0.20      85                                          190
UK   100  0.0010    0.10      15                                          200
RK   660   .0010    .020     .01    TRAP      20       1                  210
RK  2500   .0010    .020    .063    TRAP      20       1                  220
RK  3000   .0010    .020            TRAP      20       1      NO          230
KK    02 ADD                                                               240
HC     2                                                                   250
KK 02-03 ROUTE                                                             260
RK  2439   .0010    .035            TRAP      14     1.5                  270
KK  CC03 BASIN                                                             280
BA 0.215                                                                   290
LS     0      74       0       0      98       0                          300
UK   150  0.0010    0.30      60                                          310
UK    50  0.0010    0.10      40                                          320
RK   660   .0010    .020     .01    TRAP      20       1                  330
RK  1980   .0010    .020    .063    TRAP      20       1                  340
RK  1980   .0010    .020            TRAP      20       1      NO          350
KK    03 ADD                                                               360
HC     2                                                                   370
KK 03-04 ROUTE                                                             380
RK  3898   .0010    .035            TRAP      14     1.5                  390
KK  CC04 BASIN                                                             400
BA 0.418                                                                   410
LS     0      74       0       0      98       0                          420
UK   150  0.0010    0.30      55                                          430
UK    50  0.0010    0.10      45                                          440
RK   660   .0010    .020     .01    TRAP      20       1                  450
RK  3500   .0010    .020    .081    TRAP      20       1                  460
RK  3500   .0010    .020            TRAP      20       1      NO          470
KK  CC05 BASIN                                                             480
BA 0.302                                                                   490
LS     0      76       0       0      98       0                          500
UK   300  0.0010    0.20      85                                          510
UK   100  0.0010    0.10      15                                          520
RK   660   .0010    .020     .01    TRAP      20       1                  530
RK  1980   .0010    .020    .063    TRAP      20       1                  540
RK  1980   .0010    .020            TRAP      20       1      NO          550
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KK	14-15	ROUTE							560
RK	2566	.0010	.020		TRAP	20	1		570
KK	CC06	BASIN							580
BA	0.261								590
LS	0	74	0	0	98	0			600
UK	150	0.0010	0.30	63					610
UK	50	0.0010	0.10	37					620
RK	660	.0010	.020	.01	TRAP	20	1		630
RK	1980	.0010	.020	.063	TRAP	20	1		640
RK	1980	.0010	.020		TRAP	20	1	NO	650
KK	15	ADD							660
HC	2								670
KK	15-04	ROUTE							680
RK	2758	.0010	.020		TRAP	20	1		690
KK	CC07	BASIN							700
BA	0.089								710
LS	0	74	0	0	98	0			720
UK	150	0.0010	0.30	55					730
UK	50	0.0010	0.10	45					740
RK	660	.0010	.020	.01	TRAP	20	1		750
RK	1000	.0010	.020	.024	TRAP	20	1		760
RK	2500	.0010	.020		TRAP	20	1	NO	770
KK	04	ADD							780
HC	4								790
KK	04-05	ROUTE							800
RK	4471	.0010	.035		TRAP	14	1.5		810
KK	CC08	BASIN							820
BA	0.480								830
LS	0	70	0	0	98	0			840
UK	300	0.0010	0.20	85					850
UK	100	0.0010	0.10	15					860
RK	660	.0010	.020	.01	TRAP	20	1		870
RK	1980	.0010	.020	.063	TRAP	20	1		880
RK	4500	.0010	.020		TRAP	20	1	NO	890
KK	CC09	BASIN							900
BA	0.184								910
LS	0	76	0	0	98	0			920
UK	300	0.0010	0.20	86					930
UK	100	0.0010	0.10	14					940
RK	660	.0010	.020	.01	TRAP	20	1		950
RK	1000	.0010	.020	.024	TRAP	20	1		960
RK	4000	.0010	.020		TRAP	20	1	NO	970
KK	16	ADD							980
HC	2								990
KK	16-17	ROUTE							1000
RK	2581	.0010	.020		TRAP	20	1		1010
KK	CC10	BASIN							1020
BA	0.229								1030
LS	0	74	0	0	98	0			1040
UK	300	0.0010	0.20	66					1050
UK	100	0.0010	0.10	34					1060
RK	660	.0010	.020	.01	TRAP	20	1		1070
RK	1980	.0010	.020	.063	TRAP	20	1		1080
RK	1980	.0010	.020		TRAP	20	1	NO	1090
KK	CC11	BASIN							1100

BA	0.250								1110
LS	0	74	0	0	98	0			1120
UK	300	0.0010	0.20	69					1130
UK	100	0.0010	0.10	31					1140
RK	660	.0010	.020	.01	TRAP	20	1		1150
RK	1980	.0010	.020	.063	TRAP	20	1		1160
RK	1980	.0010	.020		TRAP	20	1	NO	1170
KK	17	ADD							1180
HC	3								1190
KK	17-18	ROUTE							1200
RK	2629	.0010	.020		TRAP	20	1		1210
KK	CC12	BASIN							1220
BA	0.246								1230
LS	0	74	0	0	98	0			1240
UK	150	0.0010	0.30	48					1250
UK	50	0.0010	0.10	52					1260
RK	660	.0010	.020	.01	TRAP	20	1		1270
RK	1980	.0010	.020	.063	TRAP	20	1		1280
RK	1980	.0010	.020		TRAP	20	1	NO	1290
KK	CC13	BASIN							1300
BA	0.260								1310
LS	0	74	0	0	98	0			1320
UK	150	0.0010	0.30	57					1330
UK	50	0.0010	0.10	43					1340
RK	660	.0010	.020	.01	TRAP	20	1		1350
RK	1980	.0010	.020	.063	TRAP	20	1		1360
RK	1980	.0010	.020		TRAP	20	1	NO	1370
KK	18	ADD							1380
HC	3								1390
KK	18-05	ROUTE							1400
RK	3297	.0010	.020		TRAP	20	1		1410
KK	CC14	BASIN							1420
BA	0.194								1430
LS	0	74	0	0	98	0			1440
UK	20	0.0010	0.40	42					1450
UK	200	0.0010	0.10	58					1460
RK	660	.0010	.020	.01	TRAP	20	1		1470
RK	1980	.0010	.020	.063	TRAP	20	1		1480
RK	1980	.0010	.020		TRAP	20	1	NO	1490
KK	05	ADD							1500
HC	3								1510
KK	05-06	ROUTE							1520
RK	2092	.0010	.035		TRAP	14	1.5		1530
KK	CC15	BASIN							1540
BA	0.411								1550
LS	0	74	0	0	98	0			1560
UK	150	0.0010	0.30	58					1570
UK	50	0.0010	0.10	42					1580
RK	660	.0010	.020	.01	TRAP	20	1		1590
RK	1250	.0010	.020	.030	TRAP	20	1		1600
RK	5000	.0010	.020		TRAP	20	1	NO	1610
KK	CC16	BASIN							1620
BA	0.302								1630
LS	0	75	0	0	98	0			1640
UK	150	0.0010	0.30	66					1650

UK	50	0.0010	0.10	34				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1500	.0010	.020	.036	TRAP	20	1	
RK	4000	.0010	.020		TRAP	20	1	NO
KK	06	ADD						
HC	3							
KK	06-07	ROUTE						
RK	3095	.0010	.035		TRAP	10	1.5	
KK	CC17	BASIN						
BA	0.346							
LS	0	72	0	0	98	0		
UK	150	0.0010	0.30	54				
UK	50	0.0010	0.10	46				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	3000	.0010	.020	.063	TRAP	20	1	
RK	2500	.0010	.020		TRAP	20	1	NO
KK	CC18	BASIN						
BA	0.110							
LS	0	74	0	0	98	0		
UK	150	0.0010	0.30	62				
UK	50	0.0010	0.10	38				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1000	.0010	.020	.024	TRAP	20	1	
RK	2500	.0010	.020		TRAP	20	1	NO
KK	07	ADD						
HC	3							
KK	07-08	ROUTE						
RK	3210	.0010	.035		TRAP	10	1.5	
KK	CC19	BASIN						
BA	0.312							
LS	0	74	0	0	98	0		
UK	150	0.0010	0.30	65				
UK	50	0.0010	0.10	35				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	3000	.0010	.020	.071	TRAP	20	1	
RK	3000	.0010	.020		TRAP	20	1	NO
KK	CC20	BASIN						
BA	0.164							
LS	0	76	0	0	98	0		
UK	300	0.0010	0.20	86				
UK	100	0.0010	0.10	14				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1500	.0010	.020	.036	TRAP	20	1	
RK	3000	.0010	.020		TRAP	20	1	NO
KK	08	ADD						
HC	3							
KK	08-09	ROUTE						
RK	3479	.0010	.035		TRAP	15	1.5	
KK	CC21	BASIN						
BA	0.444							
LS	0	75	0	0	98	0		
UK	300	0.0010	0.20	66				
UK	100	0.0010	0.10	34				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	3500	.0010	.020	.081	TRAP	20	1	

RK	3000	.0010	.020		TRAP	20	1	NO
KK	09 ADD							
HC	2							
KK	09-10 ROUTE							
RK	485	.0010	.035		TRAP	25	2	
KK	CC22 BASIN							
BA	0.095							
LS	0	76	0	0	98	0		
UK	300	0.0010	0.20	87				
UK	100	0.0010	0.10	13				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1000	.0010	.020	.024	TRAP	20	1	
RK	3000	.0010	.020		TRAP	20	1	NO
KK	10 ADD							
HC	2							
KK	10-11 ROUTE							
RK	3331	.0010	.035		TRAP	25	2	
KK	CC23 BASIN							
BA	0.347							
LS	0	77	0	0	98	0		
UK	20	0.0010	0.40	37				
UK	500	0.0010	0.10	63				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	2000	.0010	.020	.047	TRAP	20	1	
RK	3500	.0010	.020		TRAP	20	1	NO
KK	19-11 ROUTE							
RK	1791	.0010	.020		TRAP	20	1	
KK	CC24 BASIN							
BA	0.151							
LS	0	70	0	0	98	0		
UK	300	0.0010	0.20	85				
UK	100	0.0010	0.10	15				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1000	.0010	.020	.024	TRAP	20	1	
RK	2000	.0010	.020		TRAP	20	1	NO
KK	11 ADD							
HC	3							
KK	11-12 ROUTE							
RK	1335	.0010	.035		TRAP	21	1	
KK	CC25 BASIN							
BA	0.351							
LS	0	74	0	0	98	0		
UK	300	0.0010	0.20	61				
UK	100	0.0010	0.10	39				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1000	.0010	.020	.024	TRAP	20	1	
RK	3000	.0010	.020		TRAP	20	1	NO
KK	CC28 BASIN							
BA	0.186							
LS	0	76	0	0	98	0		
UK	300	0.0010	0.20	85				
UK	100	0.0010	0.10	15				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1500	.0010	.020	.036	TRAP	20	1	
RK	3000	.0010	.020		TRAP	20	1	NO

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KK 20-21 ROUTE                                                          2760
RK  1249   .0010    .035           TRAP      20       1                 2770
KK   CC27 BASIN                                                         2780
BA 0.365                                                                2790
LS     0      76       0       D     98       0                        2800
UK   300  0.0010    0.20      51                                        2810
UK   100  0.0010    0.10      49                                        2820
RK   660   .0010    .020     .01    TRAP      20       1                2830
RK  1000   .0010    .020    .024    TRAP      20       1                2840
RK  3500   .0010    .020            TRAP      20       1      NO        2850
KK    21 ADD                                                            2860
HC     2                                                                2870
KK 21-12 ROUTE                                                          2880
RK  1821   .0010    .020            TRAP      20       1                2890
KK   CC26 BASIN                                                         2900
BA 0.089                                                                2910
LS     0      75       0       0     98       0                        2920
UK   300  0.0010    0.20      77                                        2930
UK   100  0.0010    0.10      23                                        2940
RK   660   .0010    .020     .01    TRAP      20       1                2950
RK  1500   .0010    .020    .036    TRAP      20       1                2960
RK  1500   .0010    .020            TRAP      20       1      NO        2970
KK    12 ADD                                                            2980
HC     4                                                                2990
KK 12-13 ROUTE                                                          3000
RK 12766   .0010    .035           TRAP      17     1.5                3010
KK   S21 STORAGE   TAGUS BASIN                                         3020
RS     1    STOR                                                        3030
SV     0      50     200     800    1000     1500                      3040
SE     0       5      10      15      16       17                      3050
SS    16     250     3.0     1.5                                       3060
ST    17     250     3.0     1.5                                       3070
ZZ                                                                      3080
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City of Visalia
Storm Water Master Plan and Management Program
EVANS DITCH DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

09/14/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
ED-S10	BASIN TYPE A2	35,000	157,085		80,667			54,550	327,302
ED-S15	BASIN TYPE A2	35,000	70,779	106,168	27,427			47,875	287,249
SUBTOTAL		70,000	227,864	106,168	108,093			102,425	614,551
TOTAL FUTURE DEVELOPMENT		70,000	227,864	106,168	108,093			102,425	614,551
TOTAL BASIN IMPROVEMENTS		70,000	227,864	106,168	108,093			102,425	614,551

City of Visalia
Storm Water Master Plan and Management Program
EVANS DITCH DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

09/14/94

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
MAIN DRAINS																			
ED0001-ED0002	4,359	0.0010	0.030		82	26	277	11	21										
ED0003-ED0004	4,328	0.0010	0.030		56	28	140	3	3										
ED0005-ED0006	8,846	0.0010	0.030		56	28	140	3	3										
ED0006-ED0007	2,563	0.0010	0.030		56	28	140	6	6										
ED0007-ED0008	4,418	0.0010	0.030		56	28	140	13	25										
ED0008-ED0009	4,090	0.0010	0.030		81	27	262	23	34										
ED0009-ED0010	4,954	0.0010	0.030		61	21	191	26	35										
ED0011-ED0012	4,558	0.0010	0.030		76	26	241	4	4										
ED0012-ED0013	7,613	0.0010	0.030		76	26	241												
	45,729																		
BASIN TOTAL	45,729																BASIN TOTAL		

City of Visalia
Storm Water Master Plan and Management Program
EVANS DITCH DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
ED-S10			24.0		27.0	49.0	69.0	3.0	25.0	45.0	A2		25.0	4.9		327,302
ED-S12			550.0		6.0	14.0	22.0									
ED-S15			2.5		4.0	11.0	13.0	1.5	8.5	10.5	A2		8.5	1.0	60,000	287,249
ED-S9			43.0		13.0	24.0	31.0									

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	72.16	20.00	14.43
	LOW DENSITY	LDR	869.53	43.00	373.90
	MEDIUM DENSITY	MDR	88.73	70.00	62.11
	HIGH DENSITY	HDR	32.94	80.00	26.35
TOTAL RESIDENTIAL			1,063.37	44.84	476.80
	CONVENIENCE CENTER	CC	3.01	95.00	2.86
	NEIGHBORHOOD CENTER	CNC	0.84	85.00	0.71
	SHOPPING/OFFICE CENTER	CSO	77.50	80.00	62.00
	COMMUNITY CENTER	CCM	17.11	75.00	12.84
	REGIONAL CENTER	CR	0.44	90.00	0.40
	HIGHWAY	CH	31.50	95.00	29.92
	SERVICE	CS	30.87	95.00	29.32
	PROFESSIONAL/ADMINISTRATIO	PA	52.58	70.00	36.81
TOTAL COMMERCIAL/OFFICE			213.84	81.77	174.85
	PUBLIC/INSTITUTIONAL	PI	182.17	60.00	109.30
TOTAL COMMUNITY FACILITIES			182.17	60.00	109.30
	LIGHT	IL	10.97	80.00	8.78
TOTAL INDUSTRY			10.97	80.00	8.78
	AGRICULTURE	OSA	6.10	1.00	0.06
	CONSERVATION	OSC	107.73	1.00	1.08
	PARKS	OSP	19.81	15.00	2.97
TOTAL OPEN SPACE			133.64	3.08	4.11
	URBAN RESERVE	UR	9.64	15.00	1.45
TOTAL URBAN RESERVE			9.64	15.00	1.45
TOTAL EVANS DITCH DRAINAGE BASIN			1,613.64	48.05	775.29

ID	Street	Size	Length
EV0001-EV0002		12	932
EV0002-EV0003		15	268
EV0003-EV0004		15	195
EV0005-EV0006	TULARE AVE	12	308
EV0006-EV0007	TULARE AVE	12	307
EV0007-EV0008	TULARE AVE	12	333
EV0008-EV0009	TULARE AVE	12	389
EV0009-EV0010	TULARE AVE	12	320
EV0010-EV0012	TULARE AVE	12	438
EV0011-EV0010	ENCINA ST.	12	450
EV0012-EV0013	TULARE AVE	12	295
EV0013-EV0014	TULARE AVE	12	354
EV0014-EV0015	TULARE AVE	12	295
EV0015-EV0016	TULARE AVE	15	275
EV0016-EV0017	TULARE AVE	15	281
EV0017-EV0022	TULARE AVE	18	643
EV0018-EV0019	CONYER ST.	12	332
EV0019-EV0020	CONYER ST.	12	322
EV0020-EV0021	CONYER ST.	12	320
EV0021-EV0017	CONYER ST.	12	319
EV0022-EV0023	SOWELL	18	990
EV0024-EV0025	DOLLINER S	12	226
EV0026-EV0027		12	166
EV0028-EV0029	COUNTY CEN	12	275
EV0029-EV0030	COUNTY CEN	12	361
EV0030-EV0031	COUNTY CEN	12	523
EV0031-EV0032	COUNTY CEN	12	941
EV0032-EV0033	COUNTY CEN	12	315
EV0033-EV0045	COUNTY CEN	12	333
EV0034-EV0035	UNIVERSITY	12	709
EV0035-EV0037	UNIVERSITY	12	308
EV0036-EV0035	CAMBRIDGE	12	375
EV0037-EV0038		12	17
EV0038-EV0039	UNIVERSITY	12	292
EV0039-EV0044	WALNUT	18	1,295
EV0040-EV0041	CUTLER CT.	0	69
EV0041-EV0042	CUTLER	12	397
EV0042-EV0043	UNIVERSITY	12	87
EV0043-EV0039	UNIVERSITY	12	185
EV0044-EV0045	COUNTY CEN	18	203
EV0046-EV0047	CUTLER	15	275
EV0047-EV0049	CHINOWORTH	24	471
EV0048-EV0047	CHINOWORTH	12	241
EV0050-EV0051	CALDWELL	12	607
EV0051-EV0052	CRENSHAW	12	341
EV0052-EV0053	CRENSHAW	15	619
EV0053-EV0054	CHESTNUT	18	707
EV0054-EV0057	CHESTNUT	24	78
EV0055-EV0056	HEMLOCK	18	100
EV0056-EV0054		21	242
EV0057-EV0058	PARKWOOD	27	198
EV0058-EV0059		30	356
EV0059-EV0060		30	118

ID	Street	Size	Length
EV0060-EV0061		30	73
EV0080-EV0081	LINDA VIST	12	148
EV0081-EV0082		12	250
EV0082-EV0083	COUNTY CEN	15	270
EV0083-EV0084	COUNTY CEN	15	119
EV0084-EV0085	COUNTY CEN	15	164
EV0085-EV0087	COUNTY CEN	18	284
EV0086-EV0085	ASHLAND	12	374
EV0087-EV0089	COUNTY CEN	18	283
EV0088-EV0087	BEECH ST.	12	389
EV0089-EV0091	COUNTY CEN	18	170
EV0090-EV0089	MARY AVE.	12	280
EV0091-EV0092	COUNTY CEN	18	42
EV0092-EV0095	COUNTY CEN	18	51
EV0093-EV0092		12	243
EV0094-EV0095	SEEGER LA	12	293
EV0095-EV0096	COUNTY CEN	18	323
EV0096-EV0097	COUNTY CEN	18	189
EV0097-EV0098		18	295
EV0098-EV0044	WALNUT	18	71
EV0099-EV0100	WALNUT AVE	12	217
EV0100-EV0101	WALNUT AVE	18	559
EV0101-EV0104	WALNUT	18	664
EV0102-EV0103	WOODLAND	0	252
EV0103-EV0101	WOODLAND	0	257
EV0104-EV0098	WALNUT	18	419

City of Visalia
Storm Water Master Plan and Management Program
EVANS DITCH DRAINAGE BASIN
DRAINAGE AREA MODEL DATA

03/25/93

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
ED01	0.09661	56	44	74	98	7	45	8	2	0	0	2
ED02	0.15916	39	61	75	98	6	52	29	15	0	0	2
ED03	0.36663	40	60	75	98	23	91	106	15	0	0	3
ED04	0.41279	46	54	74	98	11	143	40	0	70	0	2
ED05	0.09079	60	40	74	98	8	42	4	0	4	0	2
ED06	0.37817	55	45	74	98	17	187	18	0	19	0	2
ED07	0.16496	58	42	76	98	4	102	0	0	0	0	2
ED08	0.02378	63	37	67	98	3	13	0	0	0	0	2
ED09	0.53528	54	46	77	98	55	177	20	0	90	0	2
ED10	0.10678	82	18	76	98	63	0	0	0	0	6	1
ED11	0.18636	57	43	79	98	13	106	0	0	0	0	2

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ID ED-02                                                                    10
IT     5                   300                                              20
IO     5                                                                    30
KK  ED01 BASIN                                                              40
BA 0.097                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      74       0       0      98       0                           80
UK   150  0.0010    0.30      56                                           90
UK    50  0.0010    0.10      44                                          100
RK   660   .0010    .020     .01    TRAP      20       1                  110
RK  1000   .0010    .020    .024    TRAP      20       1                  120
RK  2000   .0010    .020            TRAP      20       1      NO          130
KK 01-02 ROUTE                                                             140
RK  4359   .0010    .020            TRAP      20       1                  150
KK  ED02 BASIN                                                             160
BA 0.159                                                                   170
LS     0      75       0       0      98       0                          180
UK   150  0.0010    0.30      39                                          190
UK    50  0.0010    0.10      61                                          200
RK   660   .0010    .020     .01    TRAP      20       1                  210
RK  1750   .0010    .020    .041    TRAP      20       1                  220
RK  2000   .0010    .020            TRAP      20       1      NO          230
KK    02 ADD                                                               240
HC     2                                                                   250
KK   S15 STORAGE/PUMP                                                     260
RS     1    STOR                                                          270
SV     0      .5     1.0     2.0     2.5     3.0       4       8      10      15  280
SE     0       1       2       3       4       5       6       7       8       9  290
SS   8.5     100     3.0     1.5                                           300
ST     9     250     3.0     1.5                                           310
WP    .1    3.12       9    EP14                                          320
KK  EP14 RETRIEVE PUMP                                                     330
WR  EP14                                                                   340
KK    03 ADD                                                               350
HC     2                                                                   360
KK 03-04 ROUTE                                                             370
RK  4328   .0010    .035            TRAP       8       1                  380
KK  ED03 BASIN                                                             390
BA 0.367                                                                   400
LS     0      75       0       0      98       0                          410
UK    20  0.0010    0.40      40                                          420
UK   200  0.0010    0.10      60                                          430
RK   660   .0010    .020     .01    TRAP      20       1                  440
RK  2500   .0010    .020    .059    TRAP      20       1                  450
RK  1600   .0010    .020            TRAP      20       1      NO          460
KK    04 ADD                                                               470
HC     2                                                                   480
KK    S9 STORAGE/PUMP                                                      490
RS     1    STOR                                                          500
SV     0       5      10      15      20      25      30      40          510
SE     0       1       2       3       4       5       6       7          520
SS     6     250     3.0     1.5                                           530
ST     7     250     3.0     1.5                                           540
WP    .1     3.0       6     PS9                                          550
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KK   PS9 RETREIVE                                                          560
WR   PS9                                                                   570
KK    05 ADD                                                               580
HC     2                                                                   590
KK 05-06 ROUTE                                                             600
RK  8846   .0010    .035           TRAP       8       1                    610
KK  ED04 BASIN                                                             620
BA 0.413                                                                   630
LS     0      74       0       0      98       0                          640
UK   150  0.0010    0.30      46                                           650
UK    50  0.0010    0.10      54                                           660
RK   660   .0010    .020     .01    TRAP      20       1                   670
RK  1500   .0010    .020    .036    TRAP      20       1                   680
RK  5000   .0010    .020            TRAP      20       1      NO           690
KK EP15W WETWELL/PUMP                                                      700
RS     1    STOR                                                           710
SV     0       1       2       3       5      10      35      50     100   720
SE     0       1       2       3       4       5       6       7       8   730
SS   8.8     250     3.0     1.5                                           740
ST     9     250     3.0     1.5                                           750
WP    .1    3.12       9    EP15                                           760
KK  EP15 RETRIEVE PUMP                                                     770
WR  EP15                                                                   780
KK    06 ADD                                                               790
HC     3                                                                   800
KK 06-07 ROUTE                                                             810
RK  2563   .0010    .035           TRAP       7       1                    820
KK  ED05 BASIN                                                             830
BA 0.091                                                                   840
LS     0      74       0       0      98       0                          850
UK   150  0.0010    0.30      60                                           860
UK    50  0.0010    0.10      40                                           870
RK   660   .0010    .020     .01    TRAP      20       1                   880
RK  1000   .0010    .020    .024    TRAP      20       1                   890
RK  1750   .0010    .020            TRAP      20       1      NO           900
KK    07 ADD                                                               910
HC     2                                                                   920
KK 07-08 ROUTE                                                             930
RK  4418   .0010    .035           TRAP       7       1                    940
KK  ED06 BASIN                                                             950
BA 0.378                                                                   960
LS     0      74       0       0      98       0                          970
UK   150  0.0010    0.30      55                                           980
UK    50  0.0010    0.10      45                                           990
RK   660   .0010    .020     .01    TRAP      20       1                  1000
RK  2000   .0010    .020    .047    TRAP      20       1                  1010
RK  3250   .0010    .020            TRAP      20       1      NO          1020
KK EP13W WETWELL/PUMP                                                     1030
RS     1    STOR                                                          1040
SV     0       1       2       3       5      10      35      50     100  1050
SE     0       1       2       3       4       5       6       7       8  1060
SS   8.8     250     3.0     1.5                                          1070
ST     9     250     3.0     1.5                                          1080
WP    .1    9.81       9    EP13                                          1090
KK  EP13 RETRIEVE PUMP                                                    1100
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WR  EP13                                                                    1110
KK    08 ADD                                                                1120
HC     3                                                                    1130
KK 08-09 ROUTE                                                              1140
RK  4090   .0010    .035           TRAP       7       1                     1150
KK  ED08 BASIN                                                              1160
BA 0.024                                                                    1170
LS     0      67       0       0      98       0                           1180
UK   150  0.0010    0.30      63                                           1190
UK    50  0.0010    0.10      37                                           1200
RK   660   .0010    .020     .01    TRAP      20       1                    1210
RK  1000   .0010    .020           TRAP      20       1      NO            1220
KK EP20W WETWELL/PUMP                                                       1230
RS     1    STOR                                                           1240
SV     0       1       2       3       5      10      35      50     100     200  1250
SE     0       1       2       3       4       5       6       7       8       9  1260
SS   8.8     250     3.0     1.5                                            1270
ST     9     250     3.0     1.5                                            1280
WP    .1    5.79       9    EP20                                           1290
KK  EP20 RETRIEVE PUMP                                                      1300
WR  EP20                                                                    1310
KK    09 ADD                                                                1320
HC     3                                                                    1330
KK 09-10 ROUTE                                                              1340
RK  4954   .0010    .035           TRAP      10       1                     1350
KK  ED09 BASIN                                                              1360
BA 0.535                                                                    1370
LS     0      77       0       0      98       0                           1380
UK   150  0.0010    0.30      54                                           1390
UK    50  0.0010    0.10      46                                           1400
RK   660   .0010    .020     .01    TRAP      20       1                    1410
RK  1250   .0010    .020    .030    TRAP      20       1                    1420
RK  2500   .0010    .020           TRAP      20       1      NO            1430
KK    10 ADD                                                                1440
HC     2                                                                    1450
KK   S10 STORAGE/PUMP                                                      1460
RS     1    STOR                                                           1470
SV     0       5      10      15      20      25      35    39.2      45      70  1480
SE     0       1       2       3       4       5       6       7       8      10  1490
SS   9.8     250     3.0     1.5                                            1500
ST    10     250     3.0     1.5                                            1510
WP    .1     4.0       9    PS10                                           1520
KK  PS10 RETRIEVE PUMP                                                      1530
WR  PS10                                                                    1540
KK    11 ADD                                                                1550
HC     2                                                                    1560
KK 11-12 ROUTE                                                              1570
RK  4558   .0010    .035           TRAP       7       1                     1580
KK  ED11 BASIN                                                              1590
BA 0.186                                                                    1600
LS     0      79       0       0      98       0                           1610
UK   150  0.0010    0.30      57                                           1620
UK    50  0.0010    0.10      43                                           1630
RK   660   .0010    .020     .01    TRAP      20       1                    1640
RK  1980   .0010    .020    .063    TRAP      20       1                    1650
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RK  1980   .0010    .020            TRAP      20       1      NO                1660
KK  ED10 BASIN                                                                 1670
BA 0.107                                                                       1680
LS     0      76       0       0      98       0                               1690
UK   300  0.0010    0.20      82                                               1700
UK   100  0.0010    0.10      18                                               1710
RK   660   .0010    .020     .01    TRAP      20       1                       1720
RK   750   .0010    .020    .018    TRAP      20       1                       1730
RK  2000   .0010    .020            TRAP      20       1      NO                1740
KK 12-13 ROUTE                                                                 1750
RK  7613   .0010    .020            TRAP      20       1                       1760
KK    12 ADD                                                                   1770
HC     2                                                                       1780
KK   S12 STORAGE                                                              1790
RS     1    STOR                                                               1800
SV     0      50     200     500    1000     1500                             1810
SE     0       1       5      10      16       17                             1820
SS    16     250     3.0     1.5                                              1830
ST    17     250     3.0     1.5                                              1840
ZZ                                                                             1850
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City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

05/13/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
GD-S39	BASIN TYPE C	35,000	24,412	78,954	238,773			75,428	452,568
GD-S40	BASIN TYPE A2	35,000	374,717	562,076	229,093			240,177	1,441,064
SUBTOTAL		70,000	399,130	641,030	467,867			315,605	1,893,632
COLLECTOR DRAINS									
GD0001-GD0002	PIPE						314,880	62,976	377,856
GD0002-GD0003	PIPE						517,940	103,588	621,528
GD0003-GD0004	PIPE						189,385	37,877	227,262
GD0005-GD0006	PIPE						194,184	38,837	233,021
GD0006-GD0007	PIPE						382,920	76,584	459,504
GD0008-GD0010	PIPE						230,600	46,120	276,720
GD0009-GD0020	PIPE						223,680	44,736	268,416
GD0010-GD0011	PIPE						129,700	25,940	155,640
GD0011-GD0012	PIPE						150,742	30,148	180,890
GD0017-GD0007	PIPE						77,604	15,521	93,125
GD0101-GD0002	PIPE						314,880	62,976	377,856
GD0102-GD0003	PIPE						238,320	47,664	285,984
GD0103-GD0005	PIPE						287,400	57,480	344,880
GD0104-GD0006	PIPE						168,200	33,640	201,840
GD0106-GD0009	PIPE						212,400	42,480	254,880
GD0107-GD0007	PIPE						174,174	34,835	209,009
GD0109-GD0009	PIPE						160,254	32,051	192,305
GD0110-GD0010	PIPE						132,850	26,570	159,420
GD0111-GD0011	PIPE						117,090	23,418	140,508
GD0112-GD0012	PIPE						131,250	26,250	157,500
GD0113-GD0013	PIPE						130,150	26,030	156,180
GD0114-GD0015	PIPE						96,450	19,290	115,740

City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
SUBTOTAL							4,575,053	915,011	5,490,064
TOTAL FUTURE DEVELOPMENT		70,000	399,130	641,030	467,867		4,575,053	1,230,616	7,383,696
TOTAL BASIN IMPROVEMENTS		70,000	399,130	641,030	467,867		4,575,053	1,230,616	7,383,696

Mill Basin 533

City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/17/93

SECTION ID U/S-D/S	Length (ft)	Slope (f/f)	Mann's N	Pipe Dia (in)	Channel Area (sf)	Channel WP (ft)	Capacity (cfs)	Design Runoff 2 Yr (cfs)	Design Runoff 10 Yr (cfs)	Deficiency 2 Yr (cfs)	Deficiency 10 Yr (cfs)	Proposed Slope (f/f)	Proposed Pipe Dia (in)	Channel Base (ft)	Channel Depth (ft)	Type	Capacity (cfs)	ROW Cost ($/ac)	Section Cost ($)
COLLECTOR DRAINS																			
GD0001-GD0002	2,624	0.0010	0.013	48			45	71	138	26	93	0.0010	48			PIPE	45		$377,856
GD0002-GD0003	2,726	0.0010	0.013	48			45	114	221	69	176	0.0010	60			PIPE	82		$621,528
GD0003-GD0004	~~773~~							147	285	147	285	0.0010	72			PIPE	134		$227,262
GD0005-GD0006	3,348							12	12	12	12	0.0010	30			PIPE	13		$233,021
GD0006-GD0007	3,191							41	67	41	67	0.0010	48			PIPE	45		$459,504
GD0008-GD0010	4,612											0.0010	24			PIPE	7		$276,720
GD0009-GD0020	~~1,864~~							40	82	40	82	0.0010	48			PIPE	45		$268,416
GD0010-GD0011	2,594							8	16	8	16	0.0010	24			PIPE	7		$155,640
GD0011-GD0012	2,599							12	24	12	24	0.0010	30			PIPE	13		$180,890
GD0012-GD0013	2,574	0.0010	0.013	48			45	15	31										
GD0013-GD0014	2,079	0.0010	0.013	48			45	18	36										
GD0017-GD0007	~~1,338~~							12	24	12	24	0.0010	30			PIPE	13		$93,125
GD0101-GD0002	~~2,624~~							47	93	47	93	0.0010	48			PIPE	45		$377,856
GD0102-GD0003	~~1,986~~							40	78	40	78	0.0010	48			PIPE	45		$285,984
GD0103-GD0005	~~2,874~~							27	51	27	51	0.0010	42			PIPE	32		$344,880
GD0104-GD0006	~~1,682~~							29	57	29	57	0.0010	42			PIPE	32		$201,840
GD0106-GD0009	~~1,770~~							29	60	29	60	0.0010	48			PIPE	45		$254,880
GD0107-GD0007	~~3,003~~							13	27	13	27	0.0010	30			PIPE	13		$209,009
GD0109-GD0009 *	~~2,763~~							11	22	11	22	0.0010	30			PIPE	13		$192,305
GD0110-GD0010 *	~~2,657~~							5	12	5	12	0.0010	24			PIPE	7		$159,420
GD0111-GD0011 *	2,602							3	9	3	9	0.0010	18			PIPE	3		$131,141
GD0112-GD0012 *	2,625							4	9	4	9	0.0010	24			PIPE	7		$157,500
GD0113-GD0013 *	~~2,603~~							4	8	4	8	0.0010	24			PIPE	7		$156,180
GD0114-GD0015 *	~~1,929~~							4	7	4	7	0.0010	24			PIPE	7		$115,740
	59,440																		$5,480,696

installed as 48"; Devel. Inst.; 24": 7189' @ 42 = 301,938; 30" 7104 @ 37 = 262,848; 36"; 42 4556 @ 50 = 227,800; 40": 10868 @ 57 = 619,479; 60 2,726 @ 71 193,546; 72: 773 @ 85 = 65,705; Σ 1,671,316 (9-6-93); + CITY INST. = 1,421,975; $ ~~2,750,174~~ ~~3,055,124~~ (9-6-93); NOT INCLUDED IN TOTAL; included (9-6-93); w/ 20% contig.; 10 yr; @ RO 88; @ PLAZA; @ RO 76; @ BASIN

* INDUS AREA

City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
BASIN TOTAL	59,440																BASIN TOTAL		$5,480,696

City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

03/17/93

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
GD-S39 — @ Demaree					30.0	74.0	119.0	30.0	74.0	119.0	LC	6.3	74.0	7.4	12,500	452,568
GD-S40 @ Shirk					38.0	71.0	99.0	38.0	71.0	99.0	A2		71.0	7.1	60,000	1,441,064
GD-S6			135.0		27.0	60.0	99.0									

7.4 K

1000 cc impervious surface

- 2yr-2dy : 1.55" ⇒ 129 Ac-Ft
- 10yr-2dy = 2.64" ⇒ 220 Ac-Ft
- 50yr-10dy = 5.64" ⇒ 470 Ac-Ft

Basin: S6: 99 @ Ac-Ft
S40: 99
119
317 Ac

Hwy 198

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	274.08	20.00	54.82
	LOW DENSITY	LDR	1,306.55	43.00	561.82
	MEDIUM DENSITY	MDR	95.87	70.00	67.11
	HIGH DENSITY	HDR	13.97	80.00	11.18
TOTAL RESIDENTIAL			1,690.48	41.11	694.92
	CONVENIENCE CENTER	CC	3.65	95.00	3.47
	SHOPPING/OFFICE CENTER	CSO	17.11	80.00	13.69
	CENTRAL BUSINESS DISTRICT	CBD	0.05	95.00	0.04
	HIGHWAY	CH	72.10	95.00	68.49
	SERVICE	CS	39.31	95.00	37.34
	PROFESSIONAL/ADMINISTRATIO	PA	161.17	70.00	112.82
TOTAL COMMERCIAL/OFFICE			293.38	80.39	235.85
	PUBLIC/INSTITUTIONAL	PI	161.10	60.00	96.66
TOTAL COMMUNITY FACILITIES			161.10	60.00	96.66
	AGRICULTURE	OSA	68.07	1.00	0.68
	CONSERVATION	OSC	18.53	1.00	0.19
	PARKS	OSP	22.01	15.00	3.30
TOTAL OPEN SPACE			108.61	3.84	4.17
	URBAN RESERVE	UR	7.25	15.00	1.09
TOTAL URBAN RESERVE			7.25	15.00	1.09
	LIGHT WITH STORAGE	IL-S	865.01	10.00	86.50
	HEAVY WITH STORAGE	IH-S	117.53	10.00	11.75
TOTAL INDUSTRY WITH STORAGE			982.53	10.00	98.25
TOTAL GOSHEN DRAIN DRAINAGE BASIN			3,243.35	34.87	1,130.94

City of Visalia
Storm Water Master Plan and Management Program
GOSHEN DRAIN DRAINAGE BASIN
DRAINAGE AREA MODEL DATA

03/25/93

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
GD01	0.70514	52	48	73	98	0	342	52	1	55	0	2
GD02	0.41758	50	50	74	98	13	221	4	0	30	0	2
GD03	0.37357	54	46	73	98	7	183	0	0	49	0	2
GD04	0.22972	56	44	72	98	11	129	0	0	7	0	2
GD05	0.26042	57	43	73	98	0	167	0	0	0	0	2
GD06	0.10598	54	46	74	98	0	61	7	0	0	0	2
GD07	0.16229	54	46	74	98	0	94	10	0	0	0	2
GD08	0.20915	30	70	75	98	0	0	133	1	0	0	3
GD09	0.25896	76	24	74	98	141	16	1	0	7	0	1
GD10	0.24469	78	22	70	98	90	1	53	0	13	0	1
GD11	0.25985	89	11	69	98	43	0	94	3	0	27	3
GD12	0.25720	92	8	68	98	0	0	128	1	0	36	3
GD13	0.25874	90	10	63	98	0	0	165	0	0	0	3
GD14	0.25008	90	10	62	98	0	0	118	42	0	0	3
GD16	0.24984	91	9	64	98	14	0	88	57	0	0	3
GD17	0.23820	53	47	73	98	1	121	4	26	0	0	2
GD18	0.43035	57	43	70	98	0	68	159	47	0	2	3
GD19	0.15597	82	18	65	98	2	0	84	11	0	4	3

```
ID GB-02                                                                    10
IT     5                    300                                             20
IO     5                                                                    30
KK  GD01 BASIN                                                              40
BA 0.705                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      73       0       0      98       0                           80
UK   150  0.0010    0.30      52                                           90
UK    50  0.0010    0.10      48                                           100
RK   660   .0010    .020    .01    TRAP      20       1                    110
RK  4000   .0010    .020    .095   TRAP      20       1                    120
RK  4000   .0010    .020           TRAP      20       1      NO            130
KK 01-02 ROUTE                                                              140
RK  2624   .0010    .020           TRAP      20       1                    150
KK  GD02 BASIN                                                              160
BA 0.418                                                                    170
LS     0      74       0       0      98       0                           180
UK   150  0.0010    0.30      50                                           190
UK    50  0.0010    0.10      50                                           200
RK   660   .0010    .020    .01    TRAP      20       1                    210
RK  3500   .0010    .020    .081   TRAP      20       1                    220
RK  2500   .0010    .020           TRAP      20       1      NO            230
KK    02 ADD                                                                240
HC     2                                                                    250
KK 02-03 ROUTE                                                              260
RK  2726   .0010    .020           TRAP      20       1                    270
KK  GD03 BASIN                                                              280
BA 0.374                                                                    290
LS     0      73       0       0      98       0                           300
UK   150  0.0010    0.30      54                                           310
UK    50  0.0010    0.10      46                                           320
RK   660   .0010    .020    .01    TRAP      20       1                    330
RK  3000   .0010    .020    .071   TRAP      20       1                    340
RK  2500   .0010    .020           TRAP      20       1      NO            350
KK    03 ADD                                                                360
HC     2                                                                    370
KK 03-04 ROUTE                                                              380
RK   773   .0010    .020           TRAP      20       1                    390
KK  GD04 BASIN                                                              400
BA 0.230                                                                    410
LS     0      72       0       0      98       0                           420
UK   150  0.0010    0.30      56                                           430
UK    50  0.0010    0.10      44                                           440
RK   660   .0010    .020    .01    TRAP      20       1                    450
RK  2000   .0010    .020    .047   TRAP      20       1                    460
RK  1000   .0010    .020           TRAP      20       1      NO            470
KK    04 ADD                                                                480
HC     2                                                                    490
KK   S39 STORAGE/PUMP                                                      500
RS     1    STOR                                                           510
SV     0       5      10      15      20      25      35      50     125     200  520
SE     0       1       2       3       4       5       6       7       8       9  530
SS     8     250     3.0     1.5                                           540
ST     9     250     3.0     1.5                                           550
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WP    .1    12.4       9    PS39                                          560
KK  PS39 RETRIEVE PUMP                                                   570
WR  PS39                                                                 580
KK     05 ADD                                                            590
HC     2                                                                 600
KK 05-06 ROUTE                                                           610
RK  3348   .0010    .020          TRAP     20      1                     620
KK  GD05 BASIN                                                           630
BA 0.260                                                                 640
LS     0      73       0       0     98      0                          650
UK   150  0.0010    0.30      57                                         660
UK    50  0.0010    0.10      43                                         670
RK   660   .0010    .020     .01   TRAP     20      1                    680
RK  1980   .0010    .020    .063   TRAP     20      1                    690
RK  1980   .0010    .020          TRAP     20      1    NO              700
KK     06 ADD                                                            710
HC     2                                                                 720
KK 06-07 ROUTE                                                           730
RK  3191   .0010    .020          TRAP     20      1                     740
KK  GD07 BASIN                                                           750
BA 0.162                                                                 760
LS     0      74       0       0     98      0                          770
UK   150  0.0010    0.30      54                                         780
UK    50  0.0010    0.10      46                                         790
RK   660   .0010    .020     .01   TRAP     20      1                    800
RK  1980   .0010    .020    .063   TRAP     20      1                    810
RK  1980   .0010    .020          TRAP     20      1    NO              820
KK  GD06 BASIN                                                           830
BA 0.106                                                                 840
LS     0      74       0       0     98      0                          850
UK   150  0.0010    0.30      54                                         860
UK    50  0.0010    0.10      46                                         870
RK   660   .0010    .020     .01   TRAP     20      1                    880
RK  1980   .0010    .020    .063   TRAP     20      1                    890
RK  1980   .0010    .020          TRAP     20      1    NO              900
KK 17-07 ROUTE                                                           910
RK  1337   .0010    .020          TRAP     20      1                    920
KK  GD09 BASIN                                                           930
BA 0.259                                                                 940
LS     0      74       0       0     98      0                          950
UK   300  0.0010    0.20      76                                         960
UK   100  0.0010    0.10      24                                         970
RK   660   .0010    .020     .01   TRAP     20      1                    980
RK  1980   .0010    .020    .063   TRAP     20      1                    990
RK  1980   .0010    .020          TRAP     20      1    NO             1000
KK     07 ADD                                                           1010
HC     4                                                                1020
KK  GD08 BASIN                                                          1030
BA 0.209                                                                1040
LS     0      75       0       0     98      0                         1050
UK    20  0.0010    0.40      30                                        1060
UK   200  0.0010    0.10      70                                        1070
RK   660   .0010    .020     .01   TRAP     20      1                   1080
RK  1980   .0010    .020    .063   TRAP     20      1                   1090
RK  1980   .0010    .020          TRAP     20      1    NO             1100
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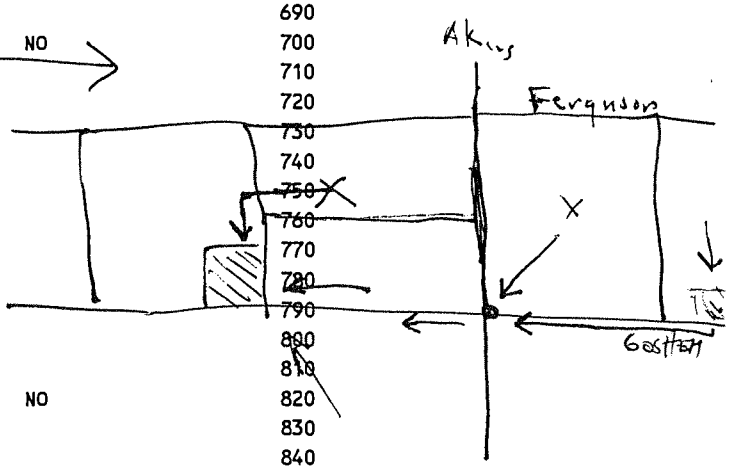

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KK  GD10 BASIN                                                          1110
BA 0.245                                                                1120
LS     0      70       0       0      98       0                       1130
UK   300  0.0010    0.20      78                                       1140
UK   100  0.0010    0.10      22                                       1150
RK   660   .0010    .020    .01    TRAP      20       1                1160
RK  1980   .0010    .020   .063    TRAP      20       1                1170
RK  1980   .0010    .020           TRAP      20       1      NO        1180
KK    09 ADD                                                            1190
HC     2                                                                1200
KK 09-20 ROUTE                                                          1210
RK  1500   .0010    .020           TRAP      20       1                1220
KK   S20 ADD                                                           1230
HC     2                                                                1240
KK   S40 STORAGE/PUMP                                                  1250
RS     1    STOR                                                        1260
SV     0       5      10      15      20      25      50      75     100 1270
SE     0       1       2       3       4       5       6       7      10 1280
SS   9.8     250     3.0     1.5                                       1290
ST    10     250     3.0     1.5                                       1300
WP    .1     3.6       7   PS40                                       1310
KK  PS40 RETRIEVE PUMP                                                  1320
WR  PS40                                                                1330
KK    08 ADD                                                            1340
HC     2                                                                1350
KK  8-10 ROUTE                                                          1360
RK  5100   .0010    .020           TRAP      20       1                1370
KK  GD11 BASIN                                                          1380
BA 0.260                                                                1390
LS     0      69       0       0      98       0                       1400
UK    20  0.0010    0.40      89                                       1410
UK   200  0.0010    0.10      11                                       1420
RK   660   .0010    .020    .01    TRAP      20       1                1430
RK  1980   .0010    .020   .063    TRAP      20       1                1440
RK  1980   .0010    .020           TRAP      20       1      NO        1450
KK    10 ADD                                                            1460
HC     2                                                                1470
KK 10-11 ROUTE                                                          1480
RK  2216   .0010    .020           TRAP      20       1                1490
KK  GD12 BASIN                                                          1500
BA 0.257                                                                1510
LS     0      68       0       0      98       0                       1520
UK    20  0.0010    0.40      92                                       1530
UK   200  0.0010    0.10       8                                       1540
RK   660   .0010    .020    .01    TRAP      20       1                1550
RK  1980   .0010    .020   .063    TRAP      20       1                1560
RK  1980   .0010    .020           TRAP      20       1      NO        1570
KK    11 ADD                                                            1580
HC     2                                                                1590
KK 11-12 ROUTE                                                          1600
RK  2625   .0010    .035           TRAP      10       2                1610
KK  GD13 BASIN                                                          1620
BA 0.259                                                                1630
LS     0      63       0       0      98       0                       1640
UK    20  0.0010    0.40      90                                       1650
```

UK	200	0.0010	0.10	10				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	12	ADD						
HC	2							
KK	12-13	ROUTE						
RK	2574	.0010	.035		TRAP	10	2	
KK	GD14	BASIN						
BA	0.250							
LS	0	62	0	0	98	0		
UK	20	0.0010	0.40	90				
UK	200	0.0010	0.10	10				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	13	ADD						
HC	2							
KK	13-14	ROUTE						
RK	2613	.0010	.035		TRAP	10	2	
KK	GD16	BASIN						
BA	0.250							
LS	0	64	0	0	98	0		
UK	20	0.0010	0.40	91				
UK	200	0.0010	0.10	9				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	14	ADD						
HC	2							
KK	GD17	BASIN						
BA	0.238							
LS	0	73	0	0	98	0		
UK	150	0.0010	0.30	53				
UK	50	0.0010	0.10	47				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	GD18	BASIN						
BA	0.430							
LS	0	70	0	0	98	0		
UK	20	0.0010	0.40	57				
UK	200	0.0010	0.10	43				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	GD19	BASIN						
BA	0.156							
LS	0	65	0	0	98	0		
UK	20	0.0010	0.40	82				
UK	200	0.0010	0.10	18				
RK	660	.0010	.020	.01	TRAP	20	1	
RK	1980	.0010	.020	.063	TRAP	20	1	
RK	1980	.0010	.020		TRAP	20	1	NO
KK	S6	ADD						

```
HC    4                                                                    2210
KK    S6 STORAGE GOSHEN BASIN                                              2220
RS    1   STOR                                                             2230
SV    0     5     10    15    20    25    35    50    100   200            2240
SE    0     1     2     3     4     5     6     7     8     9              2250
SS  8.8   250   3.0   1.5                                                  2260
ST    9   250   3.0   1.5                                                  2270
ZZ                                                                         2280
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City of Visalia
Storm Water Master Plan and Management Program
MILL CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
EXISTING DEFICIENCIES									
STORAGE BASINS									
MC-S32	BASIN TYPE A2	35,000	126,816	190,224	61,307			82,669	496,016
MC-S33	BASIN TYPE A2	35,000	230,070	345,105	129,067			147,848	887,089
MC-S34	BASIN TYPE A2	35,000	220,498	330,748	122,613			141,772	850,631
MC-S50	BASIN TYPE X1			623,438	429,147			210,517	1,263,101
SUBTOTAL		105,000	577,384	1,489,514	742,133			582,806	3,496,837
COLLECTOR DRAINS									
MC0031-MC0006	PIPE						104,320	20,864	125,184
MC0032-MC0007	PIPE						305,815	61,163	366,978
MC0033-MC0007	PIPE						102,320	20,464	122,784
MC0034-MC0008	PIPE						217,310	43,462	260,772
MC0035-MC0009	PIPE						24,160	4,832	28,992
MC0036-MC0014	PIPE						40,590	8,118	48,708
SUBTOTAL							794,515	158,903	953,418
MAIN DRAINS									
MC0012-MC0013	UNLINED CHANNEL				47,956			9,591	57,547
MC0013-MC0014	UNLINED CHANNEL				14,133			2,827	16,960
MC0015-MC0016	UNLINED CHANNEL				78,364			15,673	94,037
MC0016-MC0017	UNLINED CHANNEL				13,748			2,750	16,498
MC0017-MC0018	UNLINED CHANNEL				69,357			13,871	83,228
SUBTOTAL					223,559			44,712	268,270
TOTAL EXISTING DEFICIENCIES		105,000	577,384	1,489,514	965,692		794,515	786,421	4,718,525

City of Visalia
Storm Water Master Plan and Management Program
MILL CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
COLLECTOR DRAINS									
MC0026-MC0027	PIPE						175,682	35,136	210,818
MC0028-MC0029	PIPE						161,762	32,352	194,114
MC0037-MC0038	PIPE						468,255	93,651	561,906
MC0039-MC0015	PIPE						70,700	14,140	84,840
MC0101-MC0029	PIPE						371,845	74,369	446,214
MC0102-MC0020	PIPE						393,080	78,616	471,696
MC0103-MC0020	PIPE						145,500	29,100	174,600
SUBTOTAL							1,786,824	357,365	2,144,189
TOTAL FUTURE DEVELOPMENT							1,786,824	357,365	2,144,189
TOTAL BASIN IMPROVEMENTS		105,000	577,384	1,489,514	965,692		2,581,339	1,143,786	6,862,714

City of Visalia
Storm Water Master Plan and Management Program
MILL CREEK DRAINAGE BASIN

PIPES AND CHANNELS SUMMARY

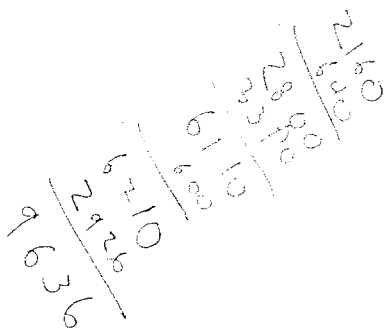
03/15/93

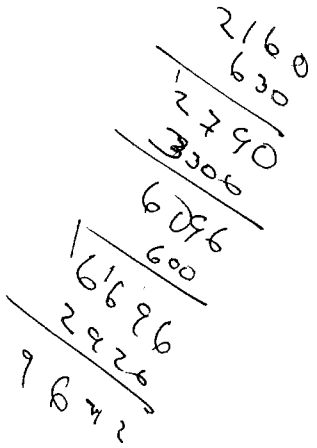
SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS						
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
MC0026-MC0027	3,029							11	22	11	22	0.0010	30			PIPE	13		$210,818
MC0028-MC0029	2,789							8	16	8	16	0.0010	30			PIPE	13		$194,114
MC0031-MC0006	1,304							20	40	20	40	0.0010	36			PIPE	21		$125,184
MC0032-MC0007	1,973							66	126	66	126	0.0010	54			PIPE	62		$366,978
MC0033-MC0007	1,279							16	32	16	32	0.0010	36			PIPE	21		$122,784
MC0034-MC0008	1,402							60	117	60	117	0.0010	54			PIPE	62		$260,772
MC0035-MC0009	302							16	30	16	30	0.0010	36			PIPE	21		$28,992
MC0036-MC0014	902							3	3	3	3	0.0010	18			PIPE	3		$45,461
MC0037-MC0038	3,021							53	104	53	104	0.0010	54			PIPE	62		$561,906
MC0039-MC0015	1,414							6	6	6	6	0.0010	24			PIPE	7		$84,840
MC0101-MC0029	2,399							50	101	50	101	0.0010	54			PIPE	62		$446,214
MC0102-MC0020	2,536							53	114	53	114	0.0010	54			PIPE	62		$471,696
MC0103-MC0020	2,910							4	8	4	8	0.0010	24			PIPE	7		$174,600
	25,260																		$3,094,360
MAIN DRAINS																			
MC0001-MC0002	2,743	0.0010	0.030		246	47	1,169	36	70										
MC0002-MC0003	1,232	0.0010	0.030		246	47	1,169	38	73										
MC0003-MC0004	4,128	0.0010	0.030		89	26	314	41	75										
MC0004-MC0005	1,126	0.0010	0.030		89	26	314	69	132										
MC0005-MC0006	1,943	0.0010	0.030		189	38	855	75	138										
MC0006-MC0007	4,783	0.0010	0.030		74	23	249	105	200										
MC0007-MC0008	4,239	0.0010	0.030		90	29	301	228	445		144								
MC0008-MC0009	4,269	0.0010	0.030		101	30	354	284	554		200								
MC0009-MC0010	654	0.0010	0.030		101	30	354	312	609		255								
MC0010-MC0011	1,467	0.0010	0.030		183	44	744	323	632										
MC0011-MC0012	2,570	0.0010	0.030		122	35	438	366	710		272								

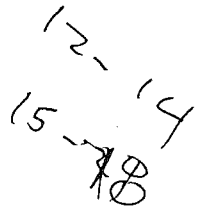
City of Visalia
Storm Water Master Plan and Management Program
MILL CREEK DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/15/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
MC0012-MC0013	2,158	0.0010	0.030		53	23	147	382	745	235	598	0.0010		18.0	4.0	UNLINED CHANNEL	397		$57,547
MC0013-MC0014	636	0.0010	0.030		53	23	147	387	753	240	606	0.0010		18.0	4.0	UNLINED CHANNEL	397		$16,960
MC0014-MC0015	2,418	0.0010	0.030		124	36	445	389	755		310								
MC0015-MC0016	3,306	0.0010	0.030		89	27	310	410	793	100	483	0.0010		20.0	4.0	UNLINED CHANNEL	430		$94,037
MC0016-MC0017	580	0.0010	0.030		89	27	310	417	807	107	497	0.0010		20.0	4.0	UNLINED CHANNEL	430		$16,498
MC0017-MC0018	2,926	0.0010	0.030		89	27	310	422	817	112	507	0.0010		20.0	4.0	UNLINED CHANNEL	430		$83,228
MC0019-MC0020	2,379	0.0010	0.030		144	40	524	426	830		306								
MC0020-MC0021	4,843	0.0010	0.030		144	40	524	458	897		373								
	48,400																		$268,270
BASIN TOTAL	73,660																BASIN TOTAL		$3,362,630







City of Visalia
Storm Water Master Plan and Management Program
MILL CREEK DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

03/25/93

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
MC-S32					8.0	19.0	30.0	8.0	19.0	30.0	A2	3.17	19.0	1.9	60,000	496,016
MC-S33					18.0	40.0	61.0	18.0	40.0	61.0	A2	5.08	40.0	4.0	60,000	887,089
MC-S34 ← Akers					16.0	38.0	61.0	16.0	38.0	61.0	A2	5.54	38.0	3.8	60,000	850,631
MC-S50					200.0	396.0	585.0	200.0	396.0	585.0	X1	50 ac	266.0		12,500	1,263,101
MC-S7			20.0		3.0	6.0	10.0									
MC-S8			13.5		7.0	17.0	26.0		3.5	12.5						

7000.00

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	115.97	20.00	23.19
	LOW DENSITY	LDR	2,541.74	43.00	1,092.95
	MEDIUM DENSITY	MDR	171.15	70.00	119.80
	HIGH DENSITY	HDR	71.78	80.00	57.42
TOTAL RESIDENTIAL			2,900.64	44.59	1,293.37
	CONVENIENCE CENTER	CC	2.91	95.00	2.77
	NEIGHBORHOOD CENTER	CNC	3.43	85.00	2.92
	SHOPPING/OFFICE CENTER	CSO	117.98	80.00	94.39
	COMMUNITY CENTER	CCM	29.38	75.00	22.04
	CENTRAL BUSINESS DISTRICT	CBD	263.97	95.00	250.77
	REGIONAL CENTER	CR	34.69	90.00	31.22
	HIGHWAY	CH	222.60	95.00	211.47
	SERVICE	CS	422.96	95.00	401.81
	PROFESSIONAL/ADMINISTRATIO	PA	546.48	70.00	382.54
TOTAL COMMERCIAL/OFFICE			1,644.41	85.13	1,399.92
	PUBLIC/INSTITUTIONAL	PI	570.28	60.00	342.17
TOTAL COMMUNITY FACILITIES			570.28	60.00	342.17
	LIGHT	IL	0.02	80.00	0.01
TOTAL INDUSTRY			0.02	80.00	0.01
	AGRICULTURE	OSA	406.40	1.00	4.06
	CONSERVATION	OSC	214.23	1.00	2.14
	PARKS	OSP	394.61	15.00	59.19
TOTAL OPEN SPACE			1,015.23	6.44	65.40
	URBAN RESERVE	UR	18.84	15.00	2.83
TOTAL URBAN RESERVE			18.84	15.00	2.83
TOTAL MILL CREEK DRAINAGE BASIN			6,149.41	50.47	3,103.69

ID	Street	Size	Length
MI0001-MI0002	COTTONWOOD	24	487
MI0002-MI0003	COTTONWOOD	24	484
MI0004-MI0005	ROEBEN RD	36	395
MI0005-MI0013	ROEBEN RD	36	330
MI0006-MI0005	CAMBRIDGE	18	174
MI0007-MI0006	CAMBRIDGE	18	332
MI0008-MI0007	CAMBRIDGE	15	340
MI0009-MI0013	JUDY	18	380
MI0011-MI0010	PARADISE	18	320
MI0012-MI0011	PARADISE	18	85
MI0013-MI0014	ROEBEN RD	36	250
MI0014-MI0016	PARADISE	18	297
MI0015-MI0014	ROEBEN RD	30	299
MI0016-MI0010	PARADISE	18	305
MI0040-MI0041	MARY	15	462
MI0041-MI0042	MARY	15	351
MI0042-MI0043	MASELLI	15	258
MI0043-MI0044	MASELLI	18	195
MI0044-MI0049	WAGNER AVE	21	304
MI0045-MI0046	HARTER	12	441
MI0046-MI0047	HARTER	15	356
MI0047-MI0048	MASELLI	15	231
MI0048-MI0044	MASELLI	18	201
MI0049-MI0053	AKERS RD.	21	721
MI0050-MI0051	WALNUT AVE	12	224
MI0051-MI0054	WALNUT AVE	18	103
MI0052-MI0053	WALNUT AVE	18	578
MI0053-MI0080	AKERS ROAD	24	453
MI0054-MI0052	WALNUT AVE	18	246
MI0055-MI0054	TEDDY STRE	15	186
MI0056-MI0055	VASSER	12	296
MI0057-MI0056	TAMARACK	12	508
MI0058-MI0059	TEDDY STRE	12	365
MI0059-MI0060	JUDY CT.	18	480
MI0060-MI0061	JUDY CT.	24	322
MI0061-MI0085	AKERS ROAD	30	203
MI0062-MI0063		12	276
MI0063-MI0064		18	154
MI0064-MI0065		18	74
MI0065-MI0060		18	59
MI0066-MI0046	TEDDY WAY	12	201
MI0080-MI0081	AKERS ROAD	24	72
MI0081-MI0093	AKERS ROAD	30	453
MI0082-MI0083		12	87
MI0083-MI0061	AKERS ROAD	30	74
MI0084-MI0085		12	77
MI0085-MI0094	AKERS ROAD	30	266
MI0086-MI0081	CAMBRIDGE	8	343
MI0087-MI0086	CAMBRIDGE	12	275
MI0088-MI0087		12	263
MI0089-MI0053	WALNUT AVE	18	623
MI0090-MI0089	WALNUT AVE	18	668
MI0091-MI0090	WALNUT AVE	18	531

ID	Street	Size	Length
MI0092-MI0091	WALNUT AVE	18	502
MI0093-MI0083	AKERS ROAD	30	106
MI0094-MI0116	AKERS ROAD	0	63
MI0095-MI0094	DARTMOUTH	30	238
MI0096-MI0095	DARTMOUTH	30	521
MI0097-MI0096	DARTMOUTH	24	628
MI0098-MI0097	CRENSHAW	18	134
MI0099-MI0098		18	142
MI0100-MI0099	HOWARD AV	18	293
MI0101-MI0100	HOWARD AV	15	273
MI0102-MI0101	NANCY	15	316
MI0103-MI0102	IRIS	12	270
MI0104-MI0100	NOYES RD.	12	313
MI0105-MI0097	CRENSHAW	21	518
MI0106-MI0105	PARADISE	12	632
MI0107-MI0105	CRENSHAW	18	236
MI0108-MI0107	JOY	18	255
MI0109-MI0108	ATWOOD ST.	12	393
MI0110-MI0108	ATWOOD ST.	15	480
MI0111-MI0110	VASSER	15	259
MI0112-MI0111		12	857
MI0113-MI0107	CRENSHAW	15	538
MI0114-MI0113	VASSER	15	222
MI0115-MI0114	VASSER	12	282
MI0116-MI0117	AKERS ROAD	30	53
MI0117-MI0118	AKERS ROAD	42	408
MI0118-MI0120	AKERS ROAD	24	16
MI0119-MI0121	AKERS ROAD	42	422
MI0119-MI9999	AKERS ROAD	42	34
MI0120-MI0121	AKERS ROAD	24	94
MI0122-MI0121	WESTGATE	24	474
MI0123-MI0122	PARKWOOD	12	199
MI0124-MI0122	PARKWOOD	24	145
MI0125-MI0124	PARKWOOD	12	197
MI0126-MI0124	PARKWOOD	24	137
MI0127-MI0126	PARKWOOD	24	131
MI0128-MI0127	PARKWOOD	18	349
MI0129-MI0128	PARKWOOD	12	125
MI0130-MI9999	AKERS ROAD	24	45
MI0131-MI0130	TULARE AVE	24	850
MI0132-MI0131	TULARE AVE	24	119
MI0133-MI0132	TULARE AVE	24	333
MI0134-MI0133	TULARE AVE	18	459
MI0135-MI0134	TULARE AVE	18	23
MI0136-MI0135	TULARE AVE	18	536
MI0137-MI0136	TULARE AVE	18	230
MI0138-MI0137	TULARE AVE	15	826
MI0139-MI0137	LINWOOD AV	12	303
MI0140-MI0133		18	293
MI0141-MI0140	NOYES	12	336
MI0142-MI0140	LAUREL AV	18	290
MI0143-MI0142	LAUREL AV	18	121
MI0144-MI0143	LAUREL AV	18	161

ID	Street	Size	Length
MI0145-MI0142	JENNIE	12	352
MI0146-MI0144	KENT	12	424
MI0147-MI0144	LAUREL AV	18	306
MI0148-MI0151	ROVA	15	143
MI0149-MI0148		15	354
MI0150-MI0149		12	290
MI0151-MI0147	ROVA	15	213
MI0152-MI0132		8	375
MI0154-MI0153	AKERS ROAD	42	161
MI0154-MI0180	AKERS ROAD	42	904
MI0155-MI0154	CYPRESS	30	1,447
MI0156-MI0155		12	352
MI0157-MI0155	CYPRESS	30	718
MI0158-MI0157	KENT ST.	12	285
MI0159-MI0157		30	465
MI0160-MI0159	CYPRESS	30	53
MI0161-MI0160	CYPRESS	30	592
MI0162-MI0161	CYPRESS	30	358
MI0163-MI0160	LINWOOD AV	18	336
MI0164-MI0163	MYRTLE RD.	12	338
MI0165-MI0163		18	551
MI0166-MI0165		18	258
MI0167-MI0166		15	91
MI0168-MI0167		21	89
MI0169-MI0168		18	325
MI0170-MI0169		18	227
MI0171-MI0170		12	189
MI0172-MI0171		12	133
MI0173-MI0172	CHINWORTH	12	201
MI0174-MI0166		15	123
MI0175-MI0177		12	67
MI0176-MI0175		12	594
MI0177-MI0174		15	80
MI0178-MI0179	NOYES RD.	12	374
MI0179-MI0180	MINERAL	12	1,769
MI0180-MI0181	AKERS ROAD	42	337
MI0181-MI0183	AKERS ROAD	42	614
MI0183-MI0182	AKERS ROAD	42	486
MI0184-MI0183	HILLSDALE	18	527
MI0185-MI0184	HILLSDALE	18	440
MI0186-MI0185	HILLSDALE	18	469
MI0187-MI0186		12	72
MI0188-MI0186	HILLSDALE	15	380
MI0189-MI0188	HILLSDALE	12	58
MI0190-MI0189		12	457
MI0191-MI0188	COTTONWOOD	12	173
MI0200-MI0153	AKERS ROAD	42	1,476
MI0201-MI0202	TULARE AVE	15	302
MI0202-MI0200	TULARE AVE	30	485
MI0226-MI0227	TOMMY	12	268
MI0227-MI0228	TOMMY	15	180
MI0229-MI0228	TOMMY	15	445
MI0230-MI0232	COTTONWOOD	21	67

ID	Street	Size	Length
MI0231-MI0230	COTTONWOOD	12	165
MI0232-MI0233	COTTONWOOD	18	110
MI0233-MI9997	COTTONWOOD	12	97
MI0251-MI0253	HURLEY AV	18	374
MI0252-MI0254	HURLEY AV	18	314
MI0253-MI0252	HURLEY AV	18	500
MI0254-MI0255	AKERS ROAD	42	199
MI0255-MI0256	AKERS ROAD	42	221
MI0256-MI0257	AKERS ROAD	42	387
MI0257-MI0182	AKERS	42	502
MI0258-MI0254	AKERS	42	519
MI0259-MI0258	NICHOLAS	24	200
MI0260-MI0259	NICHOLAS	24	282
MI0261-MI0260	NICHOLAS	24	251
MI0262-MI0261	ATWOOD	12	255
MI0263-MI0262	ATWOOD	12	253
MI0264-MI0261	NICHOLAS	18	220
MI0265-MI0264		18	262
MI0266-MI0258	AKERS	42	581
MI0267-MI0266	GROVE	36	169
MI0268-MI0267	GROVE	36	282
MI0269-MI0268	GROVE	36	307
MI0270-MI0269	ATWOOD	30	417
MI0271-MI0270	ATWOOD	30	235
MI0272-MI0271	ATWOOD	30	211
MI0273-MI0271	SANDERS	12	236
MI0274-MI0273	CRENSHAW	12	272
MI0275-MI0272	DOUGLAS AV	24	76
MI0276-MI0275	DOUGLAS AV	24	366
MI0277-MI0276	DOUGLAS AV	24	154
MI0278-MI0277	DOUGLAS AV	24	219
MI0279-MI0278	KENT	15	339
MI0280-MI0278	DOUGLAS AV	18	247
MI0281-MI0280	DOUGLAS AV	18	469
MI0282-MI0269	GROVE	24	382
MI0283-MI0282		24	394
MI0284-MI0283	KENT	18	256
MI0285-MI0283	KENT	18	280
MI0286-MI0285	ALLEN	12	298
MI0287-MI0285	ALLEN	15	366
MI0288-MI0287	ALLEN	15	318
MI0289-MI0288	ALLEN	15	338
MI0290-MI0289	LINWOOD	12	258
MI0291-MI0292		12	282
MI0292-MI0266	AKERS	30	1,302
MI0320-MI9996	CRENSHAW	12	162
MI0321-MI0320	CROWLEY	12	210
MI0322-MI9996	CRENSHAW	15	308
MI0323-MI0322	CRENSHAW	15	495
MI0324-MI0323	HILLSDALE	12	254
MI0325-MI0323	CRENSHAW	12	584
MI0326-MI0325	MINERAL	12	398
MI0327-MI9996	CRENSHAW	24	156

ID	Street	Size	Length
MI0328-MI0327	CRENSHAW	18	135
MI0329-MI0328	OAK ST	12	687
MI0330-MI0328	CRENSHAW	15	79
MI0331-MI0330	CRENSHAW	15	114
MI0332-MI0331	CRENSHAW	12	144
MI0333-MI0330		15	325
MI0334-MI0333		15	100
MI0335-MI0334		15	122
MI0336-MI0335		15	122
MI0337-MI0336		12	95
MI0338-MI0336		12	202
MI0339-MI0335		12	115
MI0340-MI0335		12	130
MI0341-MI9995	CHINWORTH	30	211
MI0342-MI0341	HILLSDALE	12	198
MI0343-MI0342	HILLSDALE	12	369
MI0344-MI0343	HILLSDALE	12	60
MI0345-MI0341	CHINWORTH	30	133
MI0346-MI0345	CHINWORTH	30	97
MI0347-MI0346	WOODSIDE	15	94
MI0348-MI0346	CHINWORTH	30	239
MI0349-MI0348	ROBINWOOD	15	291
MI0350-MI0349	ROBINWOOD	12	274
MI0351-MI0348	CHINWORTH	27	397
MI0352-MI0351	CROWLEY	18	443
MI0353-MI0352	TILDEN ROA	15	288
MI0354-MI0353	TILDEN ROA	15	66
MI0355-MI0352	CROWLEY	12	240
MI0356-MI0352	TILDEN ROA	15	196
MI0357-MI0351	CHINWORTH	27	421
MI0358-MI0357		12	214
MI0359-MI0357	CHINWORTH	27	443
MI0360-MI0359	CHINWORTH	27	742
MI0361-MI0360	NICHOLAS	18	274
MI0362-MI0361	NICHOLAS	18	271
MI0363-MI0362	TILDEN RD.	12	283
MI0364-MI0361	FONTANA DR	12	285
MI0365-MI0362	NICHOLAS	15	273
MI0366-MI0365	FULGHAM RD	12	217
MI0367-MI0362	TILDEN RD.	15	366
MI0368-MI0367	TILDEN RD.	15	239
MI0369-MI0360	CHINWORTH	21	421
MI0370-MI0360	NICHOLAS	21	354
MI0371-MI0370	NICHOLAS	21	287
MI0372-MI0371	RONO ROAD	15	318
MI0373-MI0371	NICHOLAS	15	274
MI0374-MI0373	NICHOLAS	15	269
MI0375-MI0374	BOLINGER	12	395
MI0376-MI0369	CHINWORTH	21	463
MI0377-MI0376	DOUGLAS AV	18	632
MI0378-MI0377	DOUGLAS AV	18	276
MI0379-MI0376	CHINOWORTH	18	451
MI0380-MI0376	DOUGLAS AV	18	412

ID	Street	Size	Length
MI0381-MI0380	DOUGLAS AV	18	387
MI0382-MI0379	GOSHEN AV	15	891
MI0401-MI0405		24	94
MI0402-MI0401		24	341
MI0403-MI0402		24	111
MI0404-MI0403		24	112
MI0411-MI9993	DEMAREE RD	36	520
MI0412-MI0411	DEMAREE RD	36	160
MI0413-MI0412		24	1,037
MI0414-MI0413		24	247
MI0415-MI0414		24	254
MI0416-MI0415		24	145
MI0417-MI0414		6	469
MI0418-MI0415		6	443
MI0419-MI0416	CAMPUS DR	24	300
MI0420-MI0419	CAMPUS DR	18	473
MI0421-MI0420	CAMPUS DR	12	131
MI0422-MI0421		12	859
MI0423-MI0422	WHITNEY	12	131
MI0424-MI0412	DEMAREE RD	24	216
MI0425-MI0424	NOBLE AVE.	15	454
MI0426-MI0424	DEMAREE RD	24	440
MI0427-MI0426	DEMAREE RD	24	96
MI0428-MI0427	DEMAREE RD	24	296
MI0429-MI0428	DEMAREE RD	24	303
MI0429-MI0442	DEMAREE RD	24	272
MI0430-MI0429	COLLEGE A	18	78
MI0431-MI0430	COLLEGE A	18	316
MI0432-MI0431		18	287
MI0433-MI0432	COLLEGE A	12	221
MI0434-MI0432	LEILA DR.	12	141
MI0435-MI0434	LEILA DR.	12	153
MI0436-MI0435	CYPRESS S	12	291
MI0437-MI0432	LEILA DR.	12	293
MI0438-MI0437	FAIRVIEW	12	241
MI0439-MI0438	WELSLEY DR	12	186
MI0440-MI0433	COLLEGE A	12	343
MI0441-MI0440	COLLEGE A	12	205
MI0442-MI0443	DEMAREE RD	24	234
MI0444-MI0443	MEADOW LAN	12	136
MI0445-MI0444	MEADOW LAN	12	340
MI0446-MI0445	FULGHAM RO	12	492
MI0447-MI0445	MEADOW LAN	12	158
MI0448-MI0447	MEADOW LAN	12	289
MI0449-MI0443	DEMAREE RD	24	359
MI0450-MI0449	DEMAREE RD	20	270
MI0451-MI0450	DEMAREE RD	24	44
MI0452-MI0450	TULARE AVE	18	180
MI0453-MI0452	TULARE AVE	18	650
MI0454-MI0451	TULARE AVE	14	827
MI0455-MI0454	TULARE AVE	14	407
MI0456-MI0453	TULARE AVE	18	444
MI0457-MI0456		12	262

ID	Street	Size	Length
MI0458-MI0456	TULARE AVE	18	200
MI0459-MI0458	TULARE AVE	16	380
MI0460-MI0459	TULARE AVE	12	291
MI0461-MI0460	TULARE AVE	12	574
MI0462-MI0461	TULARE AVE	12	316
MI0463-MI0462	CLOVER LAN	12	319
MI0464-MI0462	TULARE AVE	12	460
MI0465-MI0464	TULARE AVE	12	389
MI0466-MI0465	WOODLAND	12	377
MI0468-MI0467	TULARE AVE	12	311
MI0469-MI0468	CROWE AVE	12	900
MI0470-MI0468	TULARE AVE	12	247
MI0471-MI0470	TULARE AVE	12	180
MI0472-MI0451	DEMAREE RD	18	306
MI0473-MI0472		18	229
MI0474-MI0473	IRIS AVE.	18	371
MI0475-MI0473	SILVERVALE	15	263
MI0476-MI0475	HOWARD	12	221
MI0477-MI0475	SILVERVALE	12	281
MI0478-MI0477	MCCORMIC	12	262
MI0479-MI0478	MCCORMIC	12	246
MI0480-MI0472	DEMAREE RD	18	203
MI0481-MI0480	DEMAREE RD	18	467
MI0482-MI0481	DEMAREE RD	18	329
MI0483-MI0482	WELSLEY	18	318
MI0484-MI0483	WELSLEY	15	235
MI0485-MI0484	WELSLEY	15	242
MI0486-MI0485	ROYAL OAKS	15	232
MI0487-MI0482	DEMAREE RD	18	362
MI0511-MI9994	DEMAREE RD	24	219
MI0512-MI0511	HILLSDALE	24	214
MI0513-MI0522	HILLSDALE	24	148
MI0514-MI0513	HILLSDALE	18	358
MI0515-MI0514	HILLSDALE	18	327
MI0516-MI0515	HILLSDALE	18	221
MI0517-MI0516	WESTFIELD	15	244
MI0518-MI0517	WESTFIELD	15	173
MI0519-MI0516	HILLSDALE	12	272
MI0520-MI0519		12	301
MI0521-MI0519	HILLSDALE	12	347
MI0522-MI0512		24	114
MI0523-MI0511	DEMAREE RD	24	461
MI0524-MI0523	DEMAREE RD	24	458
MI0525-MI0524	CROWLEY	12	168
MI0526-MI0524	HYDE WAY	24	254
MI0527-MI0526	MILL CREEK	15	145
MI0528-MI0526	MILL CREEK	15	219
MI0529-MI0526	HYDE WAY	21	296
MI0530-MI0529	HYDE WAY	21	173
MI0531-MI0530	HYDE WAY	21	163
MI0532-MI0531	WESTFIELD	12	207
MI0533-MI0531	HYDE WAY	18	226
MI0534-MI0533	HYDE WAY	18	114

ID	Street	Size	Length
MI0535-MI0534	HYDE WAY	18	237
MI0536-MI0535	HYDE WAY	18	393
MI0537-MI0534	POWELL TE	15	254
MI0538-MI0531	BORDER LIN	18	266
MI0539-MI0538	FAIRMONT C	12	141
MI0540-MI0538	BORDER LIN	18	211
MI0541-MI0540	BORDER LIN	18	317
MI0542-MI0550	BORDER LIN	18	218
MI0543-MI0542	BORDER LIN	18	186
MI0544-MI0543	BORDER LIN	12	205
MI0545-MI0544	GREENVIEW	12	132
MI0546-MI0544	BORDER LIN	12	214
MI0547-MI0546	BORDER LIN	12	96
MI0548-MI0547	GILMER CT.	12	277
MI0549-MI0547	BORDER LIN	12	305
MI0550-MI0541	BORDER LIN	18	192
MI0551-MI0536	HYDE WAY	18	352
MI0552-MI0551	HYDE WAY	18	328
MI0553-MI0552	HILLSDALE	12	332
MI0554-MI0536	O'FARRELL	12	185
MI0555-MI0524	DEMAREE RD	21	268
MI0556-MI0555	DEMAREE RD	21	568
MI0557-MI0556	DEMAREE RD	18	382
MI0558-MI0557	DEMAREE RD	18	59
MI0559-MI0558	DEMAREE RD	12	157
MI0560-MI0558	DEMAREE RD	15	281
MI0561-MI0560	DEMAREE RD	15	387
MI0582-MI0581	COUNTY CIV	30	270
MI0583-MI0582	HY 198	30	685
MI0584-MI0583	HY 198	30	160
MI0585-MI0584		30	227
MI0586-MI0585	GIST DR.	10	198
MI0587-MI0586	LINDA VIST	10	374
MI0588-MI0589	VERDE VIST	12	316
MI0589-MI0585	GIST DR.	12	194
MI0590-MI0587	LINDA VIST	10	496
MI0591-MI0588	VERDE VIST	12	528
MI0592-MI0590	LINDA VIST	10	616
MI0592-MI0593	FAIRVIEW	10	343
MI0593-MI0594	VERDE VIST	12	81
MI0594-MI0595	VERDE VIST	12	224
MI0595-MI0591	VERDE VIST	12	354
MI0596-MI0595	COLLEGE WA	10	261
MI0597-MI0596	COLLEGE WA	10	487
MI0598-MI0597	WOODLAND D	12	295
MI0599-MI0594	FAIRVIEW D	12	364
MI0599-MI0598	FAIRVIEW D	8	363
MI0600-MI0599		8	267
MI0601-MI0600	MEADOW LA	8	117
MI0602-MI0601		8	298
MI0603-MI0598	WOODLAND D	12	275
MI0632-MI0631	COUNTY CIV	15	125
MI0642-MI0641	COUNTY CIV	15	408

ID	Street	Size	Length
MI0652-MI0651	COUNTY CIV	42	263
MI0653-MI0652	HY 198	42	981
MI0654-MI0653	HY 198	42	83
MI0655-MI0654	HY 198	42	871
MI0656-MI0655	WOODLAND D	15	163
MI0657-MI0656	WOODLAND D	15	245
MI0658-MI0657	PECAN WAY	8	365
MI0659-MI0657	WOODLAND D	15	208
MI0660-MI0659	WOODLAND D	15	48
MI0661-MI0659	WOODLAND D	12	357
MI0662-MI0660		15	447
MI0663-MI0662		15	467
MI0664-MI0663		15	325
MI0664-MI0666	HY 63	12	420
MI0665-MI9992	NOBLE AVE.	30	472
MI0666-MI0665	NOBLE AVE.	30	453
MI0667-MI0664	HY 63	10	833
MI0668-MI0669	HY 63	10	568
MI0669-MI0670	HY 63	12	339
MI0670-MI0671	HY 63	12	311
MI0671-MI0666	NOBLE AVE.	30	147
MI0672-MI0669	MYRTLE AVE	10	709
MI0673-MI0672	MYRTLE AVE	10	367
MI0674-MI0673	MYRTLE AVE	10	93
MI0675-MI0670	KAWEAH AVE	12	689
MI0676-MI0675	KAWEAH AVE	12	480
MI0677-MI0671	NOBLE AVE.	24	116
MI0678-MI0677	NOBLE AVE.	24	528
MI0679-MI0678	NOBLE AVE.	24	267
MI0680-MI0679	NOBLE AVE.	24	298
MI0681-MI0674	MYRTLE AVE	10	303
MI0682-MI0681	MYRTLE AVE	10	280
MI0682-MI0683	DOLLNER ST	12	329
MI0683-MI0676	KAWEAH AVE	12	583
MI0684-MI0685	NOBLE AVE.	24	309
MI0685-MI0680	NOBLE AVE.	24	231
MI0686-MI0684	NOBLE AVE.	24	405
MI0687-MI0686	NOBLE AVE.	24	329
MI0688-MI0687	GIDDINGS A	12	323
MI0689-MI0688	GIDDINGS A	8	333
MI0690-MI0689	GIDDINGS A	8	160
MI0691-MI0690	GIDDINGS A	8	155
MI0692-MI0687	NOBLE AVE.	24	385
MI0693-MI0692	NOBLE AVE.	24	278
MI0694-MI0693	NOBLE AVE.	24	318
MI0695-MI0694	NOBLE AVE.	24	329
MI0696-MI0695	CONYER ST.	12	328
MI0697-MI0696	CONYER ST.	12	324
MI0698-MI0697	CONYER ST.	8	277
MI0699-MI0698	CONYER ST.	8	254
MI0700-MI0695	NOBLE AVE.	18	325
MI0701-MI0700	NOBLE AVE.	18	336
MI0702-MI0701	NOBLE AVE.	18	394

ID	Street	Size	Length
MI0703-MI0696	KAWEAH	8	329
MI0704-MI0703	KAWEAH	8	336
MI0705-MI0704	KAWEAH	8	389
MI0706-MI0697	MYRTLE AVE	8	327
MI0707-MI0706	MYRTLE AVE	8	340
MI0708-MI0707	MYRTLE AVE	8	385
MI0709-MI0702	NOBLE AVE.	18	220
MI0710-MI0709	NOBLE AVE.	18	231
MI0711-MI0710	NOBLE AVE.	18	425
MI0712-MI0711	NOBLE AVE.	18	338
MI0713-MI0710	WATSON ST	12	310
MI0714-MI0713	WATSON ST	12	293
MI0715-MI0714	MYRTLE AVE	12	425
MI0716-MI0714	WATSON ST	8	204
MI0717-MI0712	NOBLE AVE.	16	378
MI0718-MI0717	NOBLE AVE.	16	271
MI0719-MI0718	NOBLE AVE.	16	340
MI0720-MI0719	NOBLE AVE.	16	354
MI0721-MI0718	CHURCH ST.	12	290
MI0722-MI0721	CHURCH ST.	12	290
MI0723-MI0722	MYRTLE AVE	12	345
MI0724-MI0722	MYRTLE AVE	12	314
MI0725-MI0720	NOBLE AVE.	16	314
MI0726-MI0725	NOBLE AVE.	16	336
MI0727-MI0726	TIPTON ST.	12	392
MI0728-MI0727		12	333
MI0729-MI0728		12	286
MI0730-MI0729	CYPRESS ST	12	415
MI0763-MI0762		12	71
MI0764-MI0761	RANCH ROA	12	59
MI0765-MI0764	RANCH ROA	12	107
MI0766-MI0765		12	463
MI0767-MI0765	RANCH ROA	12	463
MI0768-MI0767	CRESSENT	12	369
MI0782-MI0781	MAIN ST.	24	403
MI0783-MI0782	COUNTY CIV	24	620
MI0784-MI0782	WOODLAND D	21	105
MI0785-MI0784	WOODLAND D	21	119
MI0786-MI0785	WOODLAND D	21	272
MI0787-MI0786	BURREL	21	338
MI0788-MI0787	BURREL	21	178
MI0802-MI0801	MIDLAND DR	24	635
MI0803-MI0802	MIDLAND DR	24	542
MI0804-MI0803		24	699
MI0805-MI0804	MOONEY BLV	24	130
MI0806-MI0804	GOSHEN AVE	8	474
MI0807-MI0805	GOSHEN AVE	12	487
MI0808-MI0807	LESLIE RO	12	637
MI0809-MI0805	MOONEY BLV	24	657
MI0810-MI0809	MOONEY BLV	24	841
MI0811-MI0810	CONNELLY A	12	440
MI0812-MI0810	MOONEY BLV	24	214
MI0813-MI0812	MOONEY BLV	24	430

ID	Street	Size	Length
MI0814-MI0813	MOONEY BLV	21	53
MI0815-MI0855	HOUSTON AV	15	358
MI0816-MI0814	MOONEY BLV	21	581
MI0817-MI0816	MOONEY BLV	21	601
MI0818-MI0817	PROSPECT A	18	560
MI0819-MI0818	PROSPECT A	18	216
MI0820-MI0819	PROSPECT A	18	240
MI0821-MI0820	PROSPECT A	18	231
MI0822-MI0821	PROSPECT A	18	283
MI0823-MI0822	HALL AVE.	15	288
MI0824-MI0823	HALL AVE.	12	309
MI0825-MI0824	EDWIN AVE.	12	311
MI0826-MI0822	PROSPECT A	18	349
MI0827-MI0826	PROSPECT A	18	131
MI0828-MI0827	PROSPECT A	18	267
MI0829-MI0828	PROSPECT A	18	262
MI0830-MI0831		12	283
MI0831-MI0829	PROSPECT A	15	318
MI0832-MI0831	PROSPECT A	15	327
MI0833-MI0832	PROSPECT A	12	656
MI0834-MI0832	TURNER ST.	12	446
MI0835-MI0834	TURNER ST.	12	280
MI0836-MI0833	PROSPECT A	10	381
MI0837-MI0836		10	318
MI0838-MI0829	GIBBINGS A	18	754
MI0839-MI0838	VINE ST	15	271
MI0840-MI0838	GIBBINGS A	12	319
MI0841-MI0838	VINE ST	12	254
MI0842-MI0841	VINE ST	12	265
MI0843-MI0842	VINE ST	12	274
MI0844-MI0843	VINE ST	12	274
MI0845-MI0841	OAK PARK C	12	244
MI0846-MI0842	SOWELL CT.	12	250
MI0847-MI0823	HAROLD AVE	12	174
MI0848-MI0821	DIVISADERO	12	507
MI0849-MI0817	MOONEY BLV	18	206
MI0850-MI0849	MOONEY BLV	18	321
MI0851-MI0850	MOONEY BLV	18	247
MI0852-MI0851	MOONEY BLV	18	316
MI0853-MI0852	FERGUSON A	18	303
MI0854-MI0853	FERGUSON A	15	371
MI0855-MI0813	HOUSTON AV	15	514
MI0872-MI0871	FAIRWAY AV	8	212
MI0873-MI0871	FAIRWAY AV	18	883
MI0874-MI0873	SCHOOL ST.	18	300
MI0875-MI0874	DIVISADERO	18	882
MI0876-MI0875		12	400
MI0877-MI0875	DIVISADERO	18	453
MI0878-MI0877	GROVE ST.	12	294
MI0879-MI0878	GROVE ST.	12	260
MI0880-MI0879	RINALDI	12	193
MI0881-MI0877	DIVISADERO	16	328
MI0882-MI0881	DIVISADERO	16	286

ID	Street	Size	Length
MI0883-MI0882	DIVISADERO	16	352
MI0884-MI0883	DIVISADERO	18	339
MI0885-MI0884	DIVISADERO	16	333
MI0886-MI0885		0	574
MI0887-MI0885	DIVISADERO	16	270
MI0901-MI0900		0	168
MI0903-MI0902		0	110
MI0905-MI0904		0	92
MI0911-MI0910	HALL AVE.	12	116
MI0912-MI0911	HALL AVE.	12	369
MI0922-MI0921	DOLLNER ST	10	275
MI0923-MI0922	DOLLNER ST	10	337
MI0932-MI0931	DOLLNER ST	8	160
MI0933-MI0932	DOLLNER ST	8	196
MI0942-MI0941	GIDDINGS A	12	1,108
MI0943-MI0942	OAK ST.	12	467
MI0944-MI0943	PARK AVE.	12	456
MI0946-MI0945	GIDDINGS A	18	395
MI0947-MI0946	GIDDINGS A	18	372
MI0948-MI0947	GIDDINGS A	18	285
MI0949-MI0948		18	369
MI0950-MI0948	GIDDINGS A	12	40
MI0951-MI0950		12	970
MI0952-MI0949		18	557
MI0953-MI0950	GIDDINGS A	12	639
MI0954-MI0953	GIDDINGS A	12	359
MI0955-MI0954	GOSHEN AVE	12	380
MI0956-MI0954	GOSHEN AVE	12	327
MI0957-MI0956	GOSHEN AVE	12	354
MI0958-MI0957	GOSHEN AVE	12	296
MI0958-MI0966	JACOB ST.	18	254
MI0959-MI0951	JACOB ST.	12	369
MI0960-MI0959	SCHOOL ST.	12	601
MI0961-MI0960	SCHOOL ST.	12	414
MI0962-MI0961	SCHOOL ST.	12	349
MI0963-MI0962	SCHOOL ST.	12	278
MI0964-MI0952	SCHOOL ST.	18	409
MI0965-MI0964	JACOB ST.	18	227
MI0966-MI0965	JACOB ST.	18	102
MI0967-MI0958	GOSHEN AVE	12	338
MI0968-MI0967	GOSHEN AVE	12	318
MI0969-MI0968	STEVENSON	8	349
MI0970-MI0969	RACE ST.	8	320
MI0971-MI0968	GOSHEN AVE	12	314
MI0972-MI0958	JACOB ST.	12	844
MI0973-MI0972	GROVE ST.	8	327
MI0974-MI0972	JACOB ST.	12	507
MI0975-MI0974	ALLEN WAY	12	327
MI0976-MI0974	JACOB ST.	12	660
MI0977-MI0976	JACOB ST.	12	649
MI1002-MI1001	CONYER ST.	10	339
MI1003-MI1002	CONYER ST.	10	323
MI1004-MI1003	CONYER ST.	10	343

ID	Street	Size	Length
MI1005-MI1004	CONYER ST.	10	341
MI1012-MI1011	JOHNSON ST	10	443
MI1013-MI1012	JOHNSON ST	10	160
MI1014-MI1013	JOHNSON ST	10	258
MI1015-MI1014	JOHNSON ST	10	421
MI1022-MI1021	CONYER ST.	8	300
MI1023-MI1022	MINERAL KI	8	271
MI1024-MI1023	MINERAL KI	8	327
MI1032-MI1031	WEST	18	130
MI1033-MI1032	MINERAL KI	18	527
MI1034-MI1033	MINERAL KI	18	756
MI1035-MI1034	MINERAL KI	12	309
MI1036-MI1035	MINERAL KI	12	369
MI1037-MI1036	MINERAL KI	12	267
MI1038-MI1037	MINERAL KI	12	114
MI1040-MI1034	COURT ST.	18	341
MI1040-MI1039	WILLOW ST.	18	1,072
MI1041-MI1035	CHURCH ST	12	346
MI1041-MI1040	WILLOW ST.	18	325
MI1042-MI1041	WILLOW ST.	18	367
MI1042-MI1043	WILLOW ST.	18	291
MI1043-MI1044	BRIDGE ST.	18	658
MI1045-MI1046	ACEQUIA S	8	216
MI1046-MI1047	GARDEN ST.	8	161
MI1047-MI1048	GARDEN ST.	8	301
MI1062-MI1061	ACEQUIA S	8	821
MI1062-MI1063	COURT ST.	8	267
MI1063-MI1064	COURT ST.	8	432
MI1066-MI1065		8	357
MI1067-MI1066	MAIN ST.	8	191
MI1069-MI1068	CHURCH ST	12	171
MI1070-MI1069	CHURCH ST	12	102
MI1071-MI1069	MAIN ST.	8	100
MI1092-MI1091	ENCINA ST.	12	300
MI1093-MI1092	ENCINA ST.	12	314
MI1094-MI1093	ENCINA ST.	12	318
MI1095-MI1094	ENCINA ST.	12	324
MI1096-MI1095	ENCINA ST.	12	321
MI1097-MI1096		12	281
MI1098-MI1097	ENCINA ST.	12	550
MI1099-MI1098		12	209
MI1100-MI1099	PINE ST.	12	269
MI1101-MI1100	PINE ST.	12	178
MI1102-MI1101	N/E THIRD	12	178
MI1103-MI1102	N/E THIRD	12	112
MI1105-MI1104	ENCINA ST.	12	288
MI1107-MI1106	ENCINA ST.	18	380
MI1108-MI1107	ENCINA ST.	12	314
MI1109-MI1108	ENCINA ST.	12	333
MI1110-MI1109	ENCINA ST.	12	1,504
MI1111-MI1110		8	154
MI1112-MI1111		8	98
MI1113-MI1112	PINE ST.	8	269

ID	Street	Size	Length
MI1114-MI1108		12	329
MI1116-MI1115	MAIN ST.	12	345
MI1117-MI1116	MAIN ST.	12	242
MI1118-MI1117	MAIN ST.	12	349
MI1119-MI1118	WILLIS ST.	12	337
MI1120-MI1119	WILLIS ST.	12	296
MI1121-MI1120	WILLIS ST.	12	92
MI1152-MI1151	LOCUST ST.	24	293
MI1153-MI1152	LOCUST ST.	24	179
MI1155-MI1154	LOCUST ST.	20	344
MI1156-MI1155	LOCUST ST.	20	93
MI1157-MI1155		8	298
MI1158-MI9991	LOCUST ST.	24	172
MI1159-MI1158	LOCUST ST.	24	342
MI1160-MI1159	LOCUST ST.	24	602
MI1161-MI1160	LOCUST ST.	0	412
MI1162-MI1160	RACE ST.	21	674
MI1163-MI1162	RACE ST.	12	600
MI1164-MI1162	FLORAL	21	331
MI1165-MI1164	FLORAL	21	288
MI1166-MI1165	FLORAL	21	494
MI1167-MI1166	N/W FIRST	21	239
MI1168-MI1167	PERSHING W	21	71
MI1169-MI1168	PERSHING W	18	356
MI1170-MI1169	PERSHING W	18	374
MI1171-MI1170	PERSHING W	18	305
MI1172-MI1171	PERSHING W	18	285
MI1173-MI1172	CONYER ST.	18	387
MI1174-MI1173	CONYER ST.	18	665
MI1175-MI1174	CONYER ST.	18	91
MI1176-MI1160	RACE ST.	21	621
MI1177-MI1176	RACE ST.	21	380
MI1178-MI1177	GARDEN ST	21	551
MI1179-MI1178	GROVE ST	12	239
MI1180-MI1179	ASH ST	12	315
MI1181-MI1180	N/E SECOND	12	181
MI1182-MI1178		20	155
MI1183-MI1182	N/W FIRST	20	234
MI1184-MI1183	GRANITE ST	16	314
MI1185-MI1184	GRANITE ST	16	688
MI1186-MI1185	GRANITE ST	16	176
MI1187-MI1186	COURT ST.	16	250
MI1188-MI1187	COURT ST.	16	431
MI1189-MI1188	HOUSTON AV	12	360
MI1190-MI1189	HOUSTON AV	12	280
MI1191-MI1190	HOUSTON AV	12	380
MI1192-MI1191	BRIDGE	12	318
MI1193-MI1188	HOUSTON AV	12	385
MI1194-MI1193	HOUSTON AV	12	305
MI1195-MI1194	HOUSTON AV	12	148
MI1196-MI1195	HOUSTON AV	12	404
MI1197-MI1178	GROVE ST	12	283
MI1198-MI1197	GROVE ST	12	113

ID	Street	Size	Length
MI1222-MI1221	CHURCH ST	10	305
MI1223-MI1222	CHURCH ST	10	59
MI1224-MI1223	CHURCH ST	10	134
MI1225-MI1224	CHURCH ST	10	319
MI1226-MI1225	CHURCH ST	10	339
MI1242-MI1241	GARDEN ST.	18	478
MI1243-MI1242	GARDEN ST.	18	122
MI1244-MI1243	GARDEN ST.	18	257
MI1245-MI1244	SCHOOL S	18	327
MI1246-MI1245	BRIDGE ST.	12	281
MI1248-MI1247	BRIDGE ST.	12	283
MI1249-MI1248	BRIDGE ST.	12	239
MI1250-MI1249	BRIDGE ST.	12	87
MI1262-MI1261	TIPTON ST.	10	168
MI1263-MI1262	TIPTON ST.	8	152
MI1264-MI1263	TIPTON ST.	8	326
MI1266-MI1265	TIPTON ST.	18	359
MI1267-MI1266	TIPTON ST.	18	319
MI1268-MI1267	TIPTON ST.	15	336
MI1269-MI1268	TIPTON ST.	12	558
MI1282-MI1281	LIBERTY ST	18	137
MI1283-MI1282	LIBERTY ST	18	318
MI1284-MI1283	LIBERTY ST	18	89
MI1285-MI1284	LIBERTY ST	18	285
MI1286-MI1285		18	66
MI1287-MI1286		18	300
MI1288-MI1287		18	49
MI1289-MI1288		18	140
MI1290-MI1289		15	147
MI1291-MI1289		12	131
MI1292-MI1288		12	131
MI1293-MI1285	ACEQUIA ST	10	358
MI1294-MI1293	ACEQUIA ST	10	318
MI1295-MI1294		8	324
MI1296-MI1285	ACEQUIA S	10	358
MI1297-MI1296	TIPTON	12	331
MI1298-MI1296	ACEQUIA S	12	349
MI1299-MI1298		12	206
MI1300-MI1296	TIPTON	12	645
MI1301-MI1300	TIPTON	12	54
MI1302-MI1301	MINERAL KI	8	269
MI1322-MI1321	BURK ST.	0	175
MI1324-MI9990	BURK ST.	24	374
MI1325-MI1324	RACE ST.	12	376
MI1326-MI1324	BURK ST.	24	718
MI1327-MI1326		14	614
MI1328-MI1326	BURKE ST.	21	318
MI1329-MI1328	BURKE ST.	21	171
MI1330-MI1328	DOUGLAS A	12	338
MI1331-MI1327		14	468
MI1332-MI1329	BURKE ST.	21	466
MI1333-MI1332	ROOSEVELT	12	850
MI1334-MI1332	BURKE ST.	21	202

ID	Street	Size	Length
MI1335-MI1334	BURKE ST.	21	497
MI1336-MI1335	HOUSTON A	18	572
MI1337-MI1336		15	367
MI1338-MI1337	SWEET ST.	12	365
MI1339-MI1336	HOUSTON A	15	569
MI1340-MI1339	TIPTON	12	384
MI1362-MI1361		12	240
MI1363-MI1362		12	259
MI1372-MI1371	BEN MADDOX	12	798
MI1382-MI1381	GOSHEN AVE	18	458
MI1384-MI1383	BEN MADDOX	12	963
MI1391-MI9989	HOUSTON A	24	64
MI1392-MI1391	HOUSTON A	24	218
MI1393-MI1392	BEN MADDOX	24	324
MI1394-MI1393	SWEET ST.	18	71
MI1395-MI1394	SWEET ST.	18	301
MI1396-MI1395	SWEET ST.	12	310
MI1397-MI1396	SWEET ST.	12	211
MI1398-MI9989	HOUSTON A	12	80
MI1399-MI1398	HOUSTON A	12	301
MI1400-MI1399	HOUSTON A	12	240
MI1401-MI1400	HOUSTON A	12	216
MI1432-MI1431	DOUGLAS	12	407
MI1433-MI1432	DOUGLAS	12	262
MI1434-MI1433	DOUGLAS	12	260
MI1434-MI1436	CAIN ST.	24	973
MI1435-MI1434	DOUGLAS	24	142
MI1436-MI1437	CAIN ST.	24	138
MI1437-MI1438	CAIN ST.	24	185
MI1438-MI1439	CAIN ST.	24	55
MI1440-MI1439	HOUSTON A	18	165
MI1441-MI1440	HOUSTON A	18	202
MI1442-MI1439	CAIN ST.	24	89
MI1462-MI1461	CAIN ST.	12	170
MI1464-MI1463	CAIN ST.	15	293
MI1472-MI1471	CAIN ST.	24	237
MI1473-MI1472	CAIN ST.	24	89
MI1474-MI1473	CAIN ST.	24	318
MI1475-MI1474	CAIN ST.	18	96
MI1476-MI1475	CAIN ST.	18	124
MI1477-MI1474	ACEQUIA	18	458
MI1478-MI1474		18	765
MI1479-MI1478		12	678
MI1492-MI1491		21	270
MI1493-MI1492	MAIN ST.	21	616
MI1502-MI1501	VALLEY OAK	24	252
MI1512-MI1511	VALLEY OAK	21	216
MI1513-MI1512	VALLEY OAK	21	76
MI1514-MI1513	VALLEY OAK	21	188
MI1515-MI1514	VALLEY OAK	21	149
MI1522-MI1521	LOVERS LAN	18	51
MI1523-MI1522	LOVERS LAN	18	435
MI1524-MI1523	LOVERS LAN	15	382

ID	Street	Size	Length
MI1525-MI1524	LOVERS LAN	18	82
MI1526-MI1525	LOVERS LAN	18	215
MI1527-MI1526	LOVERS LAN	18	89
MI1542-MI1541	LOVERS LAN	18	578
MI1543-MI1542	LOVERS LAN	15	1,916
MI1552-MI1551	LOVERS LAN	30	161
MI1553-MI1552	LOVERS LAN	30	133
MI1554-MI1553	LOVERS LAN	90	288
MI1555-MI1554	LOVERS LAN	30	573
MI1556-MI1555	LOVERS LAN	30	492
MI1557-MI1556	RACE	27	474
MI1558-MI1557	PALM DR.	27	339
MI1559-MI1558	PALM DR.	27	311
MI1560-MI1559	PALM DR.	24	234
MI1561-MI1560	DOUGLAS A	24	240
MI1562-MI1561	DOUGLAS A	24	167
MI1563-MI1558	SYCAMORE	12	338
MI1564-MI1562	VELIE CT.	12	74
MI1565-MI1563	SYCAMORE	12	192
MI1566-MI1565	SYCAMORE	12	204
MI1567-MI1564	VELIE CT.	21	287
MI1568-MI1567	VELIE CT.	21	268
MI1569-MI1568	ROOSEVELT	18	291
MI1570-MI1569	PALM	12	161
MI1571-MI1570	PERSHING	12	160
MI1592-MI1591	MILL CREEK	36	211
MI1593-MI1592	MILL CREEK	36	705
MI1594-MI1593	MILL CREEK	33	341
MI1595-MI1594	SIMON ST.	27	586
MI1596-MI1595	SYCAMORE	27	247
MI1597-MI1596	CRMUAL	24	133
MI1598-MI1594	MILL CREEK	18	86
MI1612-MI1611		24	265
MI1613-MI1612	VISTA DR.	21	114
MI1614-MI1612	VISTA DR.	21	281
MI1615-MI1614	SIMON DR.	18	557
MI1616-MI1615	SIMON DR.	18	300
MI1617-MI1616	SIMON DR.	15	319
MI1618-MI1617	STAPP AVE.	12	129
MI1619-MI1617	SIMON DR.	12	545
MI1641-MI1642		18	309
MI1643-MI1642		8	242
MI1644-MI1643		8	270
MI1645-MI1644		8	156
MI1652-MI1651	AIRPORT	12	3,857
MI1662-MI1661	AIRPORT	12	2,714
MI1672-MI1671	AIRPORT	15	2,096
MI1682-MI1681	AIRPORT	15	1,374
MI1683-MI1682	AIRPORT	15	111
MI1684-MI1682	AIRPORT	15	1,076
MI1685-MI1684	AIRPORT	15	502
MI1692-MI1691	AIRPORT	15	1,454
MI1693-MI1692	AIRPORT	12	572

ID	Street	Size	Length
MI1694-MI1693	AIRPORT	12	197
MI1702-MI1701	HANGER W	24	564
MI1703-MI1702	HANGER W	24	367
MI1704-MI1703	HANGER W	24	168
MI1711-MI1712	AIRPORT	0	356
MI9990-MI1323	BURK ST.	24	1,075
MI9991-MI1153	LOCUST ST.	24	70
MI9992-MI0655	HY 198	42	313
MI9997-MI0234	COTTONWOOD	8	748
MI9998-MI0182	AKERS ROAD	42	31
MI9999-MI0200	TULARE AVE	42	123

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
MC01	0.39699	66	34	70	98	86	168	0	0	1	0	2
MC02	0.05683	60	40	74	98	4	32	0	1	0	0	2
MC03	0.04892	83	17	77	98	20	12	0	0	0	0	1
MC04	0.14082	52	48	73	98	3	76	3	0	7	0	2
MC05	0.07684	46	54	67	98	0	32	11	0	7	0	2
MC06	0.40722	57	43	69	98	22	228	5	0	5	0	2
MC07	0.26824	17	83	78	98	13	14	128	17	0	0	3
MC08	0.38610	32	68	73	98	19	48	180	0	0	0	3
MC09	0.06080	51	49	73	98	0	33	6	0	0	0	2
MC10	0.25394	28	72	76	98	5	45	112	0	0	0	3
MC11	0.06129	5	95	78	98	0	0	39	0	0	0	3
MC12	0.15663	7	93	78	98	0	0	91	9	0	0	3
MC13	0.16529	51	49	74	98	3	94	4	5	0	0	2
MC14	0.54833	46	54	74	98	0	249	85	0	17	0	2
MC15	0.37468	9	91	78	98	4	7	215	12	2	0	3
MC16	0.11498	42	58	74	98	0	44	19	11	0	0	2
MC17	0.26250	51	49	74	98	34	74	34	11	15	0	2
MC18	0.24280	46	54	75	98	21	39	9	25	62	0	5
MC19	0.45548	47	53	74	98	0	183	39	12	59	0	2
MC20	0.23182	64	36	73	98	55	74	11	8	1	0	2
MC21	0.12560	55	45	74	98	0	76	0	1	3	0	2
MC22	0.40061	63	37	73	98	83	157	5	11	0	0	2
MC23	0.31562	40	60	69	98	5	121	32	44	0	0	2
MC24	0.27422	56	44	74	98	7	162	6	0	0	0	2
MC25	0.06189	51	49	76	98	11	6	21	2	0	0	3
MC26	0.45418	49	51	70	98	14	97	85	18	26	51	2
MC27	0.37020	51	49	73	98	19	163	39	0	16	0	2
MC28	0.13950	70	30	74	98	46	40	0	0	4	0	1
MC29	0.19741	50	50	75	98	21	43	59	4	0	0	3
MC30	0.44716	52	48	68	98	5	240	13	0	28	0	2
MC31	0.19268	65	35	74	98	19	101	0	0	0	3	2
MC32	0.16826	71	29	77	98	0	57	0	7	0	44	2
MC33	0.30207	97	3	83	98	0	0	4	0	0	189	6
MC34	0.17670	88	12	81	98	5	0	0	13	0	95	6
MC35	0.42769	32	68	76	98	23	0	201	28	0	21	3
MC36	0.15863	87	13	73	98	97	0	0	0	0	4	1
MC37	0.28835	45	55	71	98	36	0	0	20	129	0	5
MC38	0.39719	51	49	72	98	63	0	0	0	191	0	5

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ID MC-02                                                                    10
IT     5                   300                                              20
IO     5                                                                    30
KK  MC01 BASIN                                                              40
BA 0.397                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      70       0       0      98       0                           80
UK   150  0.0010    0.30      66                                           90
UK    50  0.0010    0.10      34                                           100
RK   660   .0010    .020     .01    TRAP      20       1                   110
RK  2000   .0010    .020    .047    TRAP      20       1                   120
RK  2500   .0010    .020            TRAP      20       1      NO           130
KK  MC02 BASIN                                                              140
BA 0.057                                                                    150
LS     0      74       0       0      98       0                           160
UK   150  0.0010    0.30      60                                           170
UK    50  0.0010    0.10      40                                           180
RK  2000   .0010    .020            TRAP      20       1      NO           190
KK    01 ADD                                                                200
HC     2                                                                    210
KK 01-02 ROUTE                                                              220
RK  2743   .0010    .035            TRAP      13       1                   230
KK  MC04 BASIN                                                              240
BA 0.141                                                                    250
LS     0      73       0       0      98       0                           260
UK   150  0.0010    0.30      52                                           270
UK    50  0.0010    0.10      48                                           280
RK   660   .0010    .020     .01    TRAP      20       1                   290
RK  1000   .0010    .020    .024    TRAP      20       1                   300
RK  2500   .0010    .020            TRAP      20       1      NO           310
KK    S7 STORAGE/PUMP                                                       320
RS     1    STOR                                                           330
SV     0       5      10      15      20      25                           340
SE     0       1       2       3       4       5                           350
SS     4     250     3.0     1.5                                           360
ST     5     250     3.0     1.5                                           370
WP    .1     1.0       5     PS7                                           380
KK   PS7 RETRIEVE PUMP                                                     390
WR   PS7                                                                    400
KK  MC03 BASIN                                                              410
BA 0.049                                                                    420
LS     0      77       0       0      98       0                           430
UK   300  0.0010    0.20      83                                           440
UK   100  0.0010    0.10      17                                           450
RK  2500   .0010    .020            TRAP      20       1      NO           460
KK    02 ADD                                                                470
HC     4                                                                    480
KK 02-03 ROUTE                                                              490
RK  1232   .0010    .035            TRAP      15       1                   500
KK  MC05 BASIN                                                              510
BA 0.077                                                                    520
LS     0      67       0       0      98       0                           530
UK   150  0.0010    0.30      46                                           540
UK    50  0.0010    0.10      54                                           550
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RK   660   .0010    .020     .01    TRAP     20       1                    560
RK  1000   .0010    .020    .024    TRAP     20       1                    570
RK  1500   .0010    .020            TRAP     20       1      NO            580
KK 26-27 ROUTE                                                            590
RK  3029   .0010    .020            TRAP     20       1                    600
KK  MC06 BASIN                                                            610
BA 0.407                                                                  620
LS     0      69       0       0      98       0                          630
UK   150  0.0010    0.30      57                                          640
UK    50  0.0010    0.10      43                                          650
RK   660   .0010    .020     .01    TRAP     20       1                    660
RK  1750   .0010    .020    .041    TRAP     20       1                    670
RK  3000   .0010    .020            TRAP     20       1      NO            680
KK    27 ADD                                                              690
HC     2                                                                  700
KK   S32 STORAGE/PUMP  --> SERIES MC 5 & 6                                710
RS     1    STOR                                                          720
SV     0       5      10      15      20       25     30.5      40         730
SE     0       1       2       3       4        5        6       7         740
SS     6     250     3.0     1.5                                          750
ST     7     250     3.0     1.5                                          760
WP    .1     3.1       7    PS32                                          770
KK  PS32 RETRIEVE PUMP                                                    780
WR  PS32                                                                  790
KK    03 ADD                                                              800
HC     3                                                                  810
KK 03-04 ROUTE                                                            820
RK  4128   .0010    .035            TRAP     15       1                    830
KK  MC07 BASIN                                                            840
BA 0.268                                                                  850
LS     0      78       0       0      98       0                          860
UK    20  0.0010    0.40      17                                          870
UK   200  0.0010    0.10      83                                          880
RK   660   .0010    .020     .01    TRAP     20       1                    890
RK  1000   .0010    .020    .024    TRAP     20       1                    900
RK  4000   .0010    .020            TRAP     20       1      NO            910
KK    04 ADD                                                              920
HC     2                                                                  930
KK 04-05 ROUTE                                                            940
RK  1126   .0010    .035            TRAP     15       1                    950
KK  MC09 BASIN  4)                                                        960
BA 0.061                                                                  970
LS     0      73       0       0      98       0                          980
UK   150  0.0010    0.30      51                                          990
UK    50  0.0010    0.10      49                                         1000
RK   660   .0010    .020     .01    TRAP     20       1                   1010
RK  2000   .0010    .020            TRAP     20       1      NO           1020
KK 28-29 ROUTE                                                           1030
RK  2789   .0010    .020            TRAP     20       1                   1040
KK  MC08 BASIN  (2)                                                      1050
BA 0.386                                                                 1060
LS     0      73       0       0      98       0                         1070
UK    20  0.0010    0.40      32                                         1080
UK   200  0.0010    0.10      68                                         1090
RK   660   .0010    .020     .01    TRAP     20       1                   1100
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RK  1250   .0010    .020    .030    TRAP    20      1                       1110
RK  2000   .0010    .020            TRAP    20      1     NO                1120
KK  MC10 BASIN (3)                                                         1130
BA 0.254                                                                   1140
LS     0      76       0       0      98      0                            1150
UK    20  0.0010    0.40      28                                           1160
UK   200  0.0010    0.10      72                                           1170
RK   660   .0010    .020    .01     TRAP    20      1                       1180
RK  1000   .0010    .020    .024    TRAP    20      1                       1190
RK  3500   .0010    .020            TRAP    20      1     NO                1200
KK    29 ADD                  SERVES                                       1210
HC     3                      MC10,9 & 8                                   1220
KK   S33 STORAGE/PUMP                                                      1230
RS     1    STOR                                                           1240
SV     0       5      10      15      20      25      35      50      65     100  1250
SE     0       1       2       3       4       5       6       7       8       9  1260
SS     8     250     3.0     1.5                                           1270
ST     9     250     3.0     1.5                                           1280
WP    .1     6.6       9    PS33                                           1290
KK  PS33 RETRIEVE PUMP                                                     1300
WR  PS33                                                                   1310
KK    30 ADD                                                               1320
HC     2                                                                   1330
KK 30-05 ROUTE                                                             1340
RK  2640   .0010    .020            TRAP    20      1                       1350
KK    05 ADD                                                               1360
HC     2                                                                   1370
KK 05-06 ROUTE                                                             1380
RK  1943   .0010    .035            TRAP    10      1                       1390
KK  MC11 BASIN                                                             1400
BA 0.061                                                                   1410
LS     0      78       0       0      98      0                            1420
UK    20  0.0010    0.40       5                                           1430
UK   200  0.0010    0.10      95                                           1440
RK   660   .0010    .020    .01     TRAP    20      1                       1450
RK   750   .0010    .020    .018    TRAP    20      1                       1460
RK  2000   .0010    .020            TRAP    20      1     NO                1470
KK  MC12 BASIN                                                             1480
BA 0.157                                                                   1490
LS     0      78       0       0      98      0                            1500
UK    20  0.0010    0.40       7                                           1510
UK   200  0.0010    0.10      93                                           1520
RK   660   .0010    .020    .01     TRAP    20      1                       1530
RK  1000   .0010    .020    .024    TRAP    20      1                       1540
RK  2000   .0010    .020            TRAP    20      1     NO                1550
KK  MC13 BASIN                                                             1560
BA 0.165                                                                   1570
LS     0      74       0       0      98      0                            1580
UK   150  0.0010    0.30      51                                           1590
UK    50  0.0010    0.10      49                                           1600
RK   660   .0010    .020    .01     TRAP    20      1                       1610
RK  1500   .0010    .020    .036    TRAP    20      1                       1620
RK  2500   .0010    .020            TRAP    20      1     NO                1630
KK 31-06 ROUTE                                                             1640
RK  1304   .0010    .020            TRAP    20      1                       1650
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KK    06 ADD                                                          1660
HC     4                                                              1670
KK 06-07 ROUTE                                                        1680
RK  4783   .0010   .035          TRAP    10      1                   1690
KK  MC14 BASIN                                                        1700
BA 0.548                                                              1710
LS     0      74      0      0    98      0                          1720
UK   150  0.0010  0.30     46                                        1730
UK    50  0.0010  0.10     54                                        1740
RK   660   .0010   .020    .01   TRAP    20      1                   1750
RK  3500   .0010   .020   .083   TRAP    20      1                   1760
RK  3800   .0010   .020          TRAP    20      1     NO            1770
KK 32-07 ROUTE                                                        1780
RK  1973   .0010   .020          TRAP    20      1                   1790
KK  MC15 BASIN                                                        1800
BA 0.375                                                              1810
LS     0      78      0      0    98      0                          1820
UK    20  0.0010  0.40      9                                        1830
UK   200  0.0010  0.10     91                                        1840
RK   660   .0010   .020    .01   TRAP    20      1                   1850
RK  3500   .0010   .020   .083   TRAP    20      1                   1860
RK  2000   .0010   .020          TRAP    20      1     NO            1870
KK  MC16 BASIN                                                        1880
BA 0.115                                                              1890
LS     0      74      0      0    98      0                          1900
UK   150  0.0010  0.30     42                                        1910
UK    50  0.0010  0.10     58                                        1920
RK   660   .0010   .020    .01   TRAP    20      1                   1930
RK  3750   .0010   .020          TRAP    20      1     NO            1940
KK 33-07 ROUTE                                                        1950
RK  1279   .0010   .020          TRAP    20      1                   1960
KK    07 ADD                                                          1970
HC     4                                                              1980
KK 07-08 ROUTE                                                        1990
RK  4239   .0010   .035          TRAP    10      1                   2000
KK  MC17 BASIN                                                        2010
BA 0.263                                                              2020
LS     0      74      0      0    98      0                          2030
UK   150  0.0010  0.30     51                                        2040
UK    50  0.0010  0.10     49                                        2050
RK   660   .0010   .020    .01   TRAP    20      1                   2060
RK  3500   .0010   .020   .083   TRAP    20      1                   2070
RK  1500   .0010   .020          TRAP    20      1     NO            2080
KK  MC19 BASIN                                                        2090
BA 0.455                                                              2100
LS     0      74      0      0    98      0                          2110
UK   150  0.0010  0.30     47                                        2120
UK    50  0.0010  0.10     53                                        2130
RK   660   .0010   .020    .01   TRAP    20      1                   2140
RK  1500   .0010   .020   .036   TRAP    20      1                   2150
RK  4000   .0010   .020          TRAP    20      1     NO            2160
KK 34-08 ROUTE                                                        2170
RK  1402   .0010   .020          TRAP    20      1                   2180
KK    08 ADD                                                          2190
HC     3                                                              2200
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KK 08-09 ROUTE                                                          2210
RK  4269   .0010   .035          TRAP     9      1                     2220
KK  MC21 BASIN                                                          2230
BA 0.126                                                                2240
LS     0      74      0      0    98      0                            2250
UK   150  0.0010  0.30     55                                          2260
UK    50  0.0010  0.10     45                                          2270
RK   660   .0010   .020    .01   TRAP    20      1                     2280
RK  1000   .0010   .020   .024   TRAP    20      1                     2290
RK  1750   .0010   .020          TRAP    20      1      NO             2300
KK 35-09 ROUTE                                                          2310
RK   302   .0010   .020          TRAP    20      1                     2320
KK  MC18 BASIN                                                          2330
BA 0.243                                                                2340
LS     0      75      0      0    98      0                            2350
UK   200  0.0010  0.30     46                                          2360
UK   200  0.0010  0.10     54                                          2370
RK   660   .0010   .020    .01   TRAP    20      1                     2380
RK   750   .0010   .020   .018   TRAP    20      1                     2390
RK  6000   .0010   .020          TRAP    20      1      NO             2400
KK    09 ADD                                                            2410
HC     3                                                                2420
KK 09-10 ROUTE                                                          2430
RK   654   .0010   .035          TRAP     9      1                     2440
KK  MC20 BASIN                                                          2450
BA 0.232                                                                2460
LS     0      73      0      0    98      0                            2470
UK   150  0.0010  0.30     64                                          2480
UK    50  0.0010  0.10     36                                          2490
RK   660   .0010   .020    .01   TRAP    20      1                     2500
RK  1500   .0010   .020   .036   TRAP    20      1                     2510
RK  3500   .0010   .020          TRAP    20      1      NO             2520
KK    10 ADD                                                            2530
HC     2                                                                2540
KK 10-11 ROUTE                                                          2550
RK  1467   .0010   .035          TRAP    12      2                     2560
KK  MC22 BASIN                                                          2570
BA 0.401                                                                2580
LS     0      73      0      0    98      0                            2590
UK   150  0.0010  0.30     63                                          2600
UK    50  0.0010  0.10     37                                          2610
RK   660   .0010   .020    .01   TRAP    20      1                     2620
RK  2000   .0010   .020   .047   TRAP    20      1                     2630
RK  3500   .0010   .020          TRAP    20      1      NO             2640
KK  MC23 BASIN                                                          2650
BA 0.316                                                                2660
LS     0      69      0      0    98      0                            2670
UK   150  0.0010  0.30     40                                          2680
UK    50  0.0010  0.10     60                                          2690
RK   660   .0010   .020    .01   TRAP    20      1                     2700
RK  2000   .0010   .020   .047   TRAP    20      1                     2710
RK  3000   .0010   .020          TRAP    20      1      NO             2720
KK    11 ADD                                                            2730
HC     3                                                                2740
KK 11-12 ROUTE                                                          2750
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RK  2570   .0010    .035          TRAP     20       1                    2760
KK  MC24 BASIN                                                           2770
BA 0.274                                                                 2780
LS     0      74       0       0    98       0                          2790
UK   150  0.0010    0.30      56                                         2800
UK    50  0.0010    0.10      44                                         2810
RK   660   .0010    .020     .01   TRAP     20       1                   2820
RK  1000   .0010    .020    .024   TRAP     20       1                   2830
RK  3000   .0010    .020          TRAP     20       1      NO           2840
KK  MC25 BASIN                                                           2850
BA 0.062                                                                 2860
LS     0      76       0       0    98       0                          2870
UK    20  0.0010    0.40      51                                         2880
UK   200  0.0010    0.10      49                                         2890
RK   660   .0010    .020     .01   TRAP     20       1                   2900
RK  2000   .0010    .020          TRAP     20       1      NO           2910
KK    12 ADD                                                             2920
HC     3                                                                 2930
KK 12-13 ROUTE                                                           2940
RK  2158   .0010    .035          TRAP     10       2                   2950
KK  MC28 BASIN                                                           2960
BA 0.140                                                                 2970
LS     0      74       0       0    98       0                          2980
UK   300  0.0010    0.20      70                                         2990
UK   100  0.0010    0.10      30                                         3000
RK   660   .0010    .020     .01   TRAP     20       1                   3010
RK  1250   .0010    .020    .030   TRAP     20       1                   3020
RK  2000   .0010    .020          TRAP     20       1      NO           3030
KK    13 ADD                                                             3040
HC     2                                                                 3050
KK 13-14 ROUTE                                                           3060
RK   636   .0010    .035          TRAP     10       2                   3070
KK  MC27 BASIN                                                           3080
BA 0.370                                                                 3090
LS     0      73       0       0    98       0                          3100
UK   150  0.0010    0.30      51                                         3110
UK    50  0.0010    0.10      49                                         3120
RK   660   .0010    .020     .01   TRAP     20       1                   3130
RK  2000   .0010    .020    .047   TRAP     20       1                   3140
RK  2000   .0010    .020          TRAP     20       1      NO           3150
KK    S8 STORAGE/PUMP                                                    3160
RS     1    STOR                                                        3170
SV     0       5      10      15      20      26      30                 3180
SE     0       1       2       3       4       5       6                 3190
SS   5.1     250     3.0     1.5                                         3200
ST     6     250     3.0     1.5                                         3210
WP    .1     2.7       6     PS8                                         3220
KK   PS8 RETRIEVE PUMP                                                   3230
WR   PS8                                                                 3240
KK    36 ADD                                                             3250
HC     2                                                                 3260
KK 36-14 ROUTE                                                           3270
RK   902   .0010    .020          TRAP     20       1                   3280
KK    14 ADD                                                             3290
HC     2                                                                 3300
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KK 14-15 ROUTE                                                          3310
RK  2418   .0010    .035          TRAP     12       2                  3320
KK  MC30 BASIN                                                          3330
BA 0.447 sq. miles                                                      3340
LS     0      68       0       0    98       0                        3350
UK   150  0.0010    0.30      52                                       3360
UK    50  0.0010    0.10      48                                       3370
RK   660   .0010    .020     .01   TRAP     20       1                  3380
RK  1500   .0010    .020    .036   TRAP     20       1                  3390
RK  3500   .0010    .020          TRAP     20       1      NO          3400
KK 37-38 ROUTE                                                          3410
RK  3021   .0010    .020          TRAP     20       1                  3420
KK  MC26 BASIN                                                          3430
BA 0.454 sq. miles                                                      3440
LS     0      70       0       0    98       0                        3450
UK   150  0.0010    0.30      49                                       3460
UK    50  0.0010    0.10      51                                       3470
RK   660   .0010    .020     .01   TRAP     20       1                  3480
RK  1500   .0010    .020    .036   TRAP     20       1                  3490
RK  6000   .0010    .020          TRAP     20       1      NO          3500
KK    38 ADD                                                            3510
HC     2                                                                3520
KK   S34 STORAGE/PUMP                                                   3530
RS     1    STOR                                                        3540
SV     0       5      10      15     20       25       35       50      61      70  3550
SE     0       1       2       3      4        5        6        7       8       9  3560
SS     8     250     3.0     1.5                                        3570
ST     9     250     3.0     1.5                                        3580
WP    .1     6.2       9    PS34                                        3590
KK  PS34 RETRIEVE PUMP                                                  3600
WR  PS34                                                                3610
KK    39 ADD                                                            3620
HC     2                                                                3630
KK 39-15 ROUTE                                                          3640
RK  1414   .0010    .020          TRAP     20       1                  3650
KK  MC29 BASIN                                                          3660
BA 0.197                                                                3670
LS     0      75       0       0    98       0                        3680
UK    20  0.0010    0.40      50                                       3690
UK   200  0.0010    0.10      50                                       3700
RK   660   .0010    .020     .01   TRAP     20       1                  3710
RK  1000   .0010    .020    .024   TRAP     20       1                  3720
RK  6500   .0010    .020          TRAP     20       1      NO          3730
KK    15 ADD                                                            3740
HC     3                                                                3750
KK 15-16 ROUTE                                                          3760
RK  3306   .0010    .035          TRAP     12       1                  3770
KK  MC31 BASIN                                                          3780
BA 0.193                                                                3790
LS     0      74       0       0    98       0                        3800
UK   150  0.0010    0.30      65                                       3810
UK    50  0.0010    0.10      35                                       3820
RK   660   .0010    .020     .01   TRAP     20       1                  3830
RK  1000   .0010    .020    .024   TRAP     20       1                  3840
RK  4000   .0010    .020          TRAP     20       1      NO          3850
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KK    16 ADD                                                          3860
HC     2                                                              3870
KK 16-17 ROUTE                                                        3880
RK   580   .0010   .035          TRAP     12      1                   3890
KK  MC32 BASIN                                                        3900
BA 0.168                                                              3910
LS     0      77      0      0     98      0                         3920
UK   150  0.0010  0.30     71                                        3930
UK    50  0.0010  0.10     29                                        3940
RK   660   .0010   .020    .01   TRAP     20      1                   3950
RK  1000   .0010   .020   .024   TRAP     20      1                   3960
RK  3000   .0010   .020          TRAP     20      1     NO            3970
KK    17 ADD                                                          3980
HC     2                                                              3990
KK 17-18 ROUTE                                                        4000
RK  2926   .0010   .020          TRAP     20      1                   4010
KK  MC33 BASIN                                                        4020
BA 0.302                                                              4030
LS     0      83      0      0     98      0                         4040
UK   800  0.0010  0.20     97                                        4050
UK   100  0.0010  0.10      3                                        4060
RK   660   .0010   .020    .01   TRAP     20      1                   4070
RK  1500   .0010   .020   .036   TRAP     20      1                   4080
RK  2500   .0010   .020          TRAP     20      1     NO            4090
KK  MC34 BASIN                                                        4100
BA 0.177                                                              4110
LS     0      81      0      0     98      0                         4120
UK   800  0.0010  0.20     88                                        4130
UK   100  0.0010  0.10     12                                        4140
RK   660   .0010   .020    .01   TRAP     20      1                   4150
RK  1000   .0010   .020   .024   TRAP     20      1                   4160
RK  2500   .0010   .020          TRAP     20      1     NO            4170
KK    43 ADD                                                          4180
HC     3                                                              4190
KK 19-20 ROUTE                                                        4310
RK  2379   .0010   .035          TRAP      7      2                   4320
KK  MC35 BASIN                                                        4330
BA 0.428                                                              4340
LS     0      76      0      0     98      0                         4350
UK    20  0.0010  0.40     32                                        4360
UK   200  0.0010  0.10     68                                        4370
RK   660   .0010   .020    .01   TRAP     20      1                   4380
RK  2000   .0010   .020   .047   TRAP     20      1                   4390
RK  3500   .0010   .020          TRAP     20      1     NO            4400
KK  MC36 BASIN                                                        4410
BA 0.159                                                              4420
LS     0      73      0      0     98      0                         4430
UK   300  0.0010  0.20     87                                        4440
UK   100  0.0010  0.10     13                                        4450
RK   660   .0010   .020    .01   TRAP     20      1                   4460
RK  2000   .0010   .020   .047   TRAP     20      1                   4470
RK  1500   .0010   .020          TRAP     20      1     NO            4480
KK    20 ADD                                                          4490
HC     3                                                              4500
KK 20-21 ROUTE                                                        4510
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RK  4843   .0010   .035            TRAP     7      2                      4520
KK  MC37 BASIN                                                            4530
BA 0.288                                                                  4540
LS     0      71      0       0      98     0                             4550
UK   200  0.0010   0.30      45                                           4560
UK   200  0.0010   0.10      55                                           4570
RK   660   .0010   .020     .01    TRAP    20      1                      4580
RK  1500   .0010   .020    .036    TRAP    20      1                      4590
RK  4000   .0010   .020            TRAP    20      1      NO              4600
KK  MC38 BASIN                                                            4610
BA 0.397                                                                  4620
LS     0      72      0       0      98     0                             4630
UK   200  0.0010   0.30      51                                           4640
UK   200  0.0010   0.10      49                                           4650
RK   660   .0010   .020     .01    TRAP    20      1                      4660
RK  3000   .0010   .020    .071    TRAP    20      1                      4670
RK  4000   .0010   .020            TRAP    20      1      NO              4680
KK    21 ADD                                                              4690
HC     3                                                                  4700
KK 21-22 ROUTE                                                            4710
RK  2640   .0010   .035            TRAP     7      2                      4720
KK   S50 STORAGE                                                          4730
RS     1    STOR                                                          4740
SV     0      50    100     500     800  1000                             4750
SE     0       5     10      15      16    17                             4760
SS    16     250    3.0     1.5                                           4770
ST    17     250    3.0     1.5                                           4780
ZZ                                                                        4790
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City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

09/14/94

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
EXISTING DEFICIENCIES									
STORAGE BASINS									
MD-S3	PUMP	42,000						8,400	50,400
SUBTOTAL		42,000						8,400	50,400
TOTAL EXISTING DEFICIENCIES		42,000						8,400	50,400

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
MD-S23	BASIN TYPE X1				337,187			67,437	404,624
MD-S31	BASIN TYPE B	35,000	168,581	202,298	38,720			88,920	533,519
MD-S4	PUMP	35,000						7,000	42,000
SUBTOTAL		70,000	168,581	202,298	375,907			163,357	980,143
COLLECTOR DRAINS									
MD0026-MD0004	PIPE						132,000	26,400	158,400
MD0027-MD0028	PIPE						309,960	61,992	371,952
MD0028-MD0029	PIPE						478,420	95,684	574,104
MD0029-MD0006	PIPE						404,005	80,801	484,806
MD0030-MD0031	PIPE						81,960	16,392	98,352
MD0032-MD0033	PIPE						155,100	31,020	186,120
MD0034-MD0035	PIPE						103,900	20,780	124,680
MD0036-MD0010	PIPE						309,040	61,808	370,848
MD0037-MD0012	PIPE						156,020	31,204	187,224
MD0038-MD0011	PIPE						173,700	34,740	208,440
MD0039-MD0013	PIPE						210,720	42,144	252,864
MD0040-MD0014	PIPE						254,400	50,880	305,280
MD0041-MD0042	PIPE						263,700	52,740	316,440
MD0042-MD0015	PIPE						453,150	90,630	543,780
MD0043-MD0044	PIPE						266,100	53,220	319,320
MD0044-MD0016	PIPE						408,270	81,654	489,924
MD0045-MD0046	PIPE						262,700	52,540	315,240
MD0046-MD0017	PIPE						414,625	82,925	497,550
MD0047-MD0048	PIPE						259,500	51,900	311,400
MD0048-MD0018	PIPE						418,655	83,731	502,386
MD0049-MD0050	PIPE						256,400	51,280	307,680

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
MD0050-MD0019	PIPE						420,050	84,010	504,060
MD0101-MD0027	PIPE						186,240	37,248	223,488
MD0102-MD0027	PIPE						243,360	48,672	292,032
MD0103-MD0028	PIPE						242,760	48,552	291,312
MD0104-MD0105	PIPE						156,360	31,272	187,632
MD0105-MD0029	PIPE						394,200	78,840	473,040
MD0106-MD0107	PIPE						156,240	31,248	187,488
MD0107-MD0030	PIPE						202,800	40,560	243,360
MD0108-MD0007	PIPE						184,100	36,820	220,920
MD0109-MD0032	PIPE						221,300	44,260	265,560
MD0110-MD0008	PIPE						204,600	40,920	245,520
MD0111-MD0112	PIPE						154,880	30,976	185,856
MD0112-MD0036	PIPE						162,880	32,576	195,456
MD0113-MD0010	PIPE						391,200	78,240	469,440
MD0114-MD0115	PIPE						120,756	24,151	144,907
MD0115-MD0037	PIPE						89,494	17,899	107,393
MD0116-MD0038	PIPE						216,100	43,220	259,320
MD0117-MD0013	PIPE						75,052	15,010	90,062
MD0118-MD0039	PIPE						166,320	33,264	199,584
MD0119-MD0014	PIPE						89,950	17,990	107,940
MD0120-MD0040	PIPE						251,160	50,232	301,392
MD0121-MD0015	PIPE						188,160	37,632	225,792
MD0122-MD0041	PIPE						107,900	21,580	129,480
MD0123-MD0016	PIPE						129,200	25,840	155,040
MD0124-MD0043	PIPE						113,400	22,680	136,080
MD0125-MD0017	PIPE						126,700	25,340	152,040
MD0126-MD0045	PIPE						119,200	23,840	143,040
MD0127-MD0018	PIPE						121,800	24,360	146,160
MD0128-MD0047	PIPE						125,000	25,000	150,000
SUBTOTAL							11,133,487	2,226,697	13,360,184

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
MAIN DRAINS									
MD0013-MD0014	UNLINED CHANNEL			218,306	47,830			53,227	319,362
MD0014-MD0015	UNLINED CHANNEL			211,273	48,693			51,993	311,959
MD0015-MD0016	UNLINED CHANNEL			257,952	78,835			67,358	404,145
MD0016-MD0017	UNLINED CHANNEL			290,194	102,956			78,630	471,781
MD0017-MD0018	UNLINED CHANNEL			320,463	126,692			89,431	536,585
MD0018-MD0019	UNLINED CHANNEL			341,554	145,892			97,489	584,934
MD0019-MD0020	UNLINED CHANNEL			212,810	92,986			61,159	366,955
SUBTOTAL				1,852,552	643,884			499,287	2,995,723
TOTAL FUTURE DEVELOPMENT		70,000	168,581	2,054,849	1,019,791		11,133,487	2,889,342	17,336,050
TOTAL BASIN IMPROVEMENTS		112,000	168,581	2,054,849	1,019,791		11,133,487	2,897,742	17,386,450

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

07/28/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS						
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
MD0026-MD0004	1,650							18	34	18	34	0.0010	36			PIPE	21		$158,400
MD0027-MD0028	2,583							34	67	34	67	0.0010	48			PIPE	45		$371,952
MD0028-MD0029	2,518							69	134	69	134	0.0010	60			PIPE	82		$574,104
MD0029-MD0006	1,649							114	218	114	218	0.0010	72			PIPE	134		$484,806
MD0030-MD0031	683							45	87	45	87	0.0010	48			PIPE	45		$98,352
MD0032-MD0033	1,551							32	62	32	62	0.0010	42			PIPE	32		$186,120
MD0034-MD0035	2,078							7	7	7	7	0.0010	24			PIPE	7		$124,680
MD0036-MD0010	3,863							19	36	19	36	0.0010	36			PIPE	21		$370,848
MD0037-MD0012	2,690							13	28	13	28	0.0010	30			PIPE	13		$187,224
MD0038-MD0011	1,737							23	44	23	44	0.0010	42			PIPE	32		$208,440
MD0039-MD0013	2,634							14	29	14	29	0.0010	36			PIPE	21		$252,864
MD0040-MD0014	2,120							34	75	34	75	0.0010	48			PIPE	45		$305,280
MD0041-MD0042	2,637							3	7	3	7	0.0010	18			PIPE	3		$132,905
MD0042-MD0015	2,385							7	13	7	13	0.0010	24			PIPE	7		$143,100
MD0043-MD0044	2,661							3	6	3	6	0.0010	18			PIPE	3		$134,114
MD0044-MD0016	2,634							6	13	6	13	0.0010	24			PIPE	7		$158,040
MD0045-MD0046	2,627							3	7	3	7	0.0010	18			PIPE	3		$132,401
MD0046-MD0017	2,675							6	13	6	13	0.0010	24			PIPE	7		$160,500
MD0047-MD0048	2,595							3	6	3	6	0.0010	18			PIPE	3		$130,788
MD0048-MD0018	2,701							6	13	6	13	0.0010	24			PIPE	7		$162,060
MD0049-MD0050	2,564							3	7	3	7	0.0010	18			PIPE	3		$129,226
MD0050-MD0019	2,710							17	34	17	34	0.0010	36			PIPE	21		$260,160
MD0101-MD0027	1,552							35	69	35	69	0.0010	48			PIPE	45		$223,488
MD0102-MD0027	2,028							35	69	35	69	0.0010	48			PIPE	45		$292,032
MD0103-MD0028	2,023							39	76	39	76	0.0010	48			PIPE	45		$291,312
MD0104-MD0105	1,303							46	88	46	88	0.0010	48			PIPE	45		$187,632
MD0105-MD0029	3,285							46	88	46	88	0.0010	48			PIPE	45		$473,040
MD0106-MD0107	1,302							45	89	45	89	0.0010	48			PIPE	45		$187,488

(hydrep1)

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

07/28/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS						
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
MD0107-MD0030	1,690							45	89	45	89	0.0010	48			PIPE	45		$243,360
MD0108-MD0007	1,841							24	47	24	47	0.0010	42			PIPE	32		$220,920
MD0109-MD0032	2,213							32	63	32	63	0.0010	42			PIPE	32		$265,560
MD0110-MD0008	2,046							29	57	29	57	0.0010	42			PIPE	32		$245,520
MD0111-MD0112	1,936							19	37	19	37	0.0010	36			PIPE	21		$185,856
MD0112-MD0036	2,036							19	37	19	37	0.0010	36			PIPE	21		$195,456
MD0113-MD0010	3,260							35	68	35	68	0.0010	48			PIPE	45		$469,440
MD0114-MD0115	2,082							13	28	13	28	0.0010	30			PIPE	13		$144,907
MD0115-MD0037	1,543							13	28	13	28	0.0010	30			PIPE	13		$107,393
MD0116-MD0038	2,161							23	45	23	45	0.0010	42			PIPE	32		$259,320
MD0117-MD0013	1,294							8	16	8	16	0.0010	30			PIPE	13		$90,062
MD0118-MD0039	2,079							15	29	15	29	0.0010	36			PIPE	21		$199,584
MD0119-MD0014	1,799							7	14	7	14	0.0010	24			PIPE	7		$107,940
MD0120-MD0040	2,093							34	76	34	76	0.0010	48			PIPE	45		$301,392
MD0121-MD0015	1,568							4	8	4	8	0.0010	24			PIPE	7		$94,080
MD0122-MD0041	1,079							3	7	3	7	0.0010	18			PIPE	3		$54,382
MD0123-MD0016	1,292							3	6	3	6	0.0010	18			PIPE	3		$65,117
MD0124-MD0043	1,134							3	6	3	6	0.0010	18			PIPE	3		$57,154
MD0125-MD0017	1,267							3	6	3	6	0.0010	18			PIPE	3		$63,857
MD0126-MD0045	1,192							3	7	3	7	0.0010	18			PIPE	3		$60,077
MD0127-MD0018	1,218							3	6	3	6	0.0010	18			PIPE	3		$61,387
MD0128-MD0047	1,250							3	6	3	6	0.0010	18			PIPE	3		$63,000
	101,511																		$10,077,119
MAIN DRAINS																			
MD0001-MD0002	774	0.0010	0.030		173	44	674	2	2										
MD0002-MD0003	1,007	0.0010	0.030		173	44	674	17	32										
MD0004-MD0005	4,160	0.0010	0.030		71	27	216	39	75										
MD0005-MD0006	1,750	0.0010	0.030		71	27	216	56	112										

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

07/28/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
MD0006-MD0007	950	0.0010	0.030		89	30	290	158	310		20								
MD0007-MD0008	2,702	0.0010	0.030		89	30	290	173	338		48								
MD0008-MD0009	1,457	0.0010	0.030		89	30	290	188	365		75								
MD0010-MD0011	3,204	0.0010	0.030		57	23	167	39	56										
MD0011-MD0012	867	0.0010	0.030		57	23	167	81	139										
MD0012-MD0013	2,666	0.0010	0.030		57	23	167	86	153										
MD0013-MD0014	2,935	0.0010	0.030		57	23	167	113	207		40	0.0010		8.0	4.0	UNLINED CHANNEL	241	60,000	$304,442
MD0014-MD0015	2,739	0.0010	0.030		57	23	167	154	295		128	0.0010		12.0	4.0	UNLINED CHANNEL	303	60,000	$311,959
MD0015-MD0016	2,683	0.0010	0.030		54	22	154	162	313	8	159	0.0010		15.0	4.0	UNLINED CHANNEL	350	60,000	$326,040
MD0016-MD0017	2,601	0.0010	0.030		54	22	154	170	332	16	178	0.0010		15.0	4.0	UNLINED CHANNEL	350	60,000	$316,075
MD0017-MD0018	2,620	0.0010	0.030		54	22	154	179	353	25	199	0.0010		16.0	4.0	UNLINED CHANNEL	366	60,000	$325,044
MD0018-MD0019	2,583	0.0010	0.030		54	22	154	190	375	36	221	0.0010		20.0	4.0	UNLINED CHANNEL	430	60,000	$346,715
MD0019-MD0020	1,545	0.0010	0.030		54	22	154	201	401	47	247	0.0010		20.0	4.0	UNLINED CHANNEL	430	60,000	$207,385
	37,243																		$2,137,660
BASIN TOTAL	138,754																BASIN TOTAL		$12,214,779

City of Visalia
Storm Water Master Plan and Management Program
MODOC DITCH DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
MD-S2			14.0		4.0	8.0	13.0									
MD-S23			160.0		290.0	559.0	808.0	130.0	399.0	648.0	X1		209.0			404,624
MD-S3			200.0		53.0	124.0	197.0							12.4		50,400
MD-S31					5.0	12.0	18.0	5.0	12.0	18.0	B		12.0	1.2	60,000	533,519
MD-S4			50.0		15.0	40.0	66.0			16.0				4.0		42,000

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	215.41	20.00	43.08
	LOW DENSITY	LDR	2,681.90	43.00	1,153.22
	MEDIUM DENSITY	MDR	126.01	70.00	88.21
	HIGH DENSITY	HDR	25.03	80.00	20.03
TOTAL RESIDENTIAL			3,048.35	42.79	1,304.53
	CONVENIENCE CENTER	CC	2.85	95.00	2.71
	SHOPPING/OFFICE CENTER	CSO	23.83	80.00	19.06
	COMMUNITY CENTER	CCM	135.16	75.00	101.37
	HIGHWAY	CH	2.14	95.00	2.03
	SERVICE	CS	24.42	95.00	23.19
	PROFESSIONAL/ADMINISTRATIO	PA	159.47	70.00	111.63
TOTAL COMMERCIAL/OFFICE			347.86	74.74	259.99
	PUBLIC/INSTITUTIONAL	PI	69.56	60.00	41.73
TOTAL COMMUNITY FACILITIES			69.56	60.00	41.73
	AGRICULTURE	OSA	375.63	1.00	3.76
	CONSERVATION	OSC	305.74	1.00	3.06
	PARKS	OSP	233.09	15.00	34.96
TOTAL OPEN SPACE			914.46	4.57	41.78
	URBAN RESERVE	UR	935.29	15.00	140.29
TOTAL URBAN RESERVE			935.29	15.00	140.29
	LIGHT WITH STORAGE	IL-S	0.14	10.00	0.01
	HEAVY WITH STORAGE	IH-S	2,931.10	10.00	293.11
TOTAL INDUSTRY WITH STORAGE			2,931.24	10.00	293.12
TOTAL MODOC DITCH DRAINAGE BASIN			8,246.76	25.24	2,081.45

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selecte Group
						1	2	3	4	5	6	
MD01	0.16657	44	56	72	98	12	36	58	0	0	0	3
MD02	0.07780	56	44	73	98	1	42	0	0	7	0	2
MD03	0.14618	55	45	73	98	0	87	5	0	1	0	2
MD04	0.12230	46	54	74	98	1	62	15	0	0	0	2
MD05	0.23823	60	40	74	98	30	117	6	0	0	0	2
MD06	0.16531	56	44	74	98	3	90	0	0	13	0	2
MD07	0.10750	69	31	75	98	19	50	0	0	0	0	2
MD08	0.28904	54	46	73	98	9	164	12	0	0	0	2
MD09	0.29411	50	50	74	98	3	145	36	0	5	0	2
MD10	0.46112	56	44	73	98	7	285	3	0	0	0	2
MD11	0.45784	59	41	73	98	26	267	0	0	0	0	2
MD12	0.10257	60	40	72	98	11	55	0	0	0	0	2
MD13	0.22357	58	42	73	98	4	139	0	0	0	0	2
MD14	0.36635	62	38	73	98	43	191	0	0	0	0	2
MD15	0.21897	52	48	72	98	15	86	40	0	0	0	2
MD16	0.24887	55	45	66	98	0	159	0	0	0	0	2
MD17	0.36568	76	24	72	98	162	70	1	0	0	0	1
MD18	0.27540	67	33	75	98	58	109	8	0	2	0	2
MD19	0.15587	70	30	72	98	39	55	6	0	0	0	2
MD20	0.32770	59	41	71	98	52	131	4	0	23	0	2
MD21	0.43769	84	16	76	98	274	7	0	0	0	0	1
MD22	0.32971	65	35	74	98	47	160	0	0	5	0	2
MD23	0.13166	74	26	75	98	39	40	5	0	0	0	2
MD24	0.24142	62	38	71	98	36	118	0	0	0	0	2
MD25	0.25185	85	15	76	98	161	0	0	0	0	0	1
MD26	0.19102	86	14	76	98	122	0	0	0	0	0	1
MD27	0.32691	79	21	74	98	193	15	1	0	0	0	1
MD28	0.23697	86	14	76	98	152	0	0	0	0	0	1
MD29	0.15731	86	14	76	98	101	0	0	0	0	0	1
MD30	0.32758	47	53	75	98	64	0	145	0	0	0	3
MD31	0.29084	90	10	63	98	3	0	0	183	0	0	4
MD32	0.20296	90	10	62	98	0	0	0	129	0	0	4
MD33	0.25631	90	10	62	98	0	0	0	164	0	0	4
MD34	0.24592	90	10	62	98	0	0	0	157	0	0	4
MD35	0.24105	90	10	62	98	0	0	0	154	0	0	4
MD36	0.24311	90	10	62	98	0	0	0	156	0	0	4
MD37	0.24754	90	10	62	98	0	0	0	158	0	0	4
MD38	0.23913	90	10	62	98	0	0	0	153	0	0	4
MD39	0.23429	90	10	62	98	0	0	0	150	0	0	4
MD40	0.24776	90	10	62	98	0	0	0	159	0	0	4
MD41	0.24755	90	10	62	98	0	0	0	158	0	0	4
MD42	0.24246	90	10	62	98	0	0	0	155	0	0	4
MD43	0.24004	90	10	62	98	0	0	0	153	0	0	4
MD44	0.25187	90	10	62	98	0	0	0	161	0	0	4
MD45	0.24174	90	10	62	98	0	0	0	155	0	0	4
MD46	0.23470	90	10	62	98	0	0	0	150	0	0	4
MD47	0.10115	99	1	85	98	0	0	0	0	0	65	6
MD48	0.25316	98	2	85	98	0	2	0	2	0	158	6
MD49	0.24301	71	29	70	98	0	87	0	67	1	0	2
MD50	0.24473	90	10	63	98	0	1	0	155	0	0	4
MD51	0.36130	85	15	82	98	4	38	8	16	12	153	6
MD52	0.33182	83	17	64	98	0	0	16	196	0	0	4

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ID MD-02
IT     5           300     300
IO     5
KK  MD01 BASIN
BA 0.167
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090
PH 2.640   0.000   0.000   0.000
LS     0      72       0       0      98       0
UK    20  0.0010    0.40      44
UK   200  0.0010    0.10      56
RK   660   .0010    .020     .01    TRAP      20       1
RK  1000   .0010    .020    .024    TRAP      20       1
RK  1500   .0010    .020            TRAP      20       1      NO
KK  MD02 BASIN
BA 0.078
LS     0      73       0       0      98       0
UK   150  0.0010    0.30      56
UK    50  0.0010    0.10      44
RK   660   .0010    .020     .01    TRAP      20       1
RK  1500   .0010    .020            TRAP      20       1      NO
KK    01 ADD
HC     2
KK   S31 STORAGE/PUMP
RS     1    STOR
SV     0       5      10      15      18      20
SE     0       1       2       3       4       5
SS     4     250     3.0     1.5
ST     5     250     3.0     1.5
WP    .1     1.5       5    SP31
KK  SP31 RETRIVE/PUMP
WR  SP31
KK    01 ADD
HC     2
KK 01-02 ROUTE
RK   774   .0010    .035            TRAP      14       2
KK  MD03 BASIN
BA 0.146
LS     0      73       0       0      98       0
UK   150  0.0010    0.30      55
UK    50  0.0010    0.10      45
RK   660   .0010    .020     .01    TRAP      20       1
RK  2500   .0010    .020    .059    TRAP      20       1
RK  1500   .0010    .020            TRAP      20       1      NO
KK 25-02 ROUTE
RK  2640   .0010    .020            TRAP      20       1
KK    02 ADD
HC     2
KK 02-03 ROUTE
RK  1007   .0010    .035            TRAP       7       2
KK    S2 STORAGE/PUMP
RS     1    STOR
SV     0       5      10      14      15      25
SE     0       1       2       3       4       5
SS     3     250     3.0     1.5
ST     5     250     3.0     1.5
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WP    .1     1.0       4     SP2                                          560
KK   SP2 RETRIVE/PUMP                                                    570
WR   SP2                                                                 580
KK  MD04 BASIN                                                           590
BA 0.122                                                                 600
LS     0       74       0       0      98       0                        610
UK   150   0.0010    0.30      46                                        620
UK    50   0.0010    0.10      54                                        630
RK   660    .0010    .020     .01    TRAP      20       1                640
RK  1000    .0010    .020    .024    TRAP      20       1                650
RK  2000    .0010    .020            TRAP      20       1      NO        660
KK 26-04 ROUTE                                                           670
RK  2640    .0010    .020            TRAP      20       1                680
KK  MD05 BASIN                                                           690
BA 0.238                                                                 700
LS     0       74       0       0      98       0                        710
UK   150   0.0010    0.30      60                                        720
UK    50   0.0010    0.10      40                                        730
RK   660    .0010    .020     .01    TRAP      20       1                740
RK  1000    .0010    .020    .024    TRAP      20       1                750
RK  1000    .0010    .020            TRAP      20       1      NO        760
KK    04 ADD                                                             770
HC     4                                                                 780
KK 04-05 ROUTE                                                           790
RK  4160    .0010    .035            TRAP      12       2                800
KK  MD06 BASIN                                                           810
BA 0.165                                                                 820
LS     0       74       0       0      98       0                        830
UK   150   0.0010    0.30      56                                        840
UK    50   0.0010    0.10      44                                        850
RK   660    .0010    .020     .01    TRAP      20       1                860
RK  1000    .0010    .020    .024    TRAP      20       1                870
RK  4000    .0010    .020            TRAP      20       1      NO        880
KK  MD07 BASIN                                                           890
BA 0.108                                                                 900
LS     0       75       0       0      98       0                        910
UK   150   0.0010    0.30      69                                        920
UK    50   0.0010    0.10      31                                        930
RK   660    .0010    .020     .01    TRAP      20       1                940
RK  1500    .0010    .020    .036    TRAP      20       1                950
RK  1500    .0010    .020            TRAP      20       1      NO        960
KK    05 ADD                                                             970
HC     3                                                                 980
KK 05-06 ROUTE                                                           990
RK  1750    .0010    .035            TRAP       7       2               1000
KK  MD08 BASIN                                                          1010
BA 0.289                                                                1020
LS     0       73       0       0      98       0                       1030
UK   150   0.0010    0.30      54                                       1040
UK    50   0.0010    0.10      46                                       1050
RK   660    .0010    .020     .01    TRAP      20       1               1060
RK  1980    .0010    .020    .063    TRAP      20       1               1070
RK  1980    .0010    .020            TRAP      20       1      NO       1080
KK 27-28 ROUTE                                                          1090
RK  2583    .0010    .020            TRAP      20       1               1100
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KK  MD09 BASIN                                                          1110
BA 0.294                                                                1120
LS     0      74       0       0      98      0                        1130
UK   150  0.0010    0.30      50                                       1140
UK    50  0.0010    0.10      50                                       1150
RK   660   .0010    .020     .01    TRAP     20       1               1160
RK  1980   .0010    .020    .063    TRAP     20       1               1170
RK  1980   .0010    .020            TRAP     20       1      NO       1180
KK    28 ADD                                                            1190
HC     2                                                                1200
KK 28-29 ROUTE                                                          1210
RK  2518   .0010    .020            TRAP     20       1               1220
KK  MD10 BASIN                                                          1230
BA 0.461                                                                1240
LS     0      73       0       0      98      0                        1250
UK   150  0.0010    0.30      56                                       1260
UK    50  0.0010    0.10      44                                       1270
RK   660   .0010    .020     .01    TRAP     20       1               1280
RK  2000   .0010    .020    .047    TRAP     20       1               1290
RK  5000   .0010    .020            TRAP     20       1      NO       1300
KK    29 ADD                                                            1310
HC     2                                                                1320
KK 29-06 ROUTE                                                          1330
RK  1649   .0010    .020            TRAP     20       1               1340
KK    06 ADD                                                            1350
HC     2                                                                1360
KK 06-07 ROUTE                                                          1370
RK   950   .0010    .035            TRAP     10       2               1380
KK  MD13 BASIN                                                          1390
BA 0.224                                                                1400
LS     0      73       0       0      98      0                        1410
UK   150  0.0010    0.30      58                                       1420
UK    50  0.0010    0.10      42                                       1430
RK   660   .0010    .020     .01    TRAP     20       1               1440
RK  1980   .0010    .020    .063    TRAP     20       1               1450
RK  1980   .0010    .020            TRAP     20       1      NO       1460
KK    07 ADD                                                            1470
HC     2                                                                1480
KK 07-08 ROUTE                                                          1490
RK  2702   .0010    .035            TRAP     10       2               1500
KK  MD16 BASIN                                                          1510
BA 0.249                                                                1520
LS     0      66       0       0      98      0                        1530
UK   150  0.0010    0.30      55                                       1540
UK    50  0.0010    0.10      45                                       1550
RK   660   .0010    .020     .01    TRAP     20       1               1560
RK  1980   .0010    .020    .063    TRAP     20       1               1570
RK  1980   .0010    .020            TRAP     20       1      NO       1580
KK    08 ADD                                                            1590
HC     2                                                                1600
KK 08-09 ROUTE                                                          1610
RK  1457   .0010    .035            TRAP     10       2               1620
KK  MD11 BASIN                                                          1630
BA 0.458                                                                1640
LS     0      73       0       0      98      0                        1650
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UK   150  0.0010    0.30      59                                                    1660
UK    50  0.0010    0.10      41                                                    1670
RK   660   .0010    .020      .01   TRAP      20        1                         1680
RK  2000   .0010    .020      .047  TRAP      20        1                         1690
RK  3000   .0010    .020            TRAP      20        1     NO                  1700
KK 30-31 ROUTE                                                                     1710
RK   683   .0010    .035            TRAP      10        2                         1720
KK  MD15 BASIN                                                                     1730
BA 0.219                                                                           1740
LS     0      72       0       0    98        0                                   1750
UK   150  0.0010    0.30      52                                                    1760
UK    50  0.0010    0.10      48                                                    1770
RK   660   .0010    .020      .01   TRAP      20        1                         1780
RK  1980   .0010    .020      .063  TRAP      20        1                         1790
RK  1980   .0010    .020            TRAP      20        1     NO                  1800
KK  MD14 BASIN                                                                     1810
BA 0.366                                                                           1820
LS     0      73       0       0    98        0                                   1830
UK   150  0.0010    0.30      62                                                    1840
UK    50  0.0010    0.10      38                                                    1850
RK   660   .0010    .020      .01   TRAP      20        1                         1860
RK  2500   .0010    .020      .063  TRAP      20        1                         1870
RK  3000   .0010    .020            TRAP      20        1     NO                  1880
KK 32-33 ROUTE                                                                     1890
RK  1551   .0010    .020            TRAP      20        1                         1900
KK    31 ADD                                                                       1910
HC     3                                                                           1920
KK    S4 STORAGE/PUMP                                                              1930
RS     1    STOR                                                                   1940
SV     0       5      10      15     20        25        35    50    75    100     1950
SE     0       1       2       3      4        5         6     7     8     9       1960
SS     8     250     3.0     1.5                                                   1970
ST     9     250     3.0     1.5                                                   1980
WP    .1     7.4      20     SP4                                                   1990
KK   SP4 RETRIVE/PUMP                                                             2000
WR   SP4                                                                           2010
KK 34-35 ROUTE                                                                     2020
RK  2078   .0010    .035            TRAP      10        2                         2030
KK  MD18 BASIN                                                                     2040
BA 0.275                                                                           2050
LS     0      75       0       0    98        0                                   2060
UK   150  0.0010    0.30      67                                                    2070
UK    50  0.0010    0.10      33                                                    2080
RK   660   .0010    .020      .01   TRAP      20        1                         2090
RK  2000   .0010    .020      .047  TRAP      20        1                         2100
RK  4000   .0010    .020            TRAP      20        1     NO                  2110
KK  MD19 BASIN                                                                     2120
BA 0.156                                                                           2130
LS     0      72       0       0    98        0                                   2140
UK   150  0.0010    0.30      70                                                    2150
UK    50  0.0010    0.10      30                                                    2160
RK   660   .0010    .020      .01   TRAP      20        1                         2170
RK  1980   .0010    .020      .063  TRAP      20        1                         2180
RK  1980   .0010    .020            TRAP      20        1     NO                  2190
KK  MD20 BASIN                                                                     2200
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BA	0.328										2210
LS	0	71	0	0	98	0					2220
UK	150	0.0010	0.30	59							2230
UK	50	0.0010	0.10	41							2240
RK	660	.0010	.020	.01	TRAP	20	1				2250
RK	1980	.0010	.020	.063	TRAP	20	1				2260
RK	1980	.0010	.020		TRAP	20	1	NO			2270
KK	09	ADD									2280
HC	5										2290
KK	09	ADD									2300
HC	2										2310
KK	S3	STORAGE/PUMP									2320
RS	1	STOR									2330
SV	0	5	10	15	20	25	50	100	200	250	2340
SE	0	1	2	3	4	5	6	7	8	9	2350
SS	8	250	3.0	1.5							2360
ST	9	250	3.0	1.5							2370
WP	.1	20.0	20	PS3							2380
KK	PS3	RETRIEVE/PUMP									2390
WR	PS3										2400
KK	MD17	BASIN									2410
BA	0.366										2420
LS	0	72	0	0	98	0					2430
UK	300	0.0010	0.20	76							2440
UK	100	0.0010	0.10	24							2450
RK	660	.0010	.020	.01	TRAP	20	1				2460
RK	1980	.0010	.020	.063	TRAP	20	1				2470
RK	1980	.0010	.020		TRAP	20	1	NO			2480
KK	36-10	ROUTE									2490
RK	3863	.0010	.020		TRAP	20	1				2500
KK	10	ADD									2510
HC	3										2520
KK	10-11	ROUTE									2530
RK	3204	.0010	.035		TRAP	6	2				2540
KK	MD22	BASIN									2550
BA	0.330										2560
LS	0	74	0	0	98	0					2570
UK	150	0.0010	0.30	65							2580
UK	50	0.0010	0.10	35							2590
RK	660	.0010	.020	.01	TRAP	20	1				2600
RK	2000	.0010	.020	.047	TRAP	20	1				2610
RK	3500	.0010	.020		TRAP	20	1	NO			2620
KK	MD23	BASIN									2630
BA	0.132										2640
LS	0	75	0	0	98	0					2650
UK	150	0.0010	0.30	74							2660
UK	50	0.0010	0.10	26							2670
RK	660	.0010	.020	.01	TRAP	20	1				2680
RK	1980	.0010	.020	.063	TRAP	20	1				2690
RK	1980	.0010	.020		TRAP	20	1	NO			2700
KK	MD24	BASIN									2710
BA	0.241										2720
LS	0	71	0	0	98	0					2730
UK	150	0.0010	0.30	62							2740
UK	50	0.0010	0.10	38							2750

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RK   660   .0010   .020    .01   TRAP   20   1          2760
RK  1980   .0010   .020   .063   TRAP   20   1          2770
RK  1980   .0010   .020          TRAP   20   1    NO    2780
KK 38-11 ROUTE                                         2790
RK  1737   .0010   .020          TRAP   20   1          2800
KK    11 ADD                                           2810
HC     4                                               2820
KK 11-12 ROUTE                                         2830
RK   867   .0010   .035          TRAP    6   2          2840
KK  MD21 BASIN                                         2850
BA 0.438                                               2860
LS     0      76      0      0     98    0             2870
UK   300  0.0010   0.20     84                         2880
UK   100  0.0010   0.10     16                         2890
RK   660   .0010   .020    .01   TRAP   20   1          2900
RK  1980   .0010   .020   .063   TRAP   20   1          2910
RK  4000   .0010   .020          TRAP   20   1    NO    2920
KK 37-12 ROUTE                                         2930
RK  2690   .0010   .020          TRAP   20   1          2940
KK    12 ADD                                           2950
HC     2                                               2960
KK 12-13 ROUTE                                         2970
RK  2666   .0010   .035          TRAP    6   2          2980
KK  MD27 BASIN                                         2990
BA 0.327                                               3000
LS     0      74      0      0     98    0             3010
UK   300  0.0010   0.20     79                         3020
UK   100  0.0010   0.10     21                         3030
RK   660   .0010   .020    .01   TRAP   20   1          3040
RK  1980   .0010   .020   .063   TRAP   20   1          3050
RK  1980   .0010   .020          TRAP   20   1    NO    3060
KK 39-13 ROUTE                                         3070
RK  2634   .0010   .020          TRAP   20   1          3080
KK  MD26 BASIN                                         3090
BA 0.191                                               3100
LS     0      76      0      0     98    0             3110
UK   300  0.0010   0.20     86                         3120
UK   100  0.0010   0.10     14                         3130
RK   660   .0010   .020    .01   TRAP   20   1          3140
RK  1980   .0010   .020   .063   TRAP   20   1          3150
RK  1980   .0010   .020          TRAP   20   1    NO    3160
KK  MD25 BASIN                                         3170
BA 0.252                                               3180
LS     0      76      0      0     98    0             3190
UK   300  0.0010   0.20     85                         3200
UK   100  0.0010   0.10     15                         3210
RK   660   .0010   .020    .01   TRAP   20   1          3220
RK  1980   .0010   .020   .063   TRAP   20   1          3230
RK  1980   .0010   .020          TRAP   20   1    NO    3240
KK    13 ADD                                           3250
HC     4                                               3260
KK 13-14 ROUTE                                         3270
RK  2935   .0010   .035          TRAP    6   2          3280
KK  MD30 BASIN                                         3290
BA 0.328                                               3300
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LS	0	75	0	0	98	0			3310
UK	20	0.0010	0.40	47					3320
UK	200	0.0010	0.10	53					3330
RK	660	.0010	.020	.01	TRAP	20	1		3340
RK	1980	.0010	.020	.063	TRAP	20	1		3350
RK	1980	.0010	.020		TRAP	20	1	NO	3360
KK	40-14 ROUTE								3370
RK	2120	.0010	.020		TRAP	20	1		3380
KK	MD29 BASIN								3390
BA	0.157								3400
LS	0	76	0	0	98	0			3410
UK	300	0.0010	0.20	86					3420
UK	100	0.0010	0.10	14					3430
RK	660	.0010	.020	.01	TRAP	20	1		3440
RK	1980	.0010	.020	.063	TRAP	20	1		3450
RK	1980	.0010	.020		TRAP	20	1	NO	3460
KK	MD28 BASIN								3470
BA	0.237								3480
LS	0	76	0	0	98	0			3490
UK	300	0.0010	0.20	86					3500
UK	100	0.0010	0.10	14					3510
RK	660	.0010	.020	.01	TRAP	20	1		3520
RK	1980	.0010	.020	.063	TRAP	20	1		3530
RK	1980	.0010	.020		TRAP	20	1	NO	3540
KK	14 ADD								3550
HC	4								3560
KK	14-15 ROUTE								3570
RK	2739	.0010	.035		TRAP	6	2		3580
KK	MD34 BASIN								3590
BA	0.246								3600
LS	0	62	0	0	98	0			3610
UK	20	0.0010	0.40	90					3620
UK	500	0.0010	0.10	10					3630
RK	660	.0010	.020	.01	TRAP	20	1		3640
RK	1980	.0010	.020	.063	TRAP	20	1		3650
RK	1980	.0010	.020		TRAP	20	1	NO	3660
KK	41-42 ROUTE								3670
RK	2637	.0010	.020		TRAP	20	1		3680
KK	MD33 BASIN								3690
BA	0.256								3700
LS	0	62	0	0	98	0			3710
UK	20	0.0010	0.40	90					3720
UK	500	0.0010	0.10	10					3730
RK	660	.0010	.020	.01	TRAP	20	1		3740
RK	1980	.0010	.020	.063	TRAP	20	1		3750
RK	1980	.0010	.020		TRAP	20	1	NO	3760
KK	42 ADD								3770
HC	2								3780
KK	42-15 ROUTE								3790
RK	2385	.0010	.020		TRAP	20	1		3800
KK	MD32 BASIN								3810
BA	0.203								3820
LS	0	62	0	0	98	0			3830
UK	20	0.0010	0.40	90					3840
UK	500	0.0010	0.10	10					3850

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RK   660   .0010    .020     .01    TRAP     20      1                    3860
RK  1980   .0010    .020    .063    TRAP     20      1                    3870
RK  1980   .0010    .020            TRAP     20      1      NO            3880
KK  MD31 BASIN                                                           3890
BA 0.291                                                                 3900
LS     0      63       0       0      98      0                           3910
UK    20  0.0010    0.40      90                                         3920
UK   500  0.0010    0.10      10                                         3930
RK   660   .0010    .020     .01    TRAP     20      1                    3940
RK  1980   .0010    .020    .063    TRAP     20      1                    3950
RK  1980   .0010    .020            TRAP     20      1      NO            3960
KK    15 ADD                                                             3970
HC     4                                                                 3980
KK 15-16 ROUTE                                                           3990
RK  2683   .0010    .035            TRAP      7      2                    4000
KK  MD38 BASIN                                                           4010
BA 0.239                                                                 4020
LS     0      62       0       0      98      0                           4030
UK    20  0.0010    0.40      90                                         4040
UK   500  0.0010    0.10      10                                         4050
RK   660   .0010    .020     .01    TRAP     20      1                    4060
RK  1980   .0010    .020    .063    TRAP     20      1                    4070
RK  1980   .0010    .020            TRAP     20      1      NO            4080
KK 43-44 ROUTE                                                           4090
RK  2661   .0010    .020            TRAP     20      1                    4100
KK  MD37 BASIN                                                           4110
BA 0.248                                                                 4120
LS     0      62       0       0      98      0                           4130
UK    20  0.0010    0.40      90                                         4140
UK   500  0.0010    0.10      10                                         4150
RK   660   .0010    .020     .01    TRAP     20      1                    4160
RK  1980   .0010    .020    .063    TRAP     20      1                    4170
RK  1980   .0010    .020            TRAP     20      1      NO            4180
KK    44 ADD                                                             4190
HC     2                                                                 4200
KK 44-16 ROUTE                                                           4210
RK  2634   .0010    .020            TRAP     20      1                    4220
KK  MD36 BASIN                                                           4230
BA 0.243                                                                 4240
LS     0      62       0       0      98      0                           4250
UK    20  0.0010    0.40      90                                         4260
UK   500  0.0010    0.10      10                                         4270
RK   660   .0010    .020     .01    TRAP     20      1                    4280
RK  1980   .0010    .020    .063    TRAP     20      1                    4290
RK  1980   .0010    .020            TRAP     20      1      NO            4300
KK  MD35 BASIN                                                           4310
BA 0.241                                                                 4320
LS     0      62       0       0      98      0                           4330
UK    20  0.0010    0.40      90                                         4340
UK   500  0.0010    0.10      10                                         4350
RK   660   .0010    .020     .01    TRAP     20      1                    4360
RK  1980   .0010    .020    .063    TRAP     20      1                    4370
RK  1980   .0010    .020            TRAP     20      1      NO            4380
KK    16 ADD                                                             4390
HC     4                                                                 4400
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KK 16-17 ROUTE                                                          4410
RK  2601   .0010    .035          TRAP      7       2                  4420
KK  MD42 BASIN                                                          4430
BA 0.242                                                                4440
LS     0      62       0       0     98      0                         4450
UK    20  0.0010    0.40      90                                       4460
UK   500  0.0010    0.10      10                                       4470
RK   660   .0010    .020    .01   TRAP      20      1                  4480
RK  1980   .0010    .020   .063   TRAP      20      1                  4490
RK  1980   .0010    .020          TRAP      20      1       NO         4500
KK 45-46 ROUTE                                                          4510
RK  2627   .0010    .020          TRAP      20      1                  4520
KK  MD41 BASIN                                                          4530
BA 0.248                                                                4540
LS     0      62       0       0     98      0                         4550
UK    20  0.0010    0.40      90                                       4560
UK   500  0.0010    0.10      10                                       4570
RK   660   .0010    .020    .01   TRAP      20      1                  4580
RK  1980   .0010    .020   .063   TRAP      20      1                  4590
RK  1980   .0010    .020          TRAP      20      1       NO         4600
KK    46 ADD                                                            4610
HC     2                                                                4620
KK 46-17 ROUTE                                                          4630
RK  2675   .0010    .020          TRAP      20      1                  4640
KK  MD40 BASIN                                                          4650
BA 0.248                                                                4660
LS     0      62       0       0     98      0                         4670
UK    20  0.0010    0.40      90                                       4680
UK   500  0.0010    0.10      10                                       4690
RK   660   .0010    .020    .01   TRAP      20      1                  4700
RK  1980   .0010    .020   .063   TRAP      20      1                  4710
RK  1980   .0010    .020          TRAP      20      1       NO         4720
KK  MD39 BASIN                                                          4730
BA 0.234                                                                4740
LS     0      62       0       0     98      0                         4750
UK    20  0.0010    0.40      90                                       4760
UK   500  0.0010    0.10      10                                       4770
RK   660   .0010    .020    .01   TRAP      20      1                  4780
RK  1980   .0010    .020   .063   TRAP      20      1                  4790
RK  1980   .0010    .020          TRAP      20      1       NO         4800
KK    17 ADD                                                            4810
HC     4                                                                4820
KK 17-18 ROUTE                                                          4830
RK  2620   .0010    .035          TRAP      7       2                  4840
KK  MD46 BASIN                                                          4850
BA 0.235                                                                4860
LS     0      62       0       0     98      0                         4870
UK    20  0.0010    0.40      90                                       4880
UK   500  0.0010    0.10      10                                       4890
RK   660   .0010    .020    .01   TRAP      20      1                  4900
RK  1980   .0010    .020   .063   TRAP      20      1                  4910
RK  1980   .0010    .020          TRAP      20      1       NO         4920
KK 47-48 ROUTE                                                          4930
RK  2595   .0010    .020          TRAP      20      1                  4940
KK  MD45 BASIN                                                          4950
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BA 0.242
LS     0      62      0      0     98      0
UK    20  0.0010   0.40     90
UK   500  0.0010   0.10     10
RK   660   .0010   .020    .01   TRAP     20      1
RK  1980   .0010   .020   .063   TRAP     20      1
RK  1980   .0010   .020          TRAP     20      1     NO
KK    48 ADD
HC     2
KK 48-18 ROUTE
RK  2701   .0010   .020          TRAP     20      1
KK  MD44 BASIN
BA 0.252
LS     0      62      0      0     98      0
UK    20  0.0010   0.40     90
UK   500  0.0010   0.10     10
RK   660   .0010   .020    .01   TRAP     20      1
RK  1980   .0010   .020   .063   TRAP     20      1
RK  1980   .0010   .020          TRAP     20      1     NO
KK  MD43 BASIN
BA 0.240
LS     0      62      0      0     98      0
UK    20  0.0010   0.40     90
UK   500  0.0010   0.10     10
RK   660   .0010   .020    .01   TRAP     20      1
RK  1980   .0010   .020   .063   TRAP     20      1
RK  1980   .0010   .020          TRAP     20      1     NO
KK    18 ADD
HC     4
KK 18-19 ROUTE
RK  2583   .0010   .035          TRAP      7      2
KK  MD50 BASIN
BA 0.245
LS     0      63      0      0     98      0
UK    20  0.0010   0.40     90
UK   500  0.0010   0.10     10
RK   660   .0010   .020    .01   TRAP     20      1
RK  1980   .0010   .020   .063   TRAP     20      1
RK  1980   .0010   .020          TRAP     20      1     NO
KK 49-50 ROUTE
RK  2564   .0010   .020          TRAP     20      1
KK  MD49 BASIN
BA 0.243
LS     0      70      0      0     98      0
UK   150  0.0010   0.30     71
UK    50  0.0010   0.10     29
RK   660   .0010   .020    .01   TRAP     20      1
RK  1980   .0010   .020   .063   TRAP     20      1
RK  1980   .0010   .020          TRAP     20      1     NO
KK    50 ADD
HC     2
KK 50-19 ROUTE
RK  2710   .0010   .020          TRAP     20      1
KK  MD48 BASIN
BA 0.253
```

LS	0	85	0	0	98	0			5510
UK	800	0.0010	0.20	98					5520
UK	100	0.0010	0.10	2					5530
RK	660	.0010	.020	.01	TRAP	20	1		5540
RK	1980	.0010	.020	.063	TRAP	20	1		5550
RK	1980	.0010	.020		TRAP	20	1	NO	5560
KK	19	ADD							5570
HC	3								5580
KK	19-20	ROUTE							5590
RK	1545	.0010	.035		TRAP	7	2		5600
KK	MD47	BASIN							5610
BA	0.101								5620
LS	0	85	0	0	98	0			5630
UK	800	0.0010	0.20	99					5640
UK	100	0.0010	0.10	1					5650
RK	660	.0010	.020	.01	TRAP	20	1		5660
RK	1980	.0010	.020	.063	TRAP	20	1		5670
RK	1980	.0010	.020		TRAP	20	1	NO	5680
KK	MD51	BASIN							5690
BA	0.361								5700
LS	0	82	0	0	98	0			5710
UK	800	0.0010	0.20	85					5720
UK	100	0.0010	0.10	15					5730
RK	660	.0010	.020	.01	TRAP	20	1		5740
RK	1980	.0010	.020	.063	TRAP	20	1		5750
RK	1980	.0010	.020		TRAP	20	1	NO	5760
KK	MD52	BASIN							5770
BA	0.332								5780
LS	0	64	0	0	98	0			5790
UK	20	0.0010	0.40	83					5800
UK	500	0.0010	0.10	17					5810
RK	660	.0010	.020	.01	TRAP	20	1		5820
RK	1980	.0010	.020	.063	TRAP	20	1		5830
RK	1980	.0010	.020		TRAP	20	1	NO	5840
KK	20	ADD							5850
HC	4								5860
KK	S23	STORAGE/PUMP							5870
RS	1	STOR							5880
SV	0	50	200	800	1000	1500			5890
SE	0	5	10	15	16	17			5900
SS	16	250	3.0	1.5					5910
ST	17	250	3.0	1.5					5920
ZZ									5930

City of Visalia
Storm Water Master Plan and Management Program
PACKWOOD CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
PC-S19	BASIN TYPE A2	35,000	253,836	79,324	145,200			102,672	616,032
PC-S20	BASIN TYPE A2	35,000	100,796	31,499	45,173			42,494	254,961
PC-S21	BASIN TYPE X1			274,219	188,760			92,596	555,575
PC-S41	BASIN TYPE B	35,000	107,491	128,989	19,360			58,168	349,009
PC-S42	BASIN TYPE B	35,000	197,453	236,943	48,400			103,559	621,355
PC-S43	BASIN TYPE B	35,000	225,638	270,766	58,080			117,897	707,380
PC-S44	BASIN TYPE C	35,000	13,875	27,358	67,760			28,799	172,792
PC-S14	PUMP	35,000						7,000	42,000
PC-S16	PUMP	35,000						7,000	42,000
PC-S17	PUMP	35,000						7,000	42,000
SUBTOTAL		315,000	899,089	1,049,097	572,733			567,184	3,403,103
COLLECTOR DRAINS									
PC0025-PC0026	PIPE						259,400	51,880	311,280
PC0027-PC0028	PIPE						102,735	20,547	123,282
PC0028-PC0006	PIPE						80,350	16,070	96,420
PC0029-PC0008	PIPE						42,570	8,514	51,084
PC0030-PC0013	PIPE						47,750	9,550	57,300
PC0031-PC0032	PIPE						49,850	9,970	59,820
PC0032-PC0019	PIPE						393,200	78,640	471,840
PC0033-PC0020	PIPE						360,200	72,040	432,240
PC0034-PC0035	PIPE						201,520	40,304	241,824
PC0035-PC0021	PIPE						122,800	24,560	147,360
PC0051-PC0010	PIPE						102,510	20,502	123,012
PC0101-PC0025	PIPE						118,200	23,640	141,840
PC0102-PC0003	PIPE						191,200	38,240	229,440
PC0103-PC0003	PIPE						202,900	40,580	243,480

City of Visalia
Storm Water Master Plan and Management Program
PACKWOOD CREEK DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
PC0104-PC0027	PIPE						175,300	35,060	210,360
PC0105-PC0033	PIPE						98,900	19,780	118,680
PC0106-PC0034	PIPE						145,440	29,088	174,528
SUBTOTAL							2,694,825	538,965	3,233,790
PUMPS									
PC-S22	BASIN TYPE A2	35,000	62,178		22,587			23,953	143,718
SUBTOTAL		35,000	62,178		22,587			23,953	143,718
TOTAL FUTURE DEVELOPMENT		350,000	961,267	1,049,097	595,320		2,694,825	1,130,102	6,780,611
TOTAL BASIN IMPROVEMENTS		350,000	961,267	1,049,097	595,320		2,694,825	1,130,102	6,780,611

City of Visalia
Storm Water Master Plan and Management Program
PACKWOOD CREEK DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/19/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
PC0025-PC0026	~~2,594~~							32	62	32	62	0.0010	42			PIPE	32		$311,280
PC0027-PC0028	~~2,283~~							3	3	3	3	0.0010	18			PIPE	3		$115,063
PC0028-PC0006	~~1,607~~							5	5	5	5	0.0010	24			PIPE	7		$96,420
PC0029-PC0008	~~946~~							1	1	1	1	0.0010	18			PIPE	3		$47,678
PC0030-PC0013	~~955~~							6	6	6	6	0.0010	24			PIPE	7		$57,300
PC0031-PC0032	~~997~~							5	5	5	5	0.0010	24			PIPE	7		$59,820
PC0032-PC0019	~~3,932~~							30	27	30	27	0.0010	42			PIPE	32		$471,840
PC0033-PC0020	~~3,602~~							26	50	26	50	0.0010	42			PIPE	32		$432,240
PC0034-PC0035	~~2,519~~							21	42	21	42	0.0010	36			PIPE	21		$241,824
PC0035-PC0021	~~1,228~~							28	59	28	59	0.0010	42			PIPE	32		$147,360
PC0051-PC0010	~~2,278~~							3	3	3	3	0.0010	18			PIPE	3		$114,811
PC0101-PC0025	~~1,182~~							32	64	32	64	0.0010	42			PIPE	32		$141,840
PC0102-PC0003	~~2,390~~							19	38	19	38	0.0010	36			PIPE	21		$229,440
PC0103-PC0003	~~2,029~~							26	52	26	52	0.0010	42			PIPE	32		$243,480
PC0104-PC0027	~~1,753~~							24	48	24	48	0.0010	42			PIPE	32		$210,360
PC0105-PC0033	~~989~~							26	52	26	52	0.0010	42			PIPE	32		$118,680
PC0106-PC0034	~~1,818~~							21	42	21	42	0.0010	36			PIPE	21		$174,528
	33,102																		$3,213,965
MAIN DRAINS																			
PC0001-PC0002	351	0.0010	0.035		211	43	820	1	1										
PC0002-PC0003	4,058	0.0010	0.035		211	43	820	11	23										
PC0003-PC0004	1,808	0.0010	0.035		211	43	820	47	92										
PC0004-PC0005	2,078	0.0010	0.035		211	43	820	52	97										
PC0005-PC0006	3,279	0.0010	0.035		218	46	827	65	122										
PC0006-PC0007	1,261	0.0010	0.035		212	44	811	70	127										
PC0007-PC0008	1,336	0.0010	0.035		280	48	1,222	90	166										

EXISTING ~

DEVELOPER INSTALLED

18" 4,561' @ $32/' = 145,952
36" 6,727 @ 43 = 289,261
42" 13,377 @ 50 = 668,850
1,104,063
+ CITY INST. 1,058,805
2,162,868

City of Visalia
Storm Water Master Plan and Management Program
PACKWOOD CREEK DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/19/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
PC0008-PC0009	2,242	0.0010	0.035		241	47	957	97	178										
PC0009-PC0010	2,703	0.0010	0.035		167	39	594	96	177										
PC0010-PC0011	2,571	0.0010	0.035		225	49	830	136	251										
PC0011-PC0012	3,312	0.0010	0.035		155	40	515	137	252										
PC0012-PC0013	1,575	0.0010	0.035		192	41	725	145	267										
PC0013-PC0014	3,126	0.0010	0.035		192	41	725	150	272										
PC0014-PC0015	972	0.0010	0.035		329	54	1,477	171	304										
PC0015-PC0016	1,127	0.0010	0.035		329	54	1,477	171	304										
PC0016-PC0017	516	0.0010	0.035		329	54	1,477	173	308										
PC0017-PC0018	4,225	0.0010	0.035		244	48	963	175	309										
PC0018-PC0019	719	0.0010	0.035		270	58	1,012	183	326										
PC0019-PC0020	3,358	0.0010	0.035		270	58	1,012	207	351										
PC0020-PC0021	2,907	0.0010	0.035		270	58	1,012	222	383										
PC0021-PC0022	3,047	0.0010	0.035		270	58	1,012	237	417 + 160										
	46,571																		
BASIN TOTAL	79,673															BASIN TOTAL			$3,213,965

City of Visalia
Storm Water Master Plan and Management Program
PACKWOOD CREEK DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
PC-S14			43.0		15.0	36.0	58.0			15.0				3.6		42,000
PC-S16			8.0		4.0	9.0	14.0		1.0	6.0				1.0		42,000
PC-S17			50.0		14.0	35.0	57.0			7.0				3.5		42,000
PC-S19			1.5		21.0	45.0	67.0	19.5	43.5	65.5	A2		45.0	4.5	12,500	616,032
PC-S20			3.5		6.0	14.0	22.0	2.5	10.5	18.5	A2		14.0	1.4	12,500	254,961
PC-S21	X1		330.0		123.0	224.0	319.0				X1	21.9	117.0		12,500	555,575
PC-S41 — RO 148					1.0	6.0	10.0	1.0	6.0	10.0	B	2.2	6.0	0.6	60,000	349,009
PC-S42					6.0	15.0	24.0	6.0	15.0	24.0	B	4.0	15.0	1.5	60,000	621,355
PC-S43					7.0	18.0	28.0	7.0	18.0	28.0	B	4.51	18.0	1.8	60,000	707,380
PC-S44					8.0	21.0	34.0	8.0	21.0	34.0	C	2.2	21.0	2.1	12,500	172,792

Adm't model
PC 18
PC 22
?

60Ac

$\frac{1.84}{2.64}$

$Vol = A \cdot C \cdot D$

$49 = 320 \cdot C \cdot \frac{2.64}{12}$

12,500) 27,400. = 2.2

320) 588 = 1.84

$C = \frac{49}{320} \cdot \frac{12}{2.64}$

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	77.98	20.00	15.60
	LOW DENSITY	LDR	3,554.79	43.00	1,528.56
	MEDIUM DENSITY	MDR	247.12	70.00	172.98
	HIGH DENSITY	HDR	86.70	80.00	69.36
TOTAL RESIDENTIAL			3,966.59	45.04	1,786.50
	CONVENIENCE CENTER	CC	7.15	95.00	6.80
	NEIGHBORHOOD CENTER	CNC	19.71	85.00	16.75
	SHOPPING/OFFICE CENTER	CSO	33.14	80.00	26.51
	COMMUNITY CENTER	CCM	56.09	75.00	42.07
	REGIONAL CENTER	CR	299.46	90.00	269.51
	HIGHWAY	CH	27.90	95.00	26.50
	PROFESSIONAL/ADMINISTRATIO	PA	190.85	70.00	133.60
TOTAL COMMERCIAL/OFFICE			634.30	82.25	521.74
	PUBLIC/INSTITUTIONAL	PI	301.53	60.00	180.92
TOTAL COMMUNITY FACILITIES			301.53	60.00	180.92
	LIGHT	IL	28.97	80.00	23.18
TOTAL INDUSTRY			28.97	80.00	23.18
	AGRICULTURE	OSA	0.34	1.00	*,***,***.**
	CONSERVATION	OSC	255.95	1.00	2.56
	PARKS	OSP	67.20	15.00	10.08
TOTAL OPEN SPACE			323.49	3.91	12.64
	URBAN RESERVE	UR	625.02	15.00	93.75
TOTAL URBAN RESERVE			625.02	15.00	93.75
TOTAL PACKWOOD CREEK DRAINAGE BASIN			5,879.91	44.54	2,618.73

ID	Street	Size	Length
PA0001-PA0002	LOVERS LA	18	360
PA0002-PA0003	LOVERS LA	18	229
PA0003-PA0004	LOVERS LA	21	324
PA0004-PA0005	LOVERS LA	24	303
PA0005-PA0006	LOVERS LA	24	265
PA0006-PA0007	LOVERS LA	24	160
PA0007-PA0008	LOVERS LA	27	456
PA0008-PA0009	LOVERS LA	27	597
PA0009-PA0010	LOVERS LA	27	343
PA0010-PA0011	LOVERS LA	27	67
PA0012-PA0013	LOVERS LA	18	265
PA0013-PA0014	LOVERS LA	24	526
PA0014-PA0015	LOVERS LA	27	648
PA0015-PA0011	LOVERS LA	27	73
PA0016-PA0017		0	403
PA0017-PA0018		12	289
PA0018-PA0020		18	145
PA0019-PA0018		12	306
PA0021-PA0022	IRIS AV	12	496
PA0022-PA0024	IRIS AV	15	278
PA0023-PA0022	IRMA ST.	12	330
PA0024-PA0026	IRIS AV	15	290
PA0025-PA0024	VIRMARGO	12	116
PA0026-PA0027	GODDARD DR	18	372
PA0027-PA0028	HOWARD	18	291
PA0028-PA0034	SPRUCE ST	30	318
PA0029-PA0030	HOWARD	15	343
PA0030-PA0028	HOWARD	18	301
PA0031-PA0032	SPRUCE ST	18	457
PA0032-PA0033	SPRUCE ST	21	169
PA0033-PA0028	SPRUCE ST	21	696
PA0034-PA0035	SPRUCE ST	30	180
PA0035-PA0036	PARADISE	30	45
PA0036-PA0037		30	210
PA0037-PA0038	HARVARD	30	400
PA0038-PA0039		30	79
PA0040-PA0041	NOBLE AVE	12	988
PA0041-PA0042	PINKHAM RD	12	77
PA0042-PA0043	PINKHAM RD	15	459
PA0043-PA0045	PINKHAM RD	15	309
PA0044-PA0043	KAWEAH	12	120
PA0045-PA0047	PINKHAM RD	15	108
PA0046-PA0045	MYRTLE	12	333
PA0047-PA0049		15	63
PA0048-PA0047		12	170
PA0049-PA0050	PINKHAM RD	15	150
PA0050-PA0051	PINKHAM RD	21	374
PA0051-PA0052	PINKHAM RD	21	258
PA0052-PA0054		24	88
PA0053-PA0052		12	116
PA0054-PA0055		24	93
PA0055-PA0056		24	258
PA0056-PA0057		24	58

ID	Street	Size	Length
PA0058-PA0059	IRMA ST.	12	267
PA0059-PA0060	IRMA ST.	0	73
PA0060-PA0061	IRMA ST.	21	353
PA0061-PA0062	IRMA ST.	21	80
PA0063-PA0059	HILLCREST	18	618
PA0064-PA0065	HOWARD	12	463
PA0065-PA0066	PINKHAM RD	12	664
PA0066-PA0072	PINKHAM RD	15	1,198
PA0067-PA0068	FEEMSTER A	12	302
PA0068-PA0069	IRMA ST.	12	133
PA0069-PA0070	IRMA ST.	12	231
PA0070-PA0066	PARADISE	12	298
PA0071-PA0070	PARADISE	12	374
PA0073-PA0074	PINKHAM RO	12	219
PA0074-PA0075	PINKHAM RO	15	282
PA0075-PA0076	PINKHAM RO	18	78
PA0076-PA0078	PINKHAM RO	18	1,235
PA0077-PA0075		18	210
PA0078-PA0072	PINKHAM RO	18	271
PA0079-PA0080	TRACY	12	479
PA0081-PA0082		12	89
PA0082-PA0083		12	363
PA0083-PA0080		12	69
PA0084-PA0086	CAIN ST.	15	560
PA0085-PA0086		15	82
PA0087-PA0088	EVERGREEN	12	392
PA0088-PA0089	BEN MADDOX	18	378
PA0089-PA0094	BEN MADDOX	24	303
PA0090-PA0091		0	63
PA0091-PA0092		18	158
PA0092-PA0093		21	147
PA0093-PA0089	BEECH AVE.	21	351
PA0094-PA0095	BEN MADDOX	24	303
PA0095-PA0096	BEN MADDOX	24	348
PA0096-PA0097	BEN MADDOX	24	489
PA0097-PA0098	BEN MADDOX	24	114
PA0099-PA0100	LOVERS LA	24	323
PA0100-PA0101	LOVERS LA	24	67
PA0102-PA0100	LOVERS LA	0	161
PA0103-PA0104	LOVERS LA	24	522
PA0104-PA0105	LOVERS LA	27	453
PA0105-PA0101	LOVERS LA	27	174
PA0106-PA0107	LOVERS LA	24	489
PA0107-PA0108	LOVERS LA	27	450
PA0108-PA0109	LOVERS LA	27	332
PA0109-PA0110	LOVERS LA	27	88
PA0111-PA0112		15	283
PA0112-PA0113		15	86
PA0113-PA0114		15	138
PA0114-PA0115		15	135
PA0115-PA0116		18	97
PA0116-PA0118		21	86
PA0117-PA0116		12	61

ID	Street	Size	Length
PA0118-PA0121		21	235
PA0119-PA0120		12	169
PA0120-PA0118		12	236
PA0121-PA0122		0	27
PA0122-PA0126	CAMBRIDGE	30	556
PA0123-PA0124	HUNTINGTON	18	203
PA0124-PA0125	HUNTINGTON	18	98
PA0125-PA0121	CAMBRIDGE	30	222
PA0126-PA0127		0	27
PA0128-PA0129		12	291
PA0129-PA0130	PARADISE	12	70
PA0130-PA0131	PARADISE	12	185
PA0131-PA0132	PARADISE	12	319
PA0132-PA0133	PARADISE C	18	333
PA0133-PA0134	REFINA	0	396
PA0134-PA0135	REFINA	42	352
PA0135-PA0136	REFINA	42	352
PA0136-PA0098		0	121
PA0137-PA0136		0	137
PA0138-PA0139		12	254
PA0139-PA0140		18	276
PA0140-PA0142		18	313
PA0141-PA0140		15	502
PA0142-PA0143		18	150
PA0143-PA0144		18	163
PA0144-PA0145		18	118
PA0145-PA0146		18	1,286
PA0146-PA0152	TULARE AVE	36	33
PA0147-PA0148		24	128
PA0148-PA0149	BEN MADDOX	24	867
PA0149-PA0150	BEN MADDOX	30	817
PA0150-PA0151	BEN MADDOX	30	131
PA0151-PA0146	BEN MADDOX	30	487
PA0152-PA0153	TULARE AVE	36	226
PA0153-PA0155	TULARE AVE	36	379
PA0154-PA0152	BEN MADDOX	30	921
PA0155-PA0156		36	49
PA0156-PA0157		36	145
PA0157-PA0158		36	337
PA0158-PA0159		36	26
PA0160-PA0161	BURKE ST.	12	348
PA0161-PA0162	BURKE ST.	12	312
PA0162-PA0165	CYPRESS ST	18	664
PA0163-PA0162	CYPRESS ST	12	307
PA0164-PA0162	BURKE ST.	12	598
PA0165-PA0166	EDISON ST	18	342
PA0166-PA0167	EDISON ST	18	81
PA0168-PA0169	TULARE AVE	12	348
PA0169-PA0170	COTTA ST.	12	192
PA0170-PA0171	COTTA ST.	12	408
PA0171-PA0173	COTTA ST.	12	335
PA0172-PA0171	HOWARD	12	326
PA0173-PA0175	FEEMSTER	15	221

ID	Street	Size	Length
PA0174-PA0173	FEEMSTER	12	242
PA0175-PA0176		15	328
PA0176-PA0178		15	362
PA0177-PA0176	PARADISE A	15	385
PA0178-PA0180		18	341
PA0179-PA0178		12	205
PA0180-PA0181		18	179
PA0181-PA0186		21	280
PA0182-PA0184	OAKHURST	0	272
PA0183-PA0184	CAMBRIDGE	12	152
PA0184-PA0185	CAMBRIDGE	0	232
PA0185-PA0181	CAMBRIDGE	0	307
PA0186-PA0188		21	128
PA0187-PA0186		0	76
PA0189-PA0190	WALNUT AVE	12	297
PA0190-PA0191	WALNUT AVE	12	316
PA0191-PA0192	WALNUT AVE	12	110
PA0192-PA0193	WALNUT AVE	15	46
PA0193-PA0194	WALNUT AVE	15	202
PA0194-PA0195	WALNUT AVE	15	27
PA0196-PA0197	LAUREL	12	381
PA0197-PA0199	LAUREL	12	388
PA0198-PA0197	TIPTON ST.	12	433
PA0199-PA0200	SANTA FE A	12	383
PA0200-PA0201	SANTA FE A	12	77
PA0201-PA0202	SANTA FE A	18	802
PA0202-PA0203	SANTA FE A	18	510
PA0203-PA0213	SANTA FE A	24	336
PA0204-PA0205	PARADISE A	12	777
PA0205-PA0206	PARADISE A	12	357
PA0206-PA0208	PARADISE A	18	325
PA0207-PA0206	COURT ST.	0	368
PA0208-PA0210	PARADISE A	18	372
PA0209-PA0208	CHURCH ST.	12	149
PA0210-PA0211	PARADISE A	18	576
PA0211-PA0203		18	81
PA0212-PA0203	PARADISE A	0	525
PA0213-PA0214	SANTA FE A	24	128
PA0214-PA0222	SANTA FE A	24	166
PA0215-PA0216		12	297
PA0216-PA0218		12	265
PA0217-PA0216	BURKE ST.	12	251
PA0218-PA0219		12	261
PA0219-PA0220		12	279
PA0220-PA0221		12	263
PA0221-PA0214		12	261
PA0222-PA0223	SANTA FE A	24	329
PA0223-PA0230	SANTA FE A	24	305
PA0224-PA0225	THOMAS ST.	12	242
PA0225-PA0227	CAMBRIDGE	12	179
PA0226-PA0225	THOMAS ST.	12	246
PA0227-PA0228	CAMBRIDGE	12	116
PA0228-PA0229	CAMBRIDGE	12	160

ID	Street	Size	Length
PA0229-PA0223	CAMBRIDGE	12	289
PA0230-PA0232	SANTA FE A	24	976
PA0231-PA0230	WALNUT AVE	18	1,270
PA0233-PA0234	GARDEN	0	141
PA0234-PA0235	ARLEN	0	490
PA0235-PA0236		15	171
PA0236-PA0237	MENLO AV	15	174
PA0237-PA0239	MENLO AV	15	40
PA0238-PA0237	COURT ST.	15	368
PA0239-PA0240	COURT ST.	15	330
PA0240-PA0241	COURT ST.	0	79
PA0241-PA0242	COURT ST.	18	217
PA0242-PA0243	COURT ST.	21	168
PA0243-PA0254		24	191
PA0244-PA0243	COURT ST.	12	42
PA0245-PA0244	COURT ST.	12	238
PA0246-PA0245	PARKVIEW	12	378
PA0247-PA0246	PARKVIEW	12	180
PA0248-PA0247	PARKVIEW	12	407
PA0249-PA0250	COURT ST.	0	69
PA0250-PA0251		24	398
PA0251-PA0252		8	191
PA0252-PA0253		24	82
PA0253-PA0254		24	129
PA0254-PA0255		24	230
PA0256-PA0257		25	223
PA0258-PA0257		0	176
PA0259-PA0260		12	215
PA0261-PA0260		12	143
PA0263-PA0262	WEST ST.	12	442
PA0264-PA0263	WEST ST.	12	188
PA0265-PA0263		12	619
PA0266-PA0265		12	622
PA0267-PA0266	COURT ST.	12	188
PA0268-PA0269	CALDWELL A	12	266
PA0269-PA0270	CALDWELL A	12	330
PA0270-PA0271	OAK VIEW	0	234
PA0271-PA0272	ARLEN CT.	15	203
PA0272-PA0273	ARLEN CT.	15	228
PA0275-PA0274		0	137
PA0276-PA0290	STEVENSON	0	197
PA0278-PA0277	JOHNSON ST	15	172
PA0279-PA0278	JOHNSON ST	15	261
PA0280-PA0279	VICTOR AVE	15	271
PA0281-PA0282		12	187
PA0283-PA0284	LA VIDA	18	421
PA0284-PA0286	LA VIDA	21	241
PA0285-PA0284	CHURCH	15	202
PA0286-PA0287	COURT ST.	0	95
PA0288-PA0289		12	175
PA0291-PA0292		12	278
PA0294-PA0293		18	233
PA0295-PA0296	EVERGREEN	12	233

ID	Street	Size	Length
PA0296-PA0294	CHERRY	18	276
PA0297-PA0296	EVERGREEN	12	321
PA0298-PA0297	COURT ST.	12	289
PA0299-PA0298	COURT ST.	12	284
PA0300-PA0299	ASHLAND	12	262
PA0301-PA0302	BEECH	18	202
PA0302-PA0303		12	598
PA0303-PA0304	CHERRY	12	82
PA0304-PA0296	CHERRY	18	209
PA0305-PA0262	WEST ST.	18	1,972
PA0306-PA0310	WEST ST.	21	876
PA0307-PA0306	DOROTHEA	18	356
PA0308-PA0307	DOROTHEA	18	656
PA0309-PA0308	SUNNYSIDE	12	374
PA0321-PA0322	WALNUT AVE	12	399
PA0322-PA0324	WALNUT AVE	12	637
PA0323-PA0322	ENCINA ST	12	303
PA0324-PA0337		18	100
PA0325-PA0327	WALNUT AVE	18	390
PA0326-PA0325	JOHNSON	12	308
PA0327-PA0329	WALNUT AVE	18	150
PA0328-PA0327	CONYER	12	350
PA0329-PA0343	WALNUT AVE	18	1,348
PA0330-PA0329	CONYER ST.	18	143
PA0331-PA0330	CONYER ST.	15	125
PA0332-PA0331	VASSER DR	12	250
PA0333-PA0334	CAMBRIDGE	0	215
PA0334-PA0335	CAMBRIDGE	0	237
PA0336-PA0331	CONYER ST.	15	756
PA0337-PA0325	WALNUT AVE	18	521
PA0338-PA0337		18	342
PA0339-PA0338	HARTER AVE	12	129
PA0340-PA0339	SEBASTIAN	12	148
PA0341-PA0342	PARADISE	15	328
PA0342-PA0343	GIDDINGS	15	1,460
PA0343-PA0344	GIDDINGS	24	346
PA0344-PA0350	GIDDINGS	24	170
PA0345-PA0344	HARTER AVE	0	267
PA0345-PA0347	OAK PARK A	18	305
PA0346-PA0345	HARTER AVE	12	385
PA0347-PA0348	OAK PARK A	18	103
PA0348-PA0351		18	266
PA0349-PA0348	OAK PARK A	18	175
PA0350-PA0351	GIDDINGS	24	235
PA0351-PA0352	GIDDINGS	24	175
PA0352-PA0356	GIDDINGS	24	260
PA0353-PA0352	SEEGAR	12	270
PA0354-PA0355	MARY	12	275
PA0355-PA0359	GIDDINGS	24	321
PA0356-PA0355		24	11
PA0357-PA0356	MARY	12	289
PA0358-PA0359		0	143
PA0359-PA0360	GIDDINGS	24	153

ID	Street	Size	Length
PA0360-PA0361	GIDDINGS	24	72
PA0361-PA0364	GIDDINGS	24	252
PA0362-PA0361	ASHLAND	0	265
PA0363-PA0364	CHERRY A	12	243
PA0364-PA0365	GIDDINGS	24	354
PA0365-PA0367	GIDDINGS	24	280
PA0366-PA0365	EVERGREEN	12	74
PA0367-PA0368		36	959
PA0368-PA0370	STORYBOOK	36	1,697
PA0369-PA0368	SUNNYSIDE	18	177
PA0370-PA0371		36	341
PA0371-PA0372		0	107
PA0373-PA0375	LOCUST ST	0	35
PA0374-PA0375	LOCUST ST	0	45
PA0375-PA0376	BEECH	12	320
PA0376-PA0378	BEECH	15	296
PA0377-PA0376	ENCINA S	0	33
PA0378-PA0379	BEECH	15	338
PA0379-PA0381	WEST ST.	0	27
PA0380-PA0381	BEECH	15	666
PA0381-PA0382	WEST ST.	24	151
PA0382-PA0383	WEST ST.	24	479
PA0383-PA0384	WEST ST.	24	615
PA0384-PA0385	WHITENDALE	24	853
PA0385-PA0390	WHITENDALE	24	281
PA0386-PA0385	STEVENSON	15	503
PA0387-PA0386	STEVENSON	12	154
PA0388-PA0389	CONYER	12	151
PA0389-PA0390	CONYER	15	497
PA0390-PA0391	WHITENDALE	24	328
PA0391-PA0392	WHITENDALE	24	254
PA0392-PA0393	WHITENDALE	24	216
PA0393-PA0397	WHITENDALE	24	352
PA0394-PA0393	SOWELL	18	378
PA0395-PA0394	SOWELL	18	184
PA0396-PA0395	SOWELL	18	82
PA0397-PA0367	WHITENDALE	24	363
PA0398-PA0399	MONTE VIST	12	263
PA0399-PA0400	MONTE VIST	12	291
PA0400-PA0392		21	462
PA0401-PA0400		18	260
PA0402-PA0401		15	408
PA0403-PA0402		15	461
PA0404-PA0403	SUNNYSIDE	15	287
PA0405-PA0350		12	531
PA0406-PA0407	DIVISADERO	12	215
PA0407-PA0409	DIVISADERO	12	321
PA0408-PA0407	CHERRY	0	73
PA0409-PA0410	DIVISADERO	12	136
PA0410-PA0411		12	225
PA0411-PA0412		12	162
PA0412-PA0413		18	71
PA0413-PA0420	WHITENDALE	18	613

ID	Street	Size	Length
PA0414-PA0412	HALL ST.	12	288
PA0414-PA0419	MONTE VIST	12	665
PA0415-PA0414	MONTE VIST	12	191
PA0416-PA0415		0	132
PA0417-PA0415	MONTE VIST	12	259
PA0418-PA0414	HALL ST.	12	217
PA0419-PA0420	MARTIN ST.	12	341
PA0420-PA0367	WHITENDALE	18	247
PA0421-PA0422	DOLLNER	12	764
PA0422-PA0424	DOLLNER	12	349
PA0423-PA0422		0	38
PA0424-PA0425	CALDWELL A	12	63
PA0424-PA0461	CALDWELL A	12	602
PA0425-PA0370	CALDWELL A	12	699
PA0446-PA0453	FAIRWAY S	12	573
PA0447-PA0450		12	285
PA0448-PA0449		12	212
PA0449-PA0450		0	144
PA0450-PA0451		15	217
PA0451-PA0452		15	205
PA0452-PA0453		15	164
PA0453-PA0455		0	123
PA0454-PA0455	CALDWELL A	12	230
PA0455-PA0456	CALDWELL A	18	354
PA0456-PA0457	DIVISADERO	21	468
PA0457-PA0458	DIVISADERO	21	382
PA0460-PA0459	DIVISADERO	12	363
PA0461-PA0460	DIVISADERO	12	506
PA0462-PA0463		12	426
PA0463-PA0464		12	779
PA0480-PA0481	GIDDINGS	8	306
PA0481-PA0482	GIDDINGS	8	163
PA0482-PA0485	GIDDINGS	8	325
PA0483-PA0484	WESTCOTT	12	319
PA0484-PA0482	WESTCOTT	12	313
PA0485-PA0488	GIDDINGS	12	395
PA0486-PA0485	LAUREL AV	8	311
PA0488-PA0490	TULARE AV	18	324
PA0489-PA0488	TULARE AV	18	344
PA0490-PA0491	TULARE AV	18	300
PA0491-PA0492	TULARE AV	18	54
PA0492-PA0493	TULARE AV	18	305
PA0493-PA0494	TULARE AV	18	357
PA0494-PA0504	TULARE AV	18	323
PA0495-PA0496	BEVERLY	12	586
PA0496-PA0497	DIVISADERO	12	405
PA0497-PA0485	LAUREL	12	561
PA0497-PA0498	DIVISADERO	12	104
PA0498-PA0499	DIVISADERO	12	281
PA0499-PA0494	DIVISADERO	12	368
PA0500-PA0501		12	295
PA0501-PA0502	DIVISADERO	12	322
PA0502-PA0503	DIVISADERO	0	353

ID	Street	Size	Length
PA0503-PA0494	DIVISADERO	0	260
PA0504-PA0505	TULARE AV	18	486
PA0505-PA0507	TULARE AV	18	393
PA0506-PA0505	BONNIE LA	12	613
PA0507-PA0508	MOONEY BLV	30	2,712
PA0508-PA0543	MOONEY BLV	42	1,249
PA0509-PA0510	CENTRAL	12	1,049
PA0510-PA0512	CENTRAL	12	547
PA0511-PA0510	CAMBRIDGE	12	662
PA0512-PA0513	CENTRAL	12	120
PA0513-PA0508	WALNUT AVE	24	566
PA0514-PA0515	LAURA	0	309
PA0515-PA0516	DIVISADERO	0	712
PA0516-PA0517	WALNUT AVE	0	157
PA0517-PA0513	WALNUT AVE	24	668
PA0518-PA0517	DIVISAERO	12	268
PA0519-PA0520	MOONEY BLV	0	896
PA0520-PA0521		48	99
PA0521-PA0546	MOONEY BLV	48	872
PA0522-PA0523	WHITENDALE	12	372
PA0523-PA0521	WHITENDALE	12	131
PA0524-PA0529	MOONEY BLV	48	2,429
PA0525-PA0526	FAIRWAY S	15	363
PA0526-PA0527	FAIRWAY S	18	238
PA0527-PA0524	DOROTHEA	24	839
PA0528-PA0527	DOROTHEA	12	280
PA0529-PA0547		48	238
PA0530-PA0531	VISALIA FA	12	256
PA0531-PA0535	VISALIA FA	18	826
PA0532-PA0533	VISALIA FA	12	178
PA0533-PA0534	VISALIA FA	12	175
PA0534-PA0531	VISALIA FA	15	626
PA0535-PA0539	VISALIA FA	18	208
PA0536-PA0537	VISALIA FA	12	311
PA0537-PA0538	VISALIA FA	15	444
PA0538-PA0535	VISALIA FA	15	150
PA0539-PA0543	BEECH ST.	24	963
PA0540-PA0541	WOODLAND D	18	618
PA0541-PA0542	BEECH ST.	18	341
PA0542-PA0539	BEECH ST.	18	166
PA0543-PA0519	MOONEY BLV	0	274
PA0544-PA0545	SUNNYSIDE	15	200
PA0545-PA0546	SUNNYSIDE	18	158
PA0546-PA0524	MOONEY BLV	48	334
PA0561-PA0562	SALLEE LN.	18	130
PA0562-PA0563	SALLEE LN.	18	567
PA0563-PA0564	SALLEE LN.	18	386
PA0564-PA0565	SALLEE LN.	18	158
PA0565-PA0567	WHITENDALE	18	158
PA0566-PA0565	WHITENDALE	18	281
PA0567-PA0568	WHITENDALE	24	87
PA0568-PA0569	WOODLAND D	24	593
PA0569-PA0570	WOODLAND D	24	312

ID	Street	Size	Length
PA0570-PA0571	WOODLAND D	24	288
PA0571-PA0573	DOROTHEA A	30	416
PA0572-PA0571	DOROTHEA A	18	300
PA0573-PA0574	DOROTHEA A	30	742
PA0574-PA0588	COUNTY CEN	36	239
PA0575-PA0576	COUNTY CEN	12	87
PA0576-PA0577	COUNTY CEN	12	125
PA0577-PA0579	COUNTY CEN	15	257
PA0578-PA0577	COUNTRY L	12	225
PA0579-PA0581	WHITENDALE	12	32
PA0580-PA0579	WHITENDALE	12	250
PA0581-PA0582	COUNTY CEN	18	158
PA0582-PA0583	COUNTY CEN	18	120
PA0583-PA0587	COUNTY CEN	18	512
PA0584-PA0583	MONTE VIST	0	183
PA0585-PA0586	MONTE VIST	15	288
PA0586-PA0583	MONTE VIST	15	235
PA0587-PA0574	COUNTY CEN	18	429
PA0588-PA0592		36	148
PA0589-PA0588	VICTOR AVE	15	213
PA0590-PA0591	VICTOR AVE	0	376
PA0591-PA0588	VICTOR AVE	0	260
PA0592-PA0593	COUNTY CEN	36	145
PA0593-PA0597	COUNTY CEN	36	315
PA0594-PA0593	ORCHARD	15	168
PA0595-PA0596	JACKIE ST.	0	132
PA0596-PA0593	ORCHARD	18	522
PA0597-PA0599	COUNTY CEN	36	289
PA0598-PA0597	HEMLOCK	12	257
PA0599-PA0601		36	90
PA0600-PA0599	MISSION	12	122
PA0601-PA0603	COUNTY CEN	36	177
PA0602-PA0601		12	245
PA0603-PA0610	COUNTY CEN	36	782
PA0604-PA0605	CALDWELL A	0	165
PA0605-PA0603	CALDWELL A	21	338
PA0606-PA0607	WOODLAND	15	235
PA0607-PA0608	CALDWELL A	15	261
PA0608-PA0609	CALDWELL A	15	286
PA0609-PA0603	CALDWELL A	15	361
PA0610-PA0616	COUNTY CEN	42	791
PA0611-PA0612	RUSSELL AV	18	309
PA0612-PA0614	RUSSELL AV	18	258
PA0613-PA0612	VALLEY AVE	12	116
PA0614-PA0615	RUSSELL AV	18	196
PA0615-PA0610	RUSSELL AV	27	210
PA0631-PA0632		15	335
PA0633-PA0634		0	158
PA0634-PA0635	SALLEE LA.	24	495
PA0635-PA0636		24	821
PA0637-PA0638	COUNTU CEN	0	1,052
PA0638-PA0639	PACKWOOD D	0	143
PA0639-PA0640		0	163

ID	Street	Size	Length
PA0640-PA0616		0	133
PA0641-PA0642		12	224
PA0655-PA0656	DEMAREE RO	0	522
PA0656-PA0657	DEMAREE RO	0	194
PA0657-PA0661		0	114
PA0658-PA0659	CAMBRIDGE	0	259
PA0659-PA0660	ROYAL OAKS	15	507
PA0660-PA0657		18	363
PA0661-PA0662	DEMAREE RO	21	104
PA0662-PA0663	DEMAREE RO	21	757
PA0663-PA0667	CUTLER	21	49
PA0664-PA0666	COLONIAL	12	97
PA0665-PA0666	COLONIAL	12	111
PA0666-PA0667	DEMAREE RD	21	276
PA0667-PA0673	DEMAREE RD	24	154
PA0668-PA0667	CUTLER	0	138
PA0669-PA0670		0	494
PA0670-PA0671		0	178
PA0671-PA0672	FULGHAM RD	18	211
PA0672-PA0663	CUTLER	18	460
PA0673-PA0674	DEMAREE RD	24	172
PA0674-PA0677	DEMAREE RD	24	287
PA0675-PA0674	PRYOR	18	145
PA0676-PA0674	PRYOR	18	411
PA0677-PA0693	DEMAREE RD	27	325
PA0678-PA0679		0	398
PA0679-PA0677	COPPOLA	15	415
PA0680-PA0681	PRYOR	12	313
PA0681-PA0683		15	240
PA0682-PA0681	PRYOR	12	282
PA0683-PA0690	COPPOLA	18	358
PA0684-PA0683	COPPOLA	15	375
PA0685-PA0686		15	173
PA0686-PA0689		15	245
PA0687-PA0688	CHERRY AV	12	174
PA0688-PA0686		12	111
PA0689-PA0683		15	229
PA0690-PA0691	COPPOLA	18	489
PA0691-PA0692	COPPOLA	18	421
PA0692-PA0677	COPPOLA	18	149
PA0693-PA0696	DEMAREE RD	27	294
PA0694-PA0693	CHERRY AV	12	293
PA0695-PA0693	CHERRY AV	15	303
PA0696-PA0699	DEMAREE RD	30	150
PA0697-PA0696	EVERGREEN	12	318
PA0698-PA0696	EVERGREEN	12	554
PA0699-PA0700	DEMAREE RD	30	154
PA0700-PA0702	DEMAREE RD	30	265
PA0701-PA0700	COUNTRY LA	12	327
PA0702-PA0711		30	43
PA0703-PA0704		15	313
PA0704-PA0705	UNIVERSITY	15	241
PA0705-PA0706	UNIVERSITY	18	270

ID	Street	Size	Length
PA0706-PA0707	WHITENDALE	18	408
PA0707-PA0708	WHITENDALE	18	236
PA0708-PA0710	WHITENDALE	18	265
PA0709-PA0708	SILVERVALE	12	161
PA0710-PA0702	WHITENDALE	18	341
PA0711-PA0712	DEMAREE RD	30	256
PA0712-PA0718	DEMAREE RD	30	291
PA0713-PA0714		12	240
PA0714-PA0716		0	62
PA0715-PA0714		0	97
PA0716-PA0712	MONTE VIST	15	598
PA0717-PA0712	MONTE VIST	12	288
PA0718-PA0734	DEMAREE RD	30	337
PA0719-PA0721	LA VIDA AV	12	470
PA0720-PA0721		12	288
PA0721-PA0722	LA VIDA AV	12	493
PA0722-PA0723	LA VIDA AV	12	204
PA0723-PA0724	LA VIDA AV	12	205
PA0724-PA0718	LA VIDA AV	12	496
PA0725-PA0726	FONTANA	12	541
PA0726-PA0729	LA VIDA AV	15	207
PA0727-PA0726	FONTANA	12	242
PA0728-PA0726	LA VIDA AV	12	209
PA0729-PA0730	LA VIDA AV	15	372
PA0730-PA0733	LA VIDA AV	21	268
PA0731-PA0730	FULGHAM S	12	209
PA0732-PA0730	FULGHAM S	12	541
PA0733-PA0718	LA VIDA AV	21	268
PA0734-PA0737	DEMAREE RD	30	280
PA0735-PA0736	SUNNYSIDE	12	416
PA0736-PA0734	SUNNYSIDE	12	513
PA0737-PA0738	DEMAREE RD	30	288
PA0738-PA0746	DEMAREE RD	30	214
PA0739-PA0738	VICTOR AVE	12	498
PA0740-PA0741		12	271
PA0741-PA0742		15	192
PA0742-PA0743	VICTOR AVE	15	192
PA0743-PA0744	VICTOR AVE	15	312
PA0744-PA0745	VICTOR AVE	15	202
PA0745-PA0738	VICTOR AVE	15	209
PA0746-PA0753	DEMAREE RD	30	155
PA0747-PA0748	ORCHARD	12	360
PA0748-PA0749	ORCHARD	12	214
PA0749-PA0750	ORCHARD	15	490
PA0750-PA0751	DEMAREE RD	0	52
PA0751-PA0752		0	21
PA0752-PA0753	DEMAREE RD	0	99
PA0753-PA0754	DEMAREE RD	30	44
PA0754-PA0755	DEMAREE RD	30	113
PA0755-PA0756	DEMAREE R	30	722
PA0756-PA0795	DEMAREE R	42	701
PA0757-PA0758	TULARE AVE	12	472
PA0758-PA0759	CHINOWORTH	12	667

ID	Street	Size	Length
PA0759-PA0762	CHINOWORTH	12	1,048
PA0760-PA0761	HOWARD AVE	12	485
PA0761-PA0759		12	129
PA0762-PA0763	CHINOWORTH	15	929
PA0763-PA0764	WALNUT AVE	18	1,031
PA0764-PA0772	WALNUT AVE	18	253
PA0765-PA0766	LINWOOD AV	0	260
PA0766-PA0767	LINWOOD AV	0	330
PA0767-PA0771	LINWOOD AV	18	316
PA0768-PA0769	CAMBRIDGE	12	226
PA0769-PA0770	CAMBRIDGE	15	275
PA0770-PA0767	CAMBRIDGE	18	260
PA0771-PA0772	LINWOOD AV	18	328
PA0772-PA0773	LINWOOD AV	21	517
PA0773-PA0774	LINWOOD AV	21	482
PA0774-PA0775	LINWOOD AV	21	846
PA0775-PA0777	LINWOOD AV	21	751
PA0776-PA0775	CHERRY LA	0	343
PA0777-PA0784	LINWOOD AV	21	669
PA0778-PA0779	WESTDALE	0	127
PA0779-PA0780	WESTDALE	15	274
PA0780-PA0782	WESTDALE	15	899
PA0781-PA0780	CHINOWORTH	12	266
PA0782-PA0777	WESTDALE	18	423
PA0783-PA0782		15	232
PA0784-PA0786	LINWOOD AV	24	926
PA0785-PA0784		15	175
PA0786-PA0789	LINWOOD AV	24	1,044
PA0787-PA0788	BOLLINGER	0	952
PA0788-PA0786	VICTOR A	12	270
PA0789-PA0794	CALDWELL A	27	1,314
PA0790-PA0791	JULIEANN	12	277
PA0791-PA0792	JULIEANN	15	225
PA0792-PA0793	MISSION	18	535
PA0793-PA0794	CHINOWORTH	18	169
PA0794-PA0756	CALDWELL A	30	1,372
PA0795-PA0796	DEMAREE R	42	1,408
PA0796-PA0797	ROAD 108	42	1,472
PA0797-PA0798	ROAD 108	42	333
PA0798-PA0799		0	127
PA0810-PA0811		12	1,058
PA0811-PA0816		15	398
PA0812-PA0813	MIDVALLEY	12	160
PA0813-PA0815		4	159
PA0814-PA0813	MIDVALLEY	12	183
PA0815-PA0811		0	53
PA0816-PA0817		24	1,508
PA0818-PA0819		15	198

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
PC01	0.20681	84	16	76	98	128	2	2	0	0	0	1
PC02	0.26130	80	20	76	98	154	3	3	8	0	0	1
PC03	0.26285	53	47	74	98	18	102	45	3	0	0	2
PC04	0.18077	55	45	74	98	11	91	8	5	0	0	2
PC05	0.14269	49	51	74	98	5	53	33	0	0	0	2
PC06	0.23263	56	44	73	98	6	133	10	0	0	0	2
PC07	0.36584	49	51	74	98	19	136	47	12	20	0	2
PC08	0.15752	64	36	73	98	28	65	0	0	8	0	2
PC09	0.05936	49	51	74	98	7	16	14	0	1	0	2
PC10	0.30009	56	44	74	98	10	175	0	0	7	0	2
PC11	0.14982	53	47	74	98	3	80	1	0	12	0	2
PC12	0.09186	61	39	73	98	15	44	0	0	0	0	2
PC13	0.10090	47	53	74	98	0	60	5	0	0	0	2
PC14	0.19966	52	48	74	98	14	57	0	0	57	0	5
PC15	0.20339	55	45	73	98	5	125	0	0	0	0	2
PC16	0.11652	61	39	74	98	7	68	0	0	0	0	2
PC17	0.02822	62	38	74	98	2	16	0	0	0	0	2
PC18	0.12804	56	44	74	98	9	72	0	0	1	0	2
PC19	0.26913	57	43	74	98	14	137	0	0	22	0	2
PC20	0.22248	52	48	73	98	0	121	21	0	0	0	2
PC21	0.53665	56	44	74	98	26	286	26	0	5	0	2
PC22	0.09568	39	61	74	98	6	28	27	0	0	0	2
PC23	0.21239	58	42	74	98	18	109	8	0	0	0	2
PC24	0.17182	61	39	74	98	10	100	0	0	0	0	2
PC25	0.85754	57	43	74	98	20	500	6	9	14	0	2
PC26	0.73141	26	74	76	98	10	143	27	289	0	0	4
PC27	0.13077	45	55	74	98	2	49	16	0	16	0	2
PC28	0.05735	57	43	74	98	3	31	2	0	0	0	2
PC29	0.30576	49	51	72	98	8	137	32	1	18	0	2
PC30	0.67113	54	46	75	98	16	362	31	0	20	0	2
PC31	0.47297	58	42	74	98	27	273	0	0	3	0	2
PC32	0.18425	46	54	74	98	0	75	39	0	4	0	2
PC33	0.26012	62	38	75	98	51	73	18	0	24	0	2
PC34	0.31222	80	20	77	98	157	43	0	0	0	0	1
PC35	0.26112	58	42	76	98	60	36	0	0	71	0	5
PC36	0.24630	85	15	78	98	158	0	0	0	0	0	1

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ID PC-02                                                                    10
IT     5                   300                                              20
IO     5                                                                    30
KK  PC01 BASIN                                                              40
BA 0.207                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      76       0       0      98       0                           80
UK   300  0.0010    0.20      84                                           90
UK   100  0.0010    0.10      16                                          100
RK   660   .0010    .020    .01    TRAP      20       1                   110
RK  1980   .0010    .020   .063    TRAP      20       1                   120
RK  1980   .0010    .020           TRAP      20       1      NO           130
KK   S41 STORAGE/PUMP                                                     140
RS     1    STOR                                                         150
SV     0       5      10      15                                          160
SE     0       1       2       3                                          170
SS     2     250     3.0     1.5                                          180
ST     3     250     3.0     1.5                                          190
WP    .1     1.0       3    PS41                                          200
KK  PS41 RETRIEVE PUMP                                                    210
WR  PS41                                                                  220
KK    01 ADD                                                              230
HC     2                                                                  240
KK  01-02 ROUTE                                                           250
RK   351   .0010    .035           TRAP      10       1                   260
KK  PC02 BASIN                                                            270
BA 0.261                                                                  280
LS     0      76       0       0      98       0                          290
UK   300  0.0010    0.20      80                                          300
UK   100  0.0010    0.10      20                                          310
RK   660   .0010    .020    .01    TRAP      20       1                   320
RK  1980   .0010    .020   .063    TRAP      20       1                   330
RK  1980   .0010    .020           TRAP      20       1      NO           340
KK   02 ADD                                                              350
HC     2                                                                  360
KK  02-03 ROUTE                                                           370
RK  4058   .0010    .035           TRAP      10       1                   380
KK  PC05 BASIN                                                            390
BA 0.143                                                                  400
LS     0      74       0       0      98       0                          410
UK   150  0.0010    0.30      49                                          420
UK    50  0.0010    0.10      51                                          430
RK   660   .0010    .020    .01    TRAP      20       1                   440
RK  1980   .0010    .020   .063    TRAP      20       1                   450
RK  1980   .0010    .020           TRAP      20       1      NO           460
KK  PC06 BASIN                                                            470
BA 0.233                                                                  480
LS     0      73       0       0      98       0                          490
UK   150  0.0010    0.30      56                                          500
UK    50  0.0010    0.10      44                                          510
RK   660   .0010    .020    .01    TRAP      20       1                   520
RK  1980   .0010    .020   .063    TRAP      20       1                   530
RK  1980   .0010    .020           TRAP      20       1      NO           540
KK   03 ADD                                                              550
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HC     3
KK 03-04 ROUTE
RK  1808   .0010    .035             TRAP     10      1
KK  PC03 BASIN
BA 0.263
LS     0      74       0       0      98       0
UK   150  0.0010    0.30      53
UK    50  0.0010    0.10      47
RK   660   .0010    .020     .01    TRAP      20       1
RK  1980   .0010    .020    .063    TRAP      20       1
RK  1980   .0010    .020            TRAP      20       1      NO
KK 25-26 ROUTE
RK  2594   .0010    .020            TRAP      20       1
KK  PC04 BASIN
BA 0.181
LS     0      74       0       0      98       0
UK   150  0.0010    0.30      55
UK    50  0.0010    0.10      45
RK   660   .0010    .020     .01    TRAP      20       1
RK  1980   .0010    .020    .063    TRAP      20       1
RK  1980   .0010    .020            TRAP      20       1      NO
KK  PC07 BASIN
BA 0.366
LS     0      74       0       0      98       0
UK   150  0.0010    0.30      49
UK    50  0.0010    0.10      51
RK   250   .0010    .020     .01    TRAP      20       1
RK  2000   .0010    .020    .035    TRAP      20       1
RK  2640   .0010    .020            TRAP      20       1      NO
KK    26 ADD
HC     3 2 4 6 (05, 06, 04, 07)(02, 08)
KK   S14 STORAGE/PUMP
RS     1    STOR
SV     0       5      10      15      20      25      35      50  58 70     100
SE     0       1       2       3       4       5       6       7       8       9
SS     8 8.5 250     3.0     1.5
ST     9     250     3.0     1.5
WP    .1     5.8       9    PS14
KK  PS14 RETRIEVE PUMP
WR  PS14
KK    04 ADD
HC     3 ——  PUMP @ S41, PUMP @ S41, OUTFLOW @ S41
KK 04-05 ROUTE
RK  2078   .0010    .035            TRAP      10       1
KK  PC08 BASIN
BA 0.158
LS     0      73       0       0      98       0
UK   150  0.0010    0.30      64
UK    50  0.0010    0.10      36
RK   500   .0010    .020     .01    TRAP      20       1
RK  1250   .0010    .020    .020    TRAP      20       1
RK  1980   .0010    .020            TRAP      20       1      NO
KK  PC09 BASIN
BA 0.059
LS     0      74       0       0      98       0
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UK   150  0.0010    0.30      49                                                  1110
UK    50  0.0010    0.10      51                                                  1120
RK  1250   .0010    .020            TRAP      20        1       NO               1130
KK    05 ADD                                                                     1140
HC    3  2                                                                       1150
KK 05-06 ROUTE                                                                   1160
RK  3279   .0010    .035            TRAP      10        1                        1170
KK  PC15 BASIN                                                                   1180
BA 0.203                                                                         1190
LS     0      73       0       0     98        0                                 1200
UK   150  0.0010    0.30      55                                                  1210
UK    50  0.0010    0.10      45                                                  1220
RK   660   .0010    .020     .01    TRAP      20        1                        1230
RK  1500   .0010    .020    .035    TRAP      20        1                        1240
RK  2000   .0010    .020            TRAP      20        1       NO               1250
KK  PC14 BASIN                                                                   1260
BA 0.200                                                                         1270
LS     0      74       0       0     98        0                                 1280
UK   200  0.0010    0.30      52                                                  1290
UK   200  0.0010    0.10      48                                                  1300
RK   660   .0010    .020     .01    TRAP      20        1                        1310
RK  1500   .0010    .020    .035    TRAP      20        1                        1320
RK  2000   .0010    .020            TRAP      20        1       NO               1330
KK    27 ADD                                                                     1340
HC     2                                                                         1350
KK   S43 STORAGE/PUMP                                                           1360
RS     1    STOR                                                                1370
SV     0       5      10      15     20       25       28       50              1380
SE     0       1       2       3      4        5        6        7              1390
SS     6     250     3.0     1.5                                                 1400
ST     7     250     3.0     1.5                                                 1410
WP    .1     2.8       7   PS43                                                  1420
KK  PS43 RETRIEVE PUMP                                                           1430
WR  PS43                                                                         1440
KK    27 ADD                                                                     1450
HC     2                                                                         1460
KK 27-28 ROUTE                                                                   1470
RK  2283   .0010    .020            TRAP      20        1                        1480
KK  PC11 BASIN                                                                   1490
BA 0.150                                                                         1500
LS     0      74       0       0     98        0                                 1510
UK   150  0.0010    0.30      53                                                  1520
UK    50  0.0010    0.10      47                                                  1530
RK   660   .0010    .020     .01    TRAP      20        1                        1540
RK  1500   .0010    .020    .035    TRAP      20        1                        1550
RK  2000   .0010    .020            TRAP      20        1       NO               1560
KK  PC12 BASIN                                                                   1570
BA 0.092                                                                         1580
LS     0      73       0       0     98        0                                 1590
UK   150  0.0010    0.30      61                                                  1600
UK    50  0.0010    0.10      39                                                  1610
RK   660   .0010    .020     .01    TRAP      20        1                        1620
RK  1500   .0010    .020    .035    TRAP      20        1                        1630
RK  2000   .0010    .020            TRAP      20        1       NO               1640
KK  PC13 BASIN                                                                   1650
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```
BA 0.101                                                                1660
LS     0      74       0       0      98       0                        1670
UK   150  0.0010    0.30      47                                        1680
UK    50  0.0010    0.10      53                                        1690
RK   660   .0010    .020     .01    TRAP      20       1               1700
RK  1500   .0010    .020    .035    TRAP      20       1               1710
RK  1200   .0010    .020            TRAP      20       1      NO       1720
KK    28 ADD                                                            1730
HC     3                                                                1740
KK   S42 STORAGE/PUMP                                                   1750
RS     1    STOR                                                        1760
SV     0       5      10      15      20      24      35                1770
SE     0       1       2       3       4       5       6                1780
SS     5     250     3.0     1.5                                        1790
ST     6     250     3.0     1.5                                        1800
WP    .1     2.4       6    PS42                                        1810
KK  PS42 RETRIEVE PUMP                                                  1820
WR  PS42                                                                1830
KK    28 ADD                                                            1840
HC     3                                                                1850
KK 28-06 ROUTE                                                          1860
RK  1607   .0010    .020            TRAP      20       1               1870
KK    06 ADD                                                            1880
HC     2                                                                1890
KK 06-07 ROUTE                                                          1900
RK  1261   .0010    .035            TRAP      15       2               1910
KK  PC10 BASIN                                                          1920
BA 0.300                                                                1930
LS     0      74       0       0      98       0                        1940
UK   150  0.0010    0.30      56                                        1950
UK    50  0.0010    0.10      44                                        1960
RK   660   .0010    .020     .01    TRAP      20       1               1970
RK  2000   .0010    .020    .050    TRAP      20       1               1980
RK  3700   .0010    .020            TRAP      20       1      NO       1990
KK    07 ADD                                                            2000
HC     2                                                                2010
KK 07-08 ROUTE                                                          2020
RK  1336   .0010    .035            TRAP      10       1               2030
KK  PC17 BASIN                                                          2040
BA 0.028                                                                2050
LS     0      74       0       0      98       0                        2060
UK   150  0.0010    0.30      62                                        2070
UK    50  0.0010    0.10      38                                        2080
RK  1200   .0010    .020            TRAP      20       1      NO       2090
KK  PC18 BASIN                                                          2100
BA 0.128                                                                2110
LS     0      74       0       0      98       0                        2120
UK   150  0.0010    0.30      56                                        2130
UK    50  0.0010    0.10      44                                        2140
RK  1000   .0010    .020            TRAP      20       1      NO       2150
KK    29 ADD                                                            2160
HC     2                                                                2170
KK   S22 STORAGE/PUMP                                                   2180
RS     1    STOR                                                        2190
SV     0       5      10      15                                        2200
```

```
SE      0       1       2       3                                               2210
SS    2.1     250     3.0     1.5                                               2220
ST      3     250     3.0     1.5                                               2230
WP     .1     1.1       3    PS22                                               2240
KK   PS22                                                                       2250
WR   PS22                                                                       2260
KK     29 ADD                                                                   2270
HC      2                                                                       2280
KK 29-08 ROUTE                                                                  2290
RK    946   .0010    .020          TRAP      20       1                        2300
KK   PC16 BASIN                                                                 2310
BA 0.117                                                                        2320
LS      0      74       0       0     98       0                               2330
UK    150  0.0010    0.30      61                                               2340
UK     50  0.0010    0.10      39                                               2350
RK   1250   .0010    .020     .01   TRAP      20       1                        2360
RK   2200   .0010    .020          TRAP      20       1      NO                2370
KK     08 ADD                                                                   2380
HC      3                                                                       2390
KK 08-09 ROUTE                                                                  2400
RK   2242   .0010    .035          TRAP      10       1                        2410
KK 09-10 ROUTE                                                                  2420
RK   2703   .0010    .035          TRAP      12       1                        2430
KK   PC21 BASIN                                                                 2440
BA 0.537                                                                        2450
LS      0      74       0       0     98       0                               2460
UK    150  0.0010    0.30      56                                               2470
UK     50  0.0010    0.10      44                                               2480
RK    800   .0010    .020     .01   TRAP      20       1                        2490
RK   2500   .0010    .020    .080   TRAP      20       1                        2500
RK   4500   .0010    .020          TRAP      20       1      NO                2510
KK   PC22 BASIN                                                                 2520
BA 0.096                                                                        2530
LS      0      74       0       0     98       0                               2540
UK    150  0.0010    0.30      39                                               2550
UK     50  0.0010    0.10      61                                               2560
RK    660   .0010    .020     .01   TRAP      20       1                        2570
RK   1250   .0010    .020    .030   TRAP      20       1                        2580
RK   1750   .0010    .020          TRAP      20       1      NO                2590
KK     10 ADD                                                                   2600
HC      3                                                                       2610
KK   PC20 BASIN                                                                 2620
BA 0.222                                                                        2630
LS      0      73       0       0     98       0                               2640
UK    150  0.0010    0.30      52                                               2650
UK     50  0.0010    0.10      48                                               2660
RK    660   .0010    .020     .01   TRAP      20       1                        2670
RK   1250   .0010    .020    .030   TRAP      20       1                        2680
RK   3000   .0010    .020          TRAP      20       1      NO                2690
KK   PC19 BASIN                                                                 2700
BA 0.269                                                                        2710
LS      0      74       0       0     98       0                               2720
UK    150  0.0010    0.30      57                                               2730
UK     50  0.0010    0.10      43                                               2740
RK    660   .0010    .020     .01   TRAP      20       1                        2750
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RK  1250   .0010    .020    .033    TRAP     20       1                    2760
RK  3000   .0010    .020            TRAP     20       1       NO           2770
KK    51 ADD                                                              2780
HC     2                                                                  2790
KK   S44 STORAGE/PUMP                                                     2800
RS     1    STOR                                                         2810
SV     0       5      10      15      20      25      34      50          2820
SE     0       1       2       3       4       5       6       7          2830
SS     6     250     3.0     1.5                                         2840
ST     7     250     3.0     1.5                                         2850
WP    .1     3.4       7    PS44                                         2860
KK  PS44 RETRIEVE PUMP                                                    2870
WR  PS44                                                                  2880
KK    51 ADD                                                              2890
HC     2                                                                  2900
KK 51-10 ROUTE                                                            2910
RK  2278   .0010    .020            TRAP     20       1                   2920
KK    10 ADD                                                              2930
HC     2                                                                  2940
KK 10-11 ROUTE                                                            2950
RK  2571   .0010    .035            TRAP     18       1                   2960
KK  PC23 BASIN                                                            2970
BA 0.212                                                                  2980
LS     0      74       0       0      98       0                         2990
UK   150  0.0010    0.30      58                                         3000
UK    50  0.0010    0.10      42                                         3010
RK   660   .0010    .020    .01     TRAP     20       1                   3020
RK  1000   .0010    .020    .024    TRAP     20       1                   3030
RK  1500   .0010    .020            TRAP     20       1       NO          3040
KK   S16 STORAGE/PUMP                                                     3050
RS     1    STOR                                                         3060
SV     0       5      10      14      20                                 3070
SE     0       1       2       3       4                                 3080
SS     3     250     3.0     1.5                                         3090
ST     4     250     3.0     1.5                                         3100
WP    .1     1.4       4    PS16                                         3110
KK  PS16 RETRIEVE PUMP                                                    3120
WR  PS16                                                                  3130
KK    11 ADD                                                              3140
HC     3                                                                  3150
KK 11-12 ROUTE                                                            3160
RK  3312   .0010    .035            TRAP     18       1                   3170
KK  PC24 BASIN                                                            3180
BA 0.172                                                                  3190
LS     0      74       0       0      98       0                         3200
UK   150  0.0010    0.30      61                                         3210
UK    50  0.0010    0.10      39                                         3220
RK   660   .0010    .020    .01     TRAP     20       1                   3230
RK  1750   .0010    .020    .041    TRAP     20       1                   3240
RK  2000   .0010    .020            TRAP     20       1       NO          3250
KK    12 ADD                                                              3260
HC     2                                                                  3270
KK 12-13 ROUTE                                                            3280
RK  1575   .0010    .035            TRAP     15       1                   3290
KK  PC25 BASIN                                                            3300
```

10 yr

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BA 0.858
LS     0     74      0      0     98      0
UK   150 0.0010   0.30     57
UK    50 0.0010   0.10     43
RK   660  .0010   .020    .01   TRAP     20      1
RK  3600  .0010   .020   .085   TRAP     20      1
RK  5000  .0010   .020          TRAP     20      1     NO
KK   S17 STORAGE/PUMP
RS     1   STOR
SV     0      5     10     15     20     25     35     50     58     70
SE     0      1      2      3      4      5      6      7      8      9
SS     8    250    3.0    1.5
ST     9    250    3.0    1.5
WP    .1    5.8      9   PS17
KK  PS17 RETRIEVE PUMP
WR  PS17
KK    30 ADD
HC     2
KK 30-13 ROUTE
RK   955  .0010   .020          TRAP     20      1
KK EP16W WETWELL/PUMP
RS     1   STOR
SV     0      5     10     15     20     25     35     50    100    200
SE     0      1      2      3      4      5      6      7      8      9
SS   8.8    250    3.0    1.5
ST     9    250    3.0    1.5
WP    .1   5.35      9   EP16
KK  EP16 RETRIEVE PUMP
WR  EP16
KK    13 ADD
HC     3
KK 13-14 ROUTE
RK  3126  .0010   .035          TRAP     15      1
KK  PC27 BASIN
BA 0.131
LS     0     74      0      0     98      0
UK   150 0.0010   0.30     45
UK    50 0.0010   0.10     55
RK  1000  .0010   .020   .024   TRAP     20      1
RK  3000  .0010   .020          TRAP     20      1     NO
KK 50-14 ROUTE
RK  7619  .0010   .020          TRAP     20      1
KK  PC26 BASIN
BA 0.731
LS     0     76      0      0     98      0
UK    20 0.0010   0.40     26
UK   500 0.0010   0.10     74
RK   660  .0010   .020    .01   TRAP     20      1
RK  1500  .0010   .020   .036   TRAP     20      1
RK  7000  .0010   .020          TRAP     20      1     NO
KK   S19 STORAGE/PUMP
RS     1   STOR
SV     0      5     10     15     20     25     35     50     70    100
SE     0      1      2      3      4      5      6      7      8      9
SS     8    250    3.0    1.5
```

Route 13-14: 272
PC-27 – 38 cfs
PC-26 – 162 cfs
S19 – 7 cfs

1989 Version (added 10 cfs) w/ 0 STORAGE

```
ST     9     250     3.0     1.5                                          3860
WP    .1     7.0       9   PS19                                          3870
KK  PS19 RETRIEVE PUMP                                                  3880
WR  PS19                                                                3890
KK    14 ADD                                                            3900
HC     4                                                                3910
KK 14-15 ROUTE                                                          3920
RK   972   .0010    .035          TRAP     15       1                   3930
KK 15-16 ROUTE                                                          3940
RK  1127   .0010    .035          TRAP     15       1                   3950
KK  PC28 BASIN                                                          3960
BA 0.057                                                                3970
LS     0      74       0       0    98       0                         3980
UK   150  0.0010    0.30      57                                        3990
UK    50  0.0010    0.10      43                                        4000
RK  1200   .0010    .020    .028   TRAP     20       1                   4010
RK  1500   .0010    .020           TRAP     20       1     NO            4020
KK    16 ADD                                                            4030
HC     2                                                                4040
KK 16-17 ROUTE                                                          4050
RK   516   .0010    .035          TRAP     15       1                   4060
KK  PC29 BASIN                                                          4070
BA 0.306                                                                4080
LS     0      72       0       0    98       0                         4090
UK   150  0.0010    0.30      49                                        4100
UK    50  0.0010    0.10      51                                        4110
RK   660   .0010    .020     .01   TRAP     20       1                   4120
RK  1000   .0010    .020    .024   TRAP     20       1                   4130
RK  4000   .0010    .020           TRAP     20       1     NO            4140
KK   S20 STORAGE/PUMP                                                   4150
RS     1    STOR                                                        4160
SV     0       5      10      15     20      22      35                 4170
SE     0       1       2       3      4       5       6                 4180
SS     5     250     3.0     1.5                                        4190
ST     6     250     3.0     1.5                                        4200
WP    .1     2.2       6   PS20                                        4210
KK  PS20 RETRIEVE PUMP                                                  4220
WR  PS20                                                                4230
KK    17 ADD                                                            4240
HC     3                                                                4250
KK 17-18 ROUTE                                                          4260
RK  4225   .0010    .035          TRAP     20       2                   4270
KK  PC33 BASIN                                                          4280
BA 0.260                                                                4290
LS     0      75       0       0    98       0                         4300
UK   150  0.0010    0.30      62                                        4310
UK    50  0.0010    0.10      38                                        4320
RK   660   .0010    .020     .01   TRAP     20       1                   4330
RK  1500   .0010    .020    .036   TRAP     20       1                   4340
RK  3000   .0010    .020           TRAP     20       1     NO            4350
KK    18 ADD                                                            4360
HC     2                                                                4370
KK 18-19 ROUTE                                                          4380
RK   719   .0010    .035          TRAP     20       2                   4390
KK  PC31 BASIN                                                          4400
```

-4 ADD 14: 305 444

PC28 - 14 cfs

2 ADD 16: 308 447

PC 29: ~~76~~ cfs

S20: 2 cfs

3 ADD 17: 310 474

18 492

BA	0.473										4410
LS	0	74	0	0	98	0					4420
UK	150	0.0010	0.30	58							4430
UK	50	0.0010	0.10	42							4440
RK	660	.0010	.020	.01	TRAP	20	1				4450
RK	1000	.0010	.020	.024	TRAP	20	1				4460
RK	7000	.0010	.020		TRAP	20	1	NO			4470
KK	EP19W WETWELL/PUMP										4480
RS	1	STOR									4490
SV	0	5	10	15	20	25	35	50	100	200	4500
SE	0	1	2	3	4	5	6	7	8	9	4510
SS	8.8	250	3.0	1.5							4520
ST	9	250	3.0	1.5							4530
WP	.1	5.35	9	EP19							4540
KK	EP19 RETRIEVE PUMP										4550
WR	EP19										4560
KK	31 ADD										4570
HC	2										4580
KK	31-32 ROUTE										4590
RK	997	.0010	.020		TRAP	20	1				4600
KK	PC30 BASIN										4610
BA	0.671										4620
LS	0	75	0	0	98	0					4630
UK	150	0.0010	0.30	54							4640
UK	50	0.0010	0.10	46							4650
RK	660	.0010	.020	.01	TRAP	20	1				4660
RK	1500	.0010	.020	.036	TRAP	20	1				4670
RK	7000	.0010	.020		TRAP	20	1	NO			4680
KK	EP18W WETWELL/PUMP										4690
RS	1	STOR									4700
SV	0	5	10	15	20	25	35	50	100	200	4710
SE	0	1	2	3	4	5	6	7	8	9	4720
SS	8.8	250	3.0	1.5							4730
ST	9	250	3.0	1.5							4740
WP	.1	20.05	9	EP18							4750
KK	EP18 RETRIEVE PUMP										4760
WR	EP18										4770
KK	32 ADD										4780
HC	3										4790
KK	32-19 ROUTE										4800
RK	3932	.0010	.020		TRAP	20	1				4810
KK	19 ADD										4820
HC	2										4830
KK	19-20 ROUTE										4840
RK	3358	.0010	.035		TRAP	20	2				4850
KK	PC32 BASIN										4860
BA	0.184										4870
LS	0	74	0	0	98	0					4880
UK	150	0.0010	0.30	46							4890
UK	50	0.0010	0.10	54							4900
RK	660	.0010	.020	.01	TRAP	20	1				4910
RK	1980	.0010	.020	.063	TRAP	20	1				4920
RK	1980	.0010	.020		TRAP	20	1	NO			4930
KK	33-20 ROUTE										4940
RK	3602	.0010	.020		TRAP	20	1				4950

590 ±

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KK  PC34 BASIN                                                          4960
BA 0.312                                                                4970
LS     0      77       0       0      98       0                        4980
UK   300  0.0010    0.20      80                                        4990
UK   100  0.0010    0.10      20                                        5000
RK   660   .0010    .020     .01    TRAP      20       1               5010
RK  2000   .0010    .020    .047    TRAP      20       1               5020
RK  3500   .0010    .020            TRAP      20       1      NO       5030
KK    20 ADD                                                            5040
HC     3                                                                5050
KK 20-21 ROUTE                                                          5060
RK  2907   .0010    .035            TRAP      20       2               5070
KK  PC35 BASIN                                                          5080
BA 0.261                                                                5090
LS     0      76       0       0      98       0                        5100
UK   200  0.0010    0.30      58                                        5110
UK   200  0.0010    0.10      42                                        5120
RK   660   .0010    .020     .01    TRAP      20       1               5130
RK  1980   .0010    .020    .063    TRAP      20       1               5140
RK  1980   .0010    .020            TRAP      20       1      NO       5150
KK 34-35 ROUTE                                                          5160
RK  2519   .0010    .020            TRAP      20       1               5170
KK  PC36 BASIN                                                          5180
BA 0.246                                                                5190
LS     0      78       0       0      98       0                        5200
UK   300  0.0010    0.20      85                                        5210
UK   100  0.0010    0.10      15                                        5220
RK   660   .0010    .020     .01    TRAP      20       1               5230
RK  1980   .0010    .020    .063    TRAP      20       1               5240
RK  1980   .0010    .020            TRAP      20       1      NO       5250
KK    35 ADD                                                            5260
HC     2                                                                5270
KK 35-21 ROUTE                                                          5280
RK  1228   .0010    .020            TRAP      20       1               5290
KK    21 ADD                                                            5300
HC     2                                                                5310
KK 21-22 ROUTE                                                          5320
RK  3047   .0010    .035            TRAP      20       2               5330
KK   S21 STORAGE   TAGUS BASIN                                         5340
RS     1    STOR                                                        5350
SV     0      50     200     800    1000     1500                      5360
SE     0       5      10      15      16       17                      5370
SS    16     250     3.0     1.5                                       5380
ST    17     250     3.0     1.5                                       5390
ZZ                                                                      5400
```

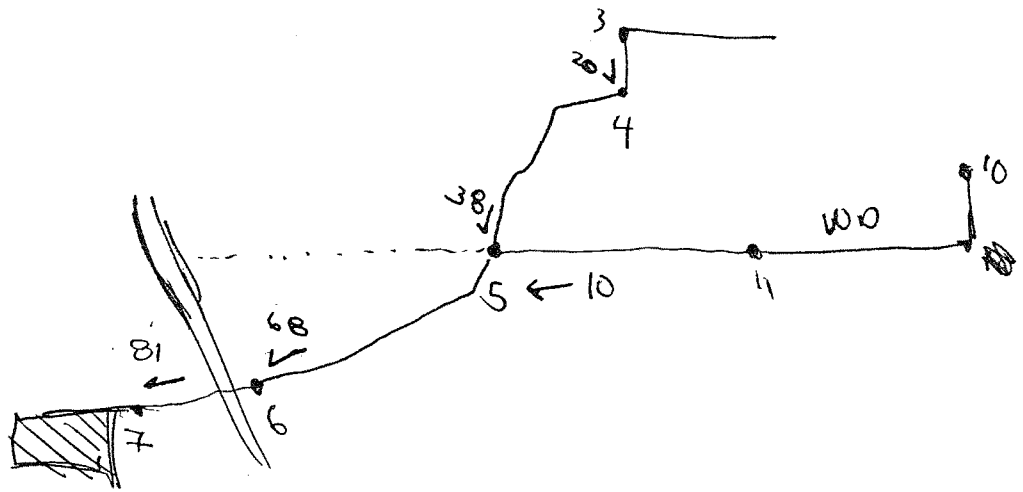
City of Visalia
Storm Water Master Plan and Management Program
PERSIAN WATSON DRAINAGE BASIN

PIPES AND CHANNELS SUMMARY

03/19/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
PW0008-PW0004	3,136							5	11	5	11		24			PIPE	7		$188,160
	3,136																		$188,160
MAIN DRAINS																			
PW0001-PW0002	3,799	0.0010	0.030		45	20	124												
PW0002-PW0003	3,500	0.0010	0.030		45	20	124	2	10										
PW0003-PW0004	1,457	0.0010	0.030		45	20	124	4	20										
PW0004-PW0005	2,032	0.0010	0.030		29	15	68	8	38										
PW0005-PW0006	3,436	0.0010	0.030		29	15	68	17	68										
PW0006-PW0007	664	0.0010	0.030		29	15	68	39	81		13	0.0010		5.0	3.0	UNLINED CHANNEL	102	12,500	$16,029
PW0010-PW0011	2,773	0.0010	0.030		47	20	131	3	3										
PW0011-PW0005	3,847	0.0010	0.030		47	20	131	5	10										
	21,508																		$16,029
BASIN TOTAL	24,644															BASIN TOTAL			$204,189

Developer inst. ⇒ 24" 3136 @ $42/FT 131,712



City of Visalia
Storm Water Master Plan and Management Program
PERSIAN WATSON DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
PW-S17	BASIN TYPE X1			46,875	32,267			15,828	94,970
PW-S11	PUMP	35,000						7,000	42,000
SUBTOTAL		35,000		46,875	32,267			22,828	136,970
COLLECTOR DRAINS									
PW0008-PW0004	PIPE						156,800	31,360	188,160
SUBTOTAL							156,800	31,360	188,160
MAIN DRAINS									
PW0006-PW0007	UNLINED CHANNEL			8,193	5,164			2,672	16,029
SUBTOTAL				8,193	5,164			2,672	16,029
TOTAL FUTURE DEVELOPMENT		35,000		55,068	37,431		156,800	56,860	341,159
TOTAL BASIN IMPROVEMENTS		35,000		55,068	37,431		156,800	56,860	341,159

City of Visalia
Storm Water Master Plan and Management Program
PERSIAN WATSON DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
PW-S11			38.7		7.0	20.0	33.0							2.0		42,000
PW-S17					23.0	69.0	117.0	23.0	69.0	117.0	X1		20.0		12,500	94,970

City of Visalia
Storm Water Master Plan and Management Program
PERSIAN WATSON DRAINAGE BASIN
LAND USE DRAINAGE BASIN SUMMARY

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	159.37	20.00	31.87
	LOW DENSITY	LDR	238.79	43.00	102.68
TOTAL RESIDENTIAL			398.16	33.79	134.55
	HIGHWAY	CH	4.25	95.00	4.04
TOTAL COMMERCIAL/OFFICE			4.25	95.00	4.04
	PUBLIC/INSTITUTIONAL	PI	225.87	60.00	135.52
TOTAL COMMUNITY FACILITIES			225.87	60.00	135.52
	AGRICULTURE	OSA	898.11	1.00	8.98
	CONSERVATION	OSC	46.00	1.00	0.46
	PARKS	OSP	53.15	15.00	7.97
TOTAL OPEN SPACE			997.26	1.75	17.41
TOTAL PERSIAN WATSON DRAINAGE BASIN			1,625.55	17.93	291.53

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
PW02	0.39785	61	39	75	98	31	217	0	0	0	6	2
PW03	0.10955	93	7	81	98	0	0	0	4	0	66	6
PW04	0.16656	99	1	78	98	0	0	0	0	0	106	6
PW05	0.24888	90	10	81	98	27	22	0	0	0	111	6
PW06	0.25215	99	1	82	98	31	0	0	0	0	130	6
PW07	0.17391	99	1	82	98	1	0	0	0	0	110	6
PW08	0.12834	81	19	77	98	82	0	0	0	0	0	1
PW09	0.15943	93	7	82	98	30	0	0	0	0	72	6
PW10	0.22726	96	4	81	98	8	0	0	0	6	131	6
PW11	0.26928	90	10	80	98	0	0	0	0	27	145	6
PW12	0.27779	59	41	73	98	48	0	0	0	111	19	5
PW13	0.12892	41	59	73	98	0	0	0	0	81	1	5

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ID PW-02                                                                    10
IT     5                    300                                             20
IO     5                                                                    30
KK  PW03 BASIN                                                              40
BA 0.110                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      81       0       0      98       0                           80
UK   800  0.0010    0.20      93                                           90
UK   100  0.0010    0.10       7                                           100
RK   660    .001    .020     .01    TRAP      20       1                   110
RK  1000    .001    .020    .024    TRAP      20       1                   120
RK  3500    .001    .035            TRAP      20       1      NO           130
KK  PW04 BASIN                                                              140
BA 0.167                                                                    150
LS     0      78       0       0      98       0                           160
UK   800  0.0010    0.20      99                                           170
UK   100  0.0010    0.10       1                                           180
RK   660    .001    .025     .01    TRAP       3       3                   190
RK  1000    .001    .020    .024    TRAP      20       1                   200
RK  3500    .001    .020            TRAP      20       1      NO           210
KK    02 ADD                                                                220
HC     2                                                                    230
KK 02-03 ROUTE                                                              240
RK  3500    .001    .035            TRAP       7       1                   250
KK  PW06 BASIN                                                              260
BA 0.252                                                                    270
LS     0      82       0       0      98       0                           280
UK   800  0.0010    0.20      99                                           290
UK   100  0.0010    0.10       1                                           300
RK   500    .001    .020     .01    TRAP      20       1                   310
RK  1500    .001    .020    .024    TRAP      20       1                   320
RK  2500    .001    .035            TRAP      20       1      NO           330
KK    03 ADD                                                                340
HC     2                                                                    350
KK 03-04 ROUTE                                                              360
RK  1457    .001    .035            TRAP       5       1                   370
KK  PW05 BASIN                                                              380
BA 0.249                                                                    390
LS     0      81       0       0      98       0                           400
UK   800  0.0010    0.20      90                                           410
UK   100  0.0010    0.10      10                                           420
RK   500    .001    .025     .02    TRAP       3       3                   430
RK  1500    .001    .020     .10    TRAP      20       1                   440
RK  2700    .001    .035            TRAP      20       1      NO           450
KK 08-04 ROUTE                                                              460
RK  3136    .001    .035            TRAP      20       1                   470
KK  PW07 BASIN                                                              480
BA 0.174                                                                    490
LS     0      82       0       0      98       0                           500
UK   800  0.0010    0.20      99                                           510
UK   100  0.0010    0.10       1                                           520
RK   660    .001    .020     .01    TRAP      20       1                   530
RK  1000    .001    .020    .024    TRAP      20       1                   540
RK  3000    .001    .020            TRAP      20       1      NO           550
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KK    04 ADD                                                                    560
HC     3                                                                        570
KK 04-05 ROUTE                                                                  580
RK  2032    .001    .035          TRAP      5       1                          590
KK  PW02 BASIN                                                                  600
BA 0.398                                                                        610
LS     0      75       0       0     98      0                                 620
UK   150  0.0010    0.30      61                                                630
UK    50  0.0010    0.10      39                                                640
RK   500    .001    .020     .01    TRAP     20       1                         650
RK  2500    .001    .020    .024    TRAP     20       1                         660
RK  2500    .001    .020            TRAP     20       1      NO                 670
KK  PW08 BASIN                                                                  680
BA 0.128                                                                        690
LS     0      77       0       0     98      0                                 700
UK   300  0.0010    0.20      81                                                710
UK   100  0.0010    0.10      19                                                720
RK   660    .001    .020     .01    TRAP     20       1                         730
RK  1980    .001    .020    .063    TRAP     20       1                         740
RK  1980    .001    .020            TRAP     20       1      NO                 750
KK    09 ADD                                                                    760
HC     2                                                                        770
KK   S11 STORAGE/PUMP                                                          780
RS     1    STOR                                                               790
SV     0       5      10      15      20      25      35      39      50        800
SE     0       1       2       3       4       5       6       7       8        810
SS     7     250     3.0     1.5                                               820
ST     8     250     3.0     1.5                                               830
WP    .1     3.2       8    EP11                                               840
KK  EP11 RETREIVE                                                               850
WR  EP11                                                                        860
KK 10-11 ROUTE                                                                  870
RK  2773    .001    .035          TRAP      3       1                          880
KK  PW09 BASIN                                                                  890
BA 0.159                                                                        900
LS     0      82       0       0     98      0                                 910
UK   800  0.0010    0.20      93                                                920
UK   100  0.0010    0.10       7                                                930
RK   660    .001    .020     .01    TRAP     20       1                         940
RK  1980    .001    .020    .063    TRAP     20       1                         950
RK  1980    .001    .020            TRAP     20       1      NO                 960
KK    12 ADD                                                                    970
HC     3                                                                        980
KK 11-05 ROUTE                                                                  990
RK  3847    .001    .035          TRAP      3       1                          1000
KK  PW10 BASIN                                                                  1010
BA 0.227                                                                        1020
LS     0      81       0       0     98      0                                 1030
UK   800  0.0010    0.20      96                                                1040
UK   100  0.0010    0.10       4                                                1050
RK   660    .001    .020     .01    TRAP     20       1                         1060
RK  1500    .001    .020    .036    TRAP     20       1                         1070
RK  4000    .001    .035            TRAP     20       1      NO                 1080
KK  PW11 BASIN                                                                  1090
BA 0.269                                                                        1100
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LS	0	80	0	0	98	0				
UK	800	0.0010	0.20	90						
UK	100	0.0010	0.10	10						
RK	660	.001	.020	.01	TRAP	20	1			
RK	1500	.001	.020	.036	TRAP	20	1			
RK	4000	.001	.020		TRAP	20	1	NO		
KK	05 ADD									
HC	4									
KK	05-06 ROUTE									
RK	3436	.001	.035		TRAP	3	1			
KK	PW12 BASIN									
BA	0.278									
LS	0	73	0	0	98	0				
UK	200	0.0010	0.30	59						
UK	200	0.0010	0.10	41						
RK	1500	.001	.020	.036	TRAP	20	1			
RK	3500	.001	.035		TRAP	20	1	NO		
KK	PW13 BASIN									
BA	0.129									
LS	0	73	0	0	98	0				
UK	200	0.0010	0.30	41						
UK	200	0.0010	0.10	59						
RK	660	.001	.020	.01	TRAP	20	1			
RK	2000	.001	.020	.047	TRAP	20	1			
RK	3500	.001	.035		TRAP	20	1	NO		
KK	06 ADD									
HC	3									
KK	06-07 ROUTE									
RK	664	.001	.035		TRAP	5	1			
KK	S17 STORAGE MILLER BASIN									
RS	1	STOR								
SV	0	5	10	15	20	25	35	50	100	200
SE	0	1	2	3	4	5	6	7	8	9
SS	8.8	250	3.0	1.5						
ST	9	250	3.0	1.5						
ZZ										

City of Visalia
Storm Water Master Plan and Management Program
ST. JOHN'S DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
FUTURE DEVELOPMENT									
STORAGE BASINS									
SJ-S35	BASIN TYPE A2	35,000	167,006	250,509	87,120			107,927	647,562
SJ-S36	BASIN TYPE C	35,000	22,839	69,506	206,507			66,770	400,622
SUBTOTAL		70,000	189,845	320,015	293,627			174,697	1,048,184
COLLECTOR DRAINS									
SJ0001-SJ0002	PIPE						99,760	19,952	119,712
SJ0005-SJ0006	PIPE						87,450	17,490	104,940
SJ0006-SJ0007	PIPE						89,000	17,800	106,800
SJ0101-SJ0001	PIPE						145,464	29,093	174,557
SJ0102-SJ0103	PIPE						144,880	28,976	173,856
SJ0103-SJ0002	PIPE						192,480	38,496	230,976
SJ0104-SJ0002	PIPE						202,640	40,528	243,168
SJ0105-SJ0016	PIPE						142,158	28,432	170,590
SJ0106-SJ0016	PIPE						90,850	18,170	109,020
SJ0107-SJ0017	PIPE						141,926	28,385	170,311
SJ0108-SJ0017	PIPE						88,900	17,780	106,680
SJ0109-SJ0018	PIPE						143,028	28,606	171,634
SJ0110-SJ0018	PIPE						87,850	17,570	105,420
SJ0111-SJ0019	PIPE						144,826	28,965	173,791
SJ0112-SJ0019	PIPE						87,800	17,560	105,360
SJ0113-SJ0020	PIPE						146,624	29,325	175,949
SJ0114-SJ0022	PIPE						111,708	22,342	134,050
SUBTOTAL							2,147,344	429,469	2,576,813
MAIN DRAINS									
SJ0016-SJ0017	UNLINED CHANNEL			138,397	10,337			29,747	178,480

City of Visalia
Storm Water Master Plan and Management Program
ST. JOHN'S DRAINAGE BASIN
PROPOSED WORKS COST ESTIMATE

SECTION ID U/S-D/S	Type	Pumps ($)	Landscaping ($)	Land ($)	Earthworks ($)	Lining ($)	Pipe ($)	Contingency ($)	Total ($)
SJ0017-SJ0018	UNLINED CHANNEL			138,185	14,484			30,534	183,202
SJ0018-SJ0019	UNLINED CHANNEL			159,446	20,198			35,929	215,573
SJ0019-SJ0020	UNLINED CHANNEL			168,223	25,075			38,660	231,958
SJ0020-SJ0021	UNLINED CHANNEL			70,800	11,358			16,432	98,589
SUBTOTAL				675,051	81,451			151,300	907,802
TOTAL FUTURE DEVELOPMENT		70,000	189,845	995,065	375,078		2,147,344	755,467	4,532,799
TOTAL BASIN IMPROVEMENTS		70,000	189,845	995,065	375,078		2,147,344	755,467	4,532,799

City of Visalia
Storm Water Master Plan and Management Program
ST. JOHN'S DRAINAGE BASIN
PIPES AND CHANNELS SUMMARY

03/15/93

SECTION ID	EXISTING SECTION PARAMETERS							DESIGN RUNOFF		DEFICIENCY		PROPOSED SECTION PARAMETERS							
	Length	Slope	Mann's N	Pipe Dia	Channel Area	Channel WP	Capacity	2 Yr	10 Yr	2 Yr	10 Yr	Slope	Pipe Dia	Channel Base	Channel Depth	Type	Capacity	ROW Cost	Section Cost
U/S-D/S	(ft)	(f/f)		(in)	(sf)	(ft)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(f/f)	(in)	(ft)	(ft)		(cfs)	($/ac)	($)
COLLECTOR DRAINS																			
SJ0001-SJ0002	~~1,720~~	0.0010						11	22	11	22	0.0010	30			PIPE	13		$119,712
SJ0005-SJ0006	1,749	0.0010						7	12	7	12	0.0010	24			PIPE	7		$104,940
SJ0006-SJ0007	890	0.0010						27	54	27	54	0.0010	42			PIPE	32		$106,800
SJ0101-SJ0001	~~2,508~~	0.0010						11	22	11	22	0.0010	30			PIPE	13		$174,557
SJ0102-SJ0103	~~1,811~~	0.0010	~~EXIST~~					22	44	22	44	0.0010	36			PIPE	21		$173,856
SJ0103-SJ0002	~~2,406~~	0.0010	DEVELOPER INST.					22	44	22	44	0.0010	36			PIPE	21		$230,976
SJ0104-SJ0002	~~2,533~~	0.0010	24": 7108' @ $42/FT = 298,536					18	34	18	34	0.0010	36			PIPE	21		$243,168
SJ0105-SJ0016	~~2,451~~	0.0010						24	11	24	0.0010	30			PIPE	13		$170,590	
SJ0106-SJ0016	~~1,817~~	0.0010	30" 18,543 @ $37/FT = 556,2907					13	7	13	0.0010	24			PIPE	7		$109,020	
SJ0107-SJ0017	~~2,447~~	0.0010						10	19	10	19	0.0010	30			PIPE	13		$170,311
SJ0108-SJ0017	~~1,778~~	0.0010	36" 6750, @ $47/FT = 290,2507					15	7	15	0.0010	24			PIPE	7		$106,680	
SJ0109-SJ0018	~~2,466~~	0.0010						~~9~~	17	9	17	0.0010	30			PIPE	13		$171,634
SJ0110-SJ0018	~~1,757~~	0.0010	~~$4,145,076~~					7	13	7	13	0.0010	24			PIPE	7		$105,420
SJ0111-SJ0019	~~2,497~~	0.0010	1,274,877					9	20	9	20	0.0010	30			PIPE	13		$173,791
SJ0112-SJ0019	~~1,756~~	0.0010	+ CITY INST. 326,025					8	16	8	16	0.0010	24			PIPE	7		$105,360
SJ0113-SJ0020	~~2,528~~	0.0010						10	20	10	20	0.0010	30			PIPE	13		$175,949
SJ0114-SJ0022	~~1,926~~	0.0010	~~$1,471,101~~					9	18	9	18	0.0010	30			PIPE	13		$134,050
	35,040		1,600,902																$2,576,813
MAIN DRAINS																			
SJ0016-SJ0017	2,791	0.0010						18	36	18	36	0.0010		4.0	2.0	UNLINED CHANNEL	38	60,000	$178,480
SJ0017-SJ0018	2,435	0.0010						33	68	33	68	0.0010		8.0	2.2	UNLINED CHANNEL	70	60,000	$183,202
SJ0018-SJ0019	2,655	0.0010						47	94	47	94	0.0010		8.0	2.6	UNLINED CHANNEL	97	60,000	$215,573
SJ0019-SJ0020	2,655	0.0010						61	124	61	124	0.0010		8.0	3.0	UNLINED CHANNEL	131	60,000	$231,958
SJ0020-SJ0021	1,089	0.0010						72	147	72	147	0.0010		8.0	3.2	UNLINED CHANNEL	150	60,000	$98,589
	11,625																		$907,802

City of Visalia
Storm Water Master Plan and Management Program
ST. JOHN'S DRAINAGE BASIN
STORAGE BASIN AND PUMP SUMMARY

03/15/93

SECTION ID	EXISTING BASIN PARAMETERS				DESIGN VOLUMES			DEFICIENCY			PROPOSED BASIN PARAMETERS					
	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	2 Yr (ac-ft)	10 Yr (ac-ft)	50 Yr (ac-ft)	Basin Type	Basin Area (ac)	Basin Capacity (ac-ft)	Pump Capacity (cfs)	ROW Cost ($/ac)	Basin Cost ($)
SJ-S1			15.0		6.0	13.0	19.0			4.0						
SJ-S35				4.8	8.0	27.0	49.0	8.0	27.0	49.0	A2		27.0	2.7	60,000	647,562
SJ-S36					15.0	64.0	124.0	15.0	64.0	124.0	C		64.0	6.4	12,500	400,622

$ 0.

Group	Land Use	Code	Area (acres)	Percent Impervious	Impervious Area (acres)
	RURAL	RA	0.46	20.00	0.09
	LOW DENSITY	LDR	558.26	43.00	240.05
	MEDIUM DENSITY	MDR	15.28	70.00	10.70
	HIGH DENSITY	HDR	34.69	80.00	27.75
TOTAL RESIDENTIAL			608.69	45.77	278.59
	CONVENIENCE CENTER	CC	10.19	95.00	9.68
	NEIGHBORHOOD CENTER	CNC	11.15	85.00	9.48
	SHOPPING/OFFICE CENTER	CSO	13.02	80.00	10.42
	PROFESSIONAL/ADMINISTRATIO	PA	5.39	70.00	3.77
TOTAL COMMERCIAL/OFFICE			39.75	83.89	33.35
	PUBLIC/INSTITUTIONAL	PI	125.03	60.00	75.02
TOTAL COMMUNITY FACILITIES			125.03	60.00	75.02
	AGRICULTURE	OSA	1.03	1.00	0.01
	CONSERVATION	OSC	227.00	1.00	2.27
	PARKS	OSP	128.77	15.00	19.32
TOTAL OPEN SPACE			356.81	6.05	21.60
	URBAN RESERVE	UR	2,262.74	15.00	339.41
TOTAL URBAN RESERVE			2,262.74	15.00	339.41
TOTAL ST. JOHN'S DRAINAGE BASIN			3,393.00	22.04	747.96

ID	Street	Size	Length
SJ0001-SJ0002		12	321
SJ0002-SJ0003	ROOSEVELT	18	100
SJ0003-SJ0004		18	154
SJ0004-SJ0006		18	178
SJ0005-SJ0004		12	123
SJ0006-SJ0008		18	179
SJ0007-SJ0006		12	198
SJ0008-SJ0010		18	263
SJ0009-SJ0008		15	135
SJ0010-SJ0011		18	94
SJ0011-SJ0012		18	97
SJ0012-SJ0013		18	94
SJ0013-SJ0014	HOUSTON A	15	485
SJ0014-SJ0015	NORMAN DR.	15	40
SJ0015-SJ0016	NORMAN DR.	15	235
SJ0016-SJ0018	NORMAN DR.	0	251
SJ0017-SJ0016		15	292
SJ0018-SJ0022	NORMAN DR.	30	266
SJ0019-SJ0020	GODARD	12	479
SJ0020-SJ0018	SWEET AVE	15	493
SJ0021-SJ0020		15	655
SJ0022-SJ0023	NORMAN DR.	30	432
SJ0023-SJ0024	MAPLE ST.	30	288
SJ0024-SJ0025		30	251
SJ0025-SJ0026	CEDAR CT.	30	335
SJ0026-SJ0028	CEDAR CT.	42	134
SJ0027-SJ0026	ST. JOHNS	24	856
SJ0028-SJ0029	CEDAR CT.	42	214
SJ0030-SJ0031	GODARD	12	263
SJ0031-SJ0032	GODARD	15	232
SJ0032-SJ0026	ST. JOHNS	24	498
SJ0033-SJ0034	CAIN ST.	30	142
SJ0034-SJ0035	CAIN ST.	30	552
SJ0035-SJ0041	CAIN ST.	36	319
SJ0036-SJ0037		12	187
SJ0037-SJ0038	HAROLD AV	15	530
SJ0038-SJ0039	HAROLD AV	15	267
SJ0039-SJ0035	HAROLD AV	15	291
SJ0040-SJ0039	REGINA	15	139
SJ0041-SJ0042	CAIN ST.	36	156
SJ0042-SJ0048	CAIN ST.	36	261
SJ0043-SJ0044	PARADISE A	12	283
SJ0044-SJ0045	PARADISE A	15	319
SJ0045-SJ0042	PARADISE A	15	440
SJ0046-SJ0047	BUENA VIST	12	316
SJ0047-SJ0044		12	304
SJ0048-SJ0049	BUENA VIST	36	726
SJ0049-SJ0050	BUENA VIST	36	638
SJ0050-SJ0068		42	206
SJ0051-SJ0052	ST. JOHNS	12	650
SJ0052-SJ0055	ST. JOHNS	24	487
SJ0053-SJ0052	GOWDY ST.	21	266
SJ0054-SJ0052	ST. JOHNS	12	153

ID	Street	Size	Length
SJ0055-SJ0056	ST. JOHNS	24	117
SJ0056-SJ0064	ST. JOHNS	30	139
SJ0057-SJ0058	FERGUSON S	12	110
SJ0058-SJ0059	FERGUSON S	12	537
SJ0059-SJ0060	FERGUSON S	18	550
SJ0060-SJ0061	CAIN ST.	18	20
SJ0061-SJ0056	CAIN ST.	21	489
SJ0062-SJ0063		15	282
SJ0063-SJ0061	WOODS VILL	15	166
SJ0064-SJ0065	ST. JOHNS	30	931
SJ0065-SJ0050	ST. JOHNS	30	482
SJ0066-SJ0067		12	256
SJ0067-SJ0065		15	165
SJ0068-SJ0069		42	225
SJ0070-SJ0071	TIPTON	12	249
SJ0071-SJ0072	PROSPECT	15	602
SJ0072-SJ0073	PROSPECT	18	413
SJ0073-SJ0074	PROSPECT	18	99
SJ0074-SJ0075	BURK ST.	21	552
SJ0075-SJ0076	BURK ST.	18	47
SJ0076-SJ0077	BURK ST.	18	439
SJ0077-SJ0087	BURK ST.	18	442
SJ0078-SJ0079	LIBERTY	12	249
SJ0079-SJ0080	BUENA VIST	12	513
SJ0080-SJ0081	BUENA VIST	15	313
SJ0081-SJ0075	BURK ST.	30	231
SJ0082-SJ0081	BURK ST.	30	117
SJ0083-SJ0082	BURK ST.	30	606
SJ0084-SJ0083	BURK ST.	30	163
SJ0085-SJ0084	BABCOCK	12	158
SJ0086-SJ0084	BURK ST.	30	168
SJ0086-SJ0093	BURK ST.	0	46
SJ0087-SJ0088	BURK ST.	18	431
SJ0088-SJ0097	BURK ST.	18	649
SJ0089-SJ0090	SUNNYVIEW	12	296
SJ0090-SJ0091	SUNNYVIEW	15	294
SJ0091-SJ0092	ST. JOHNS	18	177
SJ0092-SJ0086	ST. JOHNS	21	452
SJ0093-SJ0088	BURK ST.	0	33
SJ0094-SJ0095		12	103
SJ0095-SJ0096		18	89
SJ0096-SJ0093	BURK ST.	18	381
SJ0097-SJ0098	OAKRIDGE A	18	180
SJ0098-SJ0100	OAKRIDGE A	18	377
SJ0099-SJ0098		12	259
SJ0100-SJ0102	BROADLEY	21	164
SJ0101-SJ0100	BROADLEY	12	211
SJ0102-SJ0106	BROADLEY	21	54
SJ0103-SJ0104		12	304
SJ0104-SJ0102		12	315
SJ0105-SJ0104	EDISON CT.	0	168
SJ0107-SJ0108	ST. JOHNS	18	384
SJ0108-SJ0093	ST. JOHNS	18	501

Drainage Area ID	Drainage Area (sq mi)	Percent Pervious	Percent Impervious	CN Pervious	CN Impervious	Group Areas for Overland Flow Parameters						Selected Group
						1	2	3	4	5	6	
SJ01	0.35978	85	15	74	98	230	1	0	0	0	0	1
SJ02	0.47831	79	21	73	98	266	8	31	0	0	1	1
SJ03	0.18921	62	38	68	98	27	88	6	0	0	0	2
SJ04	0.24470	52	48	66	98	32	1	0	0	123	0	5
SJ05	0.15043	64	36	72	98	18	77	0	0	1	0	2
SJ06	0.03331	34	66	74	98	0	13	8	0	1	0	2
SJ07	0.18201	65	35	70	98	26	90	0	0	0	0	2
SJ08	0.25326	61	39	71	98	38	107	17	0	0	0	2
SJ09	0.03707	61	39	72	98	3	21	0	0	0	0	2
SJ10	0.10429	82	18	67	98	40	27	0	0	0	0	1
SJ11	0.23988	55	45	73	98	3	138	13	0	0	0	2
SJ12	0.36900	85	15	75	98	236	0	0	0	0	0	1
SJ13	0.21821	85	15	73	98	140	0	0	0	0	0	1
SJ14	0.32432	85	15	69	98	208	0	0	0	0	0	1
SJ15	0.24689	85	15	72	98	158	0	0	0	0	0	1
SJ16	0.28655	85	15	69	98	183	0	0	0	0	0	1
SJ17	0.23858	86	14	70	98	153	0	0	0	0	0	1
SJ18	0.31334	85	15	74	98	201	0	0	0	0	0	1
SJ19	0.27144	85	15	73	98	174	0	0	0	0	0	1
SJ20	0.31594	85	15	76	98	202	0	0	0	0	0	1
SJ21	0.13725	86	14	70	98	88	0	0	0	0	0	1
SJ22	0.30780	86	14	74	98	194	3	0	0	0	0	1

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ID SJ-02                                                                    10
IT     5                   300                                              20
IO     5                                                                    30
KK  SJ01 BASIN                                                              40
BA 0.360                                                                    50
PH 0.000   0.000   0.220   0.320   0.560   0.800   0.980   1.280   1.680   2.090  60
PH 2.640   0.000   0.000   0.000                                            70
LS     0      74       0       0      98       0                           80
UK   300  0.0010    0.20      85                                           90
UK   100  0.0010    0.10      15                                          100
RK   660   .0010    .020     .01    TRAP      20       1                   110
RK  1980   .0010    .020    .063    TRAP      20       1                   120
RK  1980   .0010    .020            TRAP      20       1      NO           130
KK 01-02 ROUTE                                                              140
RK   321   .0010    .020            TRAP      20       1                   150
KK  SJ02 BASIN                                                              160
BA 0.478                                                                    170
LS     0      73       0       0      98       0                           180
UK   300  0.0010    0.20      79                                           190
UK   100  0.0010    0.10      21                                           200
RK   500   .0010    .020     .01    TRAP      20       1                   210
RK  1000   .0010    .020    .125    TRAP      20       1                   220
RK  4000   .0010    .020            TRAP      20       1      NO           230
KK  SJ03 BASIN                                                              240
BA 0.189                                                                    250
LS     0      68       0       0      98       0                           260
UK   150  0.0010    0.30      62                                           270
UK    50  0.0010    0.10      38                                           280
RK   660   .0010    .020     .01    TRAP      20       1                   290
RK  1980   .0010    .020    .063    TRAP      20       1                   300
RK  1980   .0010    .020            TRAP      20       1      NO           310
KK    02 ADD                                                                320
HC     3                                                                    330
KK   S35 STORAGE/ROUTE                                                     340
RS     1    STOR                                                           350
SV     0      10      20      30      40      50                           360
SE     0       1       2       3       4       5                           370
SS   4.8     250     3.0     1.5                                           380
ST     5     250     3.0     1.5                                           390
WP    .1     4.8       5    PS35                                           400
KK  PS35 RETRIEVE PUMP                                                      410
WR  PS35                                                                    420
KK    03 ADD                                                                430
HC     2                                                                    440
KK 03-04 ROUTE                                                              450
RK   154   .0010    .020            TRAP      20       1                   460
KK  SJ06 BASIN                                                              470
BA 0.033                                                                    480
LS     0      74       0       0      98       0                           490
UK   150  0.0010    0.30      34                                           500
UK    50  0.0010    0.10      66                                           510
RK   500   .0010    .020     .01    TRAP      20      20                   520
RK  1200   .0010    .020            TRAP      20      20      NO           530
KK 05-06 ROUTE                                                              540
RK  1749   .0010    .020            TRAP      20       1                   550
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KK  SJ04 BASIN                                                          560
BA 0.245                                                                570
LS     0      66       0       0      98       0                       580
UK   200  0.0010    0.30      52                                       590
UK   200  0.0010    0.10      48                                       600
RK   660   .0010    .020     .01    TRAP      20       1               610
RK  1980   .0010    .020    .063    TRAP      20       1               620
RK  1980   .0010    .020            TRAP      20       1      NO       630
KK  SJ06 ADD                                                           640
HC     2                                                               650
KK 06-07 ROUTE                                                         660
RK   890   .0010    .020            TRAP      20       1               670
KK  SJ05 BASIN                                                         680
BA 0.150                                                               690
LS     0      72       0       0      98       0                       700
UK   150  0.0010    0.30      64                                       710
UK    50  0.0010    0.10      36                                       720
RK   400   .0010    .020     .01    TRAP      20       1               730
RK  2000   .0010    .020            TRAP      20       1      NO       740
KK    07 ADD                                                           750
HC     2                                                               760
KK EP12W WETWELL/PUMP                                                  770
RS     1    STOR                                                       780
SV     0       5      10      15      20      25                       790
SE     0       1       2       3       4       5                       800
SS     4     250     3.0     1.5                                       810
ST     5     250     3.0     1.5                                       820
WP    .1   12.30       5   EP12                                       830
KK  EP12 RETRIEVE PUMP                                                 840
WR  EP12                                                               850
KK    07 ADD                                                           860
HC     2                                                               870
KK 07-08 ROUTE                                                         880
RK   433   .0010    .020            TRAP      20       1               890
KK    08 ADD                                                           900
HC     2                                                               910
KK  SJ07 BASIN                                                         920
BA 0.182                                                               930
LS     0      70       0       0      98       0                       940
UK   150  0.0010    0.30      65                                       950
UK    50  0.0010    0.10      35                                       960
RK   750   .0010    .025     .01    TRAP      20       1               970
RK  1250   .0010    .020    .063    TRAP      20       1               980
RK  1700   .0010    .020            TRAP      20       1      NO       990
KK EP11W WETWELL/PUMP                                                 1000
RS     1    STOR                                                      1010
SV     0       5      10      15      20      25                      1020
SE     0       1       2       3       4       5                      1030
SS     4     250     3.0     1.5                                      1040
ST     5     250     3.0     1.5                                      1050
WP    .1   14.26       5   EP11                                      1060
KK  EP11 RETRIEVE PUMP                                                1070
WR  EP11                                                              1080
KK    09 ADD                                                          1090
HC     2                                                              1100
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KK 09-10 ROUTE                                                          1110
RK   308   .0010    .020          TRAP      20       1                 1120
KK    10 ADD                                                            1130
HC     2                                                                1140
KK  SJ08 BASIN                                                          1150
BA 0.253                                                                1160
LS     0      71       0       0      98       0                       1170
UK   150  0.0010    0.30      61                                        1180
UK    50  0.0010    0.10      39                                        1190
RK  1250   .0010    .020    .02   TRAP      20       1                 1200
RK  2500   .0010    .020          TRAP      20       1      NO         1210
KK  EP9W WETWELL/PUMP                                                   1220
RS     1    STOR                                                        1230
SV     0       5      10      15      20      25                       1240
SE     0       1       2       3       4       5                       1250
SS     4     250     3.0     1.5                                       1260
ST     5     250     3.0     1.5                                       1270
WP    .1    4.01       5    EP9                                       1280
KK   EP9 RETRIEVE PUMP                                                  1290
WR   EP9                                                                1300
KK    11 ADD                                                            1310
HC     2                                                                1320
KK 11-12 ROUTE                                                          1330
RK    97   .0010    .020          TRAP      20       1                 1340
KK    12 ADD                                                            1350
HC     2                                                                1360
KK  SJ09 BASIN                                                          1370
BA 0.037                                                                1380
LS     0      72       0       0      98       0                       1390
UK   150  0.0010    0.30      61                                        1400
UK    50  0.0010    0.10      39                                        1410
RK  1250   .0010    .020    .02   TRAP      20       1                 1420
RK  2500   .0010    .020          TRAP      20       1      NO         1430
KK  SJ10 BASIN                                                          1440
BA 0.104                                                                1450
LS     0      67       0       0      98       0                       1460
UK   300  0.0010    0.20      82                                        1470
UK   100  0.0010    0.10      18                                        1480
RK  1000   .0010    .020    .02   TRAP      20       1                 1490
RK  1000   .0010    .020          TRAP      20       1      NO         1500
KK 15-13 ROUTE                                                          1510
RK   826   .0010    .020          TRAP      20       1                 1520
KK    13 ADD                                                            1530
HC     2                                                                1540
KK EP10W WETWELL/PUMP                                                   1550
RS     1    STOR                                                        1560
SV     0       5      10      15      20      25                       1570
SE     0       1       2       3       4       5                       1580
SS     4     250     3.0     1.5                                       1590
ST     5     250     3.0     1.5                                       1600
WP    .1    3.12       5   EP10                                       1610
KK  EP10 RETRIEVE PUMP                                                  1620
WR  EP10                                                                1630
KK    13 ADD                                                            1640
HC     2                                                                1650
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KK 13-14 ROUTE
RK   485   .0010   .020           TRAP     20     1
KK    14 ADD
HC     2
KK  SJ11 BASIN
BA 0.240
LS     0      73      0      0      98      0
UK   150  0.0010   0.30     55
UK    50  0.0010   0.10     45
RK  1250   .0010   .020    .02    TRAP     20     1
RK  2500   .0010   .020           TRAP     20     1     NO
KK    S1 STORAGE
RS     1    STOR
SV     0       5     10     15      20     25
SE     0       1      2      3       4      5
SS   4.8     250    3.0    1.5
ST   5.0     250    3.0    1.5
KK  SJ12 BASIN
BA 0.369
LS     0      75      0      0      98      0
UK   300  0.0010   0.20     85
UK   100  0.0010   0.10     15
RK   660   .0010   .020    .01    TRAP     20     1
RK  1980   .0010   .020   .063    TRAP     20     1
RK  1980   .0010   .020           TRAP     20     1     NO
KK  SJ13 BASIN
BA 0.218
LS     0      73      0      0      98      0
UK   300  0.0010   0.20     85
UK   100  0.0010   0.10     15
RK   660   .0010   .020    .01    TRAP     20     1
RK  1980   .0010   .020   .063    TRAP     20     1
RK  1980   .0010   .020           TRAP     20     1     NO
KK    16 ADD
HC     2
KK 16-17 ROUTE
RK  2791   .0010   .020           TRAP     20     1
KK  SJ14 BASIN
BA 0.324
LS     0      69      0      0      98      0
UK   300  0.0010   0.20     85
UK   100  0.0010   0.10     15
RK   660   .0010   .020    .01    TRAP     20     1
RK  1980   .0010   .020   .063    TRAP     20     1
RK  1980   .0010   .020           TRAP     20     1     NO
KK  SJ15 BASIN
BA 0.247
LS     0      72      0      0      98      0
UK   300  0.0010   0.20     85
UK   100  0.0010   0.10     15
RK   660   .0010   .020    .01    TRAP     20     1
RK  1980   .0010   .020   .063    TRAP     20     1
RK  1980   .0010   .020           TRAP     20     1     NO
KK    17 ADD
HC     3
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