

## 11 ANEJOS

### 11.1 LLUVIA DE PROYECTO DE PERÍODO DE RETORNO 10 AÑOS (CLABSA)

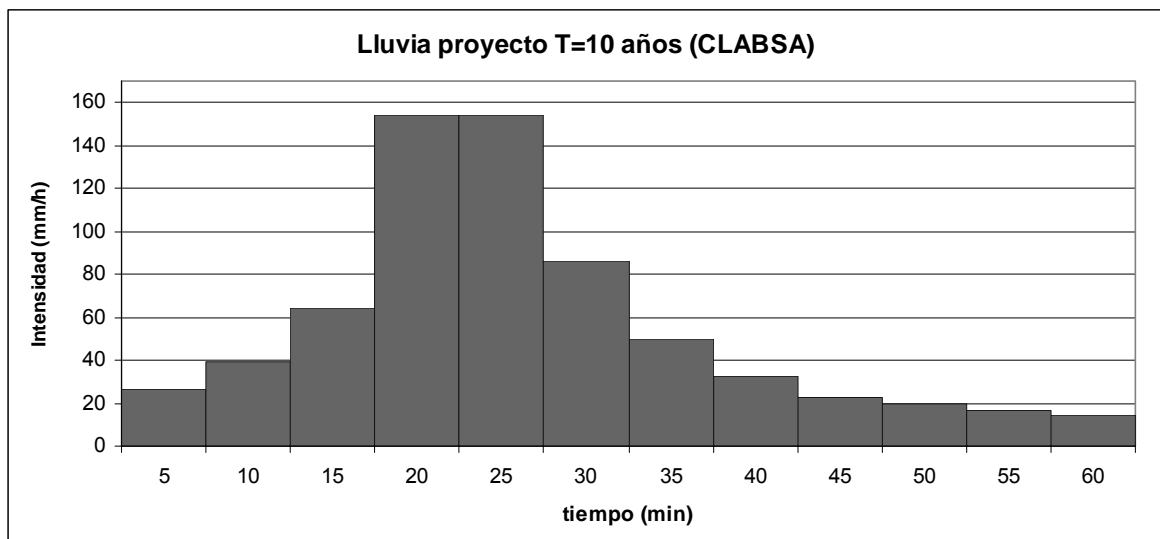


Figura 30. Hietograma de la lluvia de proyecto de período de retorno 10 años (CLABSA).

Intervalo tiempo (min)	5	10	15	20	25	30	35	40	45	50	55	60
Intensidad (mm/h)	26.7	39.5	64.2	154.2	154.2	86.2	49.6	32.2	22.5	19.3	16.7	14.6
Precipitación (mm)	2.23	3.29	5.35	12.85	12.85	7.18	4.13	2.68	1.88	1.61	1.39	1.22

Tabla 12. Lluvia de proyecto de periodo de retorno 10 años (CLABSA).

### 11.2 CURVAS IDF BARCELONA – FABRA (SERIE 1927 – 1993)

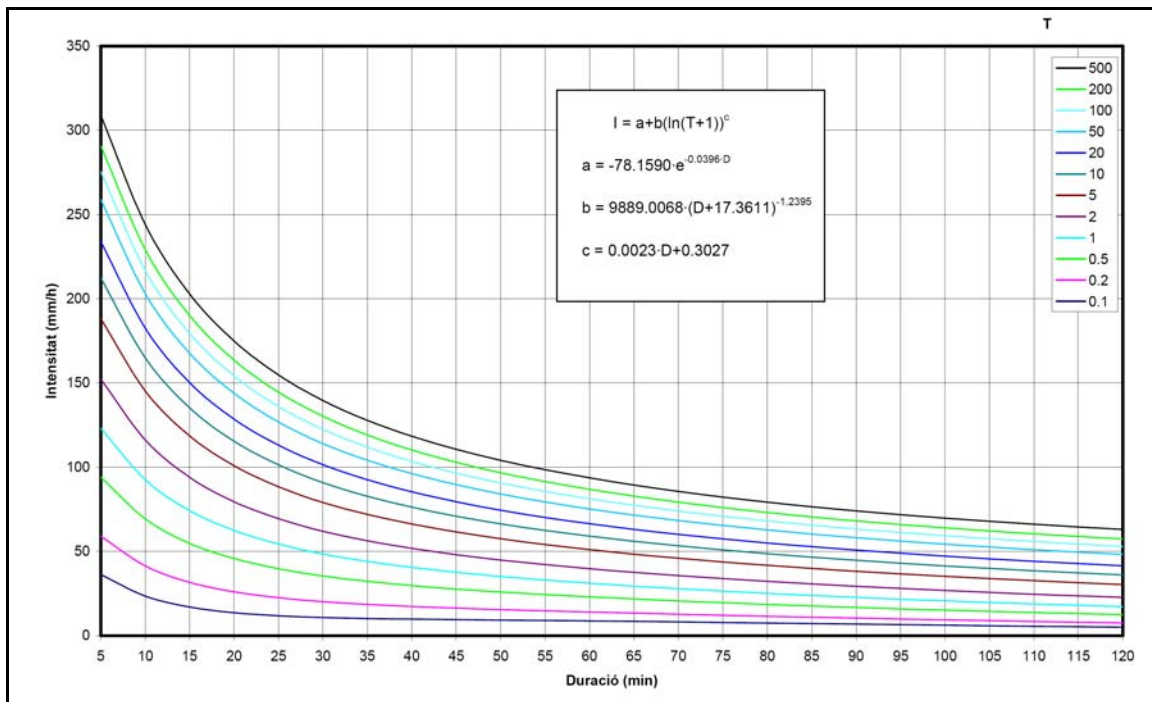


Figura 31. Curvas IDF obtenidas a partir de la serie (1927 – 1993) del observatorio Fabra en Barcelona. Fuente: (Tugues, 2003), obtenida originalmente de CLABSA.

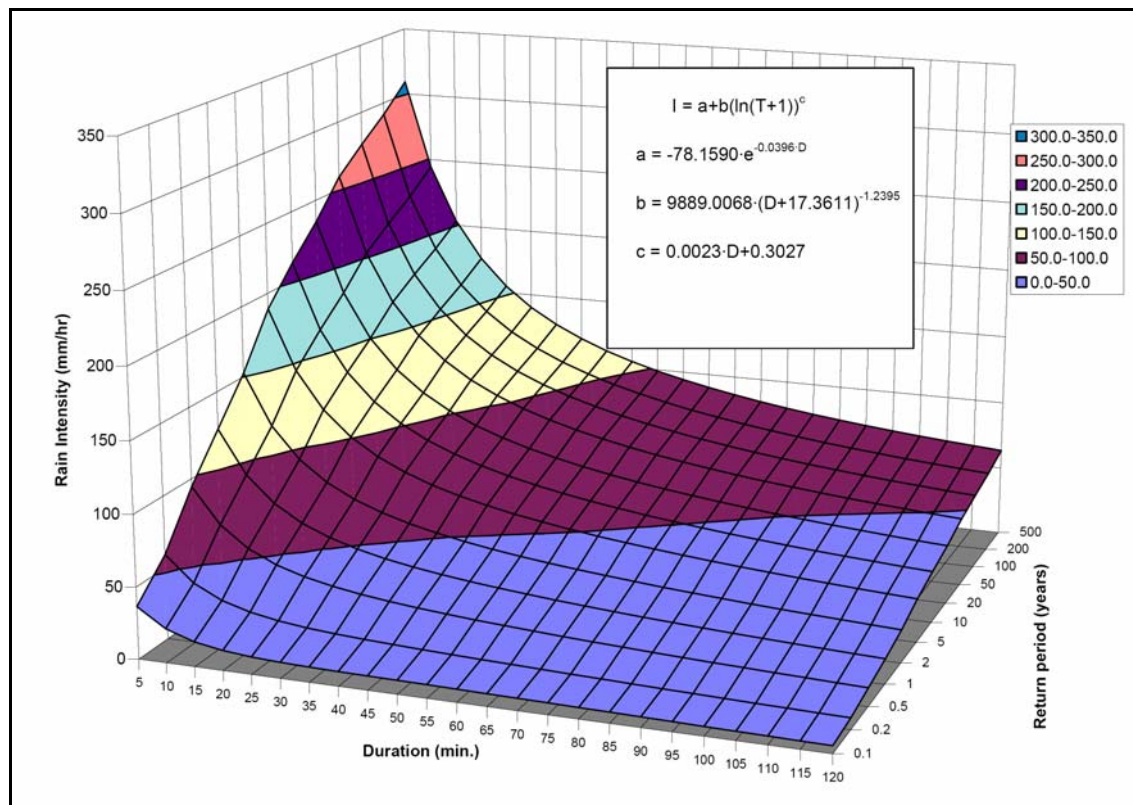


Figura 32. Curvas IDF en 3D obtenidas a partir de la serie (1927 – 1993) del observatorio Fabra en Barcelona. Fuente: (Tugues, 2003), obtenida originalmente de CLABSA.

### 11.3 CARACTERÍSTICAS DE CUENCAS Y CONDUCTOS EN LA MODELIZACIÓN DE LA CUENCA DE LA RIERA ROJA EN LA SITUACIÓN INICIAL

Subcuenca	Drena por	Ancho [m]	Área [ha]	% Impermeable	Pendiente
1	1001	250	3.241	10	0.24
2	1002	284	0.992	10	0.19
3	1003	600	6.266	5	0.11
4	1004	620	5.177	25	0.083
5	1005	260	2.669	5	0.169
6	6	60	1.153	5	0.084
7	1007	474	3.192	5	0.088
8	12	224	2.614	15	0.104
9	1009	216	2.635	5	0.08
10	10	80	0.160	98	0.07
11	11	70	0.117	98	0.07
12	12	74	0.121	98	0.07
13	1013	860	4.133	85	0.095
14	1014	130	0.909	80	0.008
15	1015	490	3.604	20	0.009
16	17	105	3.139	80	0.04
17	17	105	0.273	98	0.07
18	18	142	2.475	85	0.062
19	19	295	4.089	80	0.035
20	1020	590	6.321	60	0.052
21	22	97	1.581	50	0.016
22	22	97	0.245	98	0.03
23	1023	200	2.213	65	0.04
24	1024	400	3.510	80	0.02
25	25	175	0.197	98	0.03
26	26	114	0.362	98	0.03
27	27	190	4.019	15	0.03
28	20	225	3.494	80	0.063
29	29	360	3.173	80	0.058
30	30	253	3.421	25	0.032
31	31	44	0.830	85	0.024
32	1032	325	1.534	95	0.013
33	32	113	0.226	95	0.03
34	34	132	1.759	95	0.018
35	35	355	3.920	90	0.046
36	30	250	3.571	95	0.038
37	37	75	0.944	50	0.01
38	38	95	0.913	95	0.02
39	40	60	0.241	95	0.02
40	40	120	1.822	90	0.05
41	41	75	0.892	90	0.045
42	42	108	0.244	98	0.02
43	43	163	0.337	98	0.02
44	44	190	0.637	98	0.02
45	45	186	0.443	98	0.02

Subcuenca	Drena por	Ancho [m]	Área [ha]	% Impermeable	Pendiente
46	46	187	0.460	98	0.02
47	47	190	0.605	98	0.02
48	48	193	0.546	98	0.02
49	49	192	0.463	98	0.02
50	50	190	0.764	98	0.02
51	51	195	0.481	98	0.02
52	52	198	0.479	98	0.02
53	53	195	0.698	98	0.02
54	51	90	0.276	95	0.02
55	53	36	0.192	50	0.005
56	56	120	1.207	90	0.025
57	57	140	0.718	95	0.025
58	58	196	0.482	95	0.02
59	59	170	0.912	90	0.02
60	60	85	0.347	95	0.02
61	60	120	0.457	95	0.02
62	1062	100	0.540	50	0.023
63	70	360	0.880	90	0.02
64	48	176	0.439	98	0.02
65	65	155	1.233	90	0.051
66	66	147	0.346	95	0.01
67	67	155	0.764	65	0.01
68	68	115	0.270	95	0.01
69	60	240	0.741	90	0.01
70	70	214	0.592	95	0.01
71	1071	360	2.999	50	0.038
72	72	240	2.347	85	0.01
73	73	205	0.925	95	0.01
74	74	208	0.419	95	0.01
75	67	128	0.332	95	0.01
76	76	100	1.084	25	0.027
77	77	280	1.434	90	0.01
78	78	190	0.968	90	0.01
79	79	148	0.776	90	0.01
80	80	91	1.309	95	0.01
81	82	120	1.609	90	0.007
82	82	98	1.291	90	0.007
83	1083	196	1.214	95	0.005
84	79	54	0.481	95	0.005
85	85	89	0.494	95	0.005
86	86	52	0.645	95	0.005
87	87	39	0.554	95	0.005
88	88	165	1.722	95	0.007
89	89	180	1.480	90	0.007
90	1090	150	0.572	35	0.05
91	1091	174	0.713	95	0.05
92	92	56	0.223	95	0.05
93	93	45	0.761	95	0.05
94	94	78	1.257	95	0.05

Subcuenca	Drena por	Ancho [m]	Área [ha]	% Impermeable	Pendiente
95	95	94	0.614	60	0.05
96	96	117	0.770	95	0.05
97	97	108	0.550	95	0.05
98	98	117	0.365	95	0.05
99	99	34	0.661	95	0.05
100	100	163	1.084	95	0.05
101	101	165	1.046	95	0.05
102	102	80	0.577	95	0.05
103	103	59	0.689	95	0.01
104	104	45	0.739	95	0.05
105	105	34	0.278	95	0.05
106	106	60	0.315	95	0.05
107	107	70	1.056	95	0.05
108	12	70	0.742	95	0.05
<b>Total</b>			<b>143.787</b>		

Tabla 13. Características de las subcuencas de la Riera Roja en la situación inicial (Montero, 2001).

Conducto	Pozo inicio	Pozo fin	Sección	Diámetro/alto	Ancho	Longitud	Manning
3013	3	13	rectangular	1.0	0.0	170	0.016
4013	4	13	rectangular	0.3	0.0	138	0.016
13018	13	18	rectangular	1.0	0.0	107	0.016
18019	18	19	rectangular	1.0	0.0	129	0.016
6014	6	14	rectangular	0.6	0.0	236	0.016
14019	14	19	rectangular	0.4	0.0	229	0.016
19020	19	20	rectangular	1.3	1.4	217	0.016
20929	20	929	rectangular	1.3	1.4	141	0.016
27029	27	29	rectangular	0.6	0.0	407	0.016
29929	29	929	rectangular	0.8	0.0	25	0.016
929030	929	30	rectangular	1.3	1.4	157	0.016
34031	34	31	rectangular	0.6	0.0	40	0.016
31030	31	30	rectangular	0.6	0.0	132	0.016
30040	30	40	rectangular	1.3	1.4	101	0.016
40938	40	938	rectangular	1.3	1.4	37	0.016
38938	38	938	rectangular	0.6	0.0	26	0.016
938060	938	60	rectangular	1.3	1.4	96	0.016
59060	59	60	rectangular	0.6	0.0	25	0.016
10011	10	11	rectangular	0.6	0.0	73	0.016
11012	11	12	rectangular	0.6	0.0	75	0.016
9012	9	12	rectangular	0.6	0.0	131	0.016
12017	12	17	rectangular	0.6	0.0	106	0.016
17022	17	22	rectangular	0.6	0.0	90	0.016
22025	22	25	rectangular	0.8	0.0	83	0.016
25026	25	26	rectangular	0.8	0.0	95	0.016
26032	26	32	rectangular	0.8	0.0	121	0.016
32044	32	44	rectangular	0.8	0.0	96	0.016
44047	44	47	rectangular	0.8	0.0	96	0.016
47050	47	50	rectangular	0.8	0.0	95	0.016

Conducto	Pozo inicio	Pozo fin	Sección	Diámetro/alto	Ancho	Longitud	Manning
50053	50	53	rectangular	0.8	0.0	103	0.016
53052	53	52	rectangular	0.8	1.2	44	0.016
43046	43	46	rectangular	0.6	0.0	94	0.016
46049	46	49	rectangular	0.6	0.0	96	0.016
49052	49	52	rectangular	0.6	0.0	100	0.016
52051	52	51	rectangular	0.8	1.2	49	0.016
42045	42	45	rectangular	0.6	0.0	93	0.016
45048	45	48	rectangular	0.6	0.0	97	0.016
48051	48	51	rectangular	0.6	0.0	100	0.016
51070	51	70	rectangular	0.8	1.2	107	0.016
41070	41	70	rectangular	0.6	0.0	183	0.016
70060	70	60	rectangular	0.8	1.2	133	0.016
60076	60	76	rectangular	1.3	1.4	128	0.016
68076	68	76	rectangular	0.6	0.0	36	0.016
37057	37	57	rectangular	0.6	0.0	76	0.016
57065	57	65	rectangular	0.6	0.0	75	0.016
65965	65	965	rectangular	0.6	0.0	62	0.016
71072	71	72	rectangular	0.6	0.0	120	0.016
72965	72	965	rectangular	0.6	0.0	35	0.016
965073	965	73	rectangular	0.6	0.0	78	0.016
73067	73	67	rectangular	0.6	0.0	128	0.016
58066	58	66	rectangular	0.6	0.0	59	0.016
66074	66	74	rectangular	0.6	0.0	74	0.016
74067	74	67	rectangular	0.6	0.0	45	0.016
67076	67	76	rectangular	0.6	0.0	98	0.016
76080	76	80	rectangular	1.4	1.4	85	0.016
80086	80	86	rectangular	1.4	1.4	48	0.016
86087	86	87	rectangular	1.4	1.4	39	0.016
87093	87	93	rectangular	1.4	1.4	46	0.016
93094	93	94	rectangular	1.4	1.4	78	0.016
94099	94	99	rectangular	1.4	1.4	34	0.016
99103	99	103	rectangular	1.4	1.4	59	0.016
103900	103	900	rectangular	1.4	1.4	66	0.016
104107	104	107	rectangular	0.5	0.0	49	0.016
107900	107	900	rectangular	0.5	0.0	21	0.016
35056	35	56	rectangular	0.6	0.0	94	0.016
56077	56	77	rectangular	0.6	0.0	347	0.016
77078	77	78	rectangular	0.4	0.0	98	0.016
77278	77	78	rectangular	0.6	0.0	98	0.016
78079	78	79	rectangular	0.4	0.0	56	0.016
78279	78	79	rectangular	0.6	0.0	56	0.016
79085	79	85	rectangular	0.8	0.0	143	0.016
85092	85	92	rectangular	0.8	0.0	56	0.016
92097	92	97	rectangular	0.8	0.0	110	0.016
97105	97	105	rectangular	0.8	0.0	125	0.016
82088	82	88	rectangular	1.2	0.0	136	0.016
88089	88	89	rectangular	0.85	0.0	57	0.016
88289	88	89	rectangular	0.85	0.0	57	0.016
89095	89	95	rectangular	0.9	0.0	72	0.016

<b>Conducto</b>	<b>Pozo inicio</b>	<b>Pozo fin</b>	<b>Sección</b>	<b>Diámetro/alto</b>	<b>Ancho</b>	<b>Longitud</b>	<b>Manning</b>
89295	89	95	rectangular	0.9	0.0	72	0.016
95096	95	96	rectangular	1.0	0.0	117	0.016
95296	95	96	rectangular	1.0	0.0	117	0.016
98096	98	96	rectangular	1.0	0.0	<b>6</b>	0.016
96102	96	102	rectangular	1.1	0.0	97	0.016
96202	96	102	rectangular	1.1	0.0	97	0.016
102105	102	105	rectangular	1.2	0.0	28	0.016
102205	102	105	rectangular	1.2	0.0	28	0.016
100101	100	101	rectangular	0.4	0.0	91	0.016
100201	100	101	rectangular	0.5	0.0	97	0.016
101106	101	106	rectangular	0.7	0.0	58	0.016
106105	106	105	rectangular	0.7	0.0	32	0.016
105800	105	800	rectangular	2.0	2.0	10.0	0.016
900800	900	800	rectangular	2.0	2.0	10.0	0.016
800801	800	801	rectangular	2.0	4.0	10.0	0.016

Tabla 14. Características de los conductos en la situación inicial. Los últimos 3 conductos son ficticios, requeridos por SWMM para la condición final de contorno.

## 11.4 CARACTERÍSTICAS DE LOS CONDUCTOS EN LA PROPUESTA DE REHABILITACIÓN DE LA RED DE DRENAJE EN LA RIERA ROJA

Conducto	Pozo inicio	Pozo fin	Sección	Diámetro/alto	Ancho	Longitud	Manning
3013	3	13	circular	1.0	0.0	170	0.016
4013	4	13	circular	0.3	0.0	138	0.016
13018	13	18	circular	1.0	0.0	107	0.016
18019	18	19	circular	1.0	0.0	129	0.016
6014	6	14	circular	0.6	0.0	236	0.016
14019	14	19	circular	0.4	0.0	229	0.016
19020	19	20	rectangular	1.3	1.4	217	0.016
20929	20	929	rectangular	1.3	1.4	141	0.016
27029	27	29	circular	0.8	0.0	407	0.016
29929	29	929	circular	1.0	0.0	25	0.016
929030	929	30	rectangular	1.3	1.4	157	0.016
34031	34	31	circular	0.6	0.0	40	0.016
31030	31	30	circular	0.6	0.0	132	0.016
930040	930	40	rectangular	1.3	1.4	101	0.016
40938	40	938	rectangular	1.3	1.4	37	0.016
38938	38	938	circular	0.6	0.0	26	0.016
938060	938	60	rectangular	1.3	1.4	96	0.016
59060	59	60	circular	0.6	0.0	25	0.016
10011	10	11	circular	0.6	0.0	73	0.016
11012	11	12	circular	0.8	0.0	75	0.016
9017	9	17	rectangular	0.6	0.8	10	0.016
12017	12	17	circular	0.8	0.0	106	0.016
917022	917	22	circular	0.8	0.0	90	0.016
22025	22	25	circular	0.8	0.0	83	0.016
25026	25	26	circular	0.8	0.0	95	0.016
926032	926	32	circular	0.8	0.0	121	0.016
32044	32	44	circular	0.8	0.0	96	0.016
44047	44	47	circular	0.8	0.0	96	0.016
47050	47	50	circular	0.8	0.0	95	0.016
50053	50	53	circular	0.8	0.0	103	0.016
53052	53	52	rectangular	0.8	1.2	44	0.016
53076	53	76	rectangular	0.8	1.2	250	0.016
43046	43	46	circular	0.6	0.0	94	0.016
46049	46	49	circular	0.6	0.0	96	0.016
49052	49	52	circular	0.6	0.0	100	0.016
52051	52	51	rectangular	0.8	1.2	49	0.016
42045	42	45	circular	0.6	0.0	93	0.016
45048	45	48	circular	0.6	0.0	97	0.016
48051	48	51	circular	0.6	0.0	100	0.016
51070	51	70	rectangular	0.8	1.2	107	0.016
41070	41	70	circular	0.6	0.0	183	0.016
70076	70	76	rectangular	1.5	2.0	133	0.016
60076	60	76	rectangular	1.3	1.4	128	0.016
68076	68	76	circular	0.6	0.0	36	0.016
37057	37	57	circular	0.6	0.0	76	0.016



Conducto	Pozo inicio	Pozo fin	Sección	Diámetro/alto	Ancho	Longitud	Manning
57065	57	65	circular	0.6	0.0	75	0.016
65965	65	965	circular	0.6	0.0	62	0.016
71072	71	72	rectangular	0.8	1.2	120	0.016
72965	72	965	rectangular	0.8	1.2	35	0.016
965073	965	73	rectangular	1.2	2.0	78	0.016
73067	73	67	rectangular	1.2	2.0	128	0.016
58066	58	66	circular	0.6	0.0	59	0.016
66074	66	74	circular	0.6	0.0	74	0.016
74067	74	67	circular	0.6	0.0	45	0.016
67076	67	76	rectangular	1.2	2.0	98	0.016
976080	976	80	rectangular	1.4	1.4	84	0.016
80086	80	86	rectangular	1.4	1.4	48	0.016
86087	86	87	rectangular	1.4	1.4	39	0.016
87093	87	93	rectangular	1.4	1.4	46	0.016
93094	93	94	rectangular	1.4	1.4	78	0.016
94099	94	99	rectangular	1.4	1.4	34	0.016
99103	99	103	rectangular	1.4	1.4	59	0.016
103900	103	900	rectangular	1.4	1.4	66	0.016
104107	104	107	circular	1.0	0.0	49	0.016
107900	107	900	circular	1.0	0.0	21	0.016
35056	35	56	rectangular	0.8	1.0	94	0.016
56077	56	77	rectangular	0.8	1.0	347	0.016
77078	77	78	rectangular	1.0	1.8	98	0.016
78079	78	79	rectangular	1.2	1.8	56	0.016
79085	79	85	rectangular	1.4	1.8	143	0.016
85092	85	92	rectangular	1.4	1.8	56	0.016
92097	92	97	rectangular	1.4	1.8	110	0.016
97105	97	105	rectangular	1.4	1.8	125	0.016
82088	82	88	circular	1.2	0.0	136	0.016
88089	88	89	circular	0.85	0.0	57	0.016
88289	88	89	circular	0.85	0.0	57	0.016
89095	89	95	circular	0.9	0.0	72	0.016
89295	89	95	circular	0.9	0.0	72	0.016
95096	95	96	circular	1.0	0.0	117	0.016
95296	95	96	circular	1.0	0.0	117	0.016
98096	98	96	circular	1.0	0.0	7	0.016
96102	96	102	circular	1.1	0.0	97	0.016
96202	96	102	circular	1.1	0.0	97	0.016
102105	102	105	circular	1.2	0.0	28	0.016
102205	102	105	circular	1.2	0.0	28	0.016
100101	100	101	rectangular	0.8	1.2	91	0.016
100201	100	101	circular	0.5	0.0	97	0.016
101106	101	106	circular	1.0	0.0	58	0.016
106800	106	800	circular	1.0	0.0	14	0.016
105800	105	800	rectangular	2.0	2.0	10.0	0.016
900800	900	800	rectangular	2.0	2.0	10.0	0.016
800801	800	801	rectangular	2.0	4.0	10.0	0.016

Tabla 15. Características de los conductos en la propuesta de rehabilitación. Los últimos 3 conductos son ficticios, requeridos por SWMM para la condición final de contorno.

## 11.5 PROGRAMA FORTRAN DE GENERACIÓN DE ARCHIVOS DE ENTRADA DE SWMM

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C *****
C GENERACIÓN ARCHIVOS ENTRADA SWMM
C EN EL RANGO DE PRECIPITACIÓN 1.50 A 1.55
C EN ESCALA LOGARÍTMICA
C *****
C *****
C
C DEFINICIÓN DE VARIABLES
C
C
C
C REAL*4
C NUMEROS ALEATORIOS
C +NRAND1 ,NRAND2 ,NRAND3 ,NRAND4 ,NRAND5 ,NRAND6 ,NRAND7 ,NRAND8 ,NRAND9 ,
C DURACIONES
C +NDUR1 ,NDUR2 ,NDUR3 ,NDUR4 ,
C PERCENTILES
C +P1 ,P2 ,P3 ,P4 ,P5 ,P6 ,P7 ,P8 ,P9 ,P10 ,
C HIETOGRAMAS DOBLEMENTE ADIMENSIONALIZADOS
C +HIETOS ( 21 , 104 ) ,NHIETO1 ( 104 ) ,NHIETO5 ,NHIETO6 ( 21 ) ,NHIETO7 ,
C LLUVIA
C +LLUVIA1 ,LLUVIA2 ,
C CONDUCTOS EXTRAN
C +CONDUCTOS7 ( 98 ) ,CONDUCTOS8 ( 98 ) ,CONDUCTOS11 ( 98 ) ,CONDUCTOS4 ,
C +CONDUCTOS6 ,CONDUCTOS10 ,A ,B ,CONDUCTOS12 ,CONDUCTOS13 ,CONDUCTOS14
C
C INTEGER NCOUNT ,NHIETO2 ,NHIETO3 ,NHIETO4 ,TIMESIMUL ,
C CONTADORES
C +N1 , I , J , K ,
C CONDUCTOS EXTRAN
C +CONDUCTOS1 ( 98 ) ,CONDUCTOS2 ( 98 ) ,CONDUCTOS3 ( 98 ) ,CONDUCTOS5 ( 98 ) ,
C +CONDUCTOS9 ( 98 )
C CHARACTER A1*3 ,E1*18 ,E11*4 ,E3*3 ,C1*3 ,B1A*3 ,B1B*20
C
C INICIO RANDOM SEED PARA LA GENERACIÓN PSEUDOALEATORIA
C CALL RANDOM_SEED ( )
C
C *****
C
C CREACIÓN DE -NCOUNT- ARCHIVOS DE ENTRADA
C
C
C
C DO NCOUNT=10001,15000
C OPEN ( NCOUNT ,STATUS= 'NEW' )
C
C WRITE ( NCOUNT ,1 )
C
C
C
C ESCRITURA LÍNEA A1

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```
A1='A1 '  
WRITE (NCOUNT,11)A1,NCOUNT  
WRITE (NCOUNT,111)  
WRITE (NCOUNT,12)  
  
C  
C  ESCRITURA LÍNEA E1  
C  
E1='E1 0 21 1 0 0 0 21 '  
E11=' 0.0'  
  
C  
C  DURACIÓN DEL SUCESO DE LLUVIA ALEATORIA  
C  SEGÚN PERCENTILES PARA RANGO 1.50-1.55  
C  
P1=0.1  
P2=0.2  
P3=0.3  
P4=0.4  
P5=0.5  
P6=0.6  
P7=0.7  
P8=0.8  
P9=0.9  
P10=1.0  
  
C  
C  *****  
C  
CALL RANDOM_NUMBER(NRAND1)  
CALL RANDOM_NUMBER(NRAND2)  
  
C  
C  NRAND1 PARA LOS PERCENTILES  
C  NRAND2 PARA DISTR.UNIFORME DENTRO RANGOS PERCENTILES  
C  
IF (NRAND1.LE.P1) THEN  
  
C  
C  PERCENTIL 10  
C  DISTRIBUCIÓN CON PARÁMETRO 0.3  
C  Y CONDICIÓN LÓMITE INFERIOR 0.15 horas  
C  
NRAND3=0.05  
DO WHILE (NRAND3.LE.0.15)  
CALL RANDOM_NUMBER (NRAND3)  
END DO  
NDUR2=0.75*NRAND3**0.3  
NDUR3=(NDUR2)/20  
NDUR4=ANINT(NDUR3*60)  
WRITE (NCOUNT,900) E1,NDUR4,E11  
END IF  
  
C  
IF (NRAND1.LE.P2.AND.NRAND1.GT.P1) THEN  
NDUR1=NRAND2  
NDUR2=(NDUR1*0.40000)+0.75000  
NDUR3=(NDUR2)/20
```

```
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P3.AND.NRAND1.GT.P2) THEN
NDUR1=NRAND2
NDUR2=NDUR1*0.55000+1.15000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P4.AND.NRAND1.GT.P3) THEN
NDUR1=NRAND2
NDUR2=NDUR1*0.52000+1.70000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P5.AND.NRAND1.GT.P4) THEN
NDUR1=NRAND2
NDUR2=NDUR1*0.69000+2.22000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P6.AND.NRAND1.GT.P5) THEN
NDUR1=NRAND2
NDUR2=NDUR1*1.03000+2.91000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P7.AND.NRAND1.GT.P6) THEN
NDUR1=NRAND2
NDUR2=NDUR1*1.26000+3.94000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P8.AND.NRAND1.GT.P7) THEN
NDUR1=NRAND2
NDUR2=NDUR1*0.81000+5.2000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
```

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IF (NRAND1.LE.P9.AND.NRAND1.GT.P8) THEN
NDUR1=NRAND2
NDUR2=NDUR1*1.28000+6.01000
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
IF (NRAND1.LE.P10.AND.NRAND1.GT.P9) THEN
C
C   PERCENTIL 90
C   DISTRIBUCIÓN EXPONENCIAL DE PARÁMETRO 0.2655137
C   DURACIÓN MÁXIMA DE 72 horas
C
NDUR2=120.0
DO WHILE (NDUR2.GE.72)
CALL RANDOM_NUMBER(NRAND4)
NDUR2=-LOG(NRAND4*EXP(-7.29*0.2655137))/0.2655137
END DO
NDUR3=(NDUR2)/20
NDUR4=ANINT(NDUR3*60)
WRITE (NCOUNT,900) E1,NDUR4,E11
END IF

C
C   *****
C
C   LÍNEA E3
E3='E3 '

C
C   MATRIZ DE HIETOGRAMAS PARA EL RANGO 1.5-1.55
C
HIETOS=RESHAPE(( /
+12.903,0.0298,0.0365,0.0444,0.0254,0.0351,0.0688,
+0.0502,0.0996,0.0404,0.0313,0.0231,0.0520,0.0540,
+0.0735,0.0880,0.0722,0.0562,0.0269,0.0561,0.0354,
+12.258,0.0672,0.0511,0.0425,0.0158,0.0683,0.0542,
+0.0507,0.0551,0.0444,0.0508,0.0304,0.0313,0.0232,
+0.0454,0.0454,0.0955,0.0615,0.0753,0.0597,0.0312,
+12.108,0.0213,0.0124,0.0170,0.0407,0.0551,0.0411,
+0.0417,0.0806,0.0246,0.0554,0.0654,0.0246,0.0734,
+0.0606,0.0654,0.0677,0.0707,0.0595,0.0647,0.0570,
+11.242,0.0316,0.0493,0.0543,0.0617,0.0585,0.0588,
+0.0401,0.0792,0.0747,0.0565,0.0596,0.0501,0.0495,
+0.0620,0.0659,0.0368,0.0190,0.0346,0.0292,0.0276,
+9.2836,0.0755,0.0111,0.0304,0.0468,0.0394,0.0277,
+0.0435,0.0453,0.0521,0.0387,0.0052,0.0185,0.0430,
+0.0172,0.0146,0.0165,0.0288,0.2791,0.1104,0.0550,
+8.7781,0.0648,0.0673,0.0542,0.0641,0.1099,0.0267,
+0.0229,0.0293,0.0345,0.0479,0.0516,0.0678,0.0480,
+0.0737,0.0747,0.0818,0.0289,0.0030,0.0248,0.0231,
+8.7410,0.0238,0.0065,0.0270,0.0138,0.0150,0.0163,
+0.0151,0.0320,0.0402,0.0451,0.0463,0.0664,0.0485,

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+0.0598,0.0479,0.0605,0.1144,0.1237,0.1191,0.0776,  
+8.5502,0.0855,0.0638,0.0487,0.0524,0.0221,0.0461,  
+0.1085,0.0480,0.0604,0.0616,0.0346,0.0537,0.0602,  
+0.0133,0.0591,0.0756,0.0467,0.0107,0.0071,0.0407,  
+8.0746,0.0549,0.0083,0.0415,0.0785,0.0762,0.0605,  
+0.0705,0.0982,0.0392,0.0174,0.0128,0.0127,0.0099,  
+0.0248,0.0215,0.0293,0.0638,0.1595,0.0768,0.0427,  
+7.5751,0.0048,0.0030,0.0521,0.0283,0.0669,0.0946,  
+0.0453,0.0459,0.0267,0.0440,0.0145,0.0384,0.0370,  
+0.0578,0.0422,0.0610,0.1345,0.0435,0.0695,0.0888,  
+7.5659,0.0064,0.0105,0.0133,0.0070,0.0328,0.0021,  
+0.0353,0.0313,0.0134,0.0159,0.1083,0.1747,0.2148,  
+0.0554,0.1001,0.0506,0.0079,0.0903,0.0153,0.0136,  
+7.2920,0.0420,0.0500,0.0587,0.0654,0.0600,0.0662,  
+0.0557,0.0113,0.0349,0.0121,0.0195,0.0425,0.0299,  
+0.0401,0.1054,0.1320,0.0826,0.0266,0.0411,0.0229,  
+7.2306,0.0553,0.0557,0.0566,0.0600,0.0743,0.0588,  
+0.0514,0.0550,0.0582,0.0521,0.0457,0.0458,0.0432,  
+0.0441,0.0386,0.0254,0.0378,0.0461,0.0497,0.0451,  
+7.0985,0.0315,0.0353,0.0475,0.0382,0.0660,0.0679,  
+0.0870,0.0875,0.0866,0.0761,0.0217,0.0333,0.0346,  
+0.0285,0.0545,0.0518,0.0393,0.0436,0.0321,0.0362,  
+7.0559,0.0793,0.0605,0.0488,0.0405,0.0482,0.0679,  
+0.0569,0.0323,0.0717,0.0584,0.0428,0.0574,0.0317,  
+0.0309,0.0082,0.0386,0.0803,0.0615,0.0533,0.0299,  
+6.9861,0.0346,0.0295,0.0226,0.0227,0.0192,0.0152,  
+0.0146,0.0151,0.0908,0.2742,0.1949,0.0363,0.0401,  
+0.0233,0.0315,0.0323,0.0204,0.0329,0.0234,0.0254,  
+6.9738,0.0677,0.0256,0.0109,0.0224,0.0529,0.0563,  
+0.0516,0.0465,0.0537,0.0542,0.0779,0.0820,0.0825,  
+0.0560,0.0628,0.0717,0.0564,0.0500,0.0050,0.0130,  
+6.8116,0.0199,0.0257,0.0478,0.0527,0.0759,0.1393,  
+0.1018,0.0904,0.0632,0.0529,0.0601,0.0715,0.0549,  
+0.0375,0.0252,0.0205,0.0186,0.0154,0.0105,0.0152,  
+6.6464,0.0619,0.0619,0.0545,0.0596,0.0596,0.0742,  
+0.0764,0.0734,0.0607,0.0519,0.0543,0.0670,0.0553,  
+0.0466,0.0419,0.0338,0.0260,0.0196,0.0133,0.0071,  
+6.6192,0.0090,0.0139,0.0318,0.0279,0.0411,0.0465,  
+0.0602,0.0492,0.0945,0.0683,0.0384,0.0254,0.0781,  
+0.1625,0.1105,0.0413,0.0332,0.0246,0.0275,0.0149,  
+6.4211,0.0250,0.0706,0.0531,0.0383,0.0521,0.0523,  
+0.0801,0.0769,0.0427,0.0562,0.0368,0.0520,0.0721,  
+0.0670,0.0750,0.0645,0.0462,0.0261,0.0072,0.0049,  
+6.0077,0.0291,0.0628,0.0804,0.0941,0.1054,0.0874,  
+0.0458,0.0374,0.0306,0.0407,0.0462,0.0484,0.0326,  
+0.0367,0.0457,0.0458,0.0458,0.0421,0.0285,0.0138,  
+5.8411,0.1219,0.0161,0.0114,0.0126,0.0040,0.0216,  
+0.0802,0.0527,0.1575,0.0848,0.0714,0.0413,0.0194,  
+0.0261,0.0023,0.0812,0.0262,0.0235,0.1198,0.0250,  
+5.7005,0.0239,0.0235,0.0054,0.0316,0.0428,0.0562,  
+0.1114,0.0811,0.0735,0.0561,0.0706,0.0562,0.0613,  
+0.0534,0.0563,0.0642,0.0443,0.0381,0.0296,0.0194,

+5.6546,0.0329,0.0542,0.0463,0.0336,0.0333,0.0292,  
+0.0335,0.0380,0.0380,0.0437,0.0468,0.0400,0.0503,  
+0.0533,0.0686,0.0673,0.0728,0.1304,0.0482,0.0385,  
+5.5426,0.0283,0.0267,0.0083,0.0286,0.0450,0.0549,  
+0.0396,0.0690,0.0615,0.0494,0.0957,0.0536,0.0490,  
+0.0355,0.0377,0.0579,0.0908,0.0706,0.0567,0.0399,  
+5.3371,0.0371,0.0103,0.0282,0.0415,0.0327,0.0147,  
+0.0021,0.0095,0.0327,0.2348,0.1760,0.0123,0.0262,  
+0.0335,0.0331,0.0420,0.0840,0.0589,0.0460,0.0433,  
+5.2991,0.0245,0.0454,0.0381,0.0345,0.0439,0.0772,  
+0.0542,0.0645,0.0548,0.0527,0.1057,0.0803,0.0539,  
+0.0032,0.0740,0.0187,0.0016,0.0727,0.0648,0.0342,  
+5.2896,0.0201,0.1249,0.0891,0.0411,0.0354,0.0572,  
+0.0644,0.0700,0.0485,0.0341,0.0460,0.0330,0.0390,  
+0.0496,0.0444,0.0561,0.0473,0.0446,0.0324,0.0217,  
+5.2851,0.0203,0.0169,0.0134,0.0165,0.0244,0.0178,  
+0.0106,0.0379,0.0700,0.0668,0.0561,0.0733,0.0682,  
+0.1003,0.0960,0.0910,0.0830,0.0534,0.0482,0.0350,  
+5.2453,0.0192,0.0024,0.0183,0.0228,0.0124,0.0111,  
+0.0021,0.0043,0.0179,0.0574,0.0487,0.0358,0.0335,  
+0.0636,0.1032,0.0659,0.2633,0.0596,0.0813,0.0762,  
+5.2043,0.0229,0.0396,0.0606,0.0506,0.0706,0.0676,  
+0.0634,0.0649,0.0662,0.0673,0.0644,0.0637,0.0461,  
+0.0529,0.0505,0.0362,0.0246,0.0236,0.0404,0.0228,  
+5.0739,0.0472,0.0606,0.2956,0.1968,0.0859,0.0071,  
+0.0148,0.0351,0.0224,0.0205,0.0360,0.0234,0.0257,  
+0.0316,0.0237,0.0208,0.0196,0.0161,0.0064,0.0097,  
+5.0232,0.0140,0.0032,0.0073,0.0034,0.0070,0.0484,  
+0.0484,0.0279,0.0738,0.1125,0.1176,0.1738,0.0548,  
+0.0324,0.0015,0.0097,0.0416,0.0724,0.1413,0.0079,  
+4.5863,0.0437,0.0216,0.0157,0.0805,0.0528,0.1797,  
+0.0783,0.0228,0.0543,0.0202,0.1639,0.0187,0.0987,  
+0.0723,0.0244,0.0076,0.0083,0.0112,0.0146,0.0095,  
+4.5798,0.0173,0.0056,0.0166,0.0104,0.0089,0.0386,  
+0.0694,0.0423,0.0834,0.0629,0.0553,0.0598,0.1237,  
+0.0836,0.0600,0.0643,0.0783,0.0584,0.0370,0.0233,  
+4.5237,0.1415,0.0261,0.0338,0.0247,0.0593,0.0943,  
+0.0699,0.1126,0.0843,0.0765,0.0570,0.0430,0.0343,  
+0.0407,0.0501,0.0332,0.0049,0.0021,0.0023,0.0083,  
+4.5007,0.0111,0.0285,0.0654,0.0310,0.0192,0.0523,  
+0.0551,0.0164,0.0680,0.0440,0.0874,0.2449,0.0409,  
+0.0399,0.1254,0.0088,0.0130,0.0207,0.0112,0.0159,  
+4.4596,0.0743,0.1741,0.0449,0.0150,0.0150,0.0420,  
+0.1895,0.1423,0.0099,0.0141,0.0238,0.0507,0.0249,  
+0.0066,0.0107,0.0325,0.0342,0.0317,0.0370,0.0256,  
+4.3815,0.0126,0.0233,0.0269,0.0308,0.0368,0.0390,  
+0.0400,0.0422,0.0598,0.0731,0.0795,0.0769,0.0711,  
+0.0648,0.0667,0.0664,0.0618,0.0622,0.0501,0.0149,  
+4.2068,0.0289,0.0522,0.0615,0.0653,0.0846,0.0947,  
+0.0569,0.0581,0.0518,0.0501,0.0542,0.0452,0.0362,  
+0.0352,0.0350,0.0285,0.0448,0.0665,0.0235,0.0258,  
+3.9671,0.0042,0.0402,0.0481,0.1688,0.0985,0.0981,

+0.1134,0.0140,0.0163,0.0519,0.0317,0.0440,0.0493,  
+0.0520,0.0099,0.0016,0.0328,0.0619,0.0392,0.0229,  
+3.9373,0.0100,0.0017,0.0055,0.0018,0.0081,0.0019,  
+0.0077,0.0241,0.0261,0.0807,0.0426,0.0721,0.0807,  
+0.0742,0.0019,0.0837,0.2219,0.2086,0.0271,0.0187,  
+3.9266,0.0096,0.0072,0.0029,0.0113,0.0444,0.0302,  
+0.0030,0.0062,0.0150,0.0568,0.0492,0.0566,0.0694,  
+0.0871,0.0948,0.1381,0.1194,0.1107,0.0614,0.0256,  
+3.7935,0.0081,0.0201,0.0440,0.0653,0.0047,0.0370,  
+0.0342,0.0407,0.0899,0.2555,0.0491,0.1021,0.0881,  
+0.0545,0.0210,0.0061,0.0015,0.0211,0.0315,0.0244,  
+3.7821,0.0439,0.0292,0.0019,0.0492,0.0209,0.0796,  
+0.3253,0.2057,0.0485,0.0084,0.0017,0.0076,0.0121,  
+0.0139,0.0131,0.0147,0.0363,0.0442,0.0247,0.0181,  
+3.5849,0.0019,0.0073,0.0958,0.0343,0.0324,0.0362,  
+0.0326,0.0364,0.0358,0.0204,0.0283,0.1409,0.2049,  
+0.1093,0.0431,0.0244,0.0122,0.0248,0.0495,0.0287,  
+3.3745,0.0150,0.0090,0.0056,0.0020,0.0536,0.1968,  
+0.2511,0.2949,0.0479,0.0097,0.0018,0.0064,0.0036,  
+0.0229,0.0236,0.0073,0.0013,0.0033,0.0205,0.0228,  
+3.3716,0.0692,0.4923,0.0786,0.0651,0.0324,0.0400,  
+0.0249,0.0405,0.0401,0.0301,0.0162,0.0018,0.0010,  
+0.0021,0.0109,0.0059,0.0180,0.0120,0.0091,0.0088,  
+3.2285,0.0565,0.2080,0.2784,0.1159,0.0405,0.0237,  
+0.0278,0.0280,0.0264,0.0264,0.0264,0.0264,0.0263,  
+0.0186,0.0061,0.0027,0.0160,0.0177,0.0153,0.0118,  
+3.1093,0.0205,0.1298,0.2048,0.1562,0.0735,0.0583,  
+0.0336,0.0274,0.0238,0.0182,0.0228,0.0307,0.0328,  
+0.0342,0.0363,0.0325,0.0208,0.0224,0.0158,0.0047,  
+3.1022,0.1287,0.1098,0.1615,0.0597,0.1072,0.0655,  
+0.0553,0.0135,0.0561,0.0853,0.0742,0.0284,0.0151,  
+0.0028,0.0009,0.0009,0.0162,0.0123,0.0018,0.0039,  
+2.9295,0.0946,0.0015,0.0192,0.0008,0.0008,0.0103,  
+0.0353,0.1136,0.0190,0.0228,0.0085,0.0384,0.0543,  
+0.1103,0.0613,0.0869,0.0911,0.1020,0.0410,0.0873,  
+2.9079,0.1993,0.2160,0.1925,0.1083,0.0723,0.0157,  
+0.0021,0.0062,0.0047,0.0037,0.0199,0.0211,0.0224,  
+0.0227,0.0288,0.0205,0.0283,0.0122,0.0011,0.0011,  
+2.9052,0.0064,0.0016,0.0069,0.0028,0.0012,0.0059,  
+0.0592,0.0659,0.0499,0.0744,0.1469,0.4923,0.0060,  
+0.0129,0.0117,0.0319,0.0091,0.0010,0.0010,0.0118,  
+2.6761,0.0521,0.0774,0.0122,0.0053,0.0099,0.0015,  
+0.0035,0.0919,0.0801,0.0054,0.0380,0.1328,0.2863,  
+0.0430,0.0473,0.0273,0.0239,0.0254,0.0227,0.0129,  
+2.6463,0.0295,0.0432,0.2040,0.2209,0.0667,0.0582,  
+0.0291,0.0511,0.0520,0.0093,0.0014,0.0087,0.0188,  
+0.0284,0.0295,0.0191,0.0219,0.0115,0.0668,0.0290,  
+2.5786,0.0138,0.0199,0.0200,0.0286,0.0514,0.0369,  
+0.0342,0.0482,0.0484,0.1264,0.2198,0.1740,0.0410,  
+0.0298,0.0254,0.0205,0.0245,0.0144,0.0152,0.0067,  
+2.5650,0.4109,0.2079,0.0285,0.0079,0.0027,0.0017,  
+0.0077,0.0140,0.0188,0.0303,0.0322,0.0376,0.0387,



+0.0216,0.0262,0.0256,0.0236,0.0214,0.0255,0.0160,  
+2.5016,0.0724,0.0551,0.0952,0.1384,0.0864,0.0311,  
+0.0015,0.0179,0.0187,0.1601,0.2186,0.0058,0.0141,  
+0.0175,0.0009,0.0009,0.0208,0.0265,0.0098,0.0075,  
+2.4775,0.1143,0.0452,0.0101,0.0265,0.1122,0.1578,  
+0.0838,0.1240,0.0678,0.0384,0.0452,0.0182,0.0296,  
+0.0320,0.0319,0.0320,0.0166,0.0012,0.0012,0.0110,  
+2.4437,0.0243,0.0704,0.1110,0.3707,0.1454,0.1390,  
+0.0181,0.0089,0.0090,0.0030,0.0014,0.0021,0.0039,  
+0.0067,0.0090,0.0102,0.0150,0.0234,0.0174,0.0098,  
+2.4232,0.0062,0.0083,0.0227,0.0384,0.0523,0.0139,  
+0.0385,0.0532,0.0454,0.0224,0.0832,0.1468,0.0778,  
+0.0118,0.0400,0.0549,0.0471,0.1911,0.0289,0.0162,  
+2.2478,0.0129,0.0350,0.2460,0.2197,0.1050,0.0205,  
+0.0159,0.0294,0.0247,0.0233,0.0077,0.0017,0.0009,  
+0.0008,0.0008,0.0215,0.0517,0.0754,0.0872,0.0185,  
+2.2173,0.0475,0.0299,0.0318,0.0173,0.0121,0.0074,  
+0.0093,0.0173,0.0236,0.0133,0.0255,0.0223,0.0129,  
+0.0307,0.2420,0.3266,0.0937,0.0196,0.0113,0.0050,  
+2.0882,0.1351,0.1683,0.2230,0.0405,0.0701,0.0348,  
+0.0014,0.0039,0.1086,0.0608,0.0322,0.0199,0.0171,  
+0.0098,0.0019,0.0074,0.0198,0.0176,0.0136,0.0131,  
+1.9630,0.0138,0.1250,0.0073,0.0009,0.0009,0.0072,  
+0.0253,0.0012,0.0012,0.0009,0.0008,0.0008,0.0060,  
+0.0162,0.0234,0.0571,0.3583,0.2895,0.0331,0.0300,  
+1.9578,0.0094,0.0798,0.1613,0.1021,0.0349,0.0442,  
+0.0463,0.0379,0.0185,0.0486,0.0723,0.0575,0.0628,  
+0.0420,0.0377,0.0473,0.0444,0.0256,0.0166,0.0100,  
+1.9012,0.0340,0.1791,0.1525,0.2375,0.0504,0.0875,  
+0.0729,0.0680,0.0594,0.0195,0.0122,0.0078,0.0020,  
+0.0006,0.0006,0.0006,0.0007,0.0048,0.0048,0.0043,  
+1.8975,0.0042,0.0022,0.0006,0.0006,0.0006,0.0006,  
+0.0072,0.0088,0.0044,0.0079,0.0320,0.0196,0.0157,  
+0.0051,0.3286,0.3375,0.1209,0.0643,0.0249,0.0132,  
+1.8570,0.1094,0.1224,0.0387,0.0163,0.0114,0.0355,  
+0.0842,0.0452,0.0230,0.0073,0.0125,0.0307,0.0410,  
+0.0066,0.0269,0.1737,0.1325,0.0442,0.0281,0.0094,  
+1.7885,0.0782,0.0755,0.2281,0.2886,0.0364,0.0964,  
+0.0767,0.0006,0.0006,0.0006,0.0006,0.0247,0.0298,  
+0.0424,0.0050,0.0008,0.0008,0.0008,0.0063,0.0060,  
+1.7729,0.0078,0.0959,0.1057,0.2321,0.1347,0.1870,  
+0.0536,0.0134,0.0110,0.0100,0.0009,0.0009,0.0009,  
+0.0034,0.0007,0.0007,0.0007,0.0028,0.0887,0.0482,  
+1.7569,0.0067,0.0047,0.0363,0.0065,0.0012,0.0008,  
+0.0008,0.0168,0.0004,0.0004,0.0004,0.0004,0.0007,  
+0.0096,0.0300,0.2908,0.4765,0.0267,0.0485,0.0408,  
+1.7261,0.0117,0.0103,0.0562,0.2446,0.0117,0.0058,  
+0.0018,0.0013,0.0052,0.1407,0.1619,0.1406,0.0043,  
+0.0022,0.0055,0.0204,0.0627,0.0828,0.0223,0.0071,  
+1.6980,0.0098,0.1147,0.0497,0.0738,0.0008,0.0008,  
+0.0029,0.1181,0.0032,0.0009,0.0027,0.0749,0.0232,  
+0.1328,0.1488,0.1341,0.0201,0.0157,0.0701,0.0021,

+1.5540,0.0145,0.0214,0.0459,0.0837,0.1245,0.1304,  
+0.2710,0.1890,0.0393,0.0111,0.0094,0.0067,0.0081,  
+0.0077,0.0068,0.0066,0.0066,0.0066,0.0064,0.0033,  
+1.5259,0.0625,0.0744,0.1104,0.1262,0.0800,0.0763,  
+0.0509,0.0512,0.0874,0.0420,0.1168,0.0436,0.0471,  
+0.0191,0.0060,0.0027,0.0006,0.0006,0.0006,0.0006,  
+1.4966,0.0909,0.2660,0.0643,0.1663,0.1368,0.1236,  
+0.0533,0.0086,0.0018,0.0004,0.0004,0.0004,0.0004,  
+0.0004,0.0045,0.0457,0.0127,0.0086,0.0029,0.0111,  
+1.4796,0.0086,0.0439,0.0278,0.0022,0.0007,0.0007,  
+0.0007,0.0585,0.3763,0.2765,0.0768,0.0360,0.0191,  
+0.0145,0.0127,0.0136,0.0112,0.0088,0.0064,0.0042,  
+1.4388,0.0100,0.0480,0.0567,0.0233,0.0425,0.0175,  
+0.0250,0.0575,0.0513,0.1130,0.0995,0.1499,0.1353,  
+0.0735,0.0106,0.0135,0.0229,0.0246,0.0178,0.0066,  
+1.1808,0.0632,0.1210,0.1012,0.1212,0.1341,0.1420,  
+0.0684,0.0422,0.0368,0.0670,0.0624,0.0227,0.0072,  
+0.0010,0.0010,0.0010,0.0012,0.0013,0.0017,0.0024,  
+1.1737,0.0376,0.0746,0.0091,0.0004,0.0004,0.0004,  
+0.0004,0.0004,0.0004,0.0323,0.0722,0.0942,0.1352,  
+0.1867,0.2047,0.0882,0.0315,0.0163,0.0092,0.0048,  
+1.1624,0.5250,0.3110,0.0328,0.0401,0.0230,0.0153,  
+0.0057,0.0053,0.0044,0.0040,0.0040,0.0040,0.0040,  
+0.0040,0.0040,0.0038,0.0033,0.0025,0.0016,0.0015,  
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+0.0214,0.0079,0.0064,0.0222,0.0463,0.0692,0.0790,  
+0.1056,0.0687,0.0781,0.0758,0.0264,0.0082,0.0053,  
+1.1350,0.0241,0.0766,0.1099,0.1291,0.1195,0.1927,  
+0.1139,0.0588,0.0682,0.0361,0.0199,0.0125,0.0060,  
+0.0050,0.0047,0.0046,0.0060,0.0046,0.0038,0.0032,  
+1.1343,0.0595,0.0446,0.0608,0.0403,0.0635,0.0648,  
+0.0154,0.0167,0.0231,0.0400,0.0570,0.0347,0.0305,  
+0.1675,0.1627,0.0279,0.0203,0.0392,0.0100,0.0205,  
+1.0156,0.1640,0.1408,0.0466,0.0619,0.1353,0.1570,  
+0.1262,0.0898,0.0263,0.0169,0.0061,0.0037,0.0037,  
+0.0036,0.0034,0.0029,0.0026,0.0032,0.0033,0.0020,  
+1.0004,0.0118,0.0068,0.0226,0.0267,0.0278,0.0637,  
+0.0534,0.0871,0.1242,0.1116,0.1851,0.0885,0.0778,  
+0.0264,0.0225,0.0194,0.0162,0.0109,0.0095,0.0070,  
+0.9651,0.0121,0.0122,0.0523,0.0846,0.1112,0.0748,  
+0.0818,0.1350,0.0968,0.1171,0.0971,0.0735,0.0038,  
+0.0022,0.0016,0.0014,0.0252,0.0060,0.0051,0.0053,  
+0.9643,0.0040,0.0062,0.0240,0.0147,0.0235,0.1357,  
+0.1575,0.1208,0.0496,0.0196,0.0253,0.0261,0.0759,  
+0.0482,0.0497,0.0601,0.0322,0.0683,0.0530,0.0044,  
+0.8738,0.0207,0.0208,0.0809,0.0777,0.0603,0.0464,  
+0.0761,0.1161,0.0523,0.0396,0.0893,0.0754,0.0572,  
+0.0346,0.0431,0.0661,0.0131,0.0087,0.0170,0.0035,  
+0.8699,0.0045,0.0033,0.0037,0.0183,0.1114,0.2099,  
+0.1261,0.0714,0.0013,0.0003,0.0003,0.0003,0.0003,  
+0.0003,0.0003,0.0003,0.0003,0.0744,0.2234,0.1489,  
+0.8557,0.0618,0.0612,0.1012,0.0601,0.0767,0.0802,

```
+0.0807,0.1006,0.1275,0.0779,0.0429,0.0241,0.0247,
+0.0367,0.0162,0.0180,0.0040,0.0009,0.0009,0.0028,
+0.7508,0.0072,0.0087,0.0069,0.0057,0.0046,0.0038,
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+0.0773,0.0731,0.1392,0.1077,0.1012,0.1121,0.0482,
+0.7156,0.0054,0.0280,0.0661,0.1106,0.1047,0.2195,
+0.2561,0.0444,0.0342,0.0462,0.0177,0.0064,0.0050,
+0.0042,0.0134,0.0163,0.0064,0.0057,0.0050,0.0036,
+0.6754,0.0191,0.0538,0.0620,0.0417,0.0465,0.1024,
+0.1333,0.1196,0.0674,0.1003,0.0351,0.0656,0.0571,
+0.0676,0.0129,0.0022,0.0018,0.0013,0.0048,0.0045,
+0.6521,0.0026,0.0007,0.0007,0.0014,0.0037,0.0081,
+0.0079,0.0049,0.0069,0.0169,0.0281,0.0360,0.0466,
+0.0731,0.0890,0.0944,0.1647,0.1824,0.2271,0.0036,
+0.5610,0.0247,0.0158,0.0043,0.0004,0.0004,0.0004,
+0.0004,0.0004,0.0004,0.0136,0.0134,0.0248,0.0709,
+0.1090,0.1285,0.2321,0.2703,0.0780,0.0074,0.0037,
+0.4765,0.0111,0.0107,0.0305,0.0299,0.0771,0.1891,
+0.1050,0.1053,0.1414,0.0662,0.0771,0.0162,0.0178,
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+0.4596,0.0029,0.0055,0.0105,0.0086,0.0099,0.0606,
+0.1481,0.1074,0.1251,0.1669,0.0760,0.0497,0.0683,
+0.0589,0.0554,0.0177,0.0088,0.0081,0.0053,0.0052,
+0.4140,0.0063,0.0076,0.0064,0.0231,0.0350,0.0511,
+0.0437,0.0145,0.0425,0.0210,0.0122,0.0127,0.0186,
+0.0505,0.0593,0.0419,0.1228,0.1553,0.1792,0.0953,
+0.3441,0.0234,0.0473,0.0624,0.0456,0.0635,0.0655,
+0.1299,0.0761,0.1287,0.0912,0.1186,0.0492,0.0071,
+0.0082,0.0149,0.0228,0.0306,0.0107,0.0019,0.0015,
+0.1996,0.0087,0.0149,0.0212,0.0275,0.0335,0.0388,
+0.0442,0.0495,0.0548,0.0602,0.0648,0.0675,0.0705,
+0.0734,0.0768,0.0802,0.0782,0.0665,0.0485,0.0193
+/, (/21,104/))
```

```
C
C  GENERACIÓN DEL VOLUMEN DE LLUVIA ENTRE 1.5-1.55
C  =====
C
C  CALL RANDOM_NUMBER(NRAND5)
C  LLUVIA1=(NRAND5)*(1.55-1.5)+1.5
C  LLUVIA2=10**LLUVIA1
C
C  *****
C  APARTADO PARA ESCOGER HIETOGRAMA 'ALEATORIAMENTE'
C  *****
C
C  DO I=1,104
C  NHIETO1(I)=ABS(NDUR2-HIETOS(1,I))
C  END DO
C
C  NHIETO2=MINLOC(NHIETO1,DIM=1)
C  NHIETO3=NHIETO2-10
C
```

```

IF (NHIETO3.LE.0) THEN
NHIETO3=1
END IF
C
IF (NHIETO3.GE.85) THEN
NHIETO3=84
END IF
C
NHIETO4=NHIETO3+20
C
CALL RANDOM_NUMBER(NRAND6)
IF (NRAND6.LE.0.75) THEN
CALL RANDOM_NUMBER(NRAND7)
NHIETO5=NINT(NRAND7*(NHIETO4-NHIETO3)+NHIETO3)
DO N1=2,21
NHIETO6(N1)=HIETOS(N1,NHIETO5)*LLUVIA2/(NDUR4/60)
END DO
ELSE
NHIETO7=NHIETO3+1
DO WHILE (NHIETO7.GE.NHIETO3.AND.NHIETO7.LE.NHIETO4)
CALL RANDOM_NUMBER(NRAND7)
NHIETO7=NINT(NRAND7*(1.04)+0.5)
END DO
NHIETO5=NHIETO7
DO N1=2,21
NHIETO6(N1)=HIETOS(N1,NHIETO5)*LLUVIA2/(NDUR4/60)
END DO
ENDIF
C
NHIETO6(1)=0.50
C
WRITE(NCOUNT,901)E3,(NHIETO6(J),J=1,21)
C
C
*****
C
WRITE(NCOUNT,3)
C
WRITE(NCOUNT,4)
C
WRITE(NCOUNT,5)
C
C
TIEMPO DE SIMULACIÓN IGUAL A TIEMPO DE DURACIÓN
DE LA LLUVIA + 3 horas
C
B1A='B1 '
TIMESIMUL=NINT((NDUR2+3)*3600)
B1B=' 1.0 0.0 1 1350 60 0'
WRITE(NCOUNT,51)B1A,TIMESIMUL,B1B
WRITE(NCOUNT,52)
C
C


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C
ESCRITURA LÍNEAS CONDUCTOS

```

C MANNING CONDUCTOS ES VARIABLE 0,0016 +- 0.003  
C -----  
C  
CONDUCTOS1=( /3013,4013,13018,18019,6014,14019,19020,20929,27029,  
+227029,29929,929939,939929,34031,31030,930040,40938,38938,938060,  
+59060,10011,11012,9017,12017,917022,22025,25026,926032,32044,  
+44047,47050,50053,53052,53076,43046,46049,49052,52051,42045,45048,  
+48051,51070,41070,70076,60076,68076,37057,57065,65965,71072,72965,  
+965073,73067,58066,66074,74067,67076,976080,80086,86087,87093,  
+93094,94099,99103,103900,104107,107900,35056,56077,77078,78079,  
+79085,85092,92097,97115,115125,125105,82088,88089,88289,89095,  
+89295,95096,95296,96102,96202,102105,102205,100111,111101,100211,  
+211101,101106,106800,105800,900801,800801,801802/ )  
C  
CONDUCTOS2=( /3,4,13,18,6,14,19,20,27,227,29,929,939,34,31,930,40,  
+38,938,59,10,11,9,12,917,22,25,926,32,44,47,50,53,53,43,46,49,52,  
+42,45,48,51,41,70,60,68,37,57,65,71,72,965,73,58,66,74,67,976,80,  
+86,87,93,94,99,103,104,107,35,56,77,78,79,85,92,97,115,125,82,88,  
+88,89,89,95,95,96,96,102,102,100,111,100,111,101,106,105,900,800,  
+801/ )  
C  
CONDUCTOS3=( /13,13,18,19,14,19,20,929,227,29,929,939,30,31,30,40,  
+938,938,60,60,11,12,17,17,22,25,26,32,44,47,50,53,52,76,46,49,52,  
+51,45,48,51,70,70,76,76,76,57,65,965,72,965,73,67,66,74,67,76,80,  
+86,87,93,94,99,103,900,107,900,56,77,78,79,85,92,97,115,125,105,  
+88,89,89,95,95,96,96,102,102,105,105,111,101,111,101,106,800,800,  
+801,801,802/ )  
C  
CONDUCTOS4=0.0  
C  
CONDUCTOS5=( /1,1,1,1,1,1,2,2,1,1,1,2,2,1,1,2,2,1,2,1,1,1,2,1,1,1,  
+1,1,1,1,1,1,2,2,1,1,1,2,1,1,1,2,1,2,2,1,1,1,1,2,2,2,2,1,1,1,2,2,2,  
+2,2,2,2,2,2,1,1,2,2,2,2,2,2,2,2,2,2,1,1,1,1,1,1,1,1,1,1,1,2,2,1,1,  
+1,1,2,2,2,2/ )  
C  
CONDUCTOS6=0.0  
C  
CONDUCTOS7=( /1.00,0.30,1.00,1.00,0.60,0.40,1.30,1.30,0.80,0.80,  
+1.00,1.30,1.30,0.60,0.60,1.30,1.30,0.60,1.30,0.60,0.60,0.80,0.60,  
+0.80,0.80,0.80,0.80,0.80,0.80,0.80,0.80,0.80,0.80,0.80,0.60,0.60,  
+0.60,0.80,0.60,0.60,0.60,0.80,0.60,1.50,1.30,0.60,0.60,0.60,0.60,  
+0.80,0.80,1.20,1.20,0.60,0.60,0.60,1.20,1.40,1.40,1.40,1.40,1.40,  
+1.40,1.40,1.40,1.00,1.00,0.80,0.80,1.00,1.20,1.40,1.40,1.40,1.40,  
+1.40,1.40,1.20,0.85,0.85,0.90,0.90,1.00,1.00,1.10,1.10,1.20,1.20,  
+0.80,0.80,0.50,0.50,1.00,1.00,2.00,2.00,2.00,2.00/ )  
C  
CONDUCTOS8=( /0.0,0.0,0.0,0.0,0.0,0.0,1.4,1.4,0.0,0.0,0.0,1.4,1.4,  
+0.0,0.0,1.4,1.4,0.0,1.4,0.0,0.0,0.0,0.8,0.0,0.0,0.0,0.0,0.0,0.0,  
+0.0,0.0,0.0,1.2,1.2,0.0,0.0,0.0,1.2,0.0,0.0,0.0,1.2,0.0,2.0,1.4,  
+0.0,0.0,0.0,0.0,1.2,1.2,2.0,2.0,0.0,0.0,0.0,2.0,1.4,1.4,1.4,1.4,  
+1.4,1.4,1.4,1.4,0.0,0.0,1.0,1.0,1.8,1.8,1.8,1.8,1.8,1.8,1.8,1.8,  
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,1.2,1.2,0.0,0.0,0.0,

```

+0.0,2.0,2.0,2.0,4.0/)
C
    CONDUCTOS9=(/170,138,107,129,236,229,217,141,203,199,30,79,78,40,
+132,101,37,26,96,25,73,75,15,106,90,83,95,121,96,96,95,103,44,250,
+94,96,100,49,93,97,100,107,183,133,128,36,76,75,62,120,35,78,128,
+59,74,45,98,84,48,39,46,78,34,59,66,49,21,94,347,98,56,143,56,110,
+63,31,31,136,57,57,72,72,117,117,97,97,28,28,46,45,49,48,58,18,25,
+30,20,20/)
C
    CONDUCTOS10=0.0
C
    CONDUCTOS11=(/0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.4,0.0,
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,
+0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,0.0,
+0.0,0.0,0.0,0.0,0.0/)
C
    CONDUCTOS13=0.0
C
    CONDUCTOS14=0.0
C
    C1='C1 '
C
    ESCRITURA DE CONDUCTOS12: COEF. MANNING CONDUCTO 0.016+-0.0003
C
    DO K=1,98
C
        CALL RANDOM_NUMBER(NRAND8)
        A=NRAND8
        CALL RANDOM_NUMBER(NRAND9)
        B=NRAND9
C
        CONDUCTOS12=0.016+(0.0000005**0.5)*((( -2*LOG(A) )**0.5)*COS(2*
+3.14159265*B))
C
        WRITE(NCOUNT,6)C1,CONDUCTOS1(K),CONDUCTOS2(K),CONDUCTOS3(K),
+CONDUCTOS4,CONDUCTOS5(K),CONDUCTOS6,CONDUCTOS7(K),
+CONDUCTOS8(K),CONDUCTOS9(K),CONDUCTOS10,CONDUCTOS11(K),
+CONDUCTOS12,CONDUCTOS13,CONDUCTOS14
C
    END DO
C
    ESCRITURA DE LÍNEAS SWMM
C
    WRITE (NCOUNT,7)
    WRITE (NCOUNT,71)
    WRITE (NCOUNT,8)
    CLOSE (NCOUNT)
    ENDDO
C

```

```

C *****
C DEFINICIÓN DE TODOS LOS FORMATOS
C CORRESPONDIENTES A LÍNEAS DE ENTRADA DE SWMM
C
C *****
C
3331 FORMAT(F6.0,20F7.2)
C
1 FORMAT (
.'SW 2 0 8 8 10',/,
.'MM 7 20 21 30 40 50 60 70',/,
.'@ 8 RO_10.INT',/,
.'$NOQUOTE',/,
.'$RUNOFF')
11 FORMAT (A3,G5.0)
111 FORMAT ('A1 Archivo de entrada SWMM. Caso 1.50-1.55')
12 FORMAT (
.'B1 1 0 1 0 0 0 0 0 1 1 01',/,
.'B2 1 1 0',/,
.'B3 60 60 60 2 73',/,
.'D1 0')
C -----
C DEFINICIÓN DE LA LÍNEA E1
C -----
900 FORMAT (A18,F6.1,A4)
C -----
C DEFINICIÓN DE LA LÍNEA E3
C -----
901 FORMAT (A3,21F7.2)
C
3 FORMAT (
.'G1 1001 1003 1 10 125 4.16 10 10 0.1 0.5 0',/,
.'G1 1002 1004 1 10 142 5.26 10 10 0.04 0.5 0',/,
.'G1 1003 3 1 10 300 9.09 10 10 0.1 0.5 0',/,
.'G1 1004 4 1 7 310 12.05 0 0 0.021 0.25 0',/,
.'G1 1005 1015 1 10 130 5.92 10 10 0.1 0.5 0',/,
.'G1 1007 2009 1 10 237 11.36 10 10 0.1 0.5 0',/,
.'G1 1009 9 1 0 210.8 18.5 2 1 0.018 0.5 0',/,
.'G1 1013 13 1 7 430 9.5 0 0 0.021 0.25 0',/,
.'G1 1014 14 1 10 130 17.33 0 0 0.021 0.25 0',/,
.'G1 1015 1020 1 15 245 100 10 10 0.08 0.5 0',/,
.'G1 1020 20 1 11 295 17.41 0 0 0.021 0.25 0',/,
.'G1 1023 1024 1 7 100 25 0 0 0.021 0.25 0',/,
.'G1 1024 26 1 10 200 50 0 0 0.021 0.25 0',/,
.'G1 1032 32 1 10 250 35 0 0 0.021 0.25 0',/,
.'G1 1062 2063 1 5 50 45 0 0 0.021 0.25 0',/,
.'G1 1071 71 1 15 180 95 0 0 0.021 0.25 0',/,
.'G1 1083 1090 1 15 98 200 0 0 0.021 0.25 0',/,
.'G1 1090 1091 1 10 75 20 0 0 0.021 0.25 0',/,
.'G1 1091 2092 1 12 87 300 0 0 0.021 0.25 0',/,
.'G1 2009 1009 1 10 130 11 10 10 0.1 0.5 0',/,
.'G1 2063 70 1 8 140 24.6 0 0 0.021 0.25 0',/,

```

```
. 'G1 2092 92 1 10 33.5 50 0 0 0.021 0.25 0' )  
C  
4 FORMAT (  
. 'H1 1 1 1001 250 3.2405 10 0.24 0.021 0.1 4 50 15 2 0.001',/,/  
. 'H1 1 2 1002 284 0.9917 10 0.19 0.021 0.1 4 700 15 2 0.001',/,/  
. 'H1 1 3 1003 600 6.2658 5 0.11 0.021 0.1 4 50 15 2 0.001',/,/  
. 'H1 1 4 1004 620 5.1765 25 0.083 0.021 0.05 4 700 15 2 0.001',/,/  
. 'H1 1 5 1005 260 2.6694 5 0.169 0.021 0.1 4 50 15 2 0.001',/,/  
. 'H1 1 6 6 60 1.1525 5 0.084 0.021 0.1 4 40 15 2 0.001',/,/  
. 'H1 1 7 1007 474 3.1917 5 0.088 0.021 0.1 4 40 15 2 0.001',/,/  
. 'H1 1 8 11 165 2.6135 15 0.104 0.021 0.05 4 10 15 2 0.001',/,/  
. 'H1 1 9 1009 216 2.6351 5 0.08 0.021 0.1 4 40 15 2 0.001',/,/  
. 'H1 1 10 10 80 0.1599 98 0.07 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 11 11 70 0.1167 98 0.07 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 12 12 74 0.1214 98 0.07 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 13 1013 860 4.133 85 0.095 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 14 1014 130 0.9087 80 0.008 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 15 1015 490 3.6042 20 0.009 0.021 0.1 4 50 15 2 0.001',/,/  
. 'H1 1 16 17 105 3.139 80 0.04 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 17 17 105 0.2731 98 0.07 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 18 18 142 2.4753 85 0.062 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 19 19 295 4.0885 80 0.035 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 20 1020 590 6.3214 60 0.052 0.021 0.05 4 30 15 2 0.001',/,/  
. 'H1 1 21 22 97 1.5811 50 0.016 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 22 22 97 0.2451 98 0.03 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 23 1023 200 2.2129 65 0.04 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 24 1024 400 3.51 80 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 25 25 175 0.1967 98 0.03 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 26 26 114 0.3617 98 0.03 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 27 27 190 4.019 15 0.03 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 28 20 225 3.494 80 0.063 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 29 29 360 3.1725 80 0.058 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 30 30 253 3.4207 25 0.032 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 31 31 44 0.8304 85 0.024 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 32 1032 325 1.5336 95 0.013 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 33 32 113 0.2258 95 0.03 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 34 34 132 1.7585 95 0.018 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 35 35 355 3.9203 90 0.046 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 36 30 250 3.5705 95 0.038 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 37 37 75 0.944 50 0.01 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 38 38 95 0.9131 95 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 39 40 60 0.2414 95 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 40 40 120 1.8217 90 0.05 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 41 41 75 0.8919 90 0.045 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 42 42 108 0.2436 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 43 43 163 0.3374 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 44 44 190 0.6374 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 45 45 186 0.4432 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 46 46 187 0.4595 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 47 47 190 0.6054 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 48 48 193 0.5459 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/  
. 'H1 1 49 49 192 0.463 98 0.02 0.021 0.05 4 3 15 2 0.001',/,/
```



'H1 1 50 50 190 0.7637 98 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 51 51 195 0.4814 98 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 52 52 198 0.4786 98 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 53 53 195 0.6978 98 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 54 51 90 0.2761 95 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 55 53 36 0.1923 50 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 56 56 120 1.2073 90 0.025 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 57 57 140 0.7179 95 0.025 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 58 58 196 0.4818 95 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 59 59 170 0.9118 90 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 60 60 85 0.3472 95 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 61 60 120 0.4566 95 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 62 1062 100 0.5397 50 0.023 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 63 70 360 0.8799 90 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 64 48 176 0.4386 98 0.02 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 65 65 155 1.2326 90 0.051 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 66 66 147 0.3455 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 67 67 155 0.7641 65 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 68 68 115 0.27 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 69 60 240 0.7406 90 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 70 70 214 0.5924 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 71 1071 360 2.9992 50 0.038 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 72 72 240 2.3468 85 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 73 73 205 0.9245 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 74 74 208 0.4187 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 75 67 128 0.3319 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 76 76 100 1.0841 25 0.027 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 77 77 280 1.4341 90 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 78 78 190 0.9684 90 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 79 79 148 0.7763 90 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 80 80 91 1.309 95 0.01 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 81 82 120 1.6087 90 0.007 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 82 82 98 1.2908 90 0.007 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 83 1083 196 1.2143 95 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 84 79 54 0.4809 95 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 85 85 89 0.4937 95 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 86 86 52 0.6452 95 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 87 87 39 0.5536 95 0.005 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 88 88 165 1.7215 95 0.007 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 89 89 180 1.4804 90 0.007 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 90 1090 150 0.5716 35 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 91 1091 174 0.7133 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 92 92 56 0.2229 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 93 93 45 0.7611 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 94 94 78 1.2565 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 95 95 94 0.6143 60 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 96 96 117 0.7701 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 97 97 108 0.5495 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 98 96 117 0.3647 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 99 99 34 0.661 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 100 100 163 1.0842 95 0.05 0.021 0.05 4 3 15 2 0.001',/,  
'H1 1 101 101 165 1.046 95 0.05 0.021 0.05 4 3 15 2 0.001',/,

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.'H1 1 102 102 80 0.5765 95 0.05 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 103 103 59 0.6894 95 0.01 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 104 104 45 0.7388 95 0.05 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 105 105 34 0.278 95 0.05 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 106 106 60 0.3149 95 0.05 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 107 107 70 1.056 95 0.05 0.021 0.05 4 3 15 2 0.001',/,
.'H1 1 108 12 65 0.7419 15 0.104 0.021 0.05 4 10 15 2 0.001')

C
5   FORMAT (
    .'M1 0 1',/,
    .' $EXTRAN',/,
    .'A1 Archivo de entrada SWMM',/,
    .'A1 Alberto Aventín',/,
    .'B0 0 0')

C
51  FORMAT (A3,I7,A20)

C
52  FORMAT (
    .'B2 1 0 7.6 30 0.05 ',/,
    .'B3 0 0 0 0 0')

C
6   FORMAT (A3,I6.3,I5,I4,F4.1,I2,F4.1,F5.2,F4.1,I4,
    +F4.1,F4.1,F8.5,F4.1,F4.1)

C
7   FORMAT (
    .'D1 3 54.24 52.14 0.0 0.0',/,
    .'D1 4 49.70 48.10 0.0 0.0',/,
    .'D1 13 45.84 43.84 0.0 0.0',/,
    .'D1 18 40.55 37.55 0.0 0.0',/,
    .'D1 6 53.57 52.00 0.0 0.0',/,
    .'D1 14 42.55 41.30 0.0 0.0',/,
    .'D1 19 35.86 32.46 0.0 0.0',/,
    .'D1 20 26.75 23.35 0.0 0.0',/,
    .'D1 27 36.04 34.39 0.0 0.0',/,
    .'D1 227 200 27.80 0.0 0.0',/,
    .'D1 29 22.97 21.30 0.0 0.0',/,
    .'D1 929 22.80 19.20 0.0 0.0',/,
    .'D1 939 200 16.72 0.0 0.0',/,
    .'D1 34 25.39 23.39 0.0 0.0',/,
    .'D1 31 24.34 22.34 0.0 0.0',/,
    .'D1 30 17.23 14.25 0.0 0.0',/,
    .'D1 930 17.23 14.25 0.0 0.0',/,
    .'D1 40 13.92 11.27 0.0 0.0',/,
    .'D1 38 13.85 10.85 0.0 0.0',/,
    .'D1 938 13.27 10.32 0.0 0.0',/,
    .'D1 59 12.65 11.25 0.0 0.0',/,
    .'D1 10 37.73 35.93 0.0 0.0',/,
    .'D1 11 35.59 33.89 0.0 0.0',/,
    .'D1 9 42.54 41.00 0.0 0.0',/,
    .'D1 12 33.94 32.14 0.0 0.0',/,
    .'D1 17 31.65 29.85 0.0 0.0',/,
    .'D1 917 31.65 29.85 0.0 0.0',/,

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.'D1 22 29.76 27.16 0.0 0.0',,,
.'D1 25 27.95 25.55 0.0 0.0',,,
.'D1 26 27.27 24.37 0.0 0.0',,,
.'D1 926 27.27 24.37 0.0 0.0',,,
.'D1 32 25.03 22.43 0.0 0.0',,,
.'D1 44 23.91 21.36 0.0 0.0',,,
.'D1 47 21.63 19.13 0.0 0.0',,,
.'D1 50 18.12 15.92 0.0 0.0',,,
.'D1 53 12.56 11.06 0.0 0.0',,,
.'D1 43 24.02 22.32 0.0 0.0',,,
.'D1 46 20.78 18.88 0.0 0.0',,,
.'D1 49 18.15 16.55 0.0 0.0',,,
.'D1 52 14.16 11.06 0.0 0.0',,,
.'D1 42 23.51 21.91 0.0 0.0',,,
.'D1 45 19.66 18.06 0.0 0.0',,,
.'D1 48 16.29 14.69 0.0 0.0',,,
.'D1 51 13.89 10.69 0.0 0.0',,,
.'D1 41 20.36 18.26 0.0 0.0',,,
.'D1 70 12.53 10.33 0.0 0.0',,,
.'D1 60 12.11 9.51 0.0 0.0',,,
.'D1 68 11.09 9.69 0.0 0.0',,,
.'D1 37 22.79 20.69 0.0 0.0',,,
.'D1 57 21.06 19.21 0.0 0.0',,,
.'D1 65 16.12 13.42 0.0 0.0',,,
.'D1 71 13.86 12.56 0.0 0.0',,,
.'D1 72 13.13 11.38 0.0 0.0',,,
.'D1 965 12.70 10.60 0.0 0.0',,,
.'D1 73 11.90 10.30 0.0 0.0',,,
.'D1 58 16.89 15.99 0.0 0.0',,,
.'D1 66 14.90 13.20 0.0 0.0',,,
.'D1 74 14.00 12.00 0.0 0.0',,,
.'D1 67 11.54 10.14 0.0 0.0',,,
.'D1 76 11.24 8.57 0.0 0.0',,,
.'D1 976 11.24 8.56 0.0 0.0',,,
.'D1 80 10.95 8.15 0.0 0.0',,,
.'D1 86 10.03 7.80 0.0 0.0',,,
.'D1 87 9.61 7.55 0.0 0.0',,,
.'D1 93 9.24 7.34 0.0 0.0',,,
.'D1 94 8.64 7.04 0.0 0.0',,,
.'D1 99 8.23 6.77 0.0 0.0',,,
.'D1 103 8.03 6.24 0.0 0.0',,,
.'D1 104 7.87 5.97 0.0 0.0',,,
.'D1 107 7.80 5.67 0.0 0.0',,,
.'D1 35 24.35 22.60 0.0 0.0',,,
.'D1 56 21.87 16.67 0.0 0.0',,,
.'D1 77 8.40 7.34 0.0 0.0',,,
.'D1 78 8.36 7.06 0.0 0.0',,,
.'D1 79 10.36 6.91 0.0 0.0',,,
.'D1 85 9.60 6.52 0.0 0.0',,,
.'D1 92 9.04 6.36 0.0 0.0',,,
.'D1 97 8.19 6.03 0.0 0.0',,,
.'D1 115 100 5.84 0.0 0.0',,,

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. 'D1 125 100 5.74 0.0 0.0' ,/,
. 'D1 82 8.32 6.40 0.0 0.0' ,/,
. 'D1 88 8.12 6.38 0.0 0.0' ,/,
. 'D1 89 8.20 6.26 0.0 0.0' ,/,
. 'D1 95 8.12 6.19 0.0 0.0' ,/,
. 'D1 96 8.19 6.02 0.0 0.0' ,/,
. 'D1 102 7.74 5.75 0.0 0.0' ,/,
. 'D1 100 7.70 6.85 0.0 0.0' ,/,
. 'D1 111 100 6.68 0.0 0.0' ,/,
. 'D1 101 7.80 6.52 0.0 0.0' ,/,
. 'D1 106 7.47 6.37 0.0 0.0' ,/,
. 'D1 105 7.64 5.64 0.0 0.0' ,/,
. 'D1 900 7.80 5.67 0.0 0.0' ,/,
. 'D1 800 8.50 5.36 0.0 0.0' ,/,
. 'D1 801 98.55 5.10 0.0 0.0' ,/,
. 'D1 802 8.55 4.80 0.0 0.0' )

C
71 FORMAT(
. 'E1 76 11.07 4550 0' ,/,
. 'E1 30 17.00 5100 0' ,/,
. 'E1 17 31.35 3500 0' ,/,
. 'E1 26 27.12 1700 0' ,/,
. 'E1 4 49.60 300 0' ,/,
. 'F1 76 976 2 0.8 0.6 0' ,/,
. 'F1 30 930 2 0.5 0.6 0' ,/,
. 'F1 17 917 2 0.01 0.6 0' ,/,
. 'F1 26 926 2 0.01 0.6 0' )

C
8 FORMAT(
. 'I1 802 1' ,/,
. 'J1 1' ,/,
. '$ENDPROGRAM' )

C
END
```