Universidad del País Vasco Euskal Herriko Unibertsitatea
BILBOKO INGENIARITZA ESKOLA
ESCUELA DE INGENIERÍA DE BILBAO

INGENIARITZA ZIBILEKO GRADUA

GRADU AMAIERAKO LANA

DRAINATZE SAREKO URAREN KALITATEA HOBETZEKO HIRI-DRAINATZE JASANGARRIEN AZTERLANA LEIOAKO CAMPUSEAN (UPV/EHU).

IX. ERANSKINA – *LEIOAKO CAMPUSA SWMM MODELOA*

Ikaslea: González Pérez, Ander

Zuzendaria: Madrazo Uribeetxebarria, Eneko

Ikasturtea: 2020-2021

Data: Bilbon, 2021eko uztailaren 23an

Universidad del País Vasco
Euskal Herriko Unibertsitatea

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1. Sarrera

SWMM eredu matematikoa textu fitxategi soil bat da eta, horregatik, ereduaren datuak testu moduan irakur daitezke. Eranskin honetan erabili den ereduaren datuak ematen dira, egindako lana errepikatu nahi balitz eredu berdinean oinarritu ahal izateko.

Ematen diren datuak dira, besteak beste: aukera orokorrak, lurrunketaren definizioa, euriaren definizioa, arroen ezaugarria, eta abar.

2. Ereduaren datuak

```
[TITLE]
;;Project Title/Notes

[OPTIONS]
;;Option            Value
FLOW_UNITS          LPS
INFILTRATION        CURVE_NUMBER
FLOW_ROUTING        DYNWAVE
LINK_OFFSETS        DEPTH
MIN_SLOPE           0
ALLOW_PONDING       NO
SKIP_STEADY_STATE   NO

START_DATE          03/27/2021
START_TIME          00:00:00
REPORT_START_DATE   03/27/2021
REPORT_START_TIME   00:00:00
END_DATE            03/27/2021
END_TIME            00:30:00
SWEEP_START         01/01
SWEEP_END           12/31
DRY_DAYS            24
REPORT_STEP         00:01:00
WET_STEP            00:01:00
DRY_STEP            00:01:00
ROUTING_STEP        0:00:10
RULE_STEP           00:00:00

INERTIAL_DAMPING    PARTIAL
NORMAL_FLOW_LIMITED BOTH
FORCE_MAIN_EQUATION H-W
VARIABLE_STEP       0.75
LENGTHENING_STEP    0
MIN_SURFAREA        1.167
MAX_TRIALS          8
HEAD_TOLERANCE      0.0015
```

SYS_FLOW_TOL 5
LAT_FLOW_TOL 5
MINIMUM_STEP 0.5
THREADS 1

[EVAPORATION]
;;Data Source Parameters
;;---------- ----------
CONSTANT 0.0
DRY_ONLY NO

[RAINGAGES]
;;Name Format Interval SCF Source
;;---------- --------- ------ ------ ----------
;Tr10
1 INTENSITY 0:05 1.0 TIMESERIES Tr10

[SUBCATCHMENTS]
;;Name Rain Gage Outlet Area %Imperv Width %Slope CurbLen SnowPack
;;---------- ---------- ---------- -------- -------- -------- -------- -------- ----------
1 1 78 0.5407 15.25 32.5 3.5 32.5
2 1 79 0.3541 87.56 35.5 3 35.5
3 1 78 1.6325 33.15 115 5 115
4 1 80 0.3334 91.32 154 1 154
5 1 81 0.3484 43.22 31 1 31
6 1 82 1.6573 96.09 144 1 144
7 1 83 1.2911 30 186 3 186
8 1 84 0.6466 65.58 110 5 110
9 1 85 1.1485 72.72 138 2.5 138
10 1 86 1.2603 45.84 155 10 155
12 1 88 0.7269 88.65 73 1.5 73
13 1 89 1.3133 81.92 106 2.5 106
15 1 91 0.5195 73.03 31 1 31
14 1 90 0.5781 60.55 50 2 50
16 1 92 0.03627 73.33 32 1 32
17 1 93 0.5714 100 22.5 1 22.5
18 1 94 0.3361 65.75 98 5.5 98
19 1 95 0.9930 69.1 54 1 54
21 1 97 1.9034 97.98 169 2 169
22 1 92 0.3653 99.37 29.5 1 29.5
23 1 98 0.1668 18.45 46.5 3 46.5
24 1 99 0.3577 93.91 27 1 27
25 1 100 0.1345 83.49 47 3 47
26 1 101 0.4642 55.3 40 1 40
27 1 102 0.2919 46.4 100 1 100
28 1 103 0.0846 100 33 1 33
29 1 106 0.1781 11.12 50 1 50
30 1 105 0.2740 71.79 54 1 54
32 1 104 0.1768 100 17 1 17

33	1	108	1.0219	67.02	88	2	88
34	1	109	0.7167	99	64	2	64
35	1	110	0.3561	99	28.5	1	28.5
36	1	111	0.4223	98.34	28.5	1	28.5
37	1	112	0.4702	49.65	40	1	40
38	1	113	0.3326	21.84	50	1	50
39	1	114	0.4573	95.06	101	2	101
40	1	115	0.1684	95.68	17	1	17
41	1	116	1.6147	57.85	107	2	107
42	1	117	0.3772	8.13	80	6	80
43	1	118	0.4090	39.8	110	6	110
45	1	120	1.2835	43.03	110	4	110
46	1	121	0.1803	42.65	28.5	1	28.5
47	1	122	0.2087	100	75	2	75
48	1	123	0.4465	40.62	86	5	86
49	1	124	0.2962	100	94	5	94
50	1	125	1.2403	47.61	112	6	112
51	1	126	0.4579	77.73	24	1	24
52	1	127	0.6178	61.29	123	2	123
53	1	133	1.6113	2.38	138	8	138
54	1	132	3.2666	68.24	158	2	158
55	1	130	1.4285	15.27	121	10	121
56	1	131	3.8840	4.21	180.5	18	180.5
57	1	129	0.5404	46.06	48	1	48
58	1	134	0.7054	57.25	52	1	52
59	1	135	0.2745	94.83	29	1	29
60	1	136	0.2125	100	104	1	104
61	1	137	1.6617	21.59	271.5	1	271.5
62	1	138	0.6412	1.19	138	4	138
63	1	139	2.2372	26.7	160	3.5	160
64	1	140	2.9423	23.56	148	5	148
65	1	141	0.3427	95.28	28	1	28
66	1	142	0.1416	97.24	25	1	25
67	1	143	0.4336	72.59	71	1.5	71
68	1	144	3.1571	19.95	159	5	159
69	1	145	0.2751	95.28	27	1.5	27
70	1	146	0.2777	100	23.5	1	23.5
71	1	147	0.2448	67.57	48	1	48
72	1	148	1.7685	21.9	165	4	165
73	1	149	0.6343	75.85	53	1	53
74	1	150	0.3807	41.09	20	1	20
75	1	151	0.2584	100	28	1	28
76	1	148	0.6078	2.61	150	2.5	150
77	1	153	1.7837	3.63	258	9	258
11	1	87	3.4453	0.5	195	16	195
20	1	96	0.5554	90.21	24.1	1	24.1
S79	1	J179	0.6615	53	38.37	1	38.37
S78	1	O155	0.4641	66.84	6	4	6
31	1	107	2.2327	2.04	135	18	135

```
44          1           119         0.9555  1      90      10      90
S80         1           O156        1.9794  5      244     15      244

[SUBAREAS]
;;Subcatchment   N-Imperv   N-Perv     S-Imperv   S-Perv     PctZero    RouteTo    PctRouted
;;-------------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
1           0.01       0.1        2          1          25         OUTLET
2           0.01       0.1        2          1          25         OUTLET
3           0.01       0.1        2          1          25         OUTLET
4           0.01       0.1        2          1          25         OUTLET
5           0.01       0.1        2          1          25         OUTLET
6           0.01       0.1        2          1          25         OUTLET
7           0.01       0.1        2          1          25         OUTLET
8           0.01       0.1        2          1          25         OUTLET
9           0.01       0.1        2          1          25         OUTLET
10          0.01       0.1        2          1          25         OUTLET
12          0.01       0.1        2          1          25         OUTLET
13          0.01       0.1        2          1          25         OUTLET
15          0.01       0.1        2          1          25         OUTLET
14          0.01       0.1        2          1          25         OUTLET
16          0.01       0.1        2          1          25         OUTLET
17          0.01       0.1        2          1          25         OUTLET
18          0.01       0.1        2          1          25         OUTLET
19          0.01       0.1        2          1          25         OUTLET
21          0.01       0.1        2          1          25         OUTLET
22          0.01       0.1        2          1          25         OUTLET
23          0.01       0.1        2          1          25         OUTLET
24          0.01       0.1        2          1          25         OUTLET
25          0.01       0.1        2          1          25         OUTLET
26          0.01       0.1        2          1          25         OUTLET
27          0.01       0.1        2          1          25         OUTLET
28          0.01       0.1        2          1          25         OUTLET
29          0.01       0.1        2          1          25         OUTLET
30          0.01       0.1        2          1          25         OUTLET
32          0.01       0.1        2          1          25         OUTLET
33          0.01       0.1        2          1          25         OUTLET
34          0.01       0.1        2          1          25         OUTLET
35          0.01       0.1        2          1          25         OUTLET
36          0.01       0.1        2          1          25         OUTLET
37          0.01       0.1        2          1          25         OUTLET
38          0.01       0.1        2          1          25         OUTLET
39          0.01       0.1        2          1          25         OUTLET
40          0.01       0.1        2          1          25         OUTLET
41          0.01       0.1        2          1          25         OUTLET
42          0.01       0.1        2          1          25         OUTLET
43          0.01       0.1        2          1          25         OUTLET
45          0.01       0.1        2          1          25         OUTLET
46          0.01       0.1        2          1          25         OUTLET
47          0.01       0.1        2          1          25         OUTLET
```

48	0.01	0.1	2	1	25	OUTLET
49	0.01	0.1	2	1	25	OUTLET
50	0.01	0.1	2	1	25	OUTLET
51	0.01	0.1	2	1	25	OUTLET
52	0.01	0.1	2	1	25	OUTLET
53	0.01	0.1	2	1	25	OUTLET
54	0.01	0.1	2	1	25	OUTLET
55	0.01	0.1	2	1	25	OUTLET
56	0.01	0.1	2	1	25	OUTLET
57	0.01	0.1	2	1	25	OUTLET
58	0.01	0.1	2	1	25	OUTLET
59	0.01	0.1	2	1	25	OUTLET
60	0.01	0.1	2	1	25	OUTLET
61	0.01	0.1	2	1	25	OUTLET
62	0.01	0.1	2	1	25	OUTLET
63	0.01	0.1	2	1	25	OUTLET
64	0.01	0.1	2	1	25	OUTLET
65	0.01	0.1	2	1	25	OUTLET
66	0.01	0.1	2	1	25	OUTLET
67	0.01	0.1	2	1	25	OUTLET
68	0.01	0.1	2	1	25	OUTLET
69	0.01	0.1	2	1	25	OUTLET
70	0.01	0.1	2	1	25	OUTLET
71	0.01	0.1	2	1	25	OUTLET
72	0.01	0.1	2	1	25	OUTLET
73	0.01	0.1	2	1	25	OUTLET
74	0.01	0.1	2	1	25	OUTLET
75	0.01	0.1	2	1	25	OUTLET
76	0.01	0.1	2	1	25	OUTLET
77	0.01	0.1	2	1	25	OUTLET
11	0.01	0.1	2	1	25	OUTLET
20	0.01	0.1	2	1	25	OUTLET
S79	0.01	0.1	2	1	25	OUTLET
S78	0.01	0.1	2	1	25	OUTLET
31	0.01	0.1	2	1	25	OUTLET
44	0.01	0.1	2	1	25	OUTLET
S80	0.01	0.1	2	1	25	OUTLET

[INFILTRATION]

;;Subcatchment	Param1	Param2	Param3	Param4	Param5
;;----------	----------	----------	----------	----------	----------
1	80	0.5	7		
2	84	0.5	7		
3	84	0.5	7		
4	84	0.5	7		
5	84	0.5	7		
6	84	0.5	7		
7	84	0.5	7		
8	84	0.5	7		

9	84	0.5	7
10	84	0.5	7
12	84	0.5	7
13	84	0.5	7
15	84	0.5	7
14	84	0.5	7
16	84	0.5	7
17	84	0.5	7
18	84	0.5	7
19	84	0.5	7
21	84	0.5	7
22	84	0.5	7
23	80	0.5	7
24	84	0.5	7
25	84	0.5	7
26	84	0.5	7
27	84	0.5	7
28	84	0.5	7
29	80	0.5	7
30	84	0.5	7
32	84	0.5	7
33	84	0.5	7
34	84	0.5	7
35	84	0.5	7
36	84	0.5	7
37	84	0.5	7
38	80	0.5	7
39	84	0.5	7
40	84	0.5	7
41	84	0.5	7
42	80	0.5	7
43	84	0.5	7
45	84	0.5	7
46	84	0.5	7
47	84	0.5	7
48	84	0.5	7
49	84	0.5	7
50	84	0.5	7
51	84	0.5	7
52	84	0.5	7
53	83	0.5	7
54	84	0.5	7
55	83	0.5	7
56	83	0.5	7
57	84	0.5	7
58	84	0.5	7
59	84	0.5	7
60	84	0.5	7
61	80	0.5	7

62 80 0.5 7
63 84 0.5 7
64 80 0.5 7
65 84 0.5 7
66 84 0.5 7
67 84 0.5 7
68 80 0.5 7
69 84 0.5 7
70 84 0.5 7
71 84 0.5 7
72 80 0.5 7
73 84 0.5 7
74 84 0.5 7
75 84 0.5 7
76 80 0.5 7
77 80 0.5 7
11 83 0.5 7
20 84 0.5 7
S79 84 0.5 7
S78 84 0.5 7
31 80 0.5 7
44 80 0.5 7
S80 80 0.5 7

[LID_CONTROLS]
;;Name Type/Layer Parameters
;;---------- ---------- ----------
BIOERRETENTZIO_ZELULA BC
BIOERRETENTZIO_ZELULA SURFACE 230 0.1 0.1 1.0 5
BIOERRETENTZIO_ZELULA SOIL 920 0.52 0.15 0.08 120 39.3 50
BIOERRETENTZIO_ZELULA STORAGE 540 0.3 1 0
BIOERRETENTZIO_ZELULA DRAIN 100 0.5 440 6 0 0
BIOERRETENTZIO_ZELULA REMOVALS TSS 80 TN 49 TP 38 Cu 83
BIOERRETENTZIO_ZELULA REMOVALS Pb 51 Zn 93

INFILTRAZIO_ZANGA IT
INFILTRAZIO_ZANGA SURFACE 160 0.0 0.1 1.0 5
INFILTRAZIO_ZANGA STORAGE 2290 0.3 1 0
INFILTRAZIO_ZANGA DRAIN 100 0.5 2190 6 0 0
INFILTRAZIO_ZANGA REMOVALS TSS 79 TN 45 TP 40 Cu 0
INFILTRAZIO_ZANGA REMOVALS Pb 91 Zn 51

ZOLADURA_IRAGAZKORRA PP
ZOLADURA_IRAGAZKORRA SURFACE 0.05 0.0 0.02 2 5
ZOLADURA_IRAGAZKORRA PAVEMENT 80 0.25 0.9 889 0 0 0
ZOLADURA_IRAGAZKORRA SOIL 50 0.45 0.1 0.05 100 50 50
ZOLADURA_IRAGAZKORRA STORAGE 400 0.7 1 0
ZOLADURA_IRAGAZKORRA DRAIN 100 0.5 300 6 0 0
ZOLADURA_IRAGAZKORRA REMOVALS TSS 76 TN 35 TP 49 Cu 59

ZOLADURA_IRAGAZKORRA REMOVALS Pb 87 Zn 84

[LID_USAGE]
;;Subcatchment LID Process Number Area Width InitSat FromImp ToPerv RptFile DrainTo FromPerv
;;---------- ---------- ------- ---------- ---------- ---------- ---------- ---------- ---------- ---------- ----------
3 BIOERRETENTZIO_ZELULA 5 750 10 0 50 0 * * 70
7 ZOLADURA_IRAGAZKORRA 1 2100 30 0 70 0 * * 30
15 BIOERRETENTZIO_ZELULA 10 100 10 0 70 0 * * 100
33 ZOLADURA_IRAGAZKORRA 1 2720 34 0 70 0 "C:\Users\aceri7\Desktop\2.txt" * 100
50 BIOERRETENTZIO_ZELULA 3 100 10 0 70 0 * * 50
51 ZOLADURA_IRAGAZKORRA 2 935 17 0 50 0 * * 100
52 ZOLADURA_IRAGAZKORRA 1 2400 30 0 100 0 * * 0
63 BIOERRETENTZIO_ZELULA 10 100 10 0 0 0 * * 70
64 BIOERRETENTZIO_ZELULA 8 150 10 0 0 0 * * 70
67 ZOLADURA_IRAGAZKORRA 1 350 5 0 100 0 * * 0
68 BIOERRETENTZIO_ZELULA 10 150 10 0 0 0 * * 70
72 BIOERRETENTZIO_ZELULA 8 100 10 0 30 0 * * 70
31 BIOERRETENTZIO_ZELULA 6 100 10 0 100 0 * * 60
44 BIOERRETENTZIO_ZELULA 8 150 10 0 100 0 * * 70
S80 BIOERRETENTZIO_ZELULA 3 100 10 0 20 0 * * 25
S80 BIOERRETENTZIO_ZELULA 6 50 5 0 20 0 * * 25

[JUNCTIONS]
;;Name Elevation MaxDepth InitDepth SurDepth Aponded
;;---------- ---------- ---------- ---------- ---------- ----------
78 77.5 2.5 0 0 0
79 82.5 1.5 0 0 0
80 77.25 2.75 0 0 0
81 75.73 2.72 0 0 0
82 75.61 3.39 0 0 0
84 80.5 1.5 0 0 0

85	75.35	3.65	0	0	0
86	68	5	0	0	0
88	75.82	2.28	0	0	0
90	78.5	1.5	0	0	0
91	78.5	1.5	0	0	0
92	77.19	2.81	0	0	0
93	78.5	1.5	0	0	0
94	72	2	0	0	0
95	74.3	3.7	0	0	0
96	70	6	0	0	0
97	78	2	0	0	0
98	75	4	0	0	0
99	78.5	1.5	0	0	0
100	74.68	4.32	0	0	0
101	78.09	1.91	0	0	0
102	74.5	1.5	0	0	0
103	77.5	1.5	0	0	0
104	77.5	1.5	0	0	0
105	77.5	1.5	0	0	0
106	76.53	2.47	0	0	0
108	79	2	0	0	0
109	77.9	3.1	0	0	0
110	77.7	3.3	0	0	0
111	78.5	1.5	0	0	0
112	76.5	1.5	0	0	0
113	77.5	1.5	0	0	0
114	76.9	2.1	0	0	0
115	77.38	1.62	0	0	0
116	76	3	0	0	0
117	75.5	2.5	0	0	0
120	75.9	2.1	0	0	0
121	81.1	1.9	0	0	0
122	79.5	1.5	0	0	0
123	75	2	0	0	0
124	77.5	1.5	0	0	0
125	77.45	1.55	0	0	0
126	74.1	1.9	0	0	0
127	73.5	2.5	0	0	0
129	79.5	2.5	0	0	0
134	78	5	0	0	0
135	77	5	0	0	0
136	81.5	1.5	0	0	0
137	79.5	1.5	0	0	0
138	80.5	1.5	0	0	0
139	74.5	1.5	0	0	0
140	72.85	3.15	0	0	0
141	76.4	5.6	0	0	0
142	80.9	2.1	0	0	0
143	75.25	6.75	0	0	0

144 71.1 7.9 0 0 0
145 80.5 1.5 0 0 0
146 81.5 1.5 0 0 0
147 82.5 1.5 0 0 0
148 79.5 3.5 0 0 0
149 82.8 2.2 0 0 0
150 82.6 2.4 0 0 0
151 84.5 1.5 0 0 0
152 77 2 0 0 0
155 80.5 1.5 0 0 0
156 74.55 5.45 0 0 0
157 74.1 1.9 0 0 0
158 78.6 1.4 0 0 0
159 80.5 1.5 0 0 0
160 80.5 1.5 0 0 0
161 71.95 5.05 0 0 0
162 78.7 4.3 0 0 0
163 80.5 1.5 0 0 0
165 75.5 1.5 0 0 0
166 76.5 1.5 0 0 0
167 74.7 2.3 0 0 0
168 77.5 1.5 0 0 0
169 80.5 1.5 0 0 0
170 81.5 1.5 0 0 0
171 83.5 1.5 0 0 0
172 82 2 0 0 0
173 75.75 7.25 0 0 0
174 78.5 1.5 0 0 0
175 80.5 1.5 0 0 0
89 76.1 2.9 0 0 0
177 69 2 0 0 0
178 77.07 2.93 0 0 0
J179 70.5 1.5 0 0 0
J180 69.5 1.5 0 0 0
J181 67.5 1.5 0 0 0
J182 78.5 1.5 0 0 0
J183 71.5 1.5 0 0 0
J184 65.5 1.5 0 0 0
J185 54 2 0 0 0
83 74.61 2.39 0 0 0
J186 77 2 0 0 0
J187 80.5 1.5 0 0 0
118 72 2 0 0 0

[OUTFALLS]
;;Name Elevation Type Stage Data Gated Route To
;;---------- ---------- ---------- ---------- -------- ----------
87 33 FREE NO
107 32.5 FREE NO

119	55	FREE	NO
130	55.5	FREE	NO
131	30	FREE	NO
132	70	FREE	NO
133	53.5	FREE	NO
153	76	FREE	NO
O154	70.85	FREE	NO
O155	67.4	FREE	NO
O156	53.5	FREE	NO
O157	74.5	FREE	NO
O158	71.95	FREE	NO

[CONDUITS]

;;Name	From Node	To Node	Length	Roughness	InOffset	OutOffset	InitFlow	MaxFlow
1	79	78	400	0.01	0	0	0	0
L1	174	78	99.59	0.01	0	0	0	0
L2	78	80	21.10	0.01	0	0	0	0
L3	80	81	102.32	0.01	0	0	0	0
L4	81	82	11.14	0.01	0	0	0	0
L5	82	83	90.97	0.01	0	0	0	0
L6	84	85	83.55	0.01	0	0	0	0
L7	175	89	108.57	0.01	0	0	0	0
L8	89	88	27.86	0.01	0	0	0	0
L9	88	85	42.41	0.01	0	0	0	0
L10	85	86	76.42	0.01	0	0	0	0
L11	94	86	73.03	0.01	0	0	0	0
L12	86	87	254.32	0.01	0	0	0	0
L14	97	92	31.37	0.01	0	0	0	0
L15	91	92	116.03	0.01	0	0	0	0
L16	93	92	32.88	0.01	0	0	0	0
L17	92	98	32.16	0.01	0	0	0	0
L18	98	100	31.78	0.01	0	0	0	0
L19	99	101	36.84	0.01	0	0	0	0
L20	101	100	35.80	0.01	0	0	0	0
L21	100	95	37.05	0.01	0	0	0	0
L22	95	96	37.48	0.01	0	0	0	0
L23	96	177	49.67	0.01	0	0	0	0
L24	102	177	48.71	0.01	0	0	0	0
L25	103	177	45.26	0.01	0	0	0	0
L26	105	106	47.34	0.01	0	0	0	0
L27	104	177	27.66	0.01	0	0	0	0
L28	106	177	40.50	0.01	0	0	0	0
L30	108	109	103.62	0.01	0	0	0	0
L31	109	110	15.26	0.01	0	0	0	0
L32	110	178	62.92	0.01	0	0	0	0
L33	111	178	35.18	0.01	0	0	0	0
L34	178	116	26.01	0.01	0	0	0	0

L35	116	117	43.32	0.01	0	0	0	0
L36	112	117	68.61	0.01	0	0	0	0
L37	117	118	40.57	0.01	0	0	0	0
L38	113	115	11.98	0.01	0	0	0	0
L39	115	114	44.93	0.01	0	0	0	0
L40	114	118	98.33	0.01	0	0	0	0
L42	170	121	39.69	0.01	0	0	0	0
L43	121	122	38.13	0.01	0	0	0	0
L44	169	122	62.07	0.01	0	0	0	0
L45	122	168	43.18	0.01	0	0	0	0
L46	168	123	64.11	0.01	0	0	0	0
L47	163	125	62.94	0.01	0	0	0	0
L48	124	125	2.20	0.01	0	0	0	0
L49	125	167	32.33	0.01	0	0	0	0
L50	123	167	28.63	0.01	0	0	0	0
L51	166	120	54.17	0.01	0	0	0	0
L52	120	123	85.20	0.01	0	0	0	0
L53	165	126	133.88	0.01	0	0	0	0
L54	167	127	32.47	0.01	0	0	0	0
L55	126	127	51.22	0.01	0	0	0	0
L56	127	133	118.33	0.01	0	0	0	0
L57	160	129	97.68	0.01	0	0	0	0
L58	129	162	71.97	0.01	0	0	0	0
L59	162	134	66.91	0.01	0	0	0	0
L60	134	135	94.37	0.01	0	0	0	0
L61	135	141	53.85	0.01	0	0	0	0
L62	147	145	102.70	0.01	0	0	0	0
L63	145	141	68.16	0.01	0	0	0	0
L64	146	142	53.85	0.01	0	0	0	0
L65	142	173	39.81	0.01	0	0	0	0
L66	141	173	60.64	0.01	0	0	0	0
L67	173	143	49.68	0.01	0	0	0	0
L68	136	143	53.82	0.01	0	0	0	0
L69	138	143	12.83	0.01	0	0	0	0
L70	143	156	67.95	0.01	0	0	0	0
L71	156	140	95.74	0.01	0	0	0	0
L72	159	137	74.73	0.01	0	0	0	0
L73	137	158	83.84	0.01	0	0	0	0
L74	158	139	152.77	0.01	0	0	0	0
L75	139	157	38.63	0.01	0	0	0	0
L76	157	140	122.40	0.01	0	0	0	0
L77	140	161	88.17	0.01	0	0	0	0
L78	161	144	80.72	0.01	0	0	0	0
L79	144	O154	22.24	0.01	0	0	0	0
L80	155	148	90.52	0.01	0	0	0	0
L81	171	149	69.55	0.01	0	0	0	0
L82	149	150	17.65	0.01	0	0	0	0
L83	150	172	58.94	0.01	0	0	0	0
L84	172	148	25.94	0.01	0	0	0	0

L85	151	172	31.64	0.01	0	0	0	0
L86	148	152	54.64	0.01	0	0	0	0
L87	152	153	45.19	0.01	0	0	0	0
L29	177	J185	139.27	0.01	0	0	0	0
L88	J183	J184	131.73	0.01	0	0	0	0
L89	J184	J185	96.18	0.01	0	0	0	0
L90	J185	O156	8.04	0.01	0	0	0	0
L91	83	O157	2.99	0.01	0	0	0	0
L92	J186	89	81.74	0.01	0	0	0	0
L93	90	J186	68.68	0.01	0	0	0	0
L94	J187	90	96.34	0.01	0	0	0	0
L95	J180	J181	78.26	0.01	0	0	0	0
L96	J182	J181	111.30	0.01	0	0	0	0
L97	J181	O155	3.81	0.01	0	0	0	0
L98	J179	96	41.05	0.01	0	0	0	0
L99	118	O158	4.27	0.01	0	0	0	0

[XSECTIONS]

;;Link	Shape	Geom1	Geom2	Geom3	Geom4	Barrels	Culvert
;;---	---	---	---	---	---	---	---
1	CIRCULAR	0.3	0	0	0	1	
L1	CIRCULAR	0.4	0	0	0	1	
L2	CIRCULAR	0.4	0	0	0	1	
L3	CIRCULAR	0.4	0	0	0	1	
L4	CIRCULAR	0.4	0	0	0	1	
L5	CIRCULAR	0.4	0	0	0	1	
L6	CIRCULAR	0.4	0	0	0	1	
L7	CIRCULAR	0.5	0	0	0	1	
L8	CIRCULAR	1	0	0	0	1	
L9	CIRCULAR	1	0	0	0	1	
L10	CIRCULAR	1	0	0	0	1	
L11	CIRCULAR	0.8	0	0	0	1	
L12	CIRCULAR	1	0	0	0	1	
L14	CIRCULAR	0.8	0	0	0	1	
L15	CIRCULAR	0.3	0	0	0	1	
L16	CIRCULAR	0.3	0	0	0	1	
L17	CIRCULAR	1	0	0	0	1	
L18	CIRCULAR	0.6	0	0	0	1	
L19	CIRCULAR	0.3	0	0	0	1	
L20	CIRCULAR	0.3	0	0	0	1	
L21	CIRCULAR	0.6	0	0	0	1	
L22	CIRCULAR	0.6	0	0	0	1	
L23	CIRCULAR	0.6	0	0	0	1	
L24	CIRCULAR	0.3	0	0	0	1	
L25	CIRCULAR	0.3	0	0	0	1	
L26	CIRCULAR	0.4	0	0	0	1	
L27	CIRCULAR	0.3	0	0	0	1	
L28	CIRCULAR	0.4	0	0	0	1	
L30	CIRCULAR	0.8	0	0	0	1	

L31	CIRCULAR	0.8	0	0	0	1
L32	CIRCULAR	0.8	0	0	0	1
L33	CIRCULAR	0.3	0	0	0	1
L34	CIRCULAR	0.8	0	0	0	1
L35	CIRCULAR	0.8	0	0	0	1
L36	CIRCULAR	0.3	0	0	0	1
L37	CIRCULAR	0.8	0	0	0	1
L38	CIRCULAR	0.3	0	0	0	1
L39	CIRCULAR	0.3	0	0	0	1
L40	CIRCULAR	0.4	0	0	0	1
L42	CIRCULAR	0.3	0	0	0	1
L43	CIRCULAR	0.3	0	0	0	1
L44	CIRCULAR	0.3	0	0	0	1
L45	CIRCULAR	0.3	0	0	0	1
L46	CIRCULAR	0.3	0	0	0	1
L47	CIRCULAR	0.3	0	0	0	1
L48	CIRCULAR	0.3	0	0	0	1
L49	CIRCULAR	0.3	0	0	0	1
L50	CIRCULAR	0.315	0	0	0	1
L51	CIRCULAR	0.3	0	0	0	1
L52	CIRCULAR	0.3	0	0	0	1
L53	CIRCULAR	0.3	0	0	0	1
L54	CIRCULAR	0.315	0	0	0	1
L55	CIRCULAR	0.3	0	0	0	1
L56	CIRCULAR	0.4	0	0	0	1
L57	CIRCULAR	0.315	0	0	0	1
L58	CIRCULAR	0.315	0	0	0	1
L59	CIRCULAR	0.4	0	0	0	1
L60	CIRCULAR	0.4	0	0	0	1
L61	CIRCULAR	0.5	0	0	0	1
L62	CIRCULAR	0.315	0	0	0	1
L63	CIRCULAR	0.4	0	0	0	1
L64	CIRCULAR	0.315	0	0	0	1
L65	CIRCULAR	0.315	0	0	0	1
L66	CIRCULAR	0.5	0	0	0	1
L67	CIRCULAR	0.5	0	0	0	1
L68	CIRCULAR	0.315	0	0	0	1
L69	CIRCULAR	0.2	0	0	0	1
L70	CIRCULAR	0.5	0	0	0	1
L71	CIRCULAR	0.8	0	0	0	1
L72	CIRCULAR	0.315	0	0	0	1
L73	CIRCULAR	0.4	0	0	0	1
L74	CIRCULAR	0.4	0	0	0	1
L75	CIRCULAR	0.5	0	0	0	1
L76	CIRCULAR	0.5	0	0	0	1
L77	CIRCULAR	1	0	0	0	1
L78	CIRCULAR	1.2	0	0	0	1
L79	CIRCULAR	1.2	0	0	0	1
L80	CIRCULAR	0.4	0	0	0	1

```
L81             CIRCULAR    0.315       0       0       0       1
L82             CIRCULAR    0.315       0       0       0       1
L83             CIRCULAR    0.315       0       0       0       1
L84             CIRCULAR    0.4         0       0       0       1
L85             CIRCULAR    0.2         0       0       0       1
L86             CIRCULAR    0.8         0       0       0       1
L87             CIRCULAR    1           0       0       0       1
L29             CIRCULAR    0.8         0       0       0       1
L88             CIRCULAR    0.315       0       0       0       1
L89             CIRCULAR    0.315       0       0       0       1
L90             CIRCULAR    0.8         0       0       0       1
L91             CIRCULAR    0.5         0       0       0       1
L92             CIRCULAR    1           0       0       0       1
L93             CIRCULAR    0.5         0       0       0       1
L94             CIRCULAR    0.4         0       0       0       1
L95             CIRCULAR    0.3         0       0       0       1
L96             CIRCULAR    0.3         0       0       0       1
L97             CIRCULAR    0.4         0       0       0       1
L98             CIRCULAR    0.3         0       0       0       1
L99             CIRCULAR    0.8         0       0       0       1

[POLLUTANTS]
;;Name           Units  Crain    Cgw      Crdii    Kdecay   SnowOnly  Co-Pollutant    Co-Frac   Cdwf
Cinit
;;-------------- ------ ---------- ---------- ---------- ---------- ---------- ---------------- ---------- ---------- ----------
TSS             MG/L   0.0      0.0      0.0      0.0      NO       *               0.0       0.0       0.0
TN              MG/L   0.0      0.0      0.0      0.0      NO       *               0.0       0.0       0.0
TP              MG/L   0.0      0.0      0.0      0.0      NO       *               0.0       0.0       0.0
Cu              MG/L   0.0      0.0      0.0      0.0      NO       TSS             0.000087  0.0       0.0
Pb              UG/L   0.0      0.0      0.0      0.0      NO       TSS             0.00000159 0.0      0.0
Zn              UG/L   0.0      0.0      0.0      0.0      NO       TSS             0.00028   0.0       0.0

[LANDUSES]
;;              Sweeping   Fraction   Last
;;Name          Interval   Available  Swept
;;-------------- ---------- ---------- ----------
UNDEVELOPED     0          0          0
CIVIC           0          0          0
TRANSPORTATION  0          0          0

[COVERAGES]
;;Subcatchment   Land Use        Percent
;;-------------- ---------------- ----------
1               UNDEVELOPED     100
1               CIVIC           0
1               TRANSPORTATION  0
2               UNDEVELOPED     8.19
2               CIVIC           91.81
2               TRANSPORTATION  0
```

3	UNDEVELOPED	99.77
3	CIVIC	0.23
3	TRANSPORTATION	0
4	UNDEVELOPED	97.47
4	CIVIC	0
4	TRANSPORTATION	2.53
5	UNDEVELOPED	84.49
5	CIVIC	0
5	TRANSPORTATION	15.51
6	UNDEVELOPED	100
6	CIVIC	0
6	TRANSPORTATION	0
7	UNDEVELOPED	86.19
7	CIVIC	0
7	TRANSPORTATION	13.81
8	UNDEVELOPED	100
8	CIVIC	0
8	TRANSPORTATION	0
9	UNDEVELOPED	18.95
9	CIVIC	42.41
9	TRANSPORTATION	38.64
10	UNDEVELOPED	61.02
10	CIVIC	21.16
10	TRANSPORTATION	17.81
12	UNDEVELOPED	20.9
12	CIVIC	68.61
12	TRANSPORTATION	10.49
13	UNDEVELOPED	39.35
13	CIVIC	40.82
13	TRANSPORTATION	19.83
15	UNDEVELOPED	22.49
15	CIVIC	0
15	TRANSPORTATION	77.51
14	UNDEVELOPED	42.69
14	CIVIC	0
14	TRANSPORTATION	57.31
16	UNDEVELOPED	100
16	CIVIC	0
16	TRANSPORTATION	0
17	UNDEVELOPED	100
17	CIVIC	0
17	TRANSPORTATION	0
18	UNDEVELOPED	91.39
18	CIVIC	8.61
18	TRANSPORTATION	0
19	UNDEVELOPED	78.44
19	CIVIC	0
19	TRANSPORTATION	21.56
21	UNDEVELOPED	100

21	CIVIC	0
21	TRANSPORTATION	0
22	UNDEVELOPED	100
22	CIVIC	0
22	TRANSPORTATION	0
23	UNDEVELOPED	100
23	CIVIC	0
23	TRANSPORTATION	0
24	UNDEVELOPED	100
24	CIVIC	0
24	TRANSPORTATION	0
25	UNDEVELOPED	100
25	CIVIC	0
25	TRANSPORTATION	0
26	UNDEVELOPED	2.6
26	CIVIC	97.4
26	TRANSPORTATION	0
27	UNDEVELOPED	69.05
27	CIVIC	0
27	TRANSPORTATION	30.95
28	UNDEVELOPED	15.57
28	CIVIC	42.58
28	TRANSPORTATION	41.86
29	UNDEVELOPED	88.09
29	CIVIC	0
29	TRANSPORTATION	11.91
30	UNDEVELOPED	7.96
30	CIVIC	78.51
30	TRANSPORTATION	13.53
32	UNDEVELOPED	100
32	CIVIC	0
32	TRANSPORTATION	0
33	UNDEVELOPED	100
33	CIVIC	0
33	TRANSPORTATION	0
34	UNDEVELOPED	100
34	CIVIC	0
34	TRANSPORTATION	0
35	UNDEVELOPED	100
35	CIVIC	0
35	TRANSPORTATION	0
36	UNDEVELOPED	100
36	CIVIC	0
36	TRANSPORTATION	0
37	UNDEVELOPED	100
37	CIVIC	0
37	TRANSPORTATION	0
38	UNDEVELOPED	88.97
38	CIVIC	0

38	TRANSPORTATION	11.03
39	UNDEVELOPED	83.79
39	CIVIC	0
39	TRANSPORTATION	16.21
40	UNDEVELOPED	6.31
40	CIVIC	93.69
40	TRANSPORTATION	0
41	UNDEVELOPED	100
41	CIVIC	0
41	TRANSPORTATION	0
42	UNDEVELOPED	97.67
42	CIVIC	2.33
42	TRANSPORTATION	0
43	UNDEVELOPED	65.25
43	CIVIC	0
43	TRANSPORTATION	34.75
45	UNDEVELOPED	99.19
45	CIVIC	0.81
45	TRANSPORTATION	0
46	UNDEVELOPED	100
46	CIVIC	0
46	TRANSPORTATION	0
47	UNDEVELOPED	100
47	CIVIC	0
47	TRANSPORTATION	0
48	UNDEVELOPED	100
48	CIVIC	0
48	TRANSPORTATION	0
49	UNDEVELOPED	100
49	CIVIC	0
49	TRANSPORTATION	0
50	UNDEVELOPED	100
50	CIVIC	0
50	TRANSPORTATION	0
51	UNDEVELOPED	100
51	CIVIC	0
51	TRANSPORTATION	0
52	UNDEVELOPED	97.97
52	CIVIC	2.03
52	TRANSPORTATION	0
53	UNDEVELOPED	96.38
53	CIVIC	0
53	TRANSPORTATION	3.62
54	UNDEVELOPED	99.29
54	CIVIC	0.71
54	TRANSPORTATION	0
55	UNDEVELOPED	100
55	CIVIC	0
55	TRANSPORTATION	0

56	UNDEVELOPED	95.39
56	CIVIC	4.61
56	TRANSPORTATION	0
57	UNDEVELOPED	54.41
57	CIVIC	0
57	TRANSPORTATION	45.59
58	UNDEVELOPED	44
58	CIVIC	0
58	TRANSPORTATION	56
59	UNDEVELOPED	100
59	CIVIC	0
59	TRANSPORTATION	0
60	UNDEVELOPED	100
60	CIVIC	0
60	TRANSPORTATION	0
61	UNDEVELOPED	100
61	CIVIC	0
61	TRANSPORTATION	0
62	UNDEVELOPED	100
62	CIVIC	0
62	TRANSPORTATION	0
63	UNDEVELOPED	80.85
63	CIVIC	0
63	TRANSPORTATION	19.15
64	UNDEVELOPED	100
64	CIVIC	0
64	TRANSPORTATION	0
65	UNDEVELOPED	100
65	CIVIC	0
65	TRANSPORTATION	0
66	UNDEVELOPED	100
66	CIVIC	0
66	TRANSPORTATION	0
67	UNDEVELOPED	100
67	CIVIC	0
67	TRANSPORTATION	0
68	UNDEVELOPED	75.98
68	CIVIC	0
68	TRANSPORTATION	24.02
69	UNDEVELOPED	2.67
69	CIVIC	0
69	TRANSPORTATION	97.33
70	UNDEVELOPED	3.11
70	CIVIC	96.89
70	TRANSPORTATION	0
71	UNDEVELOPED	100
71	CIVIC	0
71	TRANSPORTATION	0
72	UNDEVELOPED	82.5

```
72          CIVIC          0
72          TRANSPORTATION   17.5
73          UNDEVELOPED     100
73          CIVIC          0
73          TRANSPORTATION   0
74          UNDEVELOPED     100
74          CIVIC          0
74          TRANSPORTATION   0
75          UNDEVELOPED     100
75          CIVIC          0
75          TRANSPORTATION   0
76          UNDEVELOPED     89.09
76          CIVIC          0
76          TRANSPORTATION   10.91
77          UNDEVELOPED     91.71
77          CIVIC          0
77          TRANSPORTATION   8.29
11          UNDEVELOPED     98.34
11          CIVIC          0
11          TRANSPORTATION   1.66
20          UNDEVELOPED     100
20          CIVIC          0
20          TRANSPORTATION   0
S79          UNDEVELOPED     100
S79          CIVIC          0
S79          TRANSPORTATION   0
S78          UNDEVELOPED     100
S78          CIVIC          0
S78          TRANSPORTATION   0
31          UNDEVELOPED     100
31          CIVIC          0
31          TRANSPORTATION   0
44          UNDEVELOPED     100
44          CIVIC          0
44          TRANSPORTATION   0
S80          UNDEVELOPED     100
S80          CIVIC          0
S80          TRANSPORTATION   0

[LOADINGS]
;;Subcatchment   Pollutant       Buildup
;;-------------- ---------------- ----------

[BUILDUP]
;;Land Use      Pollutant       Function   Coeff1     Coeff2     Coeff3     Per Unit
;;-------------- ---------------- ---------- ---------- ---------- ---------- ----------
UNDEVELOPED     TSS             EXP        37.54      2.09       1          AREA
UNDEVELOPED     TN              EXP        0.3        0.47       1          AREA
UNDEVELOPED     TP              EXP        0.00013    0.036      1          CURB
```

```
UNDEVELOPED     Cu
UNDEVELOPED     Pb
UNDEVELOPED     Zn
CIVIC           TSS          EXP      1.42      2.11      1         AREA
CIVIC           TN           EXP      0.0054    0.82      1         AREA
CIVIC           TP           EXP      0.00014   0.44      1         CURB
CIVIC           Cu
CIVIC           Pb
CIVIC           Zn
TRANSPORTATION  TSS          EXP      117.29    1.55      1         AREA
TRANSPORTATION  TN           EXP      0.03      0.51      1         AREA
TRANSPORTATION  TP           EXP      0.003     0.12      1         CURB
TRANSPORTATION  Cu
TRANSPORTATION  Pb
TRANSPORTATION  Zn

[WASHOFF]
;;Land Use       Pollutant       Function   Coeff1    Coeff2    SweepRmvl  BmpRmvl
;;--------------- --------------- ---------- ---------- ---------- ---------- ----------
UNDEVELOPED     TSS          EXP      7.68      7.78      0         0
UNDEVELOPED     TN           EXP      7.94      7.18      0         0
UNDEVELOPED     TP           EXP      4.94      4.77      0         0
UNDEVELOPED     Cu           EXP      0         0         0         0
UNDEVELOPED     Pb           EXP      0         0         0         0
UNDEVELOPED     Zn           EXP      0         0         0         0
CIVIC           TSS          EXP      7.51      7.22      0         0
CIVIC           TN           EXP      36.79     6.01      0         0
CIVIC           TP           EXP      2.7       4.82      0         0
CIVIC           Cu           EXP      0         0         0         0
CIVIC           Pb           EXP      0         0         0         0
CIVIC           Zn           EXP      0         0         0         0
TRANSPORTATION  TSS          EXP      5.46      5.52      0         0
TRANSPORTATION  TN           EXP      37.01     5.51      0         0
TRANSPORTATION  TP           EXP      4.73      2.92      0         0
TRANSPORTATION  Cu           EXP      0         0         0         0
TRANSPORTATION  Pb           EXP      0         0         0         0
TRANSPORTATION  Zn           EXP      0         0         0         0

[TIMESERIES]
;;Name           Date       Time       Value
;;-------------- ---------- ---------- ----------
Tr10                    00:00      55
Tr10                    00:05      55
Tr10                    00:10      55
Tr10                    00:15      55
Tr10                    00:20      55
Tr10                    00:25      55
Tr10                    00:30      55
;
```

```
Tr100            00:00    82.5
Tr100            00:05    82.5
Tr100            00:10    82.5
Tr100            00:15    82.5
Tr100            00:20    82.5
Tr100            00:25    82.5
Tr100            00:30    82.5
;
Tr100_+%30       00:00    107.25
Tr100_+%30       00:05    107.25
Tr100_+%30       00:10    107.25
Tr100_+%30       00:15    107.25
Tr100_+%30       00:20    107.25
Tr100_+%30       00:25    107.25
Tr100_+%30       00:30    107.25
;
Tr10_+%25        00:00    68.75
Tr10_+%25        00:05    68.75
Tr10_+%25        00:10    68.75
Tr10_+%25        00:15    68.75
Tr10_+%25        00:20    68.75
Tr10_+%25        00:25    68.75
Tr10_+%25        00:30    68.75

[REPORT]
;;Reporting Options
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

[MAP]
DIMENSIONS 501051.764 4796672.861 504580.842 4798067.863
Units      Meters

[COORDINATES]
;;Node          X-Coord          Y-Coord
;;--------------- ------------------ ------------------
78              502123.442       4797676.698
79              502170.977       4797730.478
80              502106.202       4797664.540
81              502075.476       4797566.946
82              502084.312       4797560.170
84              502361.482       4797669.158
85              502355.171       4797585.847
86              502315.708       4797520.408
88              502393.621       4797603.752
90              502564.478       4797553.842
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91	502550.526	4797537.100
92	502656.292	4797489.399
93	502624.735	4797498.633
94	502384.503	4797495.909
95	502602.147	4797434.655
96	502590.653	4797398.979
97	502664.065	4797519.793
98	502644.201	4797459.602
99	502678.747	4797453.490
100	502638.653	4797428.311
101	502672.668	4797417.150
102	502592.680	4797399.411
103	502663.168	4797382.271
104	502650.645	4797363.104
105	502708.810	4797348.289
106	502663.534	4797362.107
108	502793.017	4797471.727
109	502889.881	4797434.921
110	502904.231	4797429.739
111	502929.875	4797403.430
112	502887.356	4797348.089
113	502825.106	4797311.217
114	502854.537	4797347.159
115	502836.001	4797306.235
116	502969.072	4797385.327
117	502955.852	4797344.070
120	503128.203	4797379.248
121	503197.928	4797466.146
122	503180.820	4797432.064
123	503209.322	4797353.205
124	503232.441	4797376.856
125	503234.434	4797375.926
126	503201.216	4797330.218
127	503249.847	4797314.141
129	502788.981	4797604.532
134	502656.508	4797646.254
135	502566.819	4797675.619
136	502599.373	4797705.116
137	502921.853	4797655.156
138	502612.262	4797755.740
139	502795.492	4797855.129
140	502650.662	4797914.522
141	502515.265	4797691.165
142	502527.224	4797708.504
143	502599.838	4797758.929
144	502481.848	4797919.505
145	502450.224	4797711.560
146	502475.071	4797721.924
147	502352.298	4797742.520

148	502338.944	4797898.711
149	502292.173	4797815.134
150	502297.355	4797832.009
151	502299.747	4797860.576
152	502355.022	4797950.929
155	502426.723	4797876.604
156	502620.317	4797823.721
157	502769.001	4797883.248
158	502879.284	4797727.389
159	502908.516	4797581.628
160	502882.207	4797575.383
161	502562.518	4797916.731
162	502720.369	4797626.273
163	503252.987	4797436.067
165	503073.942	4797371.757
166	503089.222	4797416.867
167	503236.311	4797343.655
168	503160.043	4797394.213
169	503131.143	4797469.285
170	503162.368	4797483.768
171	502226.352	4797837.606
172	502315.243	4797888.164
173	502555.475	4797736.557
174	502218.247	4797646.204
175	502512.026	4797658.827
89	502421.142	4797599.433
177	502623.041	4797361.327
178	502964.256	4797410.888
J179	502549.629	4797397.468
J180	502349.524	4797485.163
J181	502390.449	4797418.462
J182	502495.152	4797380.726
J183	502866.661	4797281.338
J184	502742.825	4797236.427
J185	502647.423	4797224.203
83	502070.559	4797470.248
J186	502499.138	4797574.985
J187	502591.882	4797646.204
118	502943.561	4797305.404
87	502313.914	4797266.091
107	502489.139	4797220.067
119	502800.657	4797191.134
130	502800.940	4797190.470
131	503082.230	4796885.429
132	503095.251	4797143.201
133	503233.969	4797196.881
153	502316.356	4797974.315
O154	502463.927	4797932.676
O155	502388.854	4797415.007

O156	502639.450	4797225.266
O157	502073.150	4797468.754
O158	502943.030	4797301.169

[VERTICES]

;;Link	X-Coord	Y-Coord
;;----------	----------	----------

[Polygons]

;;Subcatchment	X-Coord	Y-Coord
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1	502172.406	4797851.358
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1	502154.335	4797795.818
1	502127.495	4797707.325
1	502133.076	4797705.199
1	502124.040	4797676.233
1	502094.809	4797687.129
1	502093.746	4797704.933
1	502124.306	4797810.700
1	502160.181	4797852.156
2	502191.224	4797791.798
2	502160.929	4797697.725
2	502127.445	4797706.760
2	502154.020	4797794.987
2	502158.537	4797802.162
3	502273.339	4797766.819
3	502283.437	4797799.239
3	502314.263	4797784.889
3	502299.913	4797749.545
3	502260.583	4797642.982
3	502142.593	4797670.619
3	502124.256	4797675.668
3	502133.557	4797705.166
3	502161.195	4797697.991
3	502190.958	4797791.267
4	502138.341	4797671.948
4	502260.583	4797643.513
4	502261.646	4797635.010
4	502251.548	4797617.205
4	502117.878	4797659.990
4	502106.186	4797664.241
4	502112.298	4797680.452
5	502096.353	4797597.805
5	502084.395	4797560.070
5	502075.625	4797566.979
5	502055.960	4797573.623
5	502095.024	4797687.627
5	502112.032	4797680.718

5	502106.186	4797664.507
5	502117.878	4797659.724
6	502084.395	4797560.070
6	502102.997	4797542.265
6	502213.546	4797506.655
6	502225.770	4797523.397
6	502251.548	4797616.939
6	502117.878	4797659.990
7	502075.359	4797567.112
7	502084.528	4797559.937
7	502102.864	4797542.398
7	502213.679	4797506.655
7	502170.629	4797479.948
7	502098.213	4797469.983
7	502070.310	4797469.983
7	502025.400	4797485.263
7	501997.098	4797510.907
7	502008.658	4797550.636
7	502056.093	4797573.623
8	502280.032	4797695.367
8	502361.748	4797669.191
8	502386.595	4797662.016
8	502400.680	4797705.864
8	502404.533	4797716.493
8	502349.923	4797734.298
8	502300.228	4797749.977
9	502391.644	4797572.194
9	502394.036	4797603.818
9	502403.071	4797631.190
9	502398.554	4797643.945
9	502403.603	4797658.827
9	502386.861	4797662.282
9	502360.552	4797669.457
9	502280.032	4797695.500
9	502260.898	4797643.148
9	502261.430	4797635.176
9	502251.863	4797617.105
10	502225.820	4797523.563
10	502239.905	4797519.046
10	502238.842	4797517.451
10	502248.674	4797514.528
10	502315.642	4797520.374
10	502384.204	4797496.192
10	502390.847	4797511.073
10	502383.672	4797513.465
10	502390.050	4797535.256
10	502384.469	4797552.264
10	502391.910	4797572.460
10	502251.332	4797616.839

10	502226.086	4797523.563
12	502447.716	4797702.940
12	502492.627	4797688.590
12	502487.046	4797671.051
12	502477.480	4797652.981
12	502471.899	4797635.973
12	502465.521	4797632.784
12	502450.108	4797625.077
12	502431.240	4797631.190
12	502419.282	4797595.048
12	502394.036	4797603.818
12	502403.071	4797630.658
12	502398.554	4797642.882
12	502403.869	4797658.827
12	502387.127	4797662.282
12	502404.666	4797716.759
13	502564.112	4797665.736
13	502589.624	4797657.498
13	502568.364	4797587.076
13	502557.734	4797553.327
13	502477.745	4797577.509
13	502419.016	4797594.517
13	502431.240	4797631.190
13	502450.374	4797625.343
13	502468.444	4797634.644
13	502472.165	4797635.973
13	502477.214	4797652.449
13	502486.781	4797670.520
13	502492.361	4797688.059
15	502419.282	4797595.048
15	502480.536	4797576.579
15	502557.734	4797553.459
15	502550.426	4797537.116
15	502548.300	4797522.633
15	502460.738	4797550.403
15	502391.644	4797571.796
15	502393.637	4797603.685
14	502636.793	4797642.085
14	502631.478	4797626.140
14	502619.785	4797587.342
14	502628.023	4797584.153
14	502612.876	4797536.053
14	502557.867	4797553.327
14	502589.756	4797656.967
16	502550.559	4797537.116
16	502548.300	4797522.633
16	502632.807	4797496.059
16	502656.458	4797489.149
16	502660.179	4797502.570

16	502664.962	4797518.514
16	502613.275	4797535.920
16	502557.734	4797553.327
17	502384.735	4797551.998
17	502454.360	4797529.410
17	502624.702	4797473.869
17	502625.765	4797473.338
17	502632.408	4797495.926
17	502548.699	4797522.766
17	502391.910	4797572.194
18	502390.316	4797535.256
18	502383.273	4797513.332
18	502390.581	4797511.073
18	502384.336	4797496.192
18	502386.728	4797494.331
18	502437.884	4797477.457
18	502454.493	4797529.144
18	502384.868	4797551.599
19	502437.884	4797477.590
19	502532.754	4797446.498
19	502551.489	4797442.511
19	502604.505	4797425.238
19	502606.897	4797432.679
19	502609.156	4797439.588
19	502612.743	4797438.525
19	502627.359	4797433.609
19	502634.667	4797456.862
19	502622.044	4797460.848
19	502626.030	4797473.603
19	502454.493	4797529.011
21	502620.051	4797587.608
21	502627.758	4797583.887
21	502613.142	4797536.053
21	502632.010	4797529.675
21	502664.962	4797518.248
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21	502807.666	4797589.468
21	502786.141	4797594.517
21	502653.269	4797637.036
21	502637.059	4797642.085
22	502656.525	4797489.482
22	502677.651	4797483.502
22	502776.641	4797452.676
22	502784.082	4797476.726
22	502772.787	4797483.237
22	502737.178	4797495.992
22	502721.366	4797500.111

22	502665.161	4797518.182
23	502625.964	4797473.603
23	502622.111	4797460.781
23	502634.667	4797456.862
23	502641.178	4797458.257
23	502675.791	4797447.361
23	502668.948	4797460.250
23	502676.987	4797480.646
23	502677.651	4797483.502
23	502656.392	4797489.548
23	502632.674	4797495.992
24	502677.053	4797480.911
24	502669.081	4797460.183
24	502675.857	4797447.428
24	502678.913	4797453.540
24	502791.323	4797420.322
24	502801.288	4797441.448
24	502802.086	4797444.372
24	502776.574	4797452.477
24	502677.718	4797483.436
25	502627.459	4797433.642
25	502631.644	4797431.915
25	502638.554	4797428.194
25	502669.181	4797418.827
25	502672.502	4797420.887
25	502679.677	4797442.412
25	502675.758	4797447.394
25	502641.211	4797458.356
25	502634.700	4797456.762
26	502675.824	4797447.461
26	502676.223	4797446.398
26	502679.677	4797442.279
26	502672.502	4797420.887
26	502669.181	4797418.761
26	502672.635	4797417.033
26	502673.300	4797413.711
26	502778.800	4797380.493
26	502791.157	4797420.222
26	502678.880	4797453.573
27	502604.605	4797425.338
27	502597.297	4797406.736
27	502592.646	4797399.428
27	502611.647	4797391.455
27	502649.648	4797378.833
27	502656.823	4797377.105
27	502658.684	4797380.427
27	502660.677	4797383.350
27	502665.992	4797401.421
27	502669.048	4797418.827

27	502638.753	4797428.128
27	502635.165	4797430.121
27	502629.850	4797432.646
27	502627.592	4797433.709
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28	502665.992	4797401.687
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28	502676.621	4797377.770
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28	502693.363	4797407.400
28	502673.300	4797413.579
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28	502669.048	4797418.761
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29	502656.823	4797376.906
29	502650.844	4797363.752
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29	502712.364	4797392.186
29	502714.756	4797400.823
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30	502712.231	4797392.319
30	502703.993	4797366.276
30	502698.678	4797348.604
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30	502762.590	4797385.675
30	502714.623	4797400.823
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32	502746.113	4797333.191
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32	502650.844	4797363.752
33	502773.253	4797482.772
33	502778.036	4797480.646
33	502792.652	4797471.876
33	502858.291	4797458.855
33	502892.571	4797564.621
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34	502893.103	4797447.693
34	502908.516	4797442.644
34	502919.146	4797438.924
34	502952.364	4797540.438

34	502953.161	4797547.082
34	502923.132	4797555.054
34	502902.670	4797561.698
34	502892.571	4797565.152
35	502776.441	4797452.477
35	502801.687	4797445.036
35	502898.418	4797415.538
35	502904.530	4797429.623
35	502907.719	4797442.910
35	502893.369	4797447.428
35	502859.088	4797459.120
35	502841.814	4797462.044
35	502792.918	4797471.610
35	502783.882	4797476.925
36	502801.421	4797441.581
36	502791.057	4797420.056
36	502906.656	4797381.257
36	502930.041	4797373.285
36	502938.014	4797378.334
36	502942.797	4797392.153
36	502937.216	4797401.188
36	502930.041	4797403.314
36	502898.418	4797415.007
36	502801.953	4797445.036
37	502779.099	4797380.726
37	502804.079	4797372.488
37	502886.725	4797347.242
37	502896.292	4797363.453
37	502906.124	4797380.992
37	502791.057	4797420.588
38	502746.412	4797333.158
38	502831.052	4797306.318
38	502835.968	4797306.185
38	502840.220	4797322.927
38	502793.183	4797338.074
38	502799.827	4797358.271
38	502804.079	4797372.488
38	502762.756	4797385.642
39	502793.449	4797337.941
39	502840.353	4797323.192
39	502836.101	4797306.318
39	502837.031	4797291.835
39	502863.473	4797283.995
39	502871.843	4797310.968
39	502885.928	4797310.968
39	502892.970	4797316.947
39	502896.956	4797328.773
39	502886.725	4797347.242
39	502803.813	4797372.488

40	502741.097	4797316.549
40	502826.667	4797289.576
40	502837.031	4797291.702
40	502835.968	4797306.451
40	502831.052	4797306.185
40	502746.545	4797333.291
41	502952.630	4797541.368
41	502919.146	4797439.057
41	502907.719	4797443.043
41	502904.264	4797429.756
41	502898.949	4797414.874
41	502929.776	4797403.447
41	502937.216	4797401.853
41	502943.063	4797392.286
41	502969.106	4797385.377
41	503008.170	4797372.089
41	503021.723	4797395.209
41	503041.388	4797488.751
41	503046.171	4797520.906
41	503022.786	4797532.599
41	503006.044	4797532.067
41	502953.427	4797546.683
42	502938.014	4797378.201
42	502929.908	4797373.551
42	502906.390	4797381.390
42	502896.558	4797363.718
42	502955.553	4797344.186
42	503000.065	4797331.165
42	503004.317	4797342.990
42	503009.765	4797361.327
42	503008.702	4797371.824
42	502969.106	4797384.978
42	502943.063	4797392.419
43	502886.326	4797347.375
43	502896.823	4797328.773
43	502943.594	4797305.521
43	502984.785	4797293.828
43	502991.960	4797306.982
43	503000.198	4797331.032
43	502955.686	4797344.053
43	502896.292	4797363.851
45	503041.521	4797489.947
45	503025.045	4797411.818
45	503082.445	4797394.279
45	503128.153	4797379.132
45	503147.287	4797455.932
45	503127.622	4797465.764
45	503150.476	4797513.066
45	503045.773	4797521.304

46	503139.182	4797489.017
46	503196.051	4797461.114
46	503209.737	4797487.821
46	503150.343	4797513.066
47	503127.622	4797465.897
47	503147.553	4797455.932
47	503148.616	4797457.526
47	503184.624	4797439.987
47	503173.861	4797420.056
47	503188.477	4797413.944
47	503201.366	4797445.302
47	503202.562	4797450.085
47	503192.065	4797454.603
47	503196.051	4797461.114
47	503139.182	4797489.149
48	503128.419	4797379.264
48	503209.338	4797352.823
48	503216.779	4797377.404
48	503180.505	4797389.097
48	503188.344	4797413.811
48	503173.994	4797419.790
48	503184.624	4797439.987
48	503148.616	4797457.659
48	503147.420	4797455.932
49	503188.344	4797414.210
49	503180.771	4797389.230
49	503216.779	4797377.271
49	503228.472	4797374.082
49	503246.144	4797430.819
49	503201.233	4797445.435
50	503192.331	4797454.736
50	503202.695	4797449.952
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[SYMBOLS]
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