APPENDIX F

HEC-HMS Model Input Parameters

100-Year CALIBRATED Initial Abstraction Used in the HEC-HMS Model for Each Subwatershed.

Subwatershed ID	Initial Abstraction (in)	Subwatershed ID	Initial Abstraction (in)
W1000	0.599	W590	1.616
W1010	0.426	W610	1.284
W1020	0.534	W620	1.660
W1030	0.804	W630	1.598
W1040	0.756	W650	1.656
W1050	0.173	W660	0.894
W1070	0.849	W670	0.665
W1080	0.204	W680	0.995
W1090	0.167	W710	1.021
W1100	0.183	W720	0.560
W1110	0.205	W730	1.333
W1120	0.200	W750	0.233
W1130	0.195	W760	0.767
W1140	0.195	W770	0.933
W1150	0.182	W780	0.622
W1160	1.192	W790	1.277
W1170	0.829	W800	0.557
W1210	1.694	W810	0.834
W1220	1.079	W820	0.315
W1260	0.846	W830	1.069
W1270	1.354	W840	0.032
W1310	0.572	W850	0.966
W1320	0.693	W860	0.078
W1360	0.373	W870	0.669
W1370	0.651	W880	1.011
W1410	0.747	W890	0.320
W1420	0.984	W900	0.682
W1460	0.777	W910	0.936
W1470	0.167	W920	0.626
W1510	0.199	W950	0.429
W1520	0.118	W970a	0.666
W1570	0.958	w970b	0.533
W1620	0.955	W980	0.857
W1660	0.385	W990	0.542
W1670	0.821		

5-Year CALIBRATED Initial Abstraction Used in the HEC-HMS Model for Each Subwatershed.

Subwatershed ID	Initial Abstraction (in)	Subwatershed ID	Initial Abstraction (in)
W1000	0.299	W590	0.404
W1010	0.213	W610	0.321
W1020	0.267	W620	0.415
W1030	0.402	W630	0.399
W1040	0.378	W650	0.414
W1050	0.004	W660	0.447
W1070	0.425	W670	0.333
W1080	0.004	W680	0.332
W1090	0.003	W710	0.681
W1100	0.004	W720	0.187
W1110	0.004	W730	0.889
W1120	0.004	W750	0.078
W1130	0.004	W760	0.511
W1140	0.004	W770	0.622
W1150	0.004	W780	0.414
W1160	0.795	W790	0.851
W1170	0.552	W800	0.186
W1210	0.424	W810	0.278
W1220	0.270	W820	0.105
W1260	0.423	W830	0.356
W1270	0.338	W840	0.011
W1310	0.191	W850	0.322
W1320	0.231	W860	0.026
W1360	0.124	W870	0.223
W1370	0.217	W880	0.337
W1410	0.249	W890	0.107
W1420	0.328	W900	0.341
W1460	0.259	W910	0.312
W1470	0.003	W920	0.313
W1510	0.004	W950	0.214
W1520	0.002	W970a	0.333
W1570	0.319	w970b	0.266
W1620	0.318	W980	0.286
W1660	0.128	W990	0.271
W1670	0.274		

ORIGINAL Pre-Calibrated Initial Abstraction Used in the HEC-HMS Model for Each Subwatershed.

Subwatershed ID	Initial Abstraction (in)	Subwatershed ID	Initial Abstraction (in)
W1000	0.6	W590	0.8
W1010	0.4	W610	0.6
W1020	0.5	W620	0.8
W1030	0.8	W630	0.8
W1040	0.8	W650	0.8
W1050	0.7	W660	0.9
W1070	0.8	W670	0.7
W1080	0.8	W680	0.7
W1090	0.7	W710	0.7
W1100	0.7	W720	0.4
W1110	0.8	W730	0.9
W1120	0.8	W750	0.2
W1130	0.8	W760	0.5
W1140	0.8	W770	0.6
W1150	0.7	W780	0.4
W1160	0.8	W790	0.9
W1170	0.6	W800	0.4
W1210	0.8	W810	0.6
W1220	0.5	W820	0.2
W1260	0.8	W830	0.7
W1270	0.7	W840	0.0
W1310	0.4	W850	0.6
W1320	0.5	W860	0.1
W1360	0.2	W870	0.4
W1370	0.4	W880	0.7
W1410	0.5	W890	0.2
W1420	0.7	W900	0.7
W1460	0.5	W910	0.6
W1470	0.7	W920	0.6
W1510	0.8	W950	0.4
W1520	0.5	W970a	0.7
W1570	0.6	W970b	0.5
W1620	0.6	W980	0.6
W1660	0.3	W990	0.5
W1670	0.5		

100-Year and 5-Year CALIBRATED Lag Time Used in the HEC-HMS Model for Each Subwatershed.

Subwatershed	Lag (minute)	Subwatershed	Lag (minute)	Subwatershed	Lag (minute)
W1000	56.8	W1360	84.4	W750	37.1
W1010	187.9	W1370	172.2	W760	88.8
W1020	114.1	W1410	74.8	W770	328.0
W1030	416.2	W1420	142.8	W780	110.2
W1040	166.6	W1460	66.2	W790	95.6
W1050	97.5	W1470	61.5	W800	58.2
W1070	477.5	W1510	103.8	W810	122.5
W1080	121.9	W1520	37.9	W820	89.2
W1090	16.7	W1570	124.7	W830	125.8
W1100	65.0	W1620	97.4	W840	13.6
W1110	82.6	W1660	97.7	W850	163.7
W1120	74.4	W1670	80.0	W860	42.4
W1130	41.3	W590	113.9	W870	113.6
W1140	70.7	W610	152.9	W880	155.0
W1150	73.7	W620	102.9	W890	56.8
W1160	257.5	W630	139.9	W900	254.5
W1170	188.1	W650	243.5	W910	136.2
W1210	129.6	W660	175.6	W920	228.1
W1220	101.1	W670	160.9	W950	66.0
W1260	104.2	W680	113.4	W970a	179.4
W1270	43.9	W710	213.6	W970b	50.0
W1310	48.1	W720	33.5	W980	143.3
W1320	133.4	W730	274.7	W990	

ORIGINAL Pre-Calibrated Lag Time Used in the HEC-HMS Model for Each Subwatershed.

Subwatershed	Lag (minute)	Subwatershed	Lag (minute)	Subwatershed	Lag (minute)
W1000	18.9	W1360	42.2	W750	18.5
W1010	62.6	W1370	86.1	W760	35.5
W1020	38.0	W1410	37.4	W770	131.2
W1030	138.7	W1420	71.4	W780	44.1
W1040	55.5	W1460	33.1	W790	38.2
W1050	81.2	W1470	51.3	W800	29.1
W1070	159.2	W1510	86.5	W810	61.3
W1080	101.6	W1520	31.6	W820	44.6
W1090	13.9	W1570	62.3	W830	62.9
W1100	54.2	W1620	48.7	W840	6.8
W1110	68.8	W1660	48.9	W850	81.8
W1120	62.0	W1670	40.0	W860	21.2
W1130	34.4	W590	57.0	W870	56.8
W1140	58.9	W610	76.4	W880	77.5
W1150	61.5	W620	51.4	W890	28.4
W1160	103.0	W630	69.9	W900	101.8
W1170	75.2	W650	121.8	W910	68.1
W1210	64.8	W660	70.2	W920	76.0
W1220	50.6	W670	64.3	W950	26.4
W1260	41.7	W680	56.7	W970a	59.8
W1270	22.0	W710	85.4	W970b	20.0
W1310	24.0	W720	16.8	W980	71.7
W1320	66.7	W730	109.9	W990	42.1

100-Year and 5-Year CALIBRATED Muskingum Routing and Lag Parameters Used in the HEC-HMS Model.

Reach	Muskingum K, (hr)	Muskingum x	Number of Subreaches
R100	1.8505	0.20	45
R120	0.3000	0.05	2
R1280	1.7652	0.10	22
R130	0.5245	0.05	4
R1340	0.2314	0.05	2
R1390	1.0330	0.05	7
R1430	0.4641	0.20	12
R1480	0.2399	0.20	6
R160	2.6150	0.05	16
R1640	2.1066	0.20	51
R1680	1.1141	0.05	7
R170	0.7938	0.05	5
R190	3.5647	0.05	22
R20	1.6275	0.10	20
R200	1.8721	0.10	23
R210	1.0792	0.05	7
R220	9.5778	0.05	58
R240	0.4360	0.05	3
R260	0.3983	0.05	3
R280	0.7842	0.05	5
R30	3.0489	0.10	37
R300	2.3482	0.05	15
R310	1.2958	0.05	8
R330	2.5216	0.05	16
R350	0.7101	0.10	9
R360	0.8268	0.05	5
R380	0.2777	0.10	4
R400	0.3776	0.10	5
R410a	1.2597	0.10	16
R410b	0.9939	0.10	12
R430	1.6959	0.20	41
R440	1.3563	0.10	17
R490	0.5678	0.10	7
R500	0.1859	0.10	3
R520	0.0167	0.50	1
R540	0.2423	0.10	3
R570	0.1661	0.10	2
R60	2.4128	0.10	29
R80	0.2275	0.20	5
Reach	**Lag time (minute)**		
R470	4.83		

ORIGINAL Pre-Calibrated Muskingum Routing and Lag Parameters Used in the HEC-HMS Model.

Reach	Muskingum K, (hr)	Muskingum x	Number of Subreaches
R100	2.3131	0.2	56
R120	0.3750	0.2	10
R1280	0.5296	0.2	13
R130	0.6556	0.2	16
R1340	0.2893	0.2	7
R1390	0.3099	0.2	8
R1430	0.1392	0.2	4
R1480	0.2399	0.2	6
R160	1.3075	0.2	32
R1640	1.0533	0.2	26
R1680	0.3342	0.2	9
R170	0.3969	0.2	10
R190	1.7823	0.2	43
R20	0.4882	0.2	12
R200	0.9361	0.2	23
R210	0.3238	0.2	8
R220	2.8733	0.2	69
R240	0.1308	0.2	4
R260	0.1195	0.2	3
R280	0.2353	0.2	6
R30	0.9147	0.2	22
R300	0.7045	0.2	17
R310	0.3887	0.2	10
R330	0.7565	0.2	19
R350	0.5326	0.2	13
R360	0.2481	0.2	6
R380	0.1389	0.2	4
R400	0.1888	0.2	5
R410a	0.6298	0.2	16
R410b	0.7454	0.2	18
R430	0.5088	0.2	13
R440	0.6781	0.2	17
R490	1.4195	0.2	35
R500	0.4647	0.2	12
R520	0.0844	0.2	3
R540	0.6058	0.2	15
R570	0.4153	0.2	10
R60	0.7238	0.2	18
R80	0.2844	0.2	7
Reach	**Lag time (minute)**		
R470	4.8		