



**Finanziato  
dall'Unione europea**  
NextGenerationEU



# COMUNE DI SASSARI

PROVINCIA DI SASSARI

**PNRR - M2C4 Investimento 2.2 - Interventi per la resilienza, la  
valorizzazione del territorio e l'efficienza energetica dei Comuni**

**INTERVENTI DI MESSA IN SICUREZZA IDRAULICA  
DELLA VALLATA DEL FOSSO DELLA NOCE NEL CENTRO ABITATO  
DI SASSARI**

**D.G.R. N.56/45 DEL 13/11/2020**

**PROGETTO DI FATTIBILITA' TECNICO ECONOMICA  
REVISIONE NOVEMBRE 2022**

ELABORATO :

**SIMULAZIONI IN MOTO PERMANENTE**

REVISIONI				ALLEGATO	SCALA	
n°	MODIFICA	DATA	CTRL	<b>B-1</b>	CODICE	
01	consegna	Giugno 2022				
02	revisione	Novembre 2022				
					NOTE	

R.T.I. tra:  
Mandatario:



Studio Associato  
4E-INGEGNERIA  
Dott. Ing. Fabio Cambula

Il Dirigente dei LL.PP.  
Dott. Ing. Fabio E. M. Spurio

Mandanti:



Dott. Geol. Alessandro Muscas

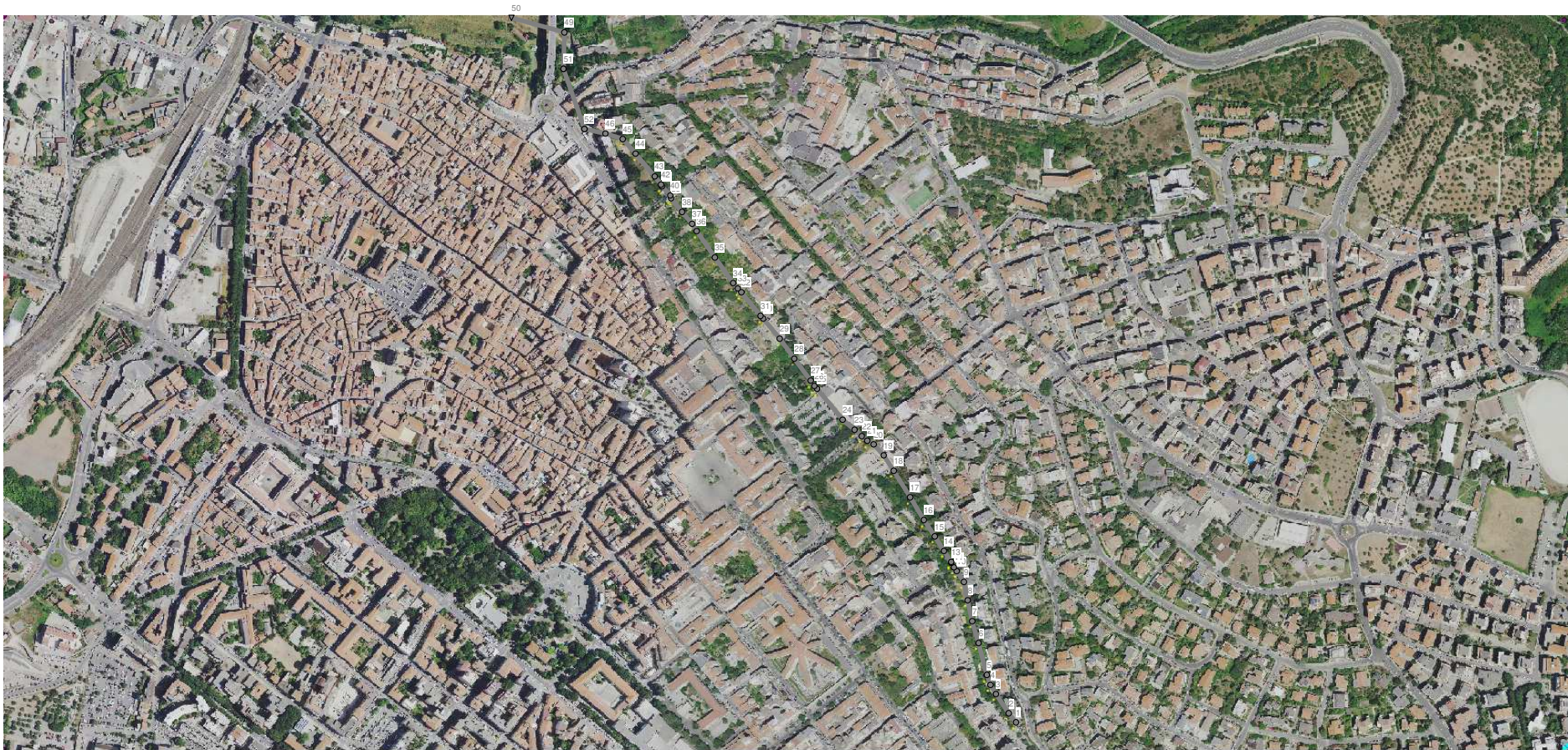
Dott. Ing. Emanuela Sassu

Il R.U.P.:  
Dott. Ing. Ivano Mulas

Il Sindaco:  
Prof. Gian Vittorio Campus

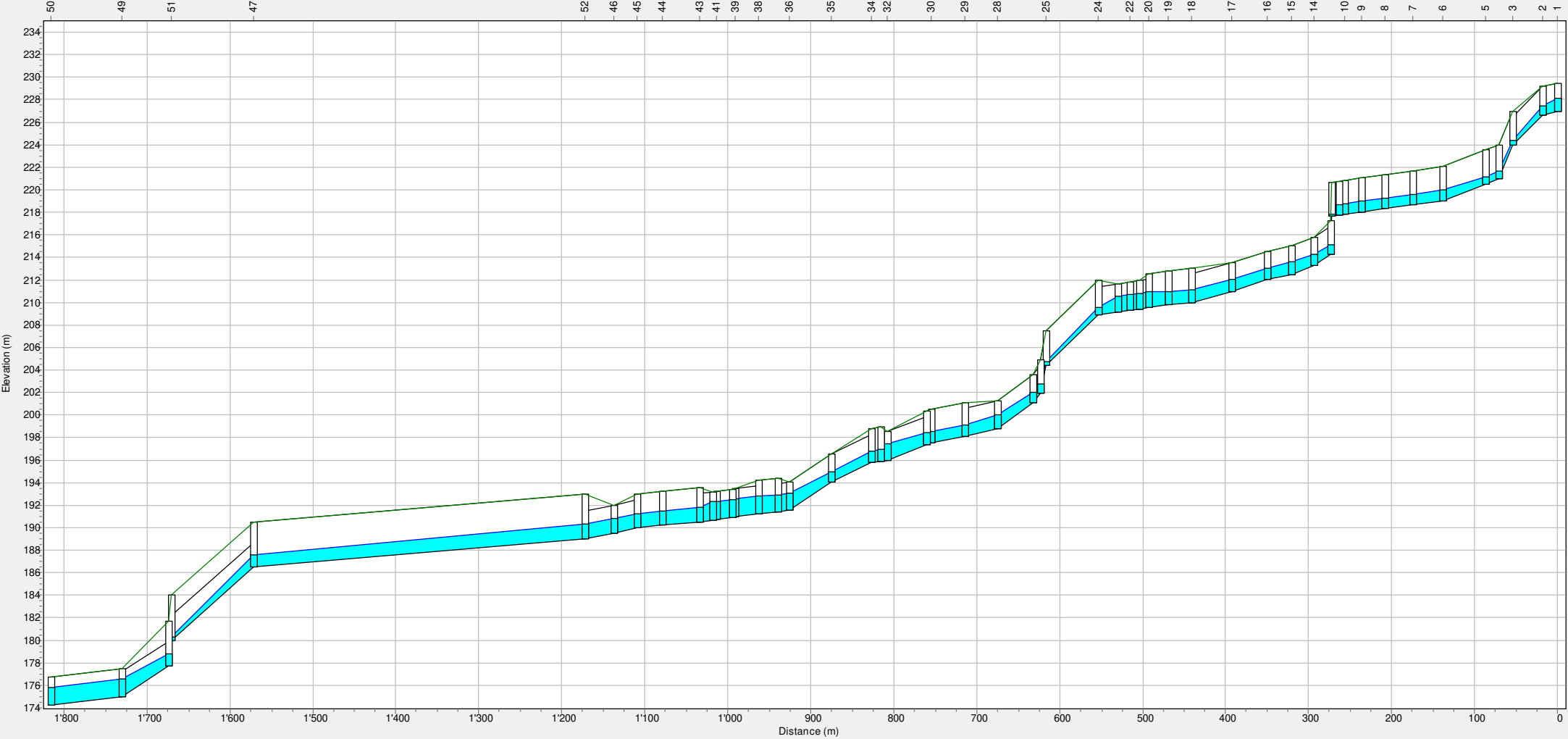
## REPORT SIMULAZIONI IN MOTO VARIO S.W.M.M.





## SIMULAZIONE TR 20

Water Elevation Profile: Node 1 - 50



06/08/2022 01:04:00



EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.0)

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WARNING 08: elevation drop exceeds length for Conduit T\_12

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Analysis Options

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Flow Units ..... CMS

Process Models:

Rainfall/Runoff ..... NO

RDII ..... NO

Snowmelt ..... NO

Groundwater ..... NO

Flow Routing ..... YES

Ponding Allowed ..... NO

Water Quality ..... NO

Flow Routing Method ..... DYNWAVE

Surcharge Method ..... EXTRAN

Starting Date ..... 06/08/2022 00:00:00

Ending Date ..... 06/08/2022 04:00:00

Antecedent Dry Days ..... 0.0

Report Time Step ..... 00:01:00

Routing Time Step ..... 10.00 sec

Variable Time Step ..... YES

Maximum Trials ..... 20

Number of Threads ..... 1

Head Tolerance ..... 0.001500 m

*****	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
*****	-----	-----
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	5.574	55.745
External Outflow .....	5.468	54.684
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.109	1.090
Continuity Error (%) .....	-0.052	

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Time-Step Critical Elements

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Link T\_12 (99.86%)

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Highest Flow Instability Indexes

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Link T\_36 (33)

Link T\_37 (26)

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Most Frequent Nonconverging Nodes

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Convergence obtained at all time steps.

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Routing Time Step Summary

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Minimum Time Step	:	0.02 sec
Average Time Step	:	0.50 sec
Maximum Time Step	:	10.00 sec
% of Time in Steady State	:	0.00
Average Iterations per Step	:	2.00
% of Steps Not Converging	:	0.00
Time Step Frequencies	:	
10.000 - 5.493 sec	:	0.00 %
5.493 - 3.017 sec	:	0.13 %
3.017 - 1.657 sec	:	0.00 %
1.657 - 0.910 sec	:	0.01 %
0.910 - 0.500 sec	:	99.86 %

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Node Depth Summary

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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
1	JUNCTION	0.45	1.21	228.15	0 01:00	1.21
2	JUNCTION	0.30	0.83	227.50	0 01:00	0.83
3	JUNCTION	0.13	0.38	224.37	0 01:00	0.38
4	JUNCTION	0.23	0.70	221.70	0 01:00	0.70
5	JUNCTION	0.23	0.70	221.23	0 01:00	0.70
6	JUNCTION	0.32	0.99	220.02	0 01:00	0.99
7	JUNCTION	0.33	1.00	219.67	0 01:00	0.99

8	JUNCTION	0.33	1.00	219.33	0	01:00	1.00
9	JUNCTION	0.32	0.99	219.04	0	01:00	0.98
10	JUNCTION	0.32	0.99	218.83	0	01:00	0.99
11	JUNCTION	0.32	0.99	218.76	0	01:00	0.99
12	JUNCTION	0.06	0.16	217.84	0	01:00	0.16
13	JUNCTION	0.32	0.90	215.17	0	01:00	0.90
14	JUNCTION	0.37	1.03	214.33	0	01:00	1.03
15	JUNCTION	0.44	1.20	213.69	0	01:01	1.20
16	JUNCTION	0.38	1.06	213.10	0	01:01	1.06
17	JUNCTION	0.41	1.12	212.12	0	01:01	1.12
18	JUNCTION	0.36	1.18	211.18	0	01:01	1.17
19	JUNCTION	0.37	1.27	211.04	0	01:01	1.25
20	JUNCTION	0.56	1.46	210.99	0	01:01	1.45
21	JUNCTION	0.56	1.46	210.88	0	01:01	1.45
22	JUNCTION	0.55	1.45	210.76	0	01:01	1.44
23	JUNCTION	0.55	1.44	210.60	0	01:01	1.44
24	JUNCTION	0.20	0.62	209.54	0	01:01	0.62
25	JUNCTION	0.11	0.33	204.78	0	01:01	0.33
26	JUNCTION	0.29	0.84	202.78	0	01:01	0.84
27	JUNCTION	0.32	0.94	202.06	0	01:01	0.94
28	JUNCTION	0.47	1.31	200.06	0	01:02	1.31
29	JUNCTION	0.31	1.00	199.14	0	01:02	1.00
30	JUNCTION	0.31	1.06	198.58	0	01:02	1.05
31	JUNCTION	0.39	1.15	198.51	0	01:02	1.15
32	JUNCTION	0.51	1.45	197.45	0	01:02	1.44
33	JUNCTION	0.34	1.06	196.98	0	01:02	1.06
34	JUNCTION	0.37	1.06	196.85	0	01:02	1.05
35	JUNCTION	0.33	0.96	194.99	0	01:02	0.96
36	JUNCTION	0.53	1.52	193.05	0	01:02	1.52
37	JUNCTION	0.44	1.52	192.93	0	01:02	1.52
38	JUNCTION	0.58	1.64	192.87	0	01:02	1.64
39	JUNCTION	0.59	1.65	192.60	0	01:02	1.65
40	JUNCTION	0.59	1.65	192.56	0	01:02	1.65
41	JUNCTION	0.59	1.66	192.38	0	01:03	1.65
42	JUNCTION	0.59	1.66	192.34	0	01:03	1.66
43	JUNCTION	0.39	1.29	191.82	0	01:03	1.29
44	JUNCTION	0.39	1.28	191.49	0	01:03	1.28
45	JUNCTION	0.36	1.25	191.25	0	01:03	1.24
46	JUNCTION	0.39	1.31	190.81	0	01:03	1.30
47	JUNCTION	0.43	1.09	187.59	0	01:04	1.09
48	JUNCTION	0.40	1.08	178.78	0	01:04	1.08
49	JUNCTION	0.45	1.55	176.55	0	01:04	1.54
51	JUNCTION	0.09	0.29	180.29	0	01:04	0.29
52	JUNCTION	0.40	1.34	190.34	0	01:03	1.33
50	OUTFALL	0.45	1.55	175.80	0	01:04	1.54

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Node Inflow Summary  
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-----			Maximum	Maximum				
Total	Flow	Type	Lateral	Total	Time of Max		Lateral	
Inflow	Balance		Inflow	Inflow	Occurrence		Inflow	
Volume	Error		CMS	CMS	days hr:min		Volume	
Node	Percent						10^6 ltr	10^6
ltr								
-----								
1		JUNCTION	15.100	15.100	0	01:00	48.2	
48.2	0.012							
2		JUNCTION	0.000	15.094	0	01:00	0	
48.2	0.021							
3		JUNCTION	0.000	15.100	0	01:00	0	
48.2	0.010							
4		JUNCTION	0.000	15.099	0	01:00	0	
48.2	0.019							
5		JUNCTION	0.000	15.114	0	01:00	0	
48.2	0.033							
6		JUNCTION	0.000	15.127	0	01:00	0	
48.2	0.063							
7		JUNCTION	0.000	15.136	0	01:00	0	
48.2	0.049							
8		JUNCTION	0.000	15.151	0	01:00	0	
48.1	0.045							
9		JUNCTION	0.000	15.140	0	01:00	0	
48.1	0.034							
10		JUNCTION	0.000	15.153	0	01:00	0	
48.1	0.021							
11		JUNCTION	0.000	15.156	0	01:00	0	
48.1	0.009							
12		JUNCTION	0.000	15.155	0	01:00	0	
48.1	0.001							
13		JUNCTION	0.000	15.155	0	01:00	0	
48.1	0.010							
14		JUNCTION	0.000	15.162	0	01:00	0	
48.1	0.022							
15		JUNCTION	0.000	15.175	0	01:01	0	
48.1	0.033							
16		JUNCTION	0.000	15.165	0	01:01	0	
48.1	0.037							
17		JUNCTION	0.000	15.180	0	01:01	0	
48	0.050							
18		JUNCTION	0.000	15.189	0	01:01	0	

48	0.041						
19		JUNCTION	0.000	15.184	0 01:01		0
48	0.036						
20		JUNCTION	0.000	15.184	0 01:01		0
48	0.040						
21		JUNCTION	0.000	15.179	0 01:01		0
48	0.009						
22		JUNCTION	0.000	15.179	0 01:01		0
47.9	0.012						
23		JUNCTION	0.000	15.178	0 01:01		0
47.9	0.014						
24		JUNCTION	3.130	18.193	0 01:01	7.51	
55.4	0.025						
25		JUNCTION	0.000	18.200	0 01:01		0
55.4	0.014						
26		JUNCTION	0.000	18.199	0 01:01		0
55.4	0.007						
27		JUNCTION	0.000	18.202	0 01:01		0
55.4	0.017						
28		JUNCTION	0.000	18.199	0 01:01		0
55.4	0.043						
29		JUNCTION	0.000	18.187	0 01:02		0
55.4	0.034						
30		JUNCTION	0.000	18.205	0 01:02		0
55.4	0.023						
31		JUNCTION	0.000	18.209	0 01:02		0
55.4	0.024						
32		JUNCTION	0.000	18.223	0 01:02		0
55.3	0.032						
33		JUNCTION	0.000	18.216	0 01:02		0
55.3	0.009						
34		JUNCTION	0.000	18.215	0 01:02		0
55.3	0.027						
35		JUNCTION	0.000	18.226	0 01:02		0
55.3	0.035						
36		JUNCTION	0.000	18.218	0 01:02		0
55.3	0.040						
37		JUNCTION	0.000	18.205	0 01:02		0
55.3	0.020						
38		JUNCTION	0.000	18.207	0 01:02		0
55.3	0.040						
39		JUNCTION	0.000	18.222	0 01:02		0
55.2	0.012						
40		JUNCTION	0.000	18.226	0 01:03		0
55.2	0.008						
41		JUNCTION	0.000	18.231	0 01:03		0
55.2	0.009						
42		JUNCTION	0.000	18.231	0 01:03		0
55.2	0.007						
43		JUNCTION	0.000	18.231	0 01:03		0

55.2	0.037						
44		JUNCTION	0.000	18.244	0	01:03	0
55.2	0.051						
45		JUNCTION	0.000	18.227	0	01:03	0
55.2	0.032						
46		JUNCTION	0.000	18.235	0	01:03	0
55.1	0.031						
47		JUNCTION	0.000	18.145	0	01:04	0
55	0.423						
48		JUNCTION	0.000	18.129	0	01:04	0
54.7	0.014						
49		JUNCTION	0.000	18.129	0	01:04	0
54.7	0.063						
51		JUNCTION	0.000	18.129	0	01:04	0
54.7	0.003						
52		JUNCTION	0.000	18.242	0	01:03	0
55.1	0.308						
50		OUTFALL	0.000	18.147	0	01:04	0
54.7	0.000						

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Node Surcharge Summary  
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No nodes were surcharged.

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Node Flooding Summary  
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No nodes were flooded.

\*\*\*\*\*  
Outfall Loading Summary  
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Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10 <sup>6</sup> ltr
50	95.54	4.009	18.147	54.684
System	95.54	4.009	18.147	54.684

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# Link Flow Summary

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Link	Type	Maximum  Flow  CMS	Time of Max Occurrence days hr:min	Maximum  Veloc  m/sec	Max/ Full Flow	Max/ Full Depth
T_1	CONDUIT	15.094	0 01:00	4.91	0.24	0.41
T_2	CONDUIT	15.100	0 01:00	9.61	0.11	0.24
T_13	CONDUIT	15.162	0 01:00	5.29	0.14	0.39
T_14	CONDUIT	15.175	0 01:01	4.36	0.17	0.45
T_15	CONDUIT	15.165	0 01:01	4.28	0.24	0.45
T_16	CONDUIT	15.180	0 01:01	4.50	0.19	0.44
T_17	CONDUIT	15.189	0 01:01	4.18	0.20	0.46
T_26	CONDUIT	18.202	0 01:01	7.08	0.12	0.36
T_27	CONDUIT	18.199	0 01:01	5.18	0.15	0.45
T_28	CONDUIT	18.187	0 01:02	4.99	0.28	0.46
T_31	CONDUIT	18.223	0 01:02	4.26	0.21	0.52
T_32	CONDUIT	18.216	0 01:02	4.46	0.34	0.50
T_34	CONDUIT	18.226	0 01:02	6.00	0.19	0.40
T_35	CONDUIT	18.218	0 01:02	4.52	0.16	0.50
T_36	CONDUIT	18.205	0 01:02	3.41	0.37	0.61
T_3	CONDUIT	15.099	0 01:00	7.01	0.05	0.18
T_4	CONDUIT	15.114	0 01:00	5.42	0.13	0.23
T_5	CONDUIT	15.127	0 01:00	4.47	0.13	0.28
T_6	CONDUIT	15.136	0 01:00	3.80	0.22	0.33
T_7	CONDUIT	15.151	0 01:00	3.79	0.22	0.33
T_8	CONDUIT	15.140	0 01:00	3.81	0.23	0.33
T_9	CONDUIT	15.153	0 01:00	3.84	0.22	0.33
T_10	CONDUIT	15.156	0 01:00	3.83	0.22	0.33
T_11	CONDUIT	15.155	0 01:00	6.60	0.22	0.19
T_12	CONDUIT	15.155	0 01:00	7.15	0.01	0.18
T_18	CONDUIT	15.184	0 01:01	3.10	0.25	0.41
T_19	CONDUIT	15.184	0 01:01	2.78	0.22	0.45
T_24	CONDUIT	18.200	0 01:01	9.60	0.10	0.16
T_25	CONDUIT	18.199	0 01:01	7.79	0.04	0.19
T_29	CONDUIT	18.205	0 01:02	4.44	0.22	0.34
T_30	CONDUIT	18.209	0 01:02	4.13	0.16	0.37
T_33	CONDUIT	18.215	0 01:02	4.30	0.25	0.35
T_37	CONDUIT	18.207	0 01:02	2.88	0.31	0.53
T_43	CONDUIT	18.244	0 01:03	3.55	0.32	0.43
T_44	CONDUIT	18.227	0 01:03	3.60	0.32	0.42
T_38	CONDUIT	18.222	0 01:02	5.34	0.75	0.66
T_39	CONDUIT	18.226	0 01:03	5.32	0.76	0.66
T_40	CONDUIT	18.231	0 01:03	5.30	0.76	0.66
T_41	CONDUIT	18.231	0 01:03	5.28	0.76	0.66
T_42	CONDUIT	18.231	0 01:03	6.07	0.78	0.59
T_20	CONDUIT	15.179	0 01:01	5.11	0.64	0.58
T_21	CONDUIT	15.179	0 01:01	5.14	0.64	0.58

T_22	CONDUIT	15.178	0	01:01	5.17	0.63	0.58
T_23	CONDUIT	15.175	0	01:01	7.93	0.63	0.41
T_47	CONDUIT	18.129	0	01:04	17.84	0.42	0.31
T_49	CONDUIT	18.129	0	01:04	7.64	0.49	0.60
T_45	CONDUIT	18.235	0	01:03	4.76	0.38	0.51
T_46	CONDUIT	18.242	0	01:03	4.60	0.42	0.53
T_50	CONDUIT	18.147	0	01:04	3.91	0.54	0.62
T_48	CONDUIT	18.129	0	01:04	8.83	0.03	0.17
51	CONDUIT	18.145	0	01:04	3.75	0.24	0.30

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Flow Classification Summary  
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-										
		Adjusted	----- Fraction of Time in Flow Class							
-----		/Actual								
Inlet			Up	Down	Sub	Sup	Up	Down	Norm	
Conduit		Length	Dry	Dry	Dry	Crit	Crit	Crit	Ltd	
Ctrl										
-----										
-										
T_1		1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
0.00										
T_2		1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
0.00										
T_13		1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.75
0.00										
T_14		1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.70
0.00										
T_15		1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.32
0.00										
T_16		1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.77
0.00										
T_17		1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.12
0.00										
T_26		1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.72
0.00										
T_27		1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
0.00										
T_28		1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.30
0.00										
T_31		1.00	0.02	0.00	0.00	0.00	0.97	0.00	0.00	0.76
0.00										
T_32		1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97

0.00									
T_34	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.00
0.00									
T_35	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97
0.00									
T_36	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.38
0.00									
T_3	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
0.00									
T_4	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.21
0.00									
T_5	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.93
0.00									
T_6	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.82
0.00									
T_7	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.13
0.00									
T_8	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.91
0.00									
T_9	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.09
0.00									
T_10	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.23
0.00									
T_11	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99
0.00									
T_12	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99
0.00									
T_18	1.00	0.01	0.00	0.00	0.26	0.73	0.00	0.00	0.67
0.00									
T_19	1.00	0.01	0.00	0.00	0.98	0.00	0.00	0.00	0.66
0.00									
T_24	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
0.00									
T_25	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
0.00									
T_29	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.06
0.00									
T_30	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
0.00									
T_33	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.01
0.00									
T_37	1.00	0.03	0.00	0.00	0.97	0.00	0.00	0.00	0.34
0.00									
T_43	1.00	0.03	0.00	0.00	0.67	0.30	0.00	0.00	0.22
0.00									
T_44	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.30
0.00									
T_38	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.11
0.00									
T_39	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.09



0.00									
T_40	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.09
0.00									
T_41	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.00
0.00									
T_42	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.96
0.00									
T_20	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.86
0.00									
T_21	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.90
0.00									
T_22	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.85
0.00									
T_23	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
0.00									
T_47	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.00
0.00									
T_49	1.00	0.04	0.00	0.00	0.00	0.95	0.00	0.00	0.31
0.00									
T_45	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.65
0.00									
T_46	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.62
0.00									
T_50	1.00	0.05	0.00	0.00	0.03	0.93	0.00	0.00	0.29
0.00									
T_48	1.00	0.04	0.00	0.00	0.01	0.94	0.00	0.00	0.95
0.00									
51	1.00	0.04	0.00	0.00	0.77	0.19	0.00	0.00	0.69
0.00									

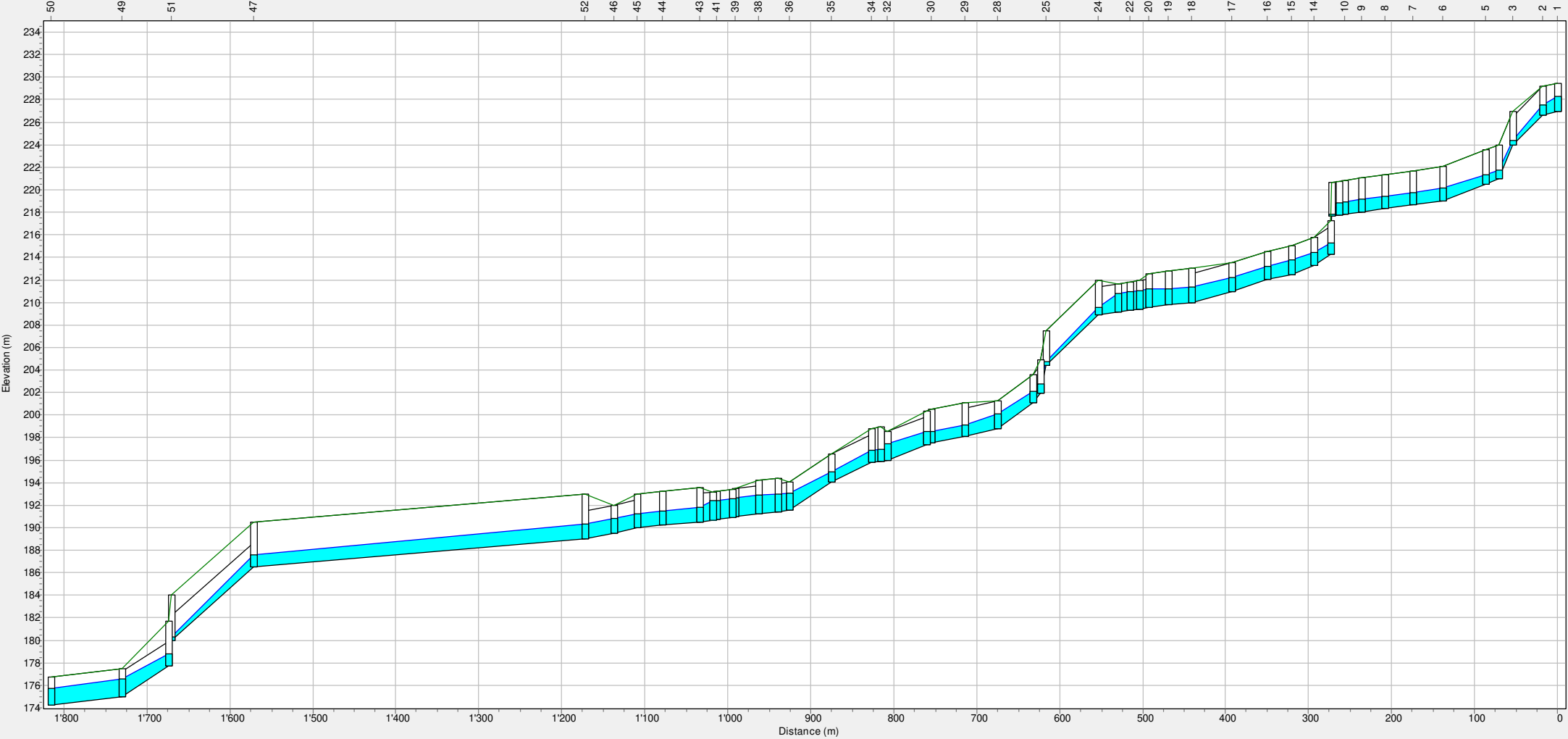
\*\*\*\*\*  
 Conduit Surcharge Summary  
 \*\*\*\*\*

No conduits were surcharged.

Analysis begun on: Wed Jun 8 17:05:45 2022  
 Analysis ended on: Wed Jun 8 17:05:46 2022  
 Total elapsed time: 00:00:01

## SIMULAZIONE TR 50

Water Elevation Profile: Node 1 - 50



06/08/2022 01:03:00

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.0)

-----  
WARNING 08: elevation drop exceeds length for Conduit T\_12

\*\*\*\*\*

Analysis Options

\*\*\*\*\*

Flow Units ..... CMS

Process Models:

Rainfall/Runoff ..... NO

RDII ..... NO

Snowmelt ..... NO

Groundwater ..... NO

Flow Routing ..... YES

Ponding Allowed ..... NO

Water Quality ..... NO

Flow Routing Method ..... DYNWAVE

Surcharge Method ..... EXTRAN

Starting Date ..... 06/08/2022 00:00:00

Ending Date ..... 06/08/2022 04:00:00

Antecedent Dry Days ..... 0.0

Report Time Step ..... 00:01:00

Routing Time Step ..... 10.00 sec

Variable Time Step ..... YES

Maximum Trials ..... 20

Number of Threads ..... 1

Head Tolerance ..... 0.001500 m

\*\*\*\*\*

Flow Routing Continuity

\*\*\*\*\*

	Volume hectare-m	Volume 10 <sup>6</sup> ltr
	-----	-----
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	5.697	56.969
External Outflow .....	5.591	55.908
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.109	1.090
Continuity Error (%) .....	-0.051	

\*\*\*\*\*

Time-Step Critical Elements

\*\*\*\*\*

Link T\_12 (99.86%)

\*\*\*\*\*

### Highest Flow Instability Indexes

\*\*\*\*\*

Link T\_36 (33)

Link T\_37 (26)

Link T\_12 (4)

Link T\_44 (1)

\*\*\*\*\*

### Most Frequent Nonconverging Nodes

\*\*\*\*\*

Convergence obtained at all time steps.

\*\*\*\*\*

### Routing Time Step Summary

\*\*\*\*\*

Minimum Time Step	:	0.02 sec
Average Time Step	:	0.50 sec
Maximum Time Step	:	10.00 sec
% of Time in Steady State	:	0.00
Average Iterations per Step	:	2.02
% of Steps Not Converging	:	0.00
Time Step Frequencies	:	
10.000 - 5.493 sec	:	0.00 %
5.493 - 3.017 sec	:	0.13 %
3.017 - 1.657 sec	:	0.00 %
1.657 - 0.910 sec	:	0.01 %
0.910 - 0.500 sec	:	99.86 %

\*\*\*\*\*

### Node Depth Summary

\*\*\*\*\*

Reported		Average	Maximum	Maximum	Time of Max	
Depth		Depth	Depth	HGL	Occurrence	Max
Node	Type	Meters	Meters	Meters	days hr:min	
Meters						
1	JUNCTION	0.48	1.35	228.29	0 01:00	
1.35						
2	JUNCTION	0.33	0.93	227.60	0 01:00	
0.93						
3	JUNCTION	0.14	0.44	224.43	0 01:00	
0.43						
4	JUNCTION	0.25	0.81	221.81	0 01:00	
0.81						

5	JUNCTION	0.25	0.82	221.35	0	01:00
0.82						
6	JUNCTION	0.35	1.16	220.19	0	01:00
1.15						
7	JUNCTION	0.36	1.16	219.83	0	01:00
1.15						
8	JUNCTION	0.36	1.17	219.50	0	01:00
1.16						
9	JUNCTION	0.35	1.15	219.20	0	01:00
1.14						
10	JUNCTION	0.35	1.15	218.99	0	01:00
1.15						
11	JUNCTION	0.35	1.15	218.92	0	01:00
1.15						
12	JUNCTION	0.06	0.18	217.86	0	01:00
0.18						
13	JUNCTION	0.35	1.02	215.29	0	01:00
1.02						
14	JUNCTION	0.40	1.17	214.47	0	01:00
1.17						
15	JUNCTION	0.47	1.35	213.84	0	01:01
1.35						
16	JUNCTION	0.41	1.20	213.24	0	01:01
1.20						
17	JUNCTION	0.44	1.27	212.27	0	01:01
1.27						
18	JUNCTION	0.40	1.40	211.40	0	01:01
1.39						
19	JUNCTION	0.41	1.49	211.26	0	01:01
1.48						
20	JUNCTION	0.60	1.69	211.22	0	01:01
1.67						
21	JUNCTION	0.60	1.68	211.10	0	01:01
1.67						
22	JUNCTION	0.59	1.67	210.98	0	01:01
1.66						
23	JUNCTION	0.59	1.67	210.83	0	01:01
1.66						
24	JUNCTION	0.20	0.64	209.56	0	01:01
0.63						
25	JUNCTION	0.11	0.33	204.78	0	01:01
0.33						
26	JUNCTION	0.29	0.86	202.80	0	01:01
0.86						
27	JUNCTION	0.33	0.95	202.07	0	01:01
0.95						
28	JUNCTION	0.47	1.34	200.09	0	01:02
1.34						
29	JUNCTION	0.31	1.02	199.16	0	01:02
1.02						
30	JUNCTION	0.32	1.08	198.60	0	01:02
1.08						
31	JUNCTION	0.40	1.17	198.53	0	01:02
1.17						



32	JUNCTION	0.52	1.47	197.47	0	01:02
1.47						
33	JUNCTION	0.35	1.09	197.01	0	01:02
1.08						
34	JUNCTION	0.37	1.08	196.87	0	01:02
1.07						
35	JUNCTION	0.33	0.98	195.01	0	01:02
0.97						
36	JUNCTION	0.54	1.56	193.09	0	01:02
1.55						
37	JUNCTION	0.44	1.57	192.98	0	01:02
1.56						
38	JUNCTION	0.59	1.68	192.91	0	01:02
1.68						
39	JUNCTION	0.59	1.69	192.64	0	01:02
1.69						
40	JUNCTION	0.59	1.69	192.60	0	01:02
1.69						
41	JUNCTION	0.59	1.70	192.42	0	01:03
1.70						
42	JUNCTION	0.59	1.70	192.38	0	01:03
1.70						
43	JUNCTION	0.40	1.32	191.85	0	01:03
1.32						
44	JUNCTION	0.39	1.32	191.53	0	01:03
1.31						
45	JUNCTION	0.37	1.28	191.28	0	01:03
1.28						
46	JUNCTION	0.39	1.34	190.84	0	01:03
1.33						
47	JUNCTION	0.43	1.11	187.61	0	01:04
1.11						
48	JUNCTION	0.41	1.10	178.80	0	01:04
1.10						
49	JUNCTION	0.46	1.59	176.59	0	01:04
1.58						
51	JUNCTION	0.09	0.29	180.29	0	01:04
0.29						
52	JUNCTION	0.41	1.37	190.37	0	01:03
1.37						
50	OUTFALL	0.46	1.59	175.84	0	01:04
1.58						

\*\*\*\*\*  
Node Inflow Summary  
\*\*\*\*\*

-----						
-----						
Total	Flow	Maximum Lateral	Maximum Total	Time of Max	Lateral Inflow	

Inflow	Balance		Inflow	Inflow	Occurrence	Volume
Volume	Error	Type	CMS	CMS	days hr:min	10^6 ltr
Node	Percent					
10^6 ltr						
-----						
1		JUNCTION	18.740	18.740	0 01:00	57
57	0.010					
2		JUNCTION	0.000	18.733	0 01:00	0
57	0.018					
3		JUNCTION	0.000	18.742	0 01:00	0
57	0.008					
4		JUNCTION	0.000	18.741	0 01:00	0
56.9	0.016					
5		JUNCTION	0.000	18.758	0 01:00	0
56.9	0.028					
6		JUNCTION	0.000	18.781	0 01:00	0
56.9	0.053					
7		JUNCTION	0.000	18.792	0 01:00	0
56.9	0.041					
8		JUNCTION	0.000	18.810	0 01:00	0
56.9	0.038					
9		JUNCTION	0.000	18.797	0 01:00	0
56.8	0.028					
10		JUNCTION	0.000	18.813	0 01:00	0
56.8	0.018					
11		JUNCTION	0.000	18.815	0 01:00	0
56.8	0.007					
12		JUNCTION	0.000	18.814	0 01:00	0
56.8	0.001					
13		JUNCTION	0.000	18.815	0 01:00	0
56.8	0.008					
14		JUNCTION	0.000	18.824	0 01:00	0
56.8	0.019					
15		JUNCTION	0.000	18.841	0 01:01	0
56.8	0.028					
16		JUNCTION	0.000	18.829	0 01:01	0
56.8	0.031					
17		JUNCTION	0.000	18.848	0 01:01	0
56.8	0.043					
18		JUNCTION	0.000	18.858	0 01:01	0
56.7	0.035					
19		JUNCTION	0.000	18.843	0 01:01	0
56.7	0.030					
20		JUNCTION	0.000	18.838	0 01:01	0
56.7	0.034					
21		JUNCTION	0.000	18.833	0 01:01	0
56.7	0.008					
22		JUNCTION	0.000	18.832	0 01:01	0
56.7	0.010					
23		JUNCTION	0.000	18.830	0 01:01	0
56.7	0.012					

24		JUNCTION	0.000	18.827	0	01:01	0
56.7	0.025						
25		JUNCTION	0.000	18.838	0	01:01	0
56.7	0.013						
26		JUNCTION	0.000	18.837	0	01:01	0
56.6	0.007						
27		JUNCTION	0.000	18.840	0	01:01	0
56.6	0.016						
28		JUNCTION	0.000	18.837	0	01:01	0
56.6	0.042						
29		JUNCTION	0.000	18.820	0	01:02	0
56.6	0.033						
30		JUNCTION	0.000	18.846	0	01:02	0
56.6	0.022						
31		JUNCTION	0.000	18.851	0	01:02	0
56.6	0.024						
32		JUNCTION	0.000	18.872	0	01:02	0
56.6	0.031						
33		JUNCTION	0.000	18.862	0	01:02	0
56.5	0.009						
34		JUNCTION	0.000	18.861	0	01:02	0
56.5	0.026						
35		JUNCTION	0.000	18.878	0	01:02	0
56.5	0.034						
36		JUNCTION	0.000	18.866	0	01:02	0
56.5	0.040						
37		JUNCTION	0.000	18.846	0	01:02	0
56.5	0.019						
38		JUNCTION	0.000	18.847	0	01:02	0
56.5	0.039						
39		JUNCTION	0.000	18.866	0	01:02	0
56.5	0.012						
40		JUNCTION	0.000	18.872	0	01:02	0
56.4	0.008						
41		JUNCTION	0.000	18.880	0	01:03	0
56.4	0.009						
42		JUNCTION	0.000	18.880	0	01:03	0
56.4	0.006						
43		JUNCTION	0.000	18.879	0	01:03	0
56.4	0.036						
44		JUNCTION	0.000	18.900	0	01:03	0
56.4	0.049						
45		JUNCTION	0.000	18.893	0	01:03	0
56.4	0.031						
46		JUNCTION	0.000	18.890	0	01:03	0
56.4	0.031						
47		JUNCTION	0.000	18.755	0	01:04	0
56.2	0.413						
48		JUNCTION	0.000	18.738	0	01:04	0
55.9	0.013						
49		JUNCTION	0.000	18.737	0	01:04	0
55.9	0.062						
51		JUNCTION	0.000	18.737	0	01:04	0
56	0.003						

52		JUNCTION	0.000	18.902	0	01:03	0
56.4	0.301						
50		OUTFALL	0.000	18.767	0	01:04	0
55.9	0.000						

\*\*\*\*\*

#### Node Surcharge Summary

\*\*\*\*\*

No nodes were surcharged.

\*\*\*\*\*

#### Node Flooding Summary

\*\*\*\*\*

No nodes were flooded.

\*\*\*\*\*

#### Outfall Loading Summary

\*\*\*\*\*

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
50	95.54	4.099	18.767	55.908
System	95.54	4.099	18.767	55.908

\*\*\*\*\*

#### Link Flow Summary

\*\*\*\*\*

Link	Type	Maximum  Flow  CMS	Time of Max Occurrence days hr:min	Maximum  Veloc  m/sec	Max/ Full Flow	Max/ Full Depth
T_1	CONDUIT	18.733	0 01:00	5.22	0.30	0.46
T_2	CONDUIT	18.742	0 01:00	10.24	0.13	0.27
T_13	CONDUIT	18.824	0 01:00	5.57	0.17	0.44
T_14	CONDUIT	18.841	0 01:01	4.60	0.21	0.50
T_15	CONDUIT	18.829	0 01:01	4.52	0.29	0.51
T_16	CONDUIT	18.848	0 01:01	4.73	0.23	0.49
T_17	CONDUIT	18.858	0 01:01	4.24	0.25	0.53
T_26	CONDUIT	18.840	0 01:01	7.15	0.12	0.36
T_27	CONDUIT	18.837	0 01:01	5.23	0.15	0.46
T_28	CONDUIT	18.820	0 01:02	5.02	0.29	0.47
T_31	CONDUIT	18.872	0 01:02	4.30	0.22	0.53

T_32	CONDUIT	18.862	0	01:02	4.49	0.35	0.51
T_34	CONDUIT	18.878	0	01:02	6.06	0.19	0.41
T_35	CONDUIT	18.866	0	01:02	4.54	0.16	0.51
T_36	CONDUIT	18.846	0	01:02	3.42	0.38	0.63
T_3	CONDUIT	18.741	0	01:00	7.53	0.06	0.21
T_4	CONDUIT	18.758	0	01:00	5.78	0.16	0.27
T_5	CONDUIT	18.781	0	01:00	4.76	0.16	0.33
T_6	CONDUIT	18.792	0	01:00	4.06	0.27	0.39
T_7	CONDUIT	18.810	0	01:00	4.05	0.28	0.39
T_8	CONDUIT	18.797	0	01:00	4.07	0.28	0.39
T_9	CONDUIT	18.813	0	01:00	4.10	0.27	0.38
T_10	CONDUIT	18.815	0	01:00	4.09	0.27	0.38
T_11	CONDUIT	18.814	0	01:00	7.06	0.27	0.22
T_12	CONDUIT	18.815	0	01:00	7.84	0.02	0.20
T_18	CONDUIT	18.843	0	01:01	3.26	0.31	0.48
T_19	CONDUIT	18.838	0	01:01	2.96	0.27	0.53
T_24	CONDUIT	18.838	0	01:01	9.72	0.10	0.16
T_25	CONDUIT	18.837	0	01:01	7.90	0.04	0.20
T_29	CONDUIT	18.846	0	01:02	4.49	0.22	0.35
T_30	CONDUIT	18.851	0	01:02	4.19	0.17	0.37
T_33	CONDUIT	18.861	0	01:02	4.35	0.25	0.36
T_37	CONDUIT	18.847	0	01:02	2.90	0.32	0.54
T_43	CONDUIT	18.900	0	01:03	3.59	0.33	0.44
T_44	CONDUIT	18.893	0	01:03	3.64	0.33	0.43
T_38	CONDUIT	18.866	0	01:02	5.38	0.78	0.67
T_39	CONDUIT	18.872	0	01:02	5.35	0.79	0.68
T_40	CONDUIT	18.880	0	01:03	5.33	0.79	0.68
T_41	CONDUIT	18.880	0	01:03	5.32	0.79	0.68
T_42	CONDUIT	18.879	0	01:03	6.10	0.80	0.60
T_20	CONDUIT	18.833	0	01:01	5.34	0.80	0.67
T_21	CONDUIT	18.832	0	01:01	5.38	0.80	0.67
T_22	CONDUIT	18.830	0	01:01	5.41	0.79	0.67
T_23	CONDUIT	18.827	0	01:01	8.53	0.78	0.46
T_47	CONDUIT	18.737	0	01:04	18.02	0.43	0.32
T_49	CONDUIT	18.737	0	01:04	7.68	0.50	0.61
T_45	CONDUIT	18.890	0	01:03	4.81	0.39	0.52
T_46	CONDUIT	18.902	0	01:03	4.65	0.44	0.54
T_50	CONDUIT	18.767	0	01:04	3.94	0.56	0.63
T_48	CONDUIT	18.738	0	01:04	8.94	0.03	0.17
51	CONDUIT	18.755	0	01:04	3.80	0.24	0.31

\*\*\*\*\*  
Flow Classification Summary  
\*\*\*\*\*

-----									
----									
		Adjusted	----- Fraction of Time in Flow Class						
-----		/Actual	Up	Down	Sub	Sup	Up	Down	Norm
Inlet									
Conduit		Length	Dry	Dry	Dry	Crit	Crit	Crit	Ltd

-----									
T_1	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
T_2	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
T_13	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.74
T_14	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.70
T_15	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.32
T_16	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.76
T_17	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.11
T_26	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.72
T_27	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
T_28	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.30
T_31	1.00	0.02	0.00	0.00	0.00	0.97	0.00	0.00	0.75
T_32	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97
T_34	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.00
T_35	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97
T_36	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.38
T_3	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
T_4	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.20
T_5	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.88
T_6	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.81
T_7	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.12
T_8	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.91
T_9	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.08
T_10	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.23
T_11	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99
T_12	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99



T_18 0.00	1.00	0.01	0.00	0.00	0.28	0.71	0.00	0.00	0.67
T_19 0.00	1.00	0.01	0.00	0.00	0.98	0.00	0.00	0.00	0.66
T_24 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_25 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
T_29 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.06
T_30 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_33 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.01
T_37 0.00	1.00	0.03	0.00	0.00	0.97	0.00	0.00	0.00	0.34
T_43 0.00	1.00	0.03	0.00	0.00	0.68	0.28	0.00	0.00	0.21
T_44 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.30
T_38 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.11
T_39 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.09
T_40 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.09
T_41 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_42 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.96
T_20 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.86
T_21 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.91
T_22 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.86
T_23 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.97
T_47 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_49 0.00	1.00	0.04	0.00	0.00	0.00	0.95	0.00	0.00	0.31
T_45 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.66
T_46 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.63
T_50 0.00	1.00	0.05	0.00	0.00	0.04	0.91	0.00	0.00	0.29
T_48 0.00	1.00	0.04	0.00	0.00	0.01	0.94	0.00	0.00	0.94
51 0.00	1.00	0.04	0.00	0.00	0.77	0.19	0.00	0.00	0.69

\*\*\*\*\*

# Conduit Surcharge Summary

\*\*\*\*\*

No conduits were surcharged.

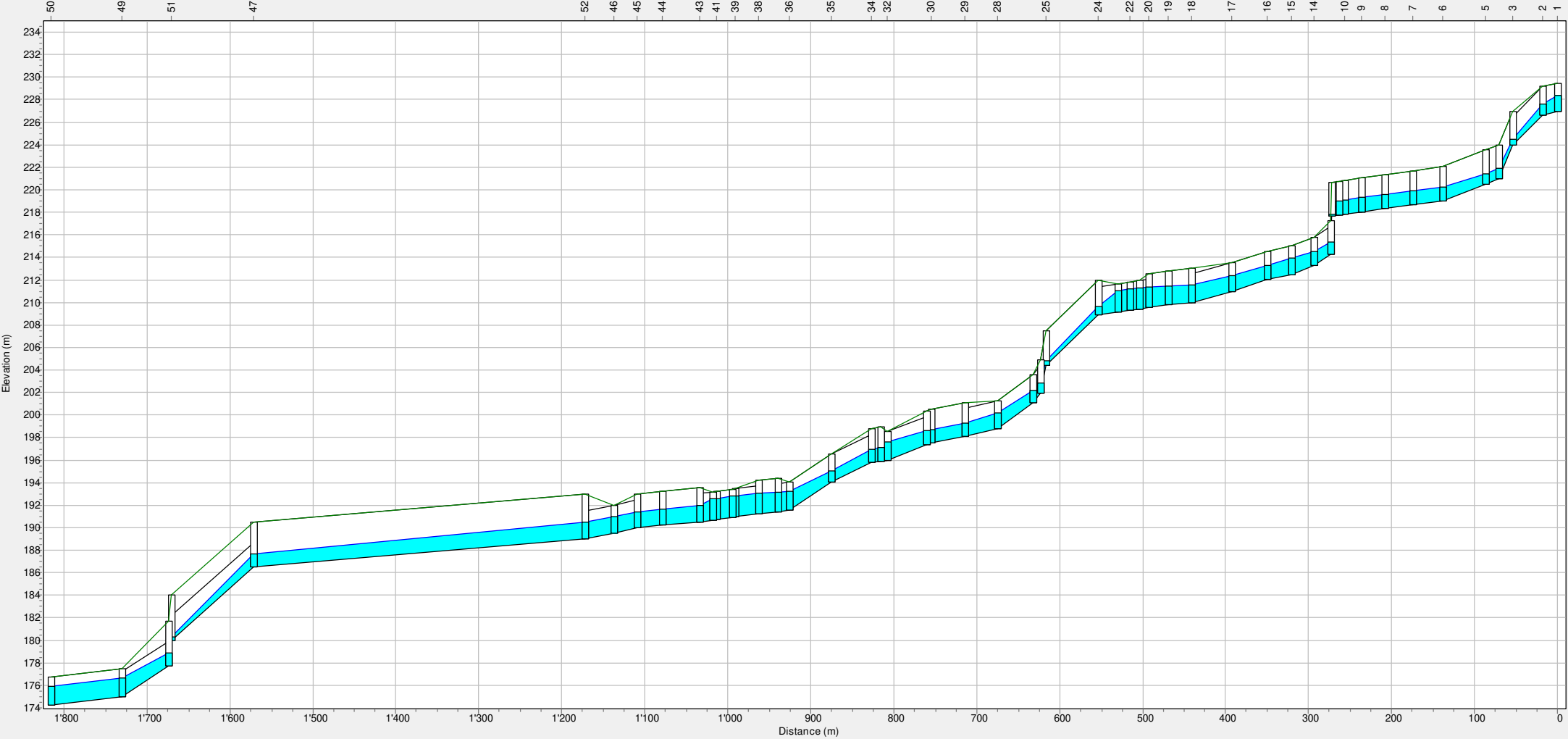
Analysis begun on: Wed Jun 8 17:09:20 2022

Analysis ended on: Wed Jun 8 17:09:21 2022

Total elapsed time: 00:00:01

## SIMULAZIONE TR 100

Water Elevation Profile: Node 1 - 50



06/08/2022 01:02:00

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.0)

WARNING 08: elevation drop exceeds length for Conduit T\_12

\*\*\*\*\*

Analysis Options

\*\*\*\*\*

Flow Units ..... CMS

Process Models:

Rainfall/Runoff ..... NO  
 RDII ..... NO  
 Snowmelt ..... NO  
 Groundwater ..... NO  
 Flow Routing ..... YES  
 Ponding Allowed ..... NO  
 Water Quality ..... NO

Flow Routing Method ..... DYNWAVE

Surcharge Method ..... EXTRAN

Starting Date ..... 06/08/2022 00:00:00

Ending Date ..... 06/08/2022 04:00:00

Antecedent Dry Days ..... 0.0

Report Time Step ..... 00:01:00

Routing Time Step ..... 10.00 sec

Variable Time Step ..... YES

Maximum Trials ..... 20

Number of Threads ..... 1

Head Tolerance ..... 0.001500 m

\*\*\*\*\*

Flow Routing Continuity

\*\*\*\*\*

	Volume hectare-m	Volume 10 <sup>6</sup> ltr
	-----	-----
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	6.446	64.456
External Outflow .....	6.339	63.395
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.109	1.090
Continuity Error (%) .....	-0.045	

\*\*\*\*\*

Time-Step Critical Elements

\*\*\*\*\*

Link T\_12 (99.86%)

\*\*\*\*\*

Highest Flow Instability Indexes

\*\*\*\*\*

Link T\_36 (32)

Link T\_37 (26)

Link T\_12 (11)

Link T\_44 (4)

\*\*\*\*\*

Most Frequent Nonconverging Nodes

\*\*\*\*\*

Convergence obtained at all time steps.

\*\*\*\*\*

Routing Time Step Summary

\*\*\*\*\*

Minimum Time Step : 0.02 sec  
Average Time Step : 0.50 sec  
Maximum Time Step : 10.00 sec  
% of Time in Steady State : 0.00  
Average Iterations per Step : 2.07  
% of Steps Not Converging : 0.00  
Time Step Frequencies :  
10.000 - 5.493 sec : 0.00 %  
5.493 - 3.017 sec : 0.13 %  
3.017 - 1.657 sec : 0.00 %  
1.657 - 0.910 sec : 0.01 %  
0.910 - 0.500 sec : 99.86 %

\*\*\*\*\*

Node Depth Summary

\*\*\*\*\*

Reported		Average	Maximum	Maximum	Time of Max	
Depth		Depth	Depth	HGL	Occurrence	Max
Node	Type	Meters	Meters	Meters	days hr:min	
Meters						
1	JUNCTION	0.50	1.47	228.41	0 01:00	
1.47						
2	JUNCTION	0.34	1.01	227.68	0 01:00	
1.01						
3	JUNCTION	0.15	0.48	224.47	0 01:00	
0.48						
4	JUNCTION	0.27	0.90	221.90	0 01:00	
0.90						

5	JUNCTION	0.27	0.92	221.45	0	01:00
0.92						
6	JUNCTION	0.38	1.29	220.32	0	01:00
1.28						
7	JUNCTION	0.38	1.30	219.97	0	01:00
1.28						
8	JUNCTION	0.38	1.30	219.63	0	01:00
1.29						
9	JUNCTION	0.38	1.28	219.33	0	01:00
1.27						
10	JUNCTION	0.38	1.28	219.12	0	01:00
1.28						
11	JUNCTION	0.38	1.28	219.05	0	01:00
1.28						
12	JUNCTION	0.06	0.20	217.88	0	01:00
0.20						
13	JUNCTION	0.37	1.11	215.38	0	01:00
1.11						
14	JUNCTION	0.42	1.27	214.57	0	01:00
1.27						
15	JUNCTION	0.50	1.46	213.95	0	01:01
1.46						
16	JUNCTION	0.44	1.30	213.34	0	01:01
1.30						
17	JUNCTION	0.47	1.40	212.40	0	01:01
1.40						
18	JUNCTION	0.43	1.59	211.59	0	01:01
1.58						
19	JUNCTION	0.45	1.70	211.47	0	01:01
1.68						
20	JUNCTION	0.63	1.91	211.44	0	01:01
1.88						
21	JUNCTION	0.63	1.90	211.32	0	01:01
1.88						
22	JUNCTION	0.63	1.88	211.19	0	01:01
1.87						
23	JUNCTION	0.63	1.88	211.04	0	01:01
1.86						
24	JUNCTION	0.22	0.70	209.62	0	01:01
0.70						
25	JUNCTION	0.11	0.37	204.82	0	01:01
0.37						
26	JUNCTION	0.31	0.94	202.88	0	01:01
0.93						
27	JUNCTION	0.34	1.04	202.16	0	01:01
1.04						
28	JUNCTION	0.50	1.45	200.20	0	01:01
1.45						
29	JUNCTION	0.33	1.14	199.28	0	01:02
1.14						
30	JUNCTION	0.34	1.19	198.71	0	01:02
1.19						
31	JUNCTION	0.42	1.28	198.64	0	01:02
1.27						

32	JUNCTION	0.54	1.59	197.59	0	01:02
1.59						
33	JUNCTION	0.37	1.21	197.13	0	01:02
1.20						
34	JUNCTION	0.39	1.17	196.96	0	01:02
1.16						
35	JUNCTION	0.35	1.07	195.10	0	01:02
1.06						
36	JUNCTION	0.57	1.75	193.28	0	01:02
1.74						
37	JUNCTION	0.48	1.78	193.19	0	01:02
1.77						
38	JUNCTION	0.62	1.90	193.13	0	01:02
1.89						
39	JUNCTION	0.63	1.91	192.86	0	01:02
1.91						
40	JUNCTION	0.63	1.91	192.82	0	01:02
1.91						
41	JUNCTION	0.63	1.92	192.64	0	01:03
1.92						
42	JUNCTION	0.63	1.92	192.60	0	01:03
1.92						
43	JUNCTION	0.43	1.47	192.00	0	01:03
1.47						
44	JUNCTION	0.42	1.46	191.67	0	01:03
1.46						
45	JUNCTION	0.40	1.44	191.44	0	01:03
1.43						
46	JUNCTION	0.42	1.50	191.00	0	01:03
1.49						
47	JUNCTION	0.45	1.19	187.69	0	01:04
1.19						
48	JUNCTION	0.43	1.21	178.91	0	01:04
1.21						
49	JUNCTION	0.49	1.78	176.78	0	01:04
1.76						
51	JUNCTION	0.10	0.33	180.33	0	01:04
0.33						
52	JUNCTION	0.44	1.52	190.52	0	01:03
1.52						
50	OUTFALL	0.49	1.76	176.01	0	01:04
1.75						

\*\*\*\*\*  
Node Inflow Summary  
\*\*\*\*\*

-----		Maximum	Maximum		Lateral
Total	Flow	Lateral	Total	Time of Max	Inflow



Inflow	Balance		Inflow	Inflow	Occurrence	Volume
Volume	Error	Type	CMS	CMS	days hr:min	10^6 ltr
Node	Percent					
10^6 ltr						
-----						
1		JUNCTION	21.860	21.860	0 01:00	64.5
64.5	0.009					
2		JUNCTION	0.000	21.852	0 01:00	0
64.5	0.016					
3		JUNCTION	0.000	21.863	0 01:00	0
64.4	0.007					
4		JUNCTION	0.000	21.862	0 01:00	0
64.4	0.015					
5		JUNCTION	0.000	21.882	0 01:00	0
64.4	0.025					
6		JUNCTION	0.000	21.909	0 01:00	0
64.4	0.047					
7		JUNCTION	0.000	21.922	0 01:00	0
64.4	0.036					
8		JUNCTION	0.000	21.942	0 01:00	0
64.4	0.034					
9		JUNCTION	0.000	21.927	0 01:00	0
64.3	0.025					
10		JUNCTION	0.000	21.945	0 01:00	0
64.3	0.016					
11		JUNCTION	0.000	21.947	0 01:00	0
64.3	0.006					
12		JUNCTION	0.000	21.946	0 01:00	0
64.3	0.002					
13		JUNCTION	0.000	22.322	0 01:00	0
64.3	0.007					
14		JUNCTION	0.000	21.958	0 01:00	0
64.3	0.016					
15		JUNCTION	0.000	21.977	0 01:00	0
64.3	0.025					
16		JUNCTION	0.000	21.964	0 01:01	0
64.3	0.028					
17		JUNCTION	0.000	21.986	0 01:01	0
64.3	0.038					
18		JUNCTION	0.000	21.992	0 01:01	0
64.2	0.031					
19		JUNCTION	0.000	21.957	0 01:01	0
64.2	0.027					
20		JUNCTION	0.000	21.938	0 01:01	0
64.2	0.030					
21		JUNCTION	0.000	21.929	0 01:01	0
64.2	0.007					
22		JUNCTION	0.000	21.927	0 01:01	0
64.2	0.009					
23		JUNCTION	0.000	21.926	0 01:01	0
64.2	0.010					

24		JUNCTION	0.000	21.921	0	01:01	0
64.2	0.022						
25		JUNCTION	0.000	21.934	0	01:01	0
64.1	0.012						
26		JUNCTION	0.000	21.933	0	01:01	0
64.1	0.006						
27		JUNCTION	0.000	21.936	0	01:01	0
64.1	0.014						
28		JUNCTION	0.000	21.933	0	01:01	0
64.1	0.037						
29		JUNCTION	0.000	21.915	0	01:02	0
64.1	0.029						
30		JUNCTION	0.000	21.946	0	01:02	0
64.1	0.020						
31		JUNCTION	0.000	21.953	0	01:02	0
64.1	0.021						
32		JUNCTION	0.000	21.978	0	01:02	0
64.1	0.027						
33		JUNCTION	0.000	21.967	0	01:02	0
64	0.008						
34		JUNCTION	0.000	21.966	0	01:02	0
64	0.023						
35		JUNCTION	0.000	21.985	0	01:02	0
64	0.030						
36		JUNCTION	0.000	21.972	0	01:02	0
64	0.035						
37		JUNCTION	0.000	21.930	0	01:02	0
64	0.017						
38		JUNCTION	0.000	21.920	0	01:02	0
64	0.035						
39		JUNCTION	0.000	21.932	0	01:02	0
63.9	0.010						
40		JUNCTION	0.000	21.935	0	01:02	0
63.9	0.007						
41		JUNCTION	0.000	21.940	0	01:02	0
63.9	0.007						
42		JUNCTION	0.000	21.938	0	01:03	0
63.9	0.006						
43		JUNCTION	0.000	21.937	0	01:03	0
63.9	0.032						
44		JUNCTION	0.000	21.956	0	01:03	0
63.9	0.044						
45		JUNCTION	0.000	22.055	0	01:03	0
63.9	0.027						
46		JUNCTION	0.000	21.995	0	01:03	0
63.9	0.027						
47		JUNCTION	0.000	21.833	0	01:04	0
63.7	0.364						
48		JUNCTION	0.000	21.828	0	01:04	0
63.4	0.012						
49		JUNCTION	0.000	21.827	0	01:04	0
63.4	0.054						
51		JUNCTION	0.000	21.827	0	01:04	0
63.4	0.003						

52		JUNCTION	0.000	22.004	0	01:03	0
63.8	0.266						
50		OUTFALL	0.000	21.862	0	01:04	0
63.4	0.000						

\*\*\*\*\*

#### Node Surcharge Summary

\*\*\*\*\*

No nodes were surcharged.

\*\*\*\*\*

#### Node Flooding Summary

\*\*\*\*\*

No nodes were flooded.

\*\*\*\*\*

#### Outfall Loading Summary

\*\*\*\*\*

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
50	95.54	4.648	21.862	63.395
System	95.54	4.648	21.862	63.395

\*\*\*\*\*

#### Link Flow Summary

\*\*\*\*\*

Link	Type	Maximum  Flow  CMS	Time of Max Occurrence days hr:min	Maximum  Veloc  m/sec	Max/ Full Flow	Max/ Full Depth
T_1	CONDUIT	21.852	0 01:00	5.45	0.35	0.50
T_2	CONDUIT	21.863	0 01:00	10.70	0.15	0.30
T_13	CONDUIT	21.958	0 01:00	5.78	0.20	0.48
T_14	CONDUIT	21.977	0 01:00	4.78	0.24	0.55
T_15	CONDUIT	21.964	0 01:01	4.70	0.34	0.55
T_16	CONDUIT	21.986	0 01:01	4.86	0.27	0.54
T_17	CONDUIT	21.992	0 01:01	4.23	0.30	0.60
T_26	CONDUIT	21.936	0 01:01	7.44	0.14	0.39
T_27	CONDUIT	21.933	0 01:01	5.45	0.18	0.50
T_28	CONDUIT	21.915	0 01:02	5.16	0.34	0.52
T_31	CONDUIT	21.978	0 01:02	4.46	0.25	0.57

T_32	CONDUIT	21.967	0	01:02	4.60	0.41	0.56
T_34	CONDUIT	21.985	0	01:02	6.31	0.22	0.45
T_35	CONDUIT	21.972	0	01:02	4.59	0.19	0.56
T_36	CONDUIT	21.930	0	01:02	3.41	0.44	0.71
T_3	CONDUIT	21.862	0	01:00	7.90	0.08	0.23
T_4	CONDUIT	21.882	0	01:00	6.02	0.19	0.30
T_5	CONDUIT	21.909	0	01:00	4.96	0.19	0.37
T_6	CONDUIT	21.922	0	01:00	4.25	0.32	0.43
T_7	CONDUIT	21.942	0	01:00	4.23	0.32	0.43
T_8	CONDUIT	21.927	0	01:00	4.25	0.33	0.43
T_9	CONDUIT	21.945	0	01:00	4.29	0.32	0.43
T_10	CONDUIT	21.947	0	01:00	4.28	0.32	0.43
T_11	CONDUIT	21.946	0	01:00	7.41	0.32	0.25
T_12	CONDUIT	22.322	0	01:00	8.50	0.02	0.22
T_18	CONDUIT	21.957	0	01:01	3.33	0.36	0.55
T_19	CONDUIT	21.938	0	01:01	3.04	0.32	0.60
T_24	CONDUIT	21.934	0	01:01	10.25	0.12	0.18
T_25	CONDUIT	21.933	0	01:01	8.41	0.05	0.22
T_29	CONDUIT	21.946	0	01:02	4.74	0.26	0.39
T_30	CONDUIT	21.953	0	01:02	4.46	0.20	0.41
T_33	CONDUIT	21.966	0	01:02	4.62	0.30	0.40
T_37	CONDUIT	21.920	0	01:02	2.99	0.38	0.61
T_43	CONDUIT	21.956	0	01:03	3.76	0.39	0.49
T_44	CONDUIT	22.055	0	01:03	3.81	0.39	0.48
T_38	CONDUIT	21.932	0	01:02	5.48	0.91	0.76
T_39	CONDUIT	21.935	0	01:02	5.46	0.92	0.76
T_40	CONDUIT	21.940	0	01:02	5.44	0.92	0.77
T_41	CONDUIT	21.938	0	01:03	5.43	0.92	0.77
T_42	CONDUIT	21.937	0	01:03	6.21	0.94	0.68
T_20	CONDUIT	21.929	0	01:01	5.47	0.93	0.76
T_21	CONDUIT	21.927	0	01:01	5.50	0.93	0.76
T_22	CONDUIT	21.926	0	01:01	5.54	0.92	0.75
T_23	CONDUIT	21.921	0	01:01	8.59	0.91	0.52
T_47	CONDUIT	21.827	0	01:04	18.77	0.50	0.35
T_49	CONDUIT	21.827	0	01:04	7.95	0.59	0.68
T_45	CONDUIT	21.995	0	01:03	5.00	0.46	0.59
T_46	CONDUIT	22.004	0	01:03	4.86	0.51	0.60
T_50	CONDUIT	21.862	0	01:04	4.13	0.65	0.71
T_48	CONDUIT	21.828	0	01:04	9.44	0.03	0.19
51	CONDUIT	21.833	0	01:04	4.04	0.28	0.34

\*\*\*\*\*  
Flow Classification Summary  
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-----									
----									
		Adjusted	----- Fraction of Time in Flow Class						
		/Actual	Up	Down	Sub	Sup	Up	Down	Norm
Inlet									
Conduit		Length	Dry	Dry	Dry	Crit	Crit	Crit	Ltd

-----									
T_1	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
T_2	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
T_13	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.73
T_14	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.69
T_15	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.33
T_16	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.75
T_17	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.10
T_26	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.71
T_27	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
T_28	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.31
T_31	1.00	0.02	0.00	0.00	0.00	0.97	0.00	0.00	0.73
T_32	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97
T_34	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.00
T_35	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.97
T_36	1.00	0.03	0.00	0.00	0.02	0.95	0.00	0.00	0.33
T_3	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
T_4	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.17
T_5	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.84
T_6	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.80
T_7	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.11
T_8	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.91
T_9	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.08
T_10	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.23
T_11	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99
T_12	1.00	0.01	0.00	0.00	0.00	0.99	0.00	0.00	0.99

T_18 0.00	1.00	0.01	0.00	0.00	0.28	0.70	0.00	0.00	0.67
T_19 0.00	1.00	0.01	0.00	0.00	0.98	0.00	0.00	0.00	0.66
T_24 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_25 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
T_29 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.06
T_30 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_33 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.06
T_37 0.00	1.00	0.03	0.00	0.00	0.97	0.00	0.00	0.00	0.34
T_43 0.00	1.00	0.03	0.00	0.00	0.73	0.24	0.00	0.00	0.18
T_44 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.27
T_38 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.11
T_39 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.08
T_40 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.08
T_41 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_42 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.96
T_20 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.88
T_21 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.91
T_22 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.87
T_23 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.97
T_47 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_49 0.00	1.00	0.04	0.00	0.00	0.00	0.95	0.00	0.00	0.31
T_45 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.66
T_46 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.63
T_50 0.00	1.00	0.05	0.00	0.00	0.09	0.87	0.00	0.00	0.26
T_48 0.00	1.00	0.04	0.00	0.00	0.01	0.94	0.00	0.00	0.90
51 0.00	1.00	0.04	0.00	0.00	0.74	0.22	0.00	0.00	0.68

\*\*\*\*\*

# Conduit Surcharge Summary

\*\*\*\*\*

No conduits were surcharged.

Analysis begun on: Wed Jun 8 17:10:19 2022

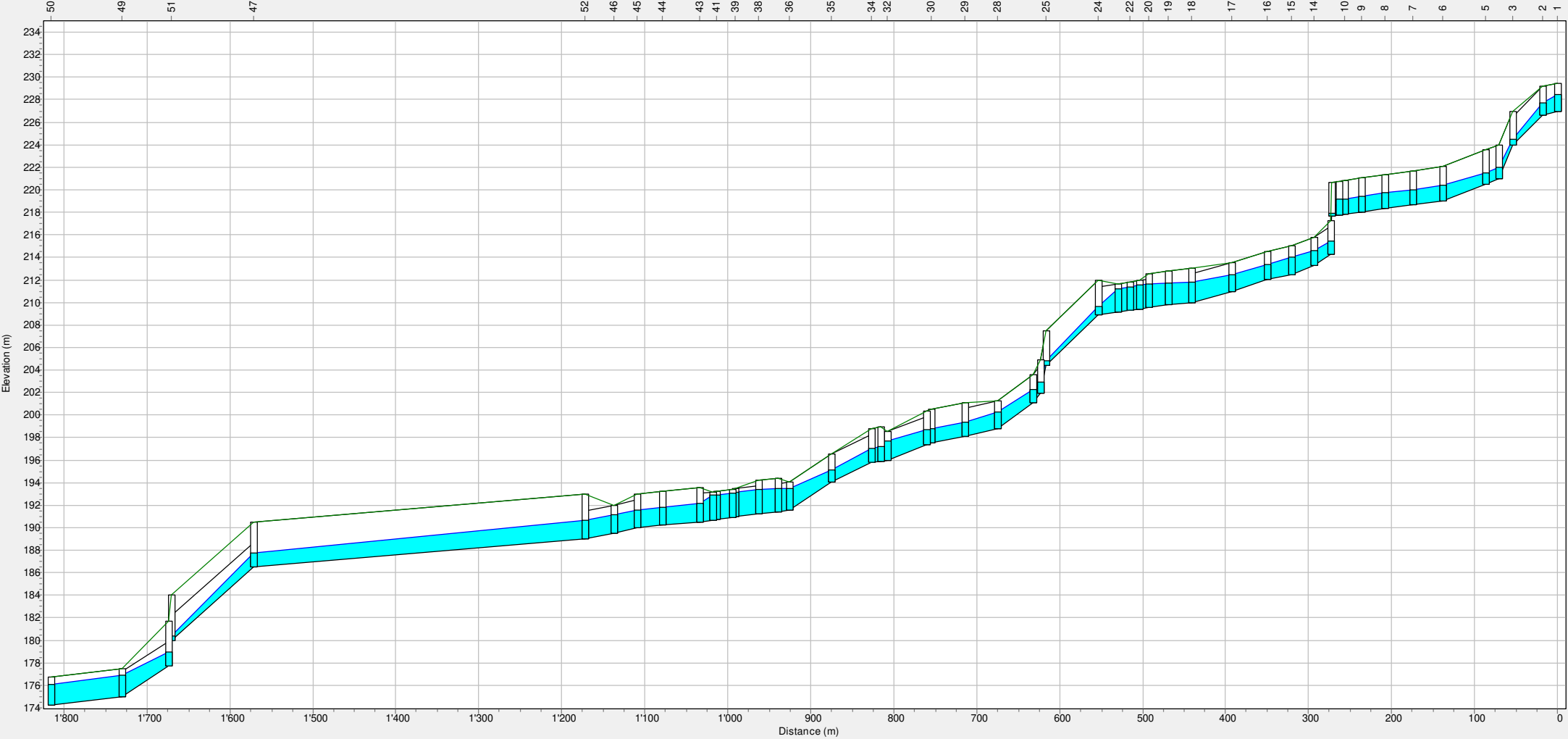
Analysis ended on: Wed Jun 8 17:10:20 2022

Total elapsed time: 00:00:01

## SIMULAZIONE TR 200



Water Elevation Profile: Node 1 - 50



06/08/2022 01:03:00

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.2 (Build 5.2.0)

-----  
WARNING 08: elevation drop exceeds length for Conduit T\_12

\*\*\*\*\*

Analysis Options

\*\*\*\*\*

Flow Units ..... CMS

Process Models:

Rainfall/Runoff ..... NO

RDII ..... NO

Snowmelt ..... NO

Groundwater ..... NO

Flow Routing ..... YES

Ponding Allowed ..... NO

Water Quality ..... NO

Flow Routing Method ..... DYNWAVE

Surcharge Method ..... EXTRAN

Starting Date ..... 06/08/2022 00:00:00

Ending Date ..... 06/08/2022 04:00:00

Antecedent Dry Days ..... 0.0

Report Time Step ..... 00:01:00

Routing Time Step ..... 10.00 sec

Variable Time Step ..... YES

Maximum Trials ..... 20

Number of Threads ..... 1

Head Tolerance ..... 0.001500 m

\*\*\*\*\*

Flow Routing Continuity

\*\*\*\*\*

	Volume hectare-m	Volume 10 <sup>6</sup> ltr
	-----	-----
Dry Weather Inflow .....	0.000	0.000
Wet Weather Inflow .....	0.000	0.000
Groundwater Inflow .....	0.000	0.000
RDII Inflow .....	0.000	0.000
External Inflow .....	7.201	72.015
External Outflow .....	7.095	70.954
Flooding Loss .....	0.000	0.000
Evaporation Loss .....	0.000	0.000
Exfiltration Loss .....	0.000	0.000
Initial Stored Volume ....	0.000	0.000
Final Stored Volume .....	0.109	1.090
Continuity Error (%) .....	-0.040	

\*\*\*\*\*

Time-Step Critical Elements

\*\*\*\*\*

Link T\_12 (99.86%)

\*\*\*\*\*

Highest Flow Instability Indexes

\*\*\*\*\*

Link T\_36 (32)

Link T\_37 (26)

Link T\_12 (16)

Link T\_44 (4)

\*\*\*\*\*

Most Frequent Nonconverging Nodes

\*\*\*\*\*

Convergence obtained at all time steps.

\*\*\*\*\*

Routing Time Step Summary

\*\*\*\*\*

Minimum Time Step : 0.02 sec

Average Time Step : 0.50 sec

Maximum Time Step : 10.00 sec

% of Time in Steady State : 0.00

Average Iterations per Step : 2.11

% of Steps Not Converging : 0.00

Time Step Frequencies :

10.000 - 5.493 sec : 0.00 %

5.493 - 3.017 sec : 0.13 %

3.017 - 1.657 sec : 0.00 %

1.657 - 0.910 sec : 0.01 %

0.910 - 0.500 sec : 99.86 %

\*\*\*\*\*

Node Depth Summary

\*\*\*\*\*

Reported		Average	Maximum	Maximum	Time of Max	
Depth		Depth	Depth	HGL	Occurrence	Max
Node	Type	Meters	Meters	Meters	days hr:min	
Meters						
1	JUNCTION	0.53	1.57	228.51	0 01:00	
1.57						
2	JUNCTION	0.36	1.08	227.75	0 01:00	
1.08						
3	JUNCTION	0.16	0.53	224.52	0 01:00	
0.52						
4	JUNCTION	0.29	1.00	222.00	0 01:00	
1.00						

5	JUNCTION	0.29	1.02	221.55	0	01:00
1.02						
6	JUNCTION	0.40	1.42	220.45	0	01:00
1.41						
7	JUNCTION	0.41	1.43	220.10	0	01:00
1.41						
8	JUNCTION	0.41	1.43	219.76	0	01:00
1.42						
9	JUNCTION	0.40	1.41	219.46	0	01:00
1.39						
10	JUNCTION	0.40	1.41	219.25	0	01:00
1.40						
11	JUNCTION	0.40	1.41	219.18	0	01:00
1.41						
12	JUNCTION	0.07	0.22	217.90	0	01:00
0.22						
13	JUNCTION	0.38	1.20	215.47	0	01:00
1.19						
14	JUNCTION	0.44	1.37	214.67	0	01:00
1.37						
15	JUNCTION	0.52	1.57	214.06	0	01:01
1.57						
16	JUNCTION	0.46	1.41	213.45	0	01:01
1.41						
17	JUNCTION	0.49	1.53	212.53	0	01:01
1.53						
18	JUNCTION	0.47	1.83	211.83	0	01:01
1.80						
19	JUNCTION	0.48	1.98	211.75	0	01:01
1.95						
20	JUNCTION	0.67	2.20	211.73	0	01:01
2.17						
21	JUNCTION	0.67	2.19	211.61	0	01:01
2.16						
22	JUNCTION	0.66	2.15	211.46	0	01:01
2.14						
23	JUNCTION	0.66	2.14	211.30	0	01:01
2.13						
24	JUNCTION	0.23	0.76	209.68	0	01:01
0.76						
25	JUNCTION	0.12	0.40	204.85	0	01:01
0.40						
26	JUNCTION	0.32	1.01	202.95	0	01:01
1.01						
27	JUNCTION	0.36	1.11	202.23	0	01:01
1.11						
28	JUNCTION	0.52	1.55	200.30	0	01:02
1.55						
29	JUNCTION	0.35	1.24	199.38	0	01:02
1.24						
30	JUNCTION	0.36	1.28	198.80	0	01:02
1.28						
31	JUNCTION	0.44	1.37	198.73	0	01:02
1.37						

32	JUNCTION	0.57	1.70	197.70	0	01:02
1.69						
33	JUNCTION	0.39	1.32	197.24	0	01:02
1.32						
34	JUNCTION	0.41	1.25	197.04	0	01:02
1.25						
35	JUNCTION	0.37	1.14	195.17	0	01:02
1.13						
36	JUNCTION	0.60	1.97	193.50	0	01:02
1.97						
37	JUNCTION	0.52	2.03	193.44	0	01:02
2.03						
38	JUNCTION	0.66	2.17	193.40	0	01:02
2.17						
39	JUNCTION	0.66	2.19	193.14	0	01:03
2.19						
40	JUNCTION	0.66	2.19	193.10	0	01:03
2.19						
41	JUNCTION	0.67	2.20	192.92	0	01:03
2.20						
42	JUNCTION	0.67	2.20	192.88	0	01:03
2.20						
43	JUNCTION	0.45	1.59	192.12	0	01:03
1.59						
44	JUNCTION	0.45	1.58	191.79	0	01:03
1.58						
45	JUNCTION	0.43	1.57	191.57	0	01:03
1.57						
46	JUNCTION	0.45	1.64	191.14	0	01:03
1.63						
47	JUNCTION	0.47	1.26	187.76	0	01:04
1.26						
48	JUNCTION	0.45	1.32	179.02	0	01:04
1.32						
49	JUNCTION	0.53	1.94	176.94	0	01:04
1.94						
51	JUNCTION	0.10	0.37	180.37	0	01:04
0.37						
52	JUNCTION	0.47	1.66	190.66	0	01:03
1.66						
50	OUTFALL	0.52	1.91	176.16	0	01:04
1.91						

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Node Inflow Summary  
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Total	Flow	Maximum Lateral	Maximum Total	Time of Max	Lateral Inflow	

Inflow	Balance		Inflow	Inflow	Occurrence	Volume
Volume	Error	Type	CMS	CMS	days hr:min	10^6 ltr
Node	Percent					
10^6 ltr						
-----						
1		JUNCTION	25.010	25.010	0 01:00	72
72	0.008					
2		JUNCTION	0.000	25.001	0 01:00	0
72	0.014					
3		JUNCTION	0.000	25.015	0 01:00	0
72	0.007					
4		JUNCTION	0.000	25.013	0 01:00	0
72	0.013					
5		JUNCTION	0.000	25.036	0 01:00	0
72	0.022					
6		JUNCTION	0.000	25.067	0 01:00	0
72	0.042					
7		JUNCTION	0.000	25.081	0 01:00	0
71.9	0.032					
8		JUNCTION	0.000	25.104	0 01:00	0
71.9	0.030					
9		JUNCTION	0.000	25.087	0 01:00	0
71.9	0.023					
10		JUNCTION	0.000	25.106	0 01:00	0
71.9	0.014					
11		JUNCTION	0.000	25.108	0 01:00	0
71.9	0.006					
12		JUNCTION	0.000	25.107	0 01:00	0
71.9	0.002					
13		JUNCTION	0.000	25.506	0 01:00	0
71.9	0.006					
14		JUNCTION	0.000	25.121	0 01:00	0
71.9	0.015					
15		JUNCTION	0.000	25.144	0 01:00	0
71.8	0.022					
16		JUNCTION	0.000	25.129	0 01:01	0
71.8	0.025					
17		JUNCTION	0.000	25.151	0 01:01	0
71.8	0.034					
18		JUNCTION	0.000	25.128	0 01:01	0
71.8	0.028					
19		JUNCTION	0.000	24.994	0 01:01	0
71.8	0.024					
20		JUNCTION	0.000	24.908	0 01:01	0
71.8	0.027					
21		JUNCTION	0.000	24.878	0 01:01	0
71.7	0.006					
22		JUNCTION	0.000	24.876	0 01:01	0
71.7	0.008					
23		JUNCTION	0.000	24.873	0 01:01	0
71.7	0.009					

24		JUNCTION	0.000	24.867	0	01:01	0
71.7	0.020						
25		JUNCTION	0.000	24.879	0	01:01	0
71.7	0.010						
26		JUNCTION	0.000	24.878	0	01:01	0
71.7	0.005						
27		JUNCTION	0.000	24.881	0	01:01	0
71.7	0.013						
28		JUNCTION	0.000	24.878	0	01:01	0
71.7	0.034						
29		JUNCTION	0.000	24.863	0	01:02	0
71.7	0.026						
30		JUNCTION	0.000	24.895	0	01:02	0
71.6	0.018						
31		JUNCTION	0.000	24.901	0	01:02	0
71.6	0.019						
32		JUNCTION	0.000	24.924	0	01:02	0
71.6	0.024						
33		JUNCTION	0.000	24.915	0	01:02	0
71.6	0.007						
34		JUNCTION	0.000	24.914	0	01:02	0
71.6	0.021						
35		JUNCTION	0.000	24.932	0	01:02	0
71.6	0.027						
36		JUNCTION	0.000	24.920	0	01:02	0
71.6	0.031						
37		JUNCTION	0.000	24.813	0	01:02	0
71.5	0.015						
38		JUNCTION	0.000	24.755	0	01:02	0
71.5	0.031						
39		JUNCTION	0.000	24.729	0	01:02	0
71.5	0.009						
40		JUNCTION	0.000	24.720	0	01:02	0
71.5	0.006						
41		JUNCTION	0.000	24.717	0	01:03	0
71.5	0.007						
42		JUNCTION	0.000	24.712	0	01:03	0
71.5	0.005						
43		JUNCTION	0.000	24.710	0	01:03	0
71.5	0.029						
44		JUNCTION	0.000	24.731	0	01:03	0
71.5	0.039						
45		JUNCTION	0.000	24.743	0	01:03	0
71.4	0.024						
46		JUNCTION	0.000	24.750	0	01:03	0
71.4	0.024						
47		JUNCTION	0.000	24.708	0	01:04	0
71.2	0.326						
48		JUNCTION	0.000	24.724	0	01:04	0
71	0.011						
49		JUNCTION	0.000	24.731	0	01:04	0
71	0.048						
51		JUNCTION	0.000	24.723	0	01:04	0
71	0.002						

52		JUNCTION	0.000	24.760	0	01:03	0
71.4	0.237						
50		OUTFALL	0.000	24.756	0	01:04	0
71	0.000						

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#### Node Surcharge Summary

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No nodes were surcharged.

\*\*\*\*\*

#### Node Flooding Summary

\*\*\*\*\*

No nodes were flooded.

\*\*\*\*\*

#### Outfall Loading Summary

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Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
50	95.54	5.202	24.756	70.954
System	95.54	5.202	24.756	70.954

\*\*\*\*\*

#### Link Flow Summary

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Link	Type	Maximum  Flow  CMS	Time of Max Occurrence days hr:min	Maximum  Veloc  m/sec	Max/ Full Flow	Max/ Full Depth
T_1	CONDUIT	25.001	0 01:00	5.66	0.39	0.53
T_2	CONDUIT	25.015	0 01:00	11.11	0.18	0.32
T_13	CONDUIT	25.121	0 01:00	5.96	0.22	0.52
T_14	CONDUIT	25.144	0 01:00	4.94	0.28	0.59
T_15	CONDUIT	25.129	0 01:01	4.85	0.39	0.59
T_16	CONDUIT	25.151	0 01:01	4.93	0.31	0.59
T_17	CONDUIT	25.128	0 01:01	4.23	0.34	0.67
T_26	CONDUIT	24.881	0 01:01	7.69	0.16	0.42
T_27	CONDUIT	24.878	0 01:01	5.63	0.20	0.53
T_28	CONDUIT	24.863	0 01:02	5.28	0.38	0.56
T_31	CONDUIT	24.924	0 01:02	4.60	0.28	0.61



T_32	CONDUIT	24.915	0	01:02	4.69	0.46	0.60
T_34	CONDUIT	24.932	0	01:02	6.53	0.25	0.48
T_35	CONDUIT	24.920	0	01:02	4.59	0.21	0.62
T_36	CONDUIT	24.813	0	01:02	3.41	0.50	0.80
T_3	CONDUIT	25.013	0	01:00	8.22	0.09	0.25
T_4	CONDUIT	25.036	0	01:00	6.23	0.22	0.34
T_5	CONDUIT	25.067	0	01:00	5.14	0.22	0.41
T_6	CONDUIT	25.081	0	01:00	4.41	0.37	0.47
T_7	CONDUIT	25.104	0	01:00	4.40	0.37	0.48
T_8	CONDUIT	25.087	0	01:00	4.42	0.37	0.47
T_9	CONDUIT	25.106	0	01:00	4.46	0.36	0.47
T_10	CONDUIT	25.108	0	01:00	4.45	0.37	0.47
T_11	CONDUIT	25.107	0	01:00	7.71	0.37	0.27
T_12	CONDUIT	25.506	0	01:00	8.99	0.02	0.24
T_18	CONDUIT	24.994	0	01:01	3.34	0.41	0.63
T_19	CONDUIT	24.908	0	01:01	3.05	0.36	0.70
T_24	CONDUIT	24.879	0	01:01	10.71	0.14	0.19
T_25	CONDUIT	24.878	0	01:01	8.86	0.06	0.23
T_29	CONDUIT	24.895	0	01:02	4.95	0.30	0.42
T_30	CONDUIT	24.901	0	01:02	4.70	0.22	0.44
T_33	CONDUIT	24.914	0	01:02	4.84	0.34	0.43
T_37	CONDUIT	24.755	0	01:02	2.99	0.42	0.70
T_43	CONDUIT	24.731	0	01:03	3.90	0.44	0.53
T_44	CONDUIT	24.743	0	01:03	3.93	0.44	0.53
T_38	CONDUIT	24.729	0	01:02	5.49	1.02	0.87
T_39	CONDUIT	24.720	0	01:02	5.47	1.03	0.88
T_40	CONDUIT	24.717	0	01:03	5.46	1.03	0.88
T_41	CONDUIT	24.712	0	01:03	5.45	1.03	0.88
T_42	CONDUIT	24.710	0	01:03	6.24	1.05	0.76
T_20	CONDUIT	24.878	0	01:01	5.49	1.06	0.88
T_21	CONDUIT	24.876	0	01:01	5.53	1.05	0.87
T_22	CONDUIT	24.873	0	01:01	5.57	1.04	0.86
T_23	CONDUIT	24.867	0	01:01	8.59	1.03	0.58
T_47	CONDUIT	24.723	0	01:04	19.33	0.57	0.37
T_49	CONDUIT	24.731	0	01:04	8.20	0.66	0.74
T_45	CONDUIT	24.750	0	01:03	5.15	0.52	0.64
T_46	CONDUIT	24.760	0	01:03	5.02	0.57	0.66
T_50	CONDUIT	24.756	0	01:04	4.29	0.74	0.77
T_48	CONDUIT	24.724	0	01:04	9.78	0.04	0.21
51	CONDUIT	24.708	0	01:04	4.24	0.32	0.36

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Flow Classification Summary  
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		Adjusted	----- Fraction of Time in Flow Class						
		/Actual	Up	Down	Sub	Sup	Up	Down	Norm
Inlet									
Conduit	Length		Dry	Dry	Dry	Crit	Crit	Crit	Ltd



T_18 0.00	1.00	0.01	0.00	0.00	0.29	0.70	0.00	0.00	0.66
T_19 0.00	1.00	0.01	0.00	0.00	0.98	0.00	0.00	0.00	0.66
T_24 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_25 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.98
T_29 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.05
T_30 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.00
T_33 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.10
T_37 0.00	1.00	0.03	0.00	0.00	0.97	0.00	0.00	0.00	0.34
T_43 0.00	1.00	0.03	0.00	0.00	0.76	0.20	0.00	0.00	0.16
T_44 0.00	1.00	0.04	0.00	0.00	0.02	0.95	0.00	0.00	0.23
T_38 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.10
T_39 0.00	1.00	0.03	0.00	0.00	0.00	0.97	0.00	0.00	0.08
T_40 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.08
T_41 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_42 0.00	1.00	0.03	0.00	0.00	0.00	0.96	0.00	0.00	0.96
T_20 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.89
T_21 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.92
T_22 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.88
T_23 0.00	1.00	0.02	0.00	0.00	0.00	0.98	0.00	0.00	0.97
T_47 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.00
T_49 0.00	1.00	0.04	0.00	0.00	0.00	0.95	0.00	0.00	0.28
T_45 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.65
T_46 0.00	1.00	0.04	0.00	0.00	0.00	0.96	0.00	0.00	0.63
T_50 0.00	1.00	0.05	0.00	0.00	0.12	0.83	0.00	0.00	0.24
T_48 0.00	1.00	0.04	0.00	0.00	0.01	0.94	0.00	0.00	0.86
51 0.00	1.00	0.04	0.00	0.00	0.72	0.24	0.00	0.00	0.67

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 Conduit Surcharge Summary  
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Conduit	----- Both Ends	Hours Full Upstream	----- Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
T_38	0.01	0.01	0.01	0.05	0.01
T_39	0.01	0.01	0.01	0.06	0.01
T_40	0.01	0.01	0.01	0.06	0.01
T_41	0.01	0.01	0.01	0.06	0.01
T_42	0.01	0.01	0.01	0.09	0.01
T_20	0.01	0.01	0.01	0.08	0.01
T_21	0.01	0.01	0.01	0.08	0.01
T_22	0.01	0.01	0.01	0.06	0.01
T_23	0.01	0.01	0.01	0.06	0.01

Analysis begun on: Wed Jun 8 17:11:32 2022  
 Analysis ended on: Wed Jun 8 17:11:33 2022  
 Total elapsed time: 00:00:01