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02-04	2 2/3" x 1/2" Corrugated Aluminum Alloy Pipe and Pipe Arch Height of Cover Limits
05-07	3" x 1" Corrugated Aluminum Alloy Pipe and Pipe Arch Height of Cover Limits
08-09	6" x 1" Corrugated Aluminum Alloy Pipe Height of Cover Limits
10-12	2 2/3" x 1/2" Corrugated Steel Pipe and Pipe Arch Height of Cover Limits
13-15	3" x 1" Corrugated Steel Pipe and Pipe Arch Height of Cover Limits
16-17	5" x 1" Corrugated Steel Pipe and Pipe Arch Height of Cover Limits
18	3/4" x 3/4" x 7 1/2" Spiral Rib Steel Pipe Height of Cover Limits
19	Non-Reinforced Concrete Pipe Class 3 Height of Cover Limits
20	Corrugated Polyethylene Pipe Height of Cover Limits
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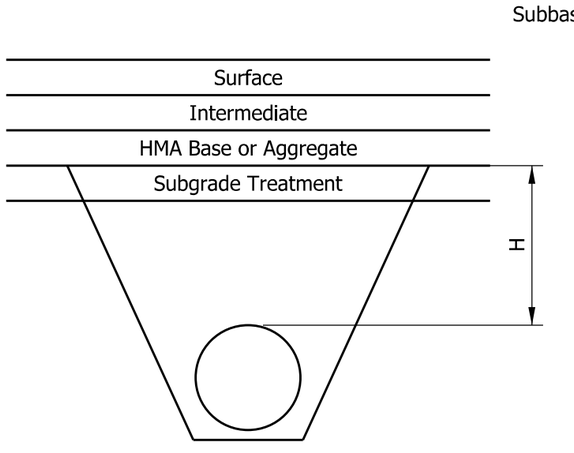
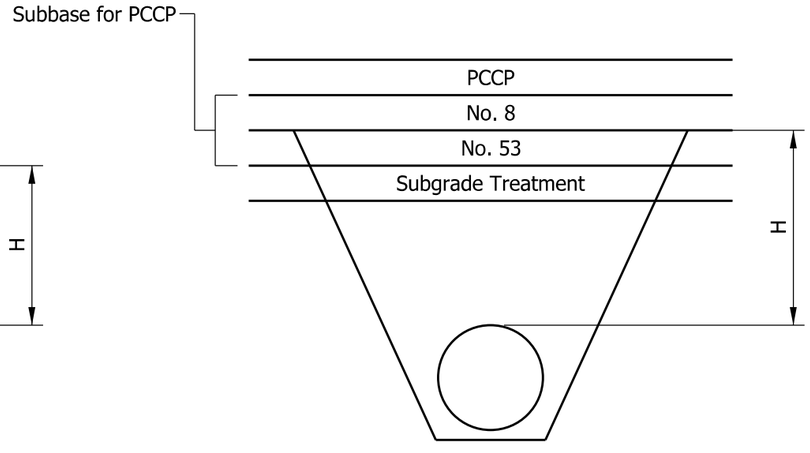
22	Vitrified Clay Pipe Height of Cover Limits
23-24	Reinforced Concrete Pipe Height of Cover Limits

GENERAL NOTE:

1. The tabulated cover depth H shall be measured from the top of the pipe to the bottom of the drainage No. 8 layer for PCCP and from the top of the pipe to the top of the subgrade treatment for HMA pavement.



HMA



PCCP

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS
DRAWING INDEX AND
GENERAL NOTES
SEPTEMBER 2026

STANDARD DRAWING NO. E 715-PHCL-01

ELIZABETH P. MOUSER REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

2/26/2026
DESIGN STANDARDS ENGINEER DATE

04/08/2026
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED ALUMINUM ALLOY PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

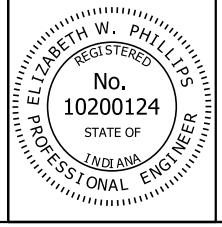
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
0.8	12	1.0	100.0	1.0	100.0	1.0	100.0				
1.2	15	1.0	100.0	1.0	100.0	1.0	100.0				
1.8	18	1.0	100.0	1.0	100.0	1.0	100.0				
2.4	21	1.0	88.5	1.0	100.0	1.0	100.0				
3.1	24	1.0	77.5	1.0	96.8	1.0	100.0	1.0	100.0		
4.0	27	1.0	68.8	1.0	86.0	1.0	100.0	1.0	100.0		
4.9	30	1.0	62.0	1.0	77.4	1.0	100.0	1.0	100.0		
5.9	33			1.0	64.5	1.0	90.4	1.0	100.0		
7.1	36			1.0	64.5	1.0	90.4	1.0	100.0		
9.6	42					1.0	77.4	1.0	99.7		
12.6	48					1.0	66.7	1.0	86.6	1.0	100.0
15.9	54					1.0	54.4	1.0	70.8	1.0	87.6
19.6	60							1.0	57.6	1.0	71.6
23.8	66									1.0	57.7
28.3	72									1.0	45.5

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-02



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED ALUMINUM ALLOY PIPE (RIVETED)
HEIGHT OF COVER LIMITS (ft)

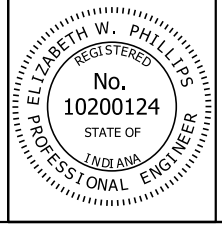
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
0.8	12	1.0	50.0	1.0	50.0	1.0	86.6				
1.2	15	1.0	40.0	1.0	40.0	1.0	69.3				
1.8	18	1.0	33.3	1.0	33.3	1.0	57.7				
2.4	21	1.0	28.5	1.0	28.5	1.0	49.5				
3.1	24	1.0	25.0	1.0	25.0	1.0	43.3	1.0	45.0		
4.0	27	1.0	22.2	1.0	22.2	1.0	38.5	1.0	40.0		
4.9	30	1.1	20.0	1.1	20.0	1.0	34.6	1.0	36.0		
5.9	33			1.2	16.6	1.0	28.8	1.0	30.0		
7.1	36			1.2	16.6	1.0	28.8	1.0	30.0		
9.6	42					1.0	50.0	1.0	52.3		
12.6	48					1.0	43.7	1.0	45.8	1.0	47.2
15.9	54					1.0	38.8	1.0	40.7	1.0	41.9
19.6	60							1.0	36.6	1.0	37.7
23.8	66									1.0	34.3
28.3	72									1.0	31.4

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-03



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED ALUMINUM ALLOY PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

CORNER RADIUS (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.060		0.075		0.105		0.135		0.164	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
3 (Min.) 3 1/2 (Typ.)	17	13	1.1	1.5	13.7	1.5	13.7	1.5	13.7				
3 (Min.) 4 1/8 (Typ.)	21	15	1.6	1.6	13.0	1.6	13.0	1.6	13.0				
3 (Min.) 4 7/8 (Typ.)	24	18	2.2	1.5	13.5	1.5	13.5	1.5	13.5				
3 (Min.) 5 1/2 (Typ.)	28	20	2.9	1.6	13.0	1.6	13.0	1.6	13.0	1.6	13.0		
3 (Min.) 6 7/8 (Typ.)	35	24	4.5			1.6	13.0	1.6	13.0	1.6	13.0		
3 1/2 (Min.) 8 1/4 (Typ.)	42	29	6.5			1.6	13.0	1.6	13.0	1.6	13.0		
4 (Min.) 9 5/8 (Typ.)	49	33	8.9			1.6	13.0	1.6	13.0	1.6	13.0		
5 (Min.) 11 (Typ.)	57	38	11.6					1.6	12.8	1.6	12.8	1.6	12.8
6 (Min.) 12 3/8 (Typ.)	64	43	14.7							1.6	12.8	1.6	12.8
7 (Min.) 13 3/4 (Typ.)	71	47	18.1									1.6	12.9

NOTES:

1. Dual entries in the "Corner Radius" column such as 3 (Min.), 3 1/2 (Typ.), represent the following:
   3 (Min.) = Minimum corner radius allowed by AASHTO M 196
   3 1/2 (Typ.) = Corner radius typically available

2. The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-04

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED ALUMINUM ALLOY PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
4.9	30	1.0	71.2	1.0	89.4	1.0	100.0	1.0	100.0		
5.9	33	1.0	59.3	1.0	74.5	1.0	100.0	1.0	100.0		
7.1	36	1.0	59.3	1.0	74.5	1.0	100.0	1.0	100.0		
9.6	42	1.0	50.8	1.0	63.8	1.0	89.1	1.0	100.0		
12.6	48	1.0	44.5	1.0	55.9	1.0	78.0	1.0	100.0	1.0	100.0
15.9	54	1.0	39.5	1.0	49.6	1.0	69.3	1.0	92.8	1.0	90.7
19.6	60	1.0	35.6	1.0	44.7	1.0	62.4	1.0	83.5	1.0	81.6
23.8	66	1.0	32.3	1.0	40.6	1.0	56.7	1.0	75.9	1.0	74.2
28.3	72			1.0	37.2	1.0	52.0	1.0	69.6	1.0	68.0
33.2	78			1.0	34.4	1.0	48.0	1.0	64.2	1.0	62.8
38.5	84					1.0	44.5	1.0	59.6	1.0	58.3
44.2	90					1.0	41.6	1.0	55.6	1.0	54.4
50.3	96					1.0	38.1	1.0	51.3	1.0	51.0
56.7	102							1.1	46.3	1.1	48.0
63.6	108							1.1	41.8	1.1	45.3
70.9	114									1.2	42.9
78.5	120									1.3	40.1

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-05

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED ALUMINUM ALLOY PIPE (RIVETED)
HEIGHT OF COVER LIMITS (ft)

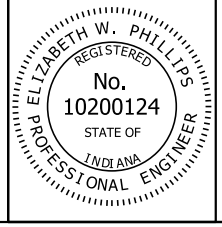
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
4.9	30	1.0	36.6	1.0	45.5	1.0	62.2	1.0	93.3		
5.9	33	1.0	30.5	1.0	37.9	1.0	51.8	1.0	77.7		
7.1	36	1.0	30.5	1.0	37.9	1.0	51.8	1.0	77.7		
9.6	42	1.0	26.1	1.0	32.5	1.0	44.4	1.0	66.6		
12.6	48	1.0	22.9	1.0	28.4	1.0	38.8	1.0	58.3	1.0	75.6
15.9	54	1.1	20.3	1.0	25.3	1.0	34.5	1.0	51.8	1.0	67.2
19.6	60	1.1	18.3	1.0	22.7	1.0	31.1	1.0	46.6	1.0	60.5
23.8	66	1.2	16.6	1.1	20.7	1.0	28.2	1.0	42.4	1.0	55.0
28.3	72			1.1	18.9	1.0	25.9	1.0	38.8	1.0	50.4
33.2	78			1.2	17.5	1.0	23.9	1.0	35.8	1.0	46.5
38.5	84					1.0	22.2	1.0	33.3	1.0	43.2
44.2	90					1.1	20.7	1.0	31.1	1.0	40.3
50.3	96					1.1	19.4	1.0	29.1	1.0	37.8
56.7	102							1.1	27.4	1.1	35.6
63.6	108							1.1	25.9	1.1	33.6
70.9	114									1.2	31.8
78.5	120									1.3	30.2

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-06



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED ALUMINUM ALLOY PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

CORNER RADIUS (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.060		0.075		0.105		0.135		0.164	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
8 (Min.) 18 3/4 (Typ.)	60	46	15.6			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
9 (Min.) 20 3/4 (Typ.)	66	51	19.3			1.1	20.9	1.1	20.9	1.1	20.9	1.1	20.9
12 (Min.) 22 7/8 (Typ.)	73	55	23.2			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
14 (Min.) 20 7/8 (Typ.)	81	59	27.4					1.2	17.1	1.2	17.1	1.2	17.1
14 (Min.) 22 5/8 (Typ.)	87	63	32.1					1.2	17.3	1.2	17.3	1.2	17.3
16 (Min.) 24 3/8 (Typ.)	95	67	37.0							1.2	17.1	1.2	17.1
16 (Min.) 26 1/8 (Typ.)	103	71	42.4							1.2	16.9	1.2	16.9
18 (Min.) 27 3/4 (Typ.)	112	75	48.0									1.3	16.5

NOTES:

1. Dual entries in the "Corner Radius" column such as 8 (Min.), 18 3/4 (Typ.), represent the following:
   8 (Min.) = Minimum corner radius allowed by AASHTO M 196
   18 3/4 (Typ.) = Corner radius typically available

2. The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-07

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

6" x 1" CORRUGATED ALUMINUM ALLOY PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

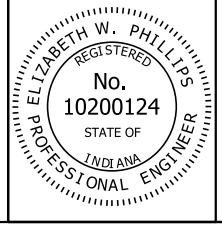
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12.6	48	1.0	38.7	1.0	48.4	1.0	67.8	1.0	87.2	1.0	100.0
15.9	54	1.0	34.4	1.0	43.0	1.0	60.2	1.0	77.5	1.0	94.8
19.6	60	1.0	31.0	1.0	38.7	1.0	54.2	1.0	69.7	1.0	85.3
23.8	66	1.0	28.1	1.0	35.2	1.0	49.3	1.0	63.4	1.0	77.5
28.3	72			1.0	32.2	1.0	45.2	1.0	58.1	1.0	71.1
33.2	78			1.0	29.7	1.0	41.7	1.0	53.6	1.0	65.6
38.5	84					1.0	38.7	1.0	49.8	1.0	60.9
44.2	90					1.0	36.1	1.0	46.5	1.0	56.8
50.3	96							1.0	43.6	1.0	53.3
56.7	102							1.1	40.0	1.1	49.0
63.6	108									1.1	44.5
70.9	114									1.2	40.3

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-08



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

6" x 1" CORRUGATED ALUMINUM ALLOY PIPE (RIVETED)
HEIGHT OF COVER LIMITS (ft)

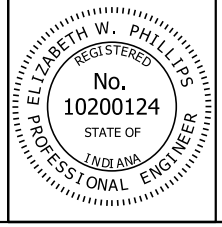
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.060		0.075		0.105		0.135		0.164	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12.6	48	1.0	22.2	1.0	26.3	1.0	38.7	1.0	49.8	1.0	60.4
15.9	54	1.1	19.7	1.0	23.4	1.0	34.4	1.0	44.3	1.0	53.7
19.6	60	1.2	17.7	1.1	21.1	1.0	31.0	1.0	39.8	1.0	48.3
23.8	66	1.3	16.1	1.1	19.1	1.0	28.1	1.0	36.2	1.0	43.9
28.3	72			1.2	17.5	1.0	25.8	1.0	33.2	1.0	40.2
33.2	78			1.3	16.2	1.0	23.8	1.0	30.6	1.0	37.1
38.5	84					1.0	22.1	1.0	28.4	1.0	34.5
44.2	90					1.1	20.6	1.0	26.5	1.0	32.2
50.3	96							1.0	24.9	1.0	30.2
56.7	102							1.1	23.4	1.1	28.4
63.6	108									1.1	26.8
70.9	114									1.2	25.4

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-09



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED STEEL PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

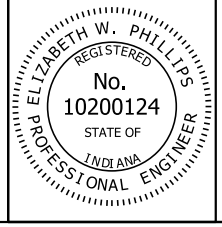
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.064		0.079		0.109		0.138		0.168	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
0.8	12	1.0	100.0	1.0	100.0						
1.2	15	1.0	100.0	1.0	100.0	1.0	100.0				
1.8	18	1.0	100.0	1.0	100.0	1.0	100.0				
2.4	21	1.0	100.0	1.0	100.0	1.0	100.0				
3.1	24	1.0	100.0	1.0	100.0	1.0	100.0				
4.0	27	1.0	94.7	1.0	100.0	1.0	100.0				
4.9	30	1.0	85.2	1.0	100.0	1.0	100.0	1.0	100.0		
5.9	33	1.0	71.0	1.0	88.7	1.0	100.0	1.0	100.0		
7.1	36	1.0	71.0	1.0	88.7	1.0	100.0	1.0	100.0	1.0	100.0
9.6	42	1.0	60.8	1.0	76.0	1.0	100.0	1.0	100.0	1.0	100.0
12.6	48	1.0	53.2	1.0	66.5	1.0	93.2	1.0	100.0	1.0	100.0
15.9	54			1.0	59.1	1.0	82.8	1.0	100.0	1.0	100.0
19.6	60					1.0	87.8	1.0	95.9	1.0	100.0
23.8	66							1.0	87.2	1.0	100.0
28.3	72							1.0	79.9	1.0	97.0
33.2	78									1.0	86.7
38.5	84									1.0	75.1

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-10



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED STEEL PIPE (RIVETED)
HEIGHT OF COVER LIMITS (ft)

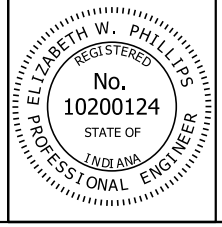
AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.064		0.079		0.109		0.138		0.168	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
0.8	12	1.0	92.7	1.0	100.0						
1.2	15	1.0	74.2	1.0	80.8	1.0	100.0				
1.8	18	1.0	61.8	1.0	67.4	1.0	86.6				
2.4	21	1.0	53.0	1.0	57.7	1.0	74.2				
3.1	24	1.0	46.3	1.0	50.5	1.0	65.0				
4.0	27	1.0	41.2	1.0	44.9	1.0	57.7				
4.9	30	1.0	37.1	1.0	40.4	1.0	52.0	1.0	54.4		
5.9	33	1.0	30.9	1.0	33.7	1.0	43.3	1.0	45.3		
7.1	36	1.0	30.9	1.0	33.7	1.0	43.3	1.0	45.3	1.0	47.4
9.6	42	1.0	34.2	1.0	47.3	1.0	74.2	1.0	77.7	1.0	81.4
12.6	48	1.0	30.0	1.0	41.3	1.0	65.0	1.0	68.0	1.0	71.2
15.9	54			1.0	36.7	1.0	57.7	1.0	60.4	1.0	63.3
19.6	60					1.0	52.0	1.0	54.4	1.0	57.0
23.8	66							1.0	49.4	1.0	51.8
28.3	72							1.0	45.3	1.0	47.5
33.2	78									1.0	43.8
38.5	84									1.0	40.7

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-11



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

2 2/3" x 1/2" CORRUGATED STEEL PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

CORNER RADIUS (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.064		0.079		0.109		0.138		0.168	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
3 (Min.) 3 1/2 (Typ.)	17	13	1.1	1.5	13.7	1.5	13.7	1.5	13.7				
3 (Min.) 4 1/8 (Typ.)	21	15	1.6	1.6	13.0	1.6	13.0	1.6	13.0				
3 (Min.) 4 7/8 (Typ.)	24	18	2.2	1.5	13.5	1.5	13.5	1.5	13.5				
3 (Min.) 5 1/2 (Typ.)	28	20	2.9	1.6	13.0	1.6	13.0	1.6	13.0				
3 (Min.) 6 7/8 (Typ.)	35	24	4.5	1.6	13.0	1.6	13.0	1.6	13.0	1.6	13.0		
3 1/2 (Min.) 8 1/4 (Typ.)	42	29	6.5	1.6	13.0	1.6	13.0	1.6	13.0	1.6	13.0	1.6	13.0
4 (Min.) 9 5/8 (Typ.)	49	33	8.9			1.6	13.0	1.6	13.0	1.6	13.0	1.6	13.0
5 (Min.) 11 (Typ.)	57	38	11.6					1.6	12.8	1.6	12.8	1.6	12.8
6 (Min.) 12 3/8 (Typ.)	64	43	14.7					1.6	12.8	1.6	12.8	1.6	12.8
7 (Min.) 13 3/4 (Typ.)	71	47	18.1							1.6	12.9	1.6	12.9
8 (Min.) 15 1/8 (Typ.)	77	52	21.9									1.6	13.0
9 (Min.) 16 1/2 (Typ.)	83	57	26.0									1.5	13.2

NOTES:

1. Dual entries in the "Corner Radius" column such as 3 (Min.), 3 1/2 (Typ.), represent the following:
   3 (Min.) = Minimum corner radius allowed by AASHTO M 196
   3 1/2 (Typ.) = Corner radius typically available

2. The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-12

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED STEEL PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.064		0.079		0.109		0.138		0.168	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
7.1	36	1.0	81.5								
9.6	42	1.0	69.9	1.0	87.4	1.0	100.0	1.0	100.0		
12.6	48	1.0	61.1	1.0	76.5	1.0	100.0	1.0	100.0		
15.9	54	1.0	54.3	1.0	68.0	1.0	95.3	1.0	100.0	1.0	100.0
19.6	60	1.0	48.9	1.0	61.2	1.0	85.8	1.0	100.0	1.0	100.0
23.8	66	1.0	44.5	1.0	55.6	1.0	78.0	1.0	100.0	1.0	100.0
28.3	72	1.0	40.7	1.0	51.0	1.0	71.5	1.0	92.0	1.0	100.0
33.2	78	1.0	37.6	1.0	47.0	1.0	66.0	1.0	84.9	1.0	100.0
38.5	84	1.0	34.9	1.0	43.7	1.0	61.2	1.0	78.8	1.0	96.5
44.2	90	1.0	32.6	1.0	40.8	1.0	57.2	1.0	73.6	1.0	90.1
50.3	96			1.0	38.2	1.0	53.6	1.0	69.0	1.0	84.4
56.7	102			1.1	36.0	1.1	50.4	1.1	64.9	1.1	79.5
63.6	108					1.1	47.6	1.1	61.3	1.1	75.1
70.9	114					1.2	45.1	1.2	58.1	1.2	71.1
78.5	120					1.3	42.9	1.3	55.2	1.3	67.5
86.6	126							1.3	52.5	1.3	64.3
95.0	132							1.4	50.2	1.4	61.4
103.9	138							1.4	48.0	1.4	58.7
113.1	144									1.5	56.3

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-13

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED STEEL PIPE (RIVETED)
HEIGHT OF COVER LIMITS (ft)

AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.064		0.079		0.109		0.138		0.168	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
7.1	36	1.0	53.1								
9.6	42	1.0	45.5	1.0	56.6	1.0	84.1	1.0	100.0		
12.6	48	1.0	39.8	1.0	49.5	1.0	73.6	1.0	88.4		
15.9	54	1.0	35.4	1.0	44.0	1.0	65.4	1.0	78.6	1.0	87.2
19.6	60	1.0	31.8	1.0	39.6	1.0	58.8	1.0	70.7	1.0	78.5
23.8	66	1.0	28.9	1.0	36.0	1.0	53.5	1.0	64.3	1.0	71.4
28.3	72	1.0	26.5	1.0	33.0	1.0	49.0	1.0	58.9	1.0	65.4
33.2	78	1.0	24.5	1.0	30.5	1.0	45.2	1.0	54.4	1.0	60.4
38.5	84	1.0	22.7	1.0	28.3	1.0	42.0	1.0	50.5	1.0	56.1
44.2	90	1.1	21.2	1.0	26.4	1.0	39.2	1.0	47.1	1.0	52.3
50.3	96			1.0	24.7	1.0	36.8	1.0	44.2	1.0	49.0
56.7	102			1.1	23.3	1.1	34.6	1.1	41.6	1.1	46.2
63.6	108					1.1	32.7	1.1	39.3	1.1	43.6
70.9	114					1.2	30.9	1.2	37.2	1.2	41.3
78.5	120					1.3	29.4	1.3	35.3	1.3	39.2
86.6	126							1.3	33.7	1.3	37.4
95.0	132							1.4	32.1	1.4	35.7
103.9	138							1.4	30.7	1.4	34.1
113.1	144									1.5	32.7

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-14

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3" x 1" CORRUGATED STEEL PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

CORNER RADIUS (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.064		0.079		0.109		0.138		0.168	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
8 (Min.) 18 3/4 (Typ.)	60	46	15.6			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
9 (Min.) 20 3/4 (Typ.)	66	51	19.3			1.1	20.9	1.1	20.9	1.1	20.9	1.1	20.9
12 (Min.) 22 7/8 (Typ.)	73	55	23.2			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
14 (Min.) 20 7/8 (Typ.)	81	59	27.4			1.2	17.1	1.2	17.1	1.2	17.1	1.2	17.1
14 (Min.) 22 5/8 (Typ.)	87	63	32.1			1.2	17.3	1.2	17.3	1.2	17.3	1.2	17.3
16 (Min.) 24 3/8 (Typ.)	95	67	37.0			1.2	17.1	1.2	17.1	1.2	17.1	1.2	17.1
16 (Min.) 26 1/8 (Typ.)	103	71	42.4					1.2	16.9	1.2	16.9	1.2	16.9
18 (Min.) 27 3/4 (Typ.)	112	75	48.0					1.3	16.5	1.3	16.5	1.3	16.5
18 (Min.) 29 1/2 (Typ.)	117	79	59.2					1.2	16.8	1.2	16.8	1.2	16.8
18 (Min.) 31 1/4 (Typ.)	128	83	60.5							1.3	16.2	1.3	16.2
18 (Min.) 33 (Typ.)	137	87	67.4							1.3	16.0	1.3	16.0
18 (Min.) 34 3/4 (Typ.)	142	91	74.5									1.3	16.3

NOTES:

1. Dual entries in the "Corner Radius" column such as 8 (Min.), 18 3/4 (Typ.), represent the following:
   8 (Min.) = Minimum corner radius allowed by AASHTO M 196
   18 3/4 (Typ.) = Corner radius typically available

2. The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-15

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

5" x 1" CORRUGATED STEEL PIPE (LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

AREA (sft)	DIAMETER (in.)	THICKNESS (in.)									
		0.064		0.079		0.109		0.138		0.168	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
7.1	36			1.0	90.9	1.0	100.0				
9.6	42			1.0	77.9	1.0	100.0				
12.6	48	1.0	54.5	1.0	68.2	1.0	95.5	1.0	100.0		
15.9	54	1.0	48.5	1.0	60.6	1.0	84.9	1.0	100.0		
19.6	60	1.0	43.6	1.0	54.5	1.0	76.4	1.0	98.3		
23.8	66	1.0	39.7	1.0	49.6	1.0	69.5	1.0	89.4		
28.3	72	1.0	36.3	1.0	45.4	1.0	63.7	1.0	81.9	1.0	100.0
33.2	78	1.0	33.5	1.0	41.9	1.0	58.8	1.0	75.6	1.0	92.4
38.5	84	1.0	31.1	1.0	38.9	1.0	54.6	1.0	70.2	1.0	85.8
44.2	90	1.0	29.1	1.0	36.3	1.0	50.9	1.0	65.5	1.0	80.1
50.3	96			1.0	34.1	1.0	47.7	1.0	61.4	1.0	75.1
56.7	102			1.1	32.0	1.1	44.9	1.1	57.8	1.1	70.7
63.6	108					1.1	42.4	1.1	54.6	1.1	66.7
70.9	114					1.2	40.2	1.2	51.7	1.2	63.2
78.5	120					1.3	38.2	1.3	49.1	1.3	60.1
86.6	126							1.3	46.8	1.3	57.2
95.0	132							1.4	44.7	1.4	54.6
103.9	138							1.4	42.7	1.4	52.2
113.1	144									1.5	50.0

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-16

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

5" x 1" CORRUGATED STEEL PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft)

CORNER RADIUS (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.064		0.079		0.109		0.138		0.168	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
8 (Min.) 18 3/4 (Typ.)	60	46	15.6					1.1	20.8	1.1	20.8		
9 (Min.) 20 3/4 (Typ.)	66	51	19.3					1.1	20.9	1.1	20.9		
12 (Min.) 22 7/8 (Typ.)	73	55	23.2					1.1	20.8	1.1	20.8		
14 (Min.) 20 7/8 (Typ.)	81	59	27.4					1.2	17.1	1.2	17.1	1.2	17.1
14 (Min.) 22 5/8 (Typ.)	87	63	32.1					1.2	17.3	1.2	17.3	1.2	17.3
16 (Min.) 24 3/8 (Typ.)	95	67	37.0					1.2	17.1	1.2	17.1	1.2	17.1
16 (Min.) 26 1/8 (Typ.)	103	71	42.4					1.2	16.9	1.2	16.9	1.2	16.9
18 (Min.) 27 3/4 (Typ.)	112	75	48.0					1.3	16.5	1.3	16.5	1.3	16.5
18 (Min.) 29 1/2 (Typ.)	117	79	54.2					1.2	16.8	1.2	16.8	1.2	16.8
18 (Min.) 31 1/4 (Typ.)	128	83	60.5							1.3	16.2	1.3	16.2
18 (Min.) 33 (Typ.)	137	87	67.4							1.3	16.0	1.3	16.0
18 (Min.) 34 3/4 (Typ.)	142	91	74.5									1.3	16.3

NOTES:

1. Dual entries in the "Corner Radius" column such as 8 (Min.), 18 3/4 (Typ.), represent the following:
   8 = Minimum corner radius allowed by AASHTO M 196
   18 3/4 = Corner radius typically available
2. The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-17

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

3/4" x 3/4" x 7 1/2" SPIRAL RIB STEEL PIPE
HEIGHT OF COVER LIMITS (ft)

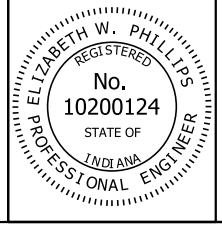
DIAMETER (in.)	THICKNESS (in.)					
	0.064		0.079		0.109	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12	1.3	100.0	1.3	100.0	1.3	100.0
15	1.3	100.0	1.3	100.0	1.3	100.0
18	1.3	68.0	1.3	72.0	1.3	100.0
21	1.3	58.0	1.3	62.0	1.3	100.0
24	1.3	51.0	1.3	60.0	1.3	100.0
30	1.3	41.0	1.3	58.0	1.3	97.0
36	1.3	34.0	1.3	48.0	1.3	81.0
42	1.3	29.0	1.3	41.0	1.3	69.0
48	1.3	26.0	1.3	36.0	1.3	61.0
54	1.3	23.0	1.3	32.0	1.3	54.0
60			1.3	29.0	1.3	49.0
66			1.3	26.0	1.3	44.0
72			1.3	24.0	1.3	40.0
78					1.3	37.0
84					1.3	35.0
90					2.3	32.0
96					2.3	30.0
102					2.8	29.0
108					2.8	27.0

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-18



/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

NON-REINFORCED CONCRETE PIPE CLASS 3 HEIGHT OF COVER LIMITS (ft)		
DIAMETER (in.)	MINIMUM (ft)	MAXIMUM (ft)
12	1.3	14.1
15	1.4	13.1
18	1.5	12.8
21	1.5	13.4
24	1.5	13.5
27	1.6	12.1
30	1.8	10.7
33	1.9	9.8
36	2.1	9.0

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2017

STANDARD DRAWING NO. E 715-PHCL-19

ELIZABETH W. PHILLIPS REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

/s/ Elizabeth W. Phillips 03/27/17
DESIGN STANDARDS ENGINEER DATE

/s/ John Leckie 04/10/17
CHIEF ENGINEER DATE

CORRUGATED POLYETHYLENE PIPE TYPE S HEIGHT OF COVER LIMITS (ft)			
PAY ITEM DIAMETER (in.)	NOMINAL DIAMETER (in.)	MINIMUM (ft)	MAXIMUM (ft)
12	12	2.0	22.0
15	15	2.0	22.0
18	18	2.0	20.0
21	21	2.0	19.0
24	24	2.0	19.0
30	30	2.0	17.0
36	36	2.0	17.0
42	42	2.0	17.0
48	48	2.0	15.0

NOTE:

1. The pay item diameter reflects the minimum required inside diameter.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2026

STANDARD DRAWING NO. E 715-PHCL-20

ELIZABETH P. MOUSER REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

2/26/2026
DESIGN STANDARDS ENGINEER DATE

04/08/2026
CHIEF ENGINEER DATE

PROFILE WALL POLYVINYL CHLORIDE PIPE HEIGHT OF COVER LIMITS (ft)		
DIAMETER (in.)	MINIMUM (ft)	MAXIMUM (ft)
12	2.0	20.0
15	2.0	20.0
18	2.0	20.0
21	2.0	20.0
24	2.0	20.0
30	2.0	18.0
36	2.0	18.0
42	2.0	17.0
48	2.0	15.0

CORRUGATED POLYPROPYLENE PIPE HEIGHT OF COVER LIMITS (ft)		
DIAMETER (in.)	MINIMUM (ft)	MAXIMUM (ft)
12	2.0	28.0
15	2.0	28.0
18	2.0	25.0
21	2.0	23.0
24	2.0	23.0
30	2.2	19.0
36	2.6	23.0
42	3.1	22.0
48	3.5	21.0

NOTE:

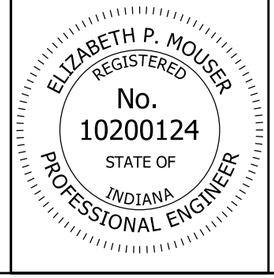
1. The pay item diameter reflects the minimum required inside diameter.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2026

STANDARD DRAWING NO. E 715-PHCL-21



DESIGN STANDARDS ENGINEER — 2/26/2026 DATE

CHIEF ENGINEER — 04/08/2026 DATE

VITRIFIED CLAY PIPE, EXTRA STRENGTH HEIGHT OF COVER LIMITS (ft)		
DIAMETER (in.)	MINIMUM (ft)	MAXIMUM (ft)
12	1.2	16.0
15	1.4	14.0
18	1.4	13.0
21	1.4	14.0
24	1.4	15.0
27	1.5	14.0
30	1.6	13.0
33	1.5	13.0
36	1.5	14.0

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER **2026**

STANDARD DRAWING NO. E 715-PHCL-22

ELIZABETH P. MOUSER
REGISTERED
No.
10200124
STATE OF
INDIANA
PROFESSIONAL ENGINEER

2/26/2026
DESIGN STANDARDS ENGINEER DATE

04/08/2026
CHIEF ENGINEER DATE

REINFORCED CONCRETE CIRCULAR PIPE
HEIGHT OF COVER LIMITS (ft)

DIAMETER (in.)	STRENGTH CLASS / D-LOAD RATING							
	CLASS II: $D_{0.01}$ = 1000		CLASS III: $D_{0.01}$ = 1350		CLASS IV: $D_{0.01}$ = 2000		CLASS V: $D_{0.01}$ = 3000	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
12	1.0	12.0	1.0	17.0	1.0	25.0	1.0	38.0
15	1.0	13.0	1.0	17.0	1.0	26.0	1.0	39.0
18	1.0	13.0	1.0	17.0	1.0	26.0	1.0	40.0
21	1.0	13.0	1.0	17.0	1.0	26.0	1.0	40.0
24	1.0	13.0	1.0	17.0	1.0	26.0	1.0	40.0
27	1.0	13.0	1.0	17.0	1.0	26.0	1.0	40.0
30	1.0	13.0	1.0	17.0	1.0	26.0	1.0	40.0
33	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
36	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
42	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
48	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
54	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
60	1.0	12.0	1.0	17.0	1.0	26.0	1.0	40.0
66	1.0	12.0	1.0	17.0	1.0	26.0	1.0	39.0
72	1.0	12.0	1.0	17.0	1.0	25.0	1.0	39.0
78	1.0	12.0	1.0	17.0	1.0	25.0	1.0	39.0
84	1.0	12.0	1.0	16.0	1.0	25.0	1.0	39.0
90	1.0	12.0	1.0	16.0	1.0	25.0	1.0	39.0
96	1.0	11.0	1.0	16.0	1.0	25.0	1.0	39.0
102	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
108	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
114	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
120	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
126	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
132	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
138	1.0	9.0	1.0	16.0	1.0	25.0	1.0	39.0
144	1.0	9.0	1.0	15.0	1.0	25.0	1.0	39.0

NOTES:

1. A special design in accordance with AASHTO LRFD Bridge Design Specifications, Section 12, is required for pipe diameters and heights of cover beyond those shown.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2026

STANDARD DRAWING NO. E 715-PHCL-23

ELIZABETH P. MOUSER
REGISTERED
No. 10200124
STATE OF INDIANA
PROFESSIONAL ENGINEER

Elizabeth P Mouser 2/26/2026
DESIGN STANDARDS ENGINEER DATE

04/08/2026
CHIEF ENGINEER DATE

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE
HEIGHT OF COVER LIMITS (ft)

SPAN (in.)	RISE (in.)	AREA (sft)	STRENGTH CLASS / D-LOAD RATING									
			CLASS HE-A: $D_{0.01}$ = 600		CLASS HE-I: $D_{0.01}$ = 800		CLASS HE-II: $D_{0.01}$ = 1000		CLASS HE-III: $D_{0.01}$ = 1350		CLASS HE-IV: $D_{0.01}$ = 2000	
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
23	14	1.8	1.3	4.0	1.0	8.0	1.0	11.0	1.0	20.0	1.0	100.0
30	19	3.3	1.1	5.0	1.0	7.0	1.0	10.0	1.0	16.0	1.0	47.0
34	22	4.1	1.0	5.0	1.0	8.0	1.0	11.0	1.0	17.0	1.0	48.0
38	24	5.1	1.0	5.0	1.0	8.0	1.0	11.0	1.0	18.0	1.0	49.0
42	27	6.3	1.0	6.0	1.0	9.0	1.0	12.0	1.0	19.0	1.0	50.0
45	29	7.4	1.0	6.0	1.0	9.0	1.0	12.0	1.0	19.0	1.0	45.0
49	32	8.8	1.0	6.0	1.0	9.0	1.0	12.0	1.0	19.0	1.0	45.0
53	34	10.2	1.0	6.0	1.0	9.0	1.0	12.0	1.0	20.0	1.0	44.0
60	38	12.9	1.0	5.0	1.0	8.0	1.0	10.0	1.0	15.0	1.0	26.0
68	43	16.6	1.0	6.0	1.0	8.0	1.0	10.0	1.0	15.0	1.0	27.0
76	48	20.5	1.0	6.0	1.0	8.0	1.0	11.0	1.0	16.0	1.0	28.0
83	53	24.8	1.0	6.0	1.0	9.0	1.0	11.0	1.0	16.0	1.0	29.0
91	58	29.5	1.0	6.0	1.0	9.0	1.0	12.0	1.0	17.0	1.0	29.0
98	63	34.6	1.1	6.0	1.1	9.0	1.1	12.0	1.1	17.0	1.1	29.0
106	68	40.1	1.2	6.0	1.2	9.0	1.2	12.0	1.2	17.0	1.2	30.0
113	72	46.1	1.2	7.0	1.2	9.0	1.2	12.0	1.2	18.0	1.2	30.0
121	77	52.4	1.3	7.0	1.3	9.0	1.3	12.0	1.3	18.0	1.3	30.0
128	82	59.2	1.4	7.0	1.4	10.0	1.4	13.0	1.4	18.0	1.4	30.0
136	87	66.4	1.5	7.0	1.5	10.0	1.5	13.0	1.5	18.0	1.5	31.0
143	92	74.0	1.5	7.0	1.5	10.0	1.5	13.0	1.5	18.0	1.5	31.0
151	97	82.0	1.6	7.0	1.6	10.0	1.6	13.0	1.6	19.0	1.6	31.0
166	106	99.2	1.7	7.0	1.8	10.0	1.8	13.0	1.8	19.0	1.8	31.0
180	116	118.6	1.8	7.0	1.9	10.0	1.9	13.0	1.9	19.0	1.9	31.0

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

SEPTEMBER 2026

STANDARD DRAWING NO. E 715-PHCL-24

ELIZABETH P. MOUSER REGISTERED No. 10200124 STATE OF INDIANA PROFESSIONAL ENGINEER

2/26/2026
DESIGN STANDARDS ENGINEER DATE

04/08/2026
CHIEF ENGINEER DATE