

Koland (2)7212-492(99.9.29)	2-3
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1)

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2)

3)

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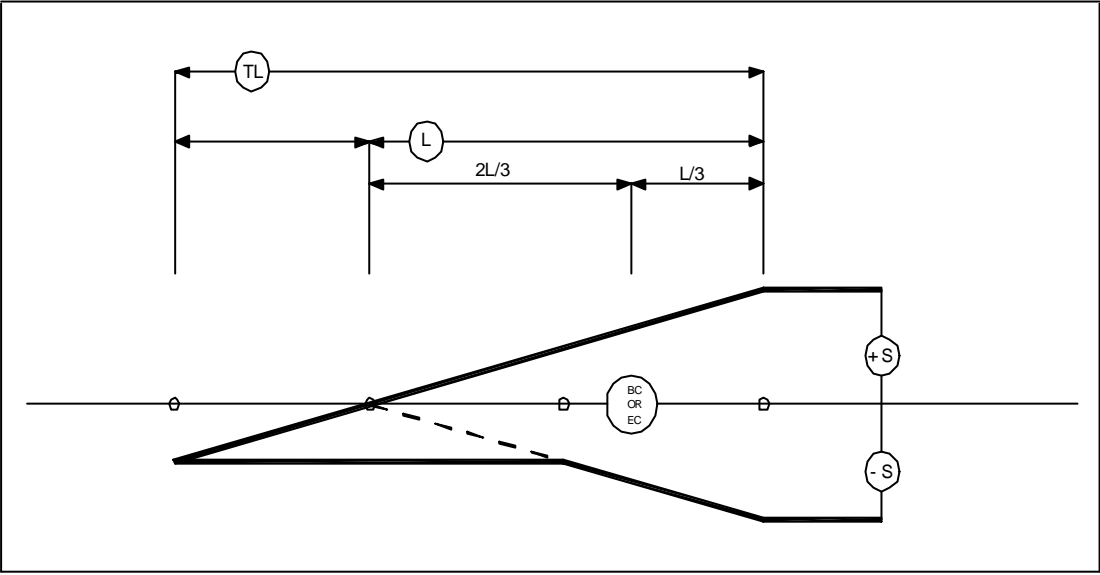
		(%)
		6
		8
		6

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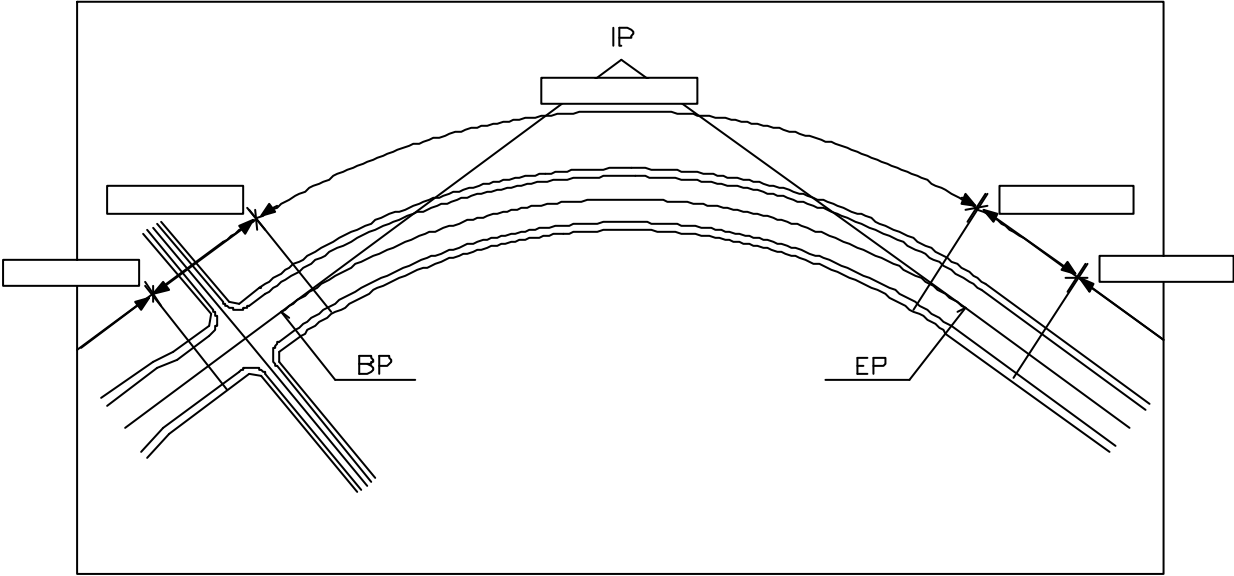
가
가 -2% 0% 2
20 40m
. (2)

			(m)	
	10	2.5	50 100	1/150 1/300
	6	2	40 80	1/190 1/380
	4	1.5	30 60	1/230 1/460

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4)

가)

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가

15cm

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80 100cm

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30 50cm

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30m

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	p370	30m .
	p68	가. 1 2 , 가 , L 20 30m .
	p69	20m 1 .
	p207	20 30m .

	.		
(m)	20.0	25.0	30.0

)

(1) ()

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

C : (: 0.9)

I₁ : (102 mm/hr)

A₁ : (((B)/2) × (L)) (m²)

(2) (Manning)

- 3 0.5m 0.5m, 1m,
1.5m 가 1.0m, 1.5m, 2.0m

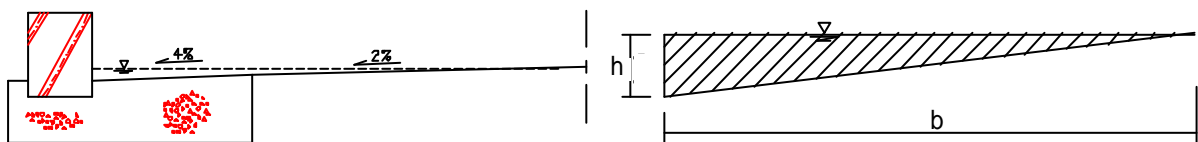
- 100%
- 가

(b)	(h)	가			
1.0m	3.0cm	30m	1.5cm	0.05%	= +
1.5m	4.0cm	25m	2.0cm	0.08%	
2.0m	5.0cm	20m	2.5cm	0.125%	

- 4% 2%

()

· L



$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

A₂ : L (:0.0125m², :0.0250m², :0.0425m²)

V : (m/sec)

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

n : (0.015)

R : (A/P) (:0.01213m, :0.3m, :0.02072m)
P : (:1.0305m, :1.5406m, :2.0507m)
I₂ : (+)

((1998))
:
:
:(Tc) : 10
:

Frequency 1988 I.D.F (Intensity Duration
- -)
10 - 3 (mm/hr)

	61		98		95
	80.5		107		82
	110		72		74
	58		83		101
	96		100		81
	90		91		73
	92		88		92

(1998)

:
90% I₃ = 102 mm/hr

$$L = 23818.01 \cdot I^{1/2} \cdot B$$

(3)

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

1.0m(0.5m)

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

(: m)

	3 (6m)	2 (8m)	1 (10m)	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.00 %	13	10	8	6	5	4	3	3	2	2
0.05 %	18	14	11	9	7	5	4	4	3	3
0.1 %	22	17	13	11	9	7	5	4	4	3
0.5 %	43	32	26	21	17	13	10	9	7	6
1.0 %	59	44	35	29	24	18	14	12	10	9
3.0 %	100	75	60	50	40	30	24	20	17	15
5.0 %	129	97	78	65	52	39	31	26	22	19

1.5m(1.0m)

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

(: m)

	3 (6m)	2 (8m)	1 (10m)	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.00 %	40	30	24	20	16	12	9	8	7	6
0.05 %	50	38	30	25	20	15	12	10	9	8
0.1 %	59	44	36	30	24	18	14	12	10	9
0.5 %	106	80	64	53	43	32	26	21	18	16
1.0 %	145	109	87	73	58	44	35	29	25	22
3.0 %	245	184	147	123	98	74	59	49	42	37
5.0 %	315	236	189	157	126	94	76	63	54	47

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

	3 (6m)	2 (8m)	1 (10m)	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.00 %	99	74	59	49	40	30	24	20	17	15
0.05 %	117	88	70	58	47	35	28	23	20	18
0.1 %	133	99	80	66	53	40	32	27	23	20
0.5 %	221	166	133	110	88	66	53	44	38	33
1.0 %	296	222	178	148	119	89	71	59	51	44
3.0 %	494	370	296	247	198	148	119	99	85	74
5.0 %	633	474	380	316	253	190	152	127	108	95

(4)

가
가
(0.5m,
1.0m 1.5m) 가 (1.0%)
0.1%
1.5m
가 0.05%(1/2,000)
.
2.0m
가
가
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가 가
가

) 가 (가

5)

가)

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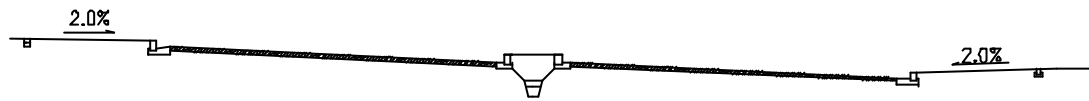
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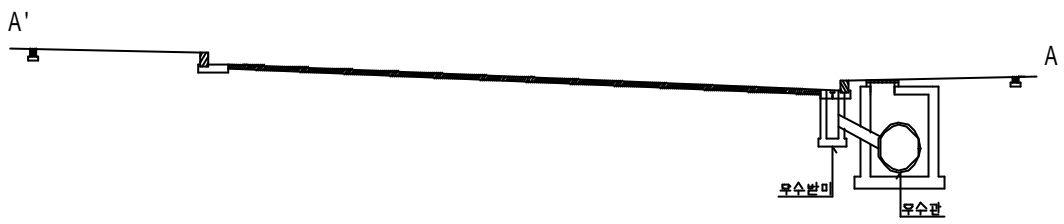
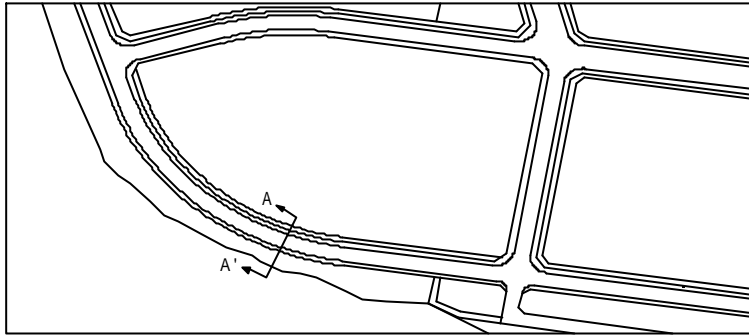
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(1)

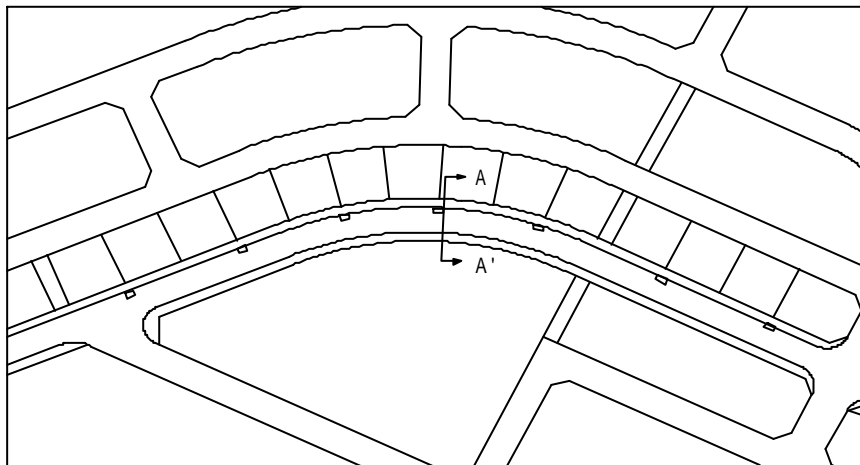
가

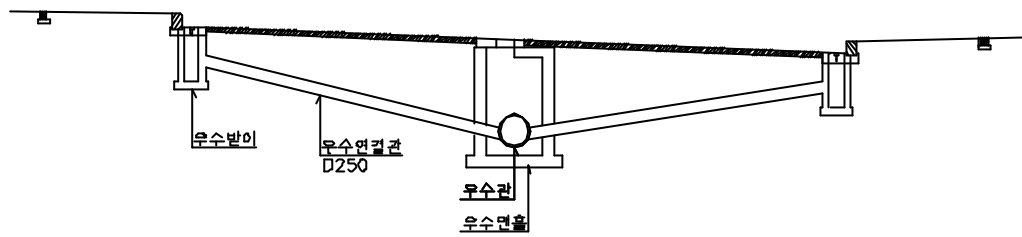
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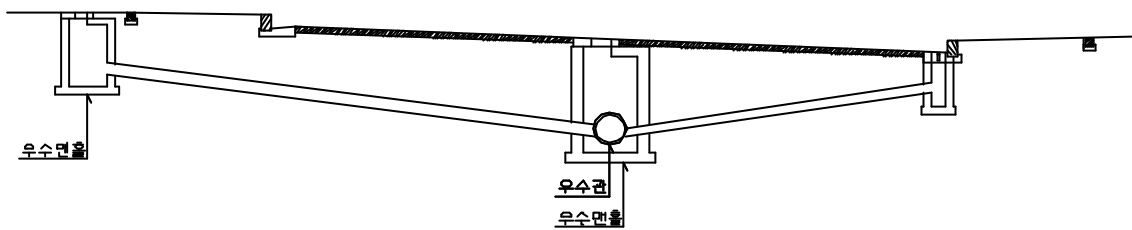
가 ()

1





가



(2)

(가)

2 가

가

가 4% 1.6 가 2% 3% 1.3
가(2) 3% 1/1.5

가

가

	2 %			3 %			4 %		
	(A)	(P)	(R)	(A)	(P)	(R)	(A)	(P)	(R)
0.5 m	0.0125	1.0305	0.01213	0.01625	1.035625	0.01569	0.020	1.0408	0.01922
1.0 m	0.0250	1.5406	0.01623	0.0350	1.550850	0.02257	0.045	1.5612	0.02882
1.5 m	0.0425	2.0507	0.02072	0.06125	2.066075	0.02965	0.080	2.0816	0.03843

(m)	20	25	30
(m)	13	17	-

4% 가

2%, 3%, 4%

0.5m

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	5	4	3	2	2	2	1
0.1 %	6	4	3	3	2	2	2
0.5 %	11	9	6	5	4	4	3
1.0 %	15	12	9	7	6	5	4
3.0 %	25	20	15	12	10	9	8
5.0 %	32	26	19	16	13	11	10

3%

$$\frac{1}{3.6 \times 10^6} \times 0.9 \times 102 \times B \times L = 0.080 \times \frac{1}{0.015} \times 0.03843^{2/3} \times I^{1/2}$$

$$L = 23818.01 \times I^{1/2} \times \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	7	6	4	3	3	2	2
0.1 %	9	7	5	4	3	3	3
0.5 %	16	13	10	8	7	6	5
1.0 %	23	18	14	11	9	8	7
3.0 %	39	31	23	19	16	13	12
5.0 %	50	40	30	24	20	17	15

-

4%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	10	8	6	5	4	3	3
0.1 %	12	10	7	6	5	4	4
0.5 %	23	19	14	11	9	8	7
1.0 %	32	26	19	15	13	11	10
3.0 %	55	44	33	26	22	19	16
5.0 %	70	56	42	34	28	24	21

1.0m

-

2%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	13	10	8	6	5	4	4
0.1 %	15	12	9	7	6	5	4
0.5 %	27	21	16	13	11	9	8
1.0 %	36	29	22	17	15	12	11
3.0 %	61	49	37	29	25	21	18
5.0 %	79	63	47	38	31	27	24

- 3%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	22	18	13	11	9	8	7
0.1 %	26	21	16	12	10	9	8
0.5 %	46	37	28	22	19	16	14
1.0 %	63	51	38	30	25	22	19
3.0 %	107	86	64	51	43	37	32
5.0 %	137	110	82	66	55	47	41

- 4%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	33	27	20	16	13	11	10
0.1 %	39	31	23	19	16	13	12
0.5 %	70	56	42	34	28	24	21
1.0 %	96	77	57	46	38	33	29
3.0 %	162	129	97	78	65	55	49
5.0 %	208	166	125	100	83	71	62

- 1.5m
2%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	29	23	18	14	12	10	9
0.1 %	33	27	20	16	13	11	10
0.5 %	55	44	33	27	22	19	17
1.0 %	74	59	44	36	30	25	22
3.0 %	123	99	74	59	49	42	37
5.0 %	158	127	95	76	63	54	47

- 3%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	53	43	32	26	21	18	16
0.1 %	61	49	36	29	24	21	18
0.5 %	101	81	61	49	40	35	30
1.0 %	136	108	81	65	54	46	41
3.0 %	226	181	136	108	90	77	68
5.0 %	289	232	174	139	116	99	87

- 4%

$$\frac{1}{3.6 \cdot 10^6} \cdot 0.9 \cdot 102 \cdot B \cdot L = 0.080 \cdot \frac{1}{0.015} \cdot 0.03843^{2/3} \cdot I^{1/2}$$

$$L = 23818.01 \cdot I^{1/2} \cdot \frac{1}{B}$$

	3 (12m)	2 (15m)	1 (20m)	3 (25m)	2 (30m)	1 (35m)	3 (40m)
0.05 %	83	66	50	40	33	28	25
0.1 %	94	75	56	45	38	32	28
0.5 %	157	126	94	75	63	54	47
1.0 %	211	168	126	101	84	72	63
3.0 %	351	281	211	168	140	120	105
5.0 %	449	359	270	216	180	154	135

3. 3))

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0.1%

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가 ()

15m가

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가

가

13 17m

가 15m

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(1)

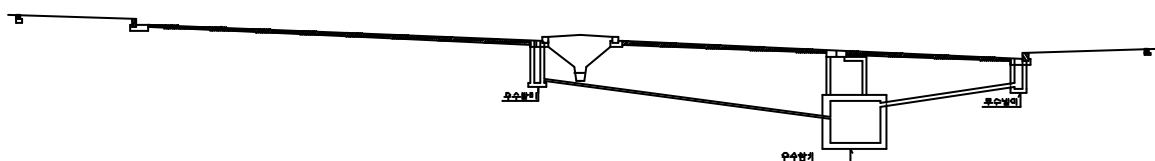
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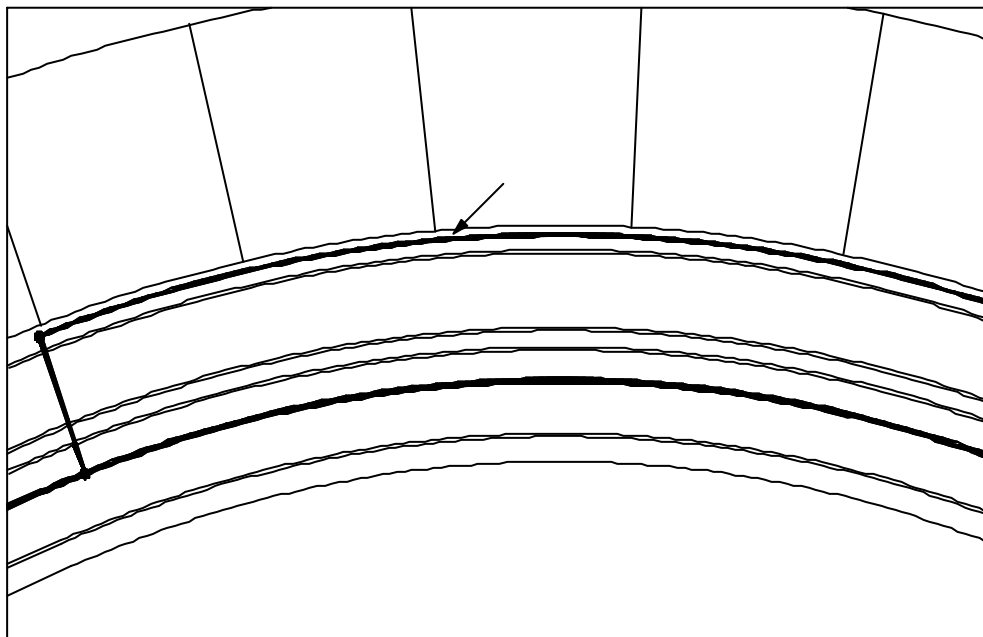
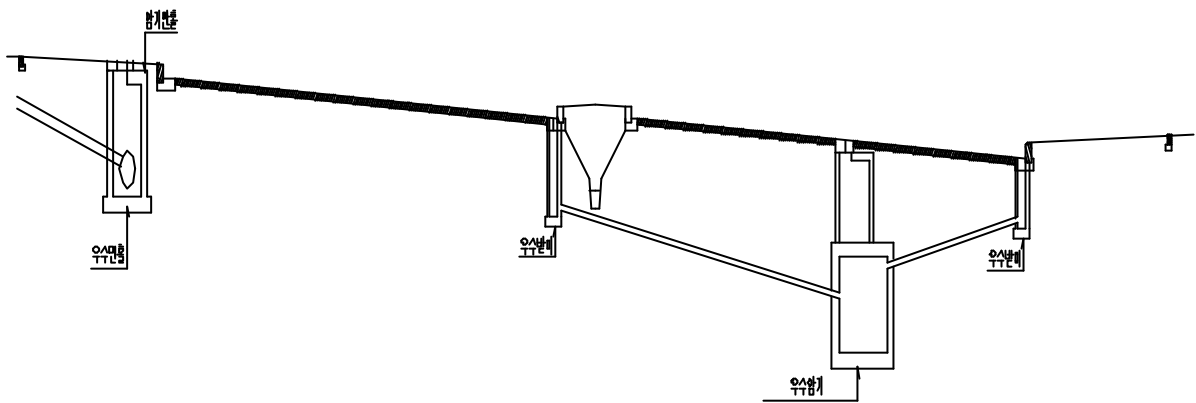
(1)

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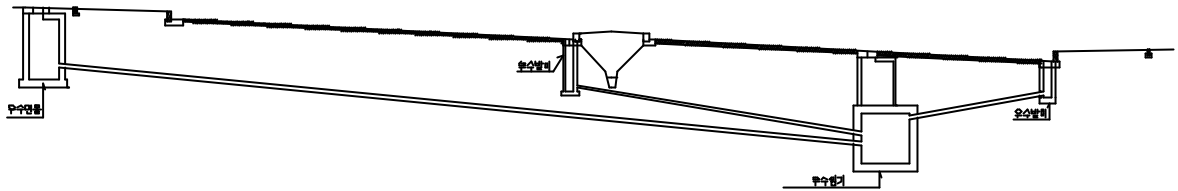


가 () 가
가 () 가

가 가
가 가
가 가



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(2) 가

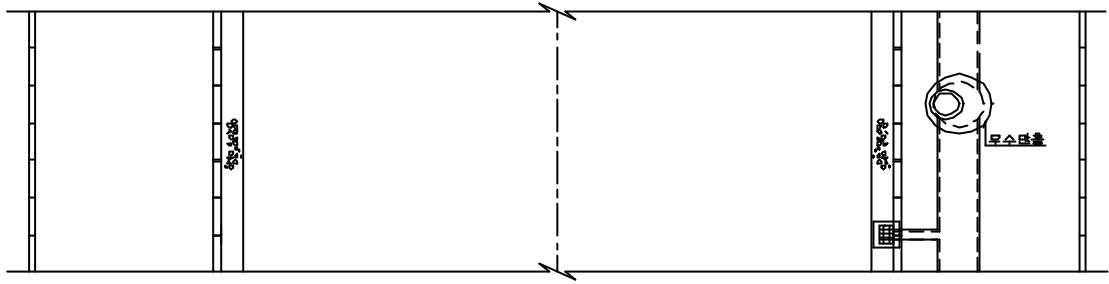
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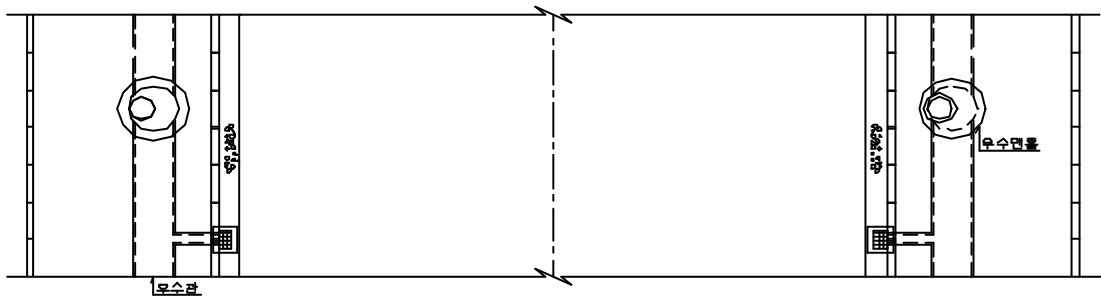
	.				
		-	-	-	. : 20m 1 . : 25m 1 . : 30m 1 , . 2 1
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				-	. : 13m 1 . : 17m 1
				()	. 1 1
					. : 13m 1 . : 17m 1
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				()	. L . . .
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					.

가 0.1%
가 .

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