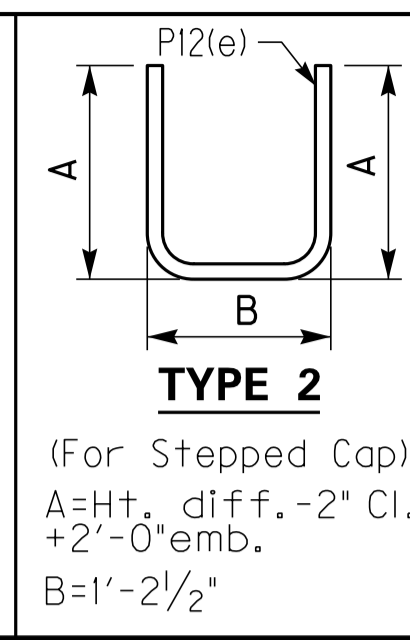
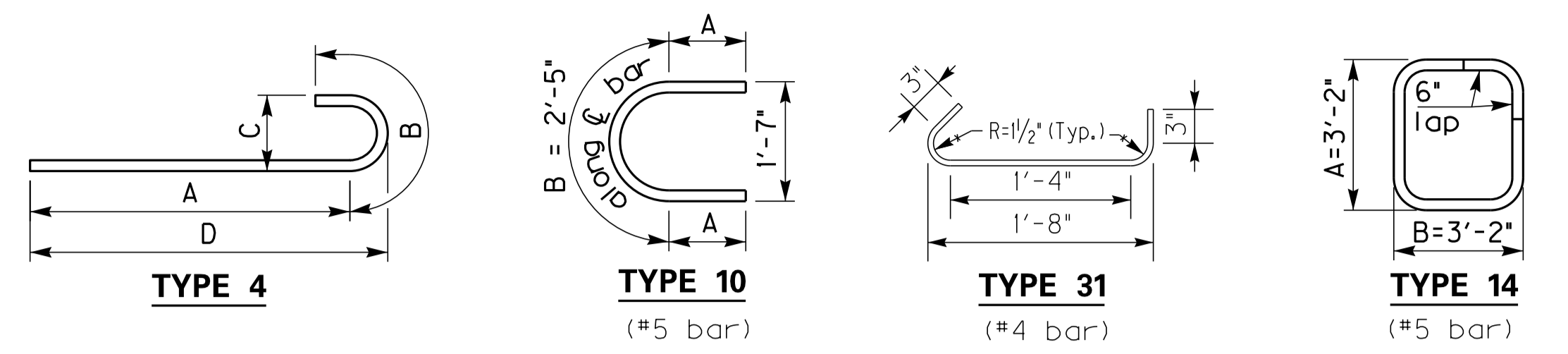


0° SKEW 16'-0" - 17'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)		
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14			
SIZE	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	
10-11	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 14	5 7 5 12 2	6 10 5 13 0	12 35 2 5 5	42	8 8 0 8	8 18 8	4 18 8	19 13 2									
12-13	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 14	5 7 5 12 2	6 14 5 13 0	12 49 2 5 5	42	8 10 0 8	8 18 8	4 18 8	19 13 2									
14-15	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 18	5 7 5 12 2	6 18 5 13 0	12 63 2 5 5	42	8 12 0 8	8 18 8	4 18 8	19 13 2									
16-17	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 22	5 7 5 12 2	6 22 5 13 0	12 77 2 5 5	42	8 14 0 8	8 18 8	4 18 8	19 13 2									
18-19	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 26	5 7 5 12 2	6 26 5 13 0	12 91 2 5 5	42	8 16 0 8	8 18 8	4 18 8	19 13 2									
20-21	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 30	5 7 5 12 2	6 30 5 13 0	12 105 2 5 5	42	8 18 0 8	8 18 8	4 18 8	19 13 2									
22-23	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 34	5 7 5 12 2	6 34 5 13 0	12 119 2 5 5	42	8 20 0 8	8 18 8	4 18 8	19 13 2									
24-25	30	8 12 8	26	5 19 8	30	5 12 8	42	8 8 10 8	7 5 1 5 0	8 7 9 38	5 7 5 12 2	6 38 5 13 0	12 133 2 5 5	42	8 22 0 8	8 18 8	4 18 8	19 13 2									

Reinforcement Details

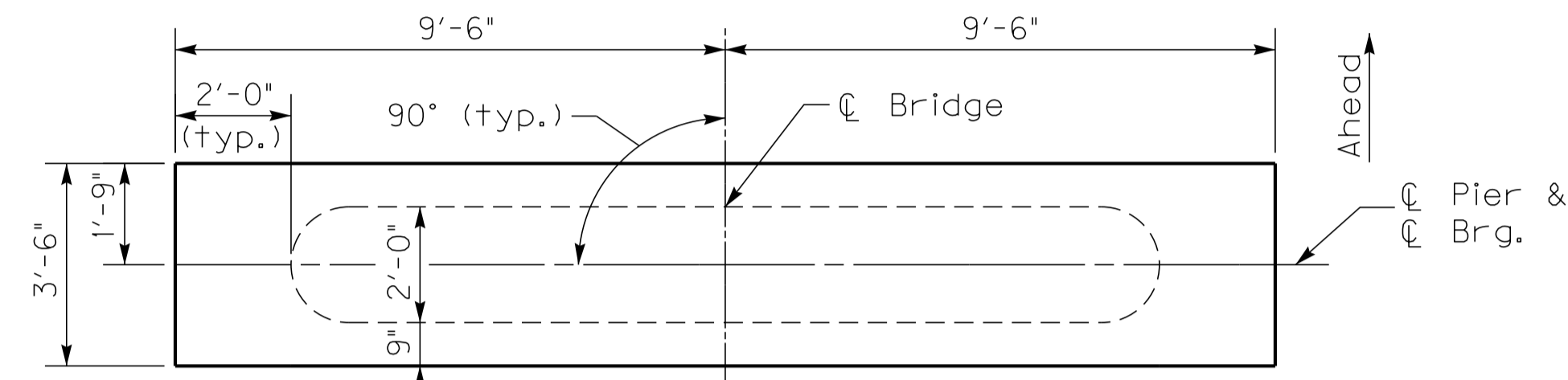


DIMENSIONS TABLE						QUANTITIES		
						CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.
10-11	2 6 2 6	10 0 5 6	10-11	38.3	740	4113		
12-13	2 6 2 6	10 0 5 6	12-13	40.5	740	4446		
14-15	2 6 2 6	10 0 5 6	14-15	42.6	740	4779		
16-17	2 6 2 6	10 0 5 6	16-17	44.8	740	5112		
18-19	2 6 2 6	10 0 5 6	18-19	47	740	5445		
20-21	2 6 2 6	10 0 5 6	20-21	49.1	740	5778		
22-23	2 6 2 6	10 0 5 6	22-23	51.3	740	6111		
24-25	2 6 2 6	10 0 5 6	24-25	53.4	740	6444		

Note: All bars in cap shall be epoxy coated.

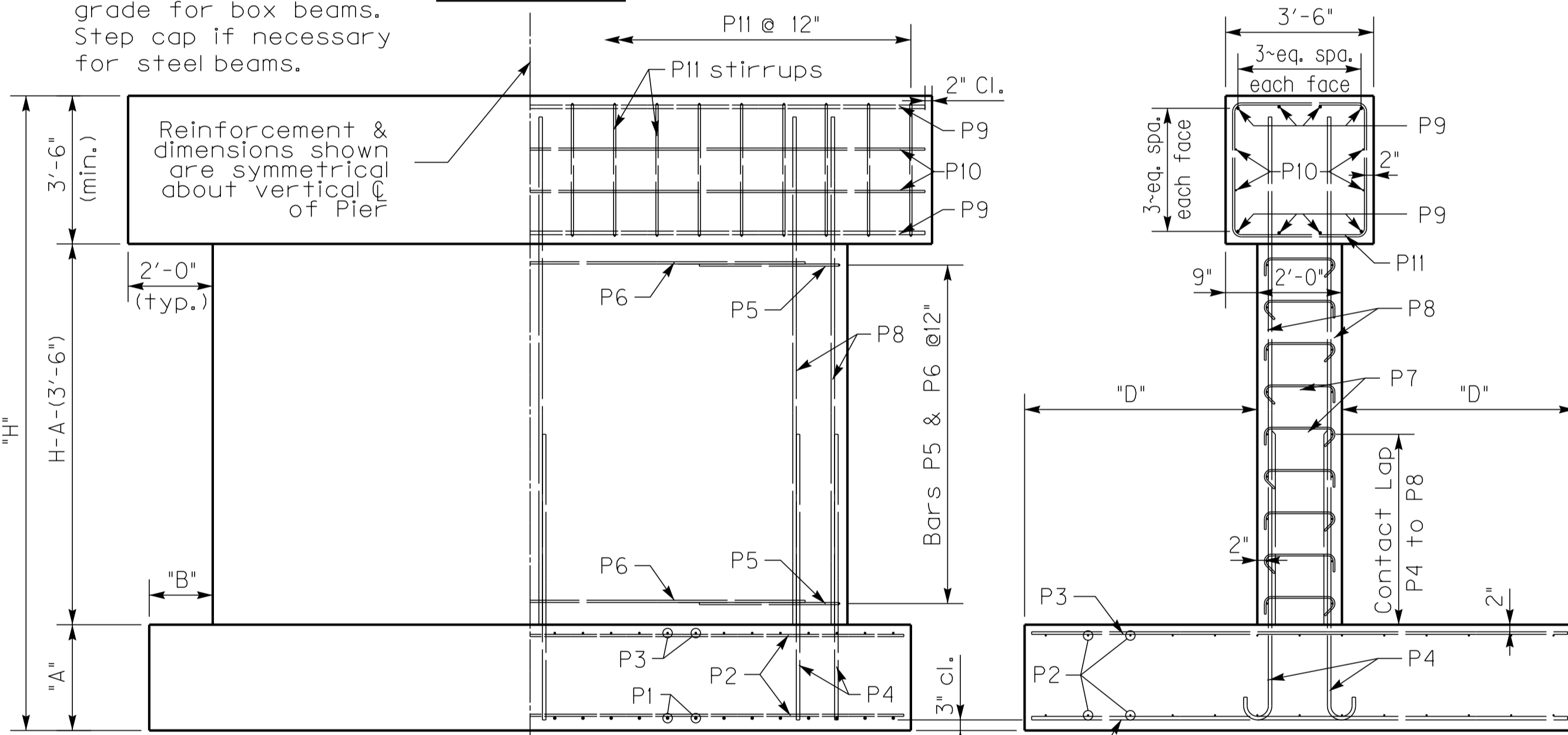
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.0 cubic yd. for shorter height.



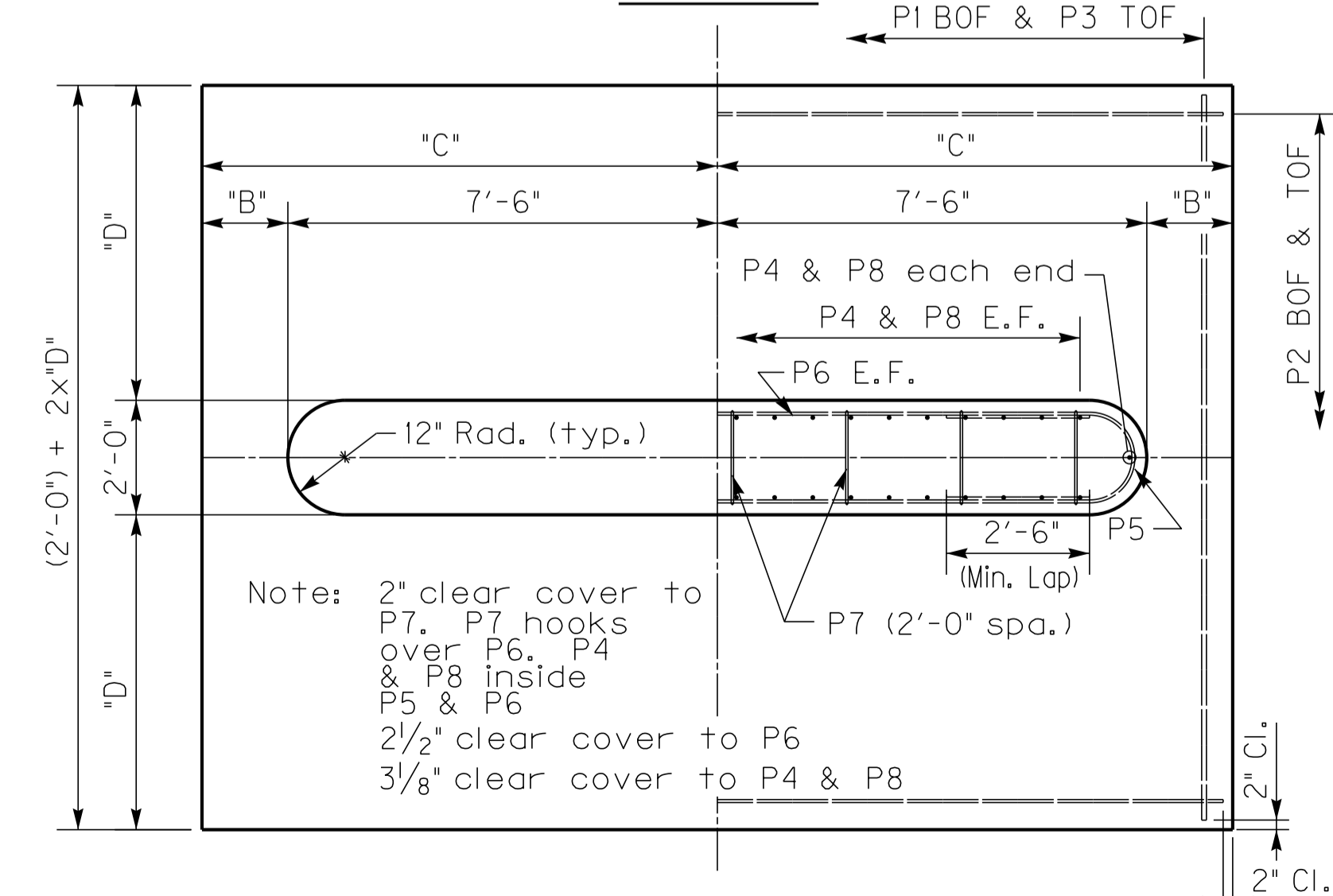
Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.

PLAN OF CAP



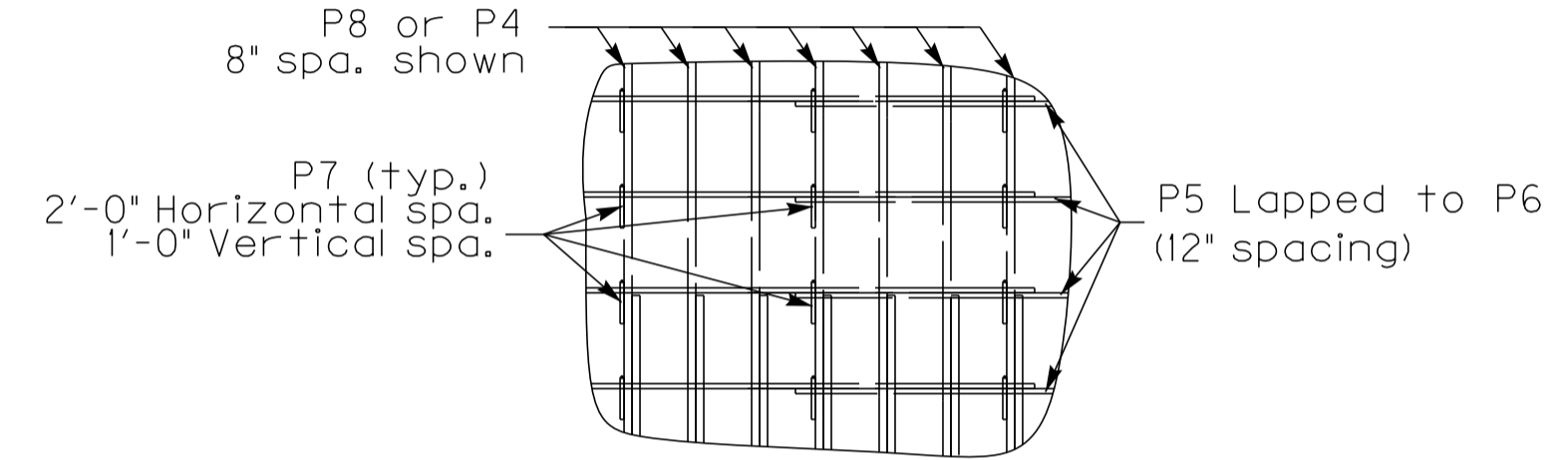
ELEVATION

END ELEVATION



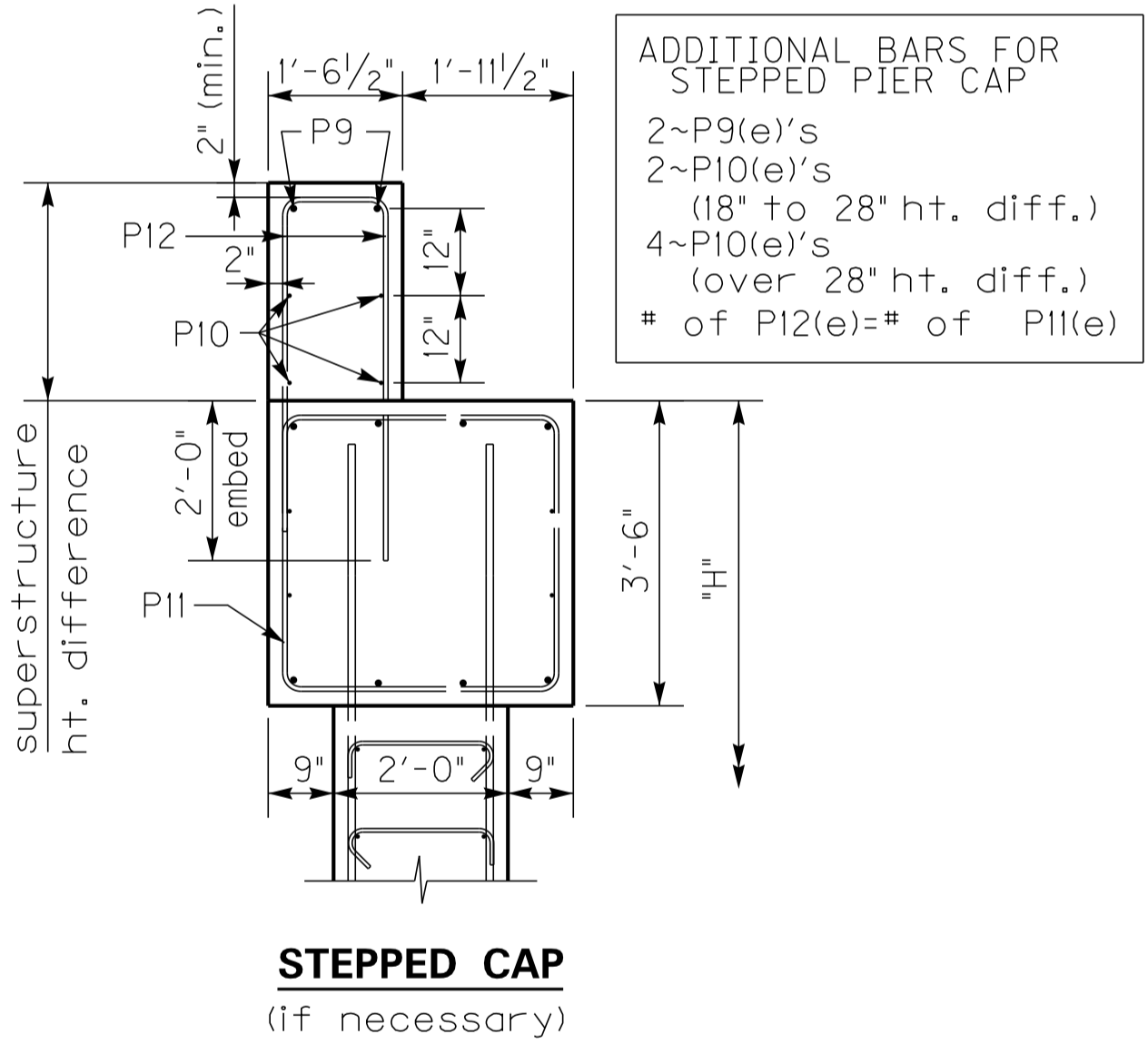
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 17'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

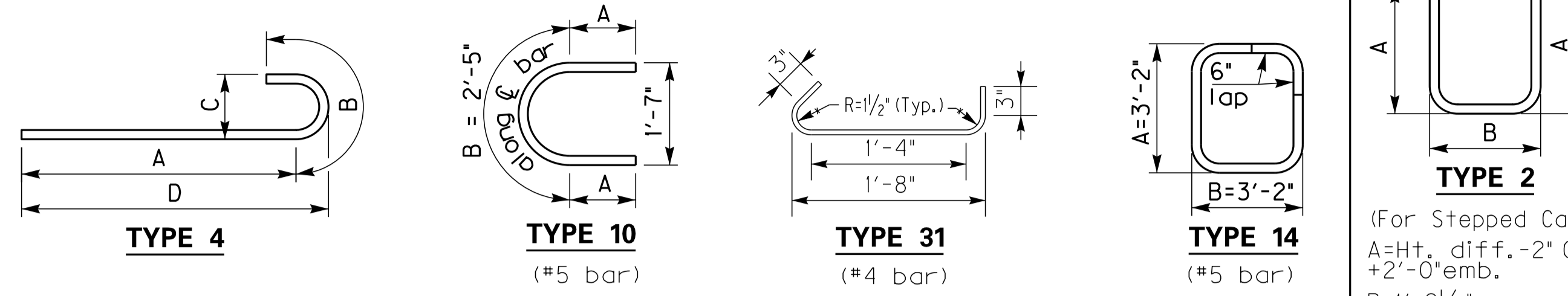
PIER DETAILS		
SKEW	WIDTH	DATE
0	16	July 2017

0° SKEW 24'-0" - 25'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)	
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Type 14	Str.	Type 14	Str.	Type 14	Str.	Type 14	Str.	Type 14	Str.	Type 14
SIZE	No.	Length	No.	Length	No.	Length	No.				No.				No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
H		ft., in.		ft., in.		ft., in.	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
10-11	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	10	5 7 5 12	2 6 10	5 19 0 12	50	2 5 60	8 8 0 8	8 26 8	4 26 8	27 13 2						
12-13	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	14	5 7 5 12	2 6 14	5 19 0 12	70	2 5 60	8 10 0 8	8 26 8	4 26 8	27 13 2						
14-15	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	18	5 7 5 12	2 6 18	5 19 0 12	90	2 5 60	8 12 0 8	8 26 8	4 26 8	27 13 2						
16-17	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	22	5 7 5 12	2 6 22	5 19 0 12	110	2 5 60	8 14 0 8	8 26 8	4 26 8	27 13 2						
18-19	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	26	5 7 5 12	2 6 26	5 19 0 12	130	2 5 60	8 16 0 8	8 26 8	4 26 8	27 13 2						
20-21	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	30	5 7 5 12	2 6 30	5 19 0 12	150	2 5 60	8 18 0 8	8 26 8	4 26 8	27 13 2						
22-23	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	34	5 7 5 12	2 6 34	5 19 0 12	170	2 5 60	8 20 0 8	8 26 8	4 26 8	27 13 2						
24-25	40	8 12 8	26	6 26 2 12	40	5 12 8	60	8 8 10 8	7 5 1 5	0 8 7 9	38	5 7 5 12	2 6 38	5 19 0 12	190	2 5 60	8 22 0 8	8 26 8	4 26 8	27 13 2						

Reinforcement Details

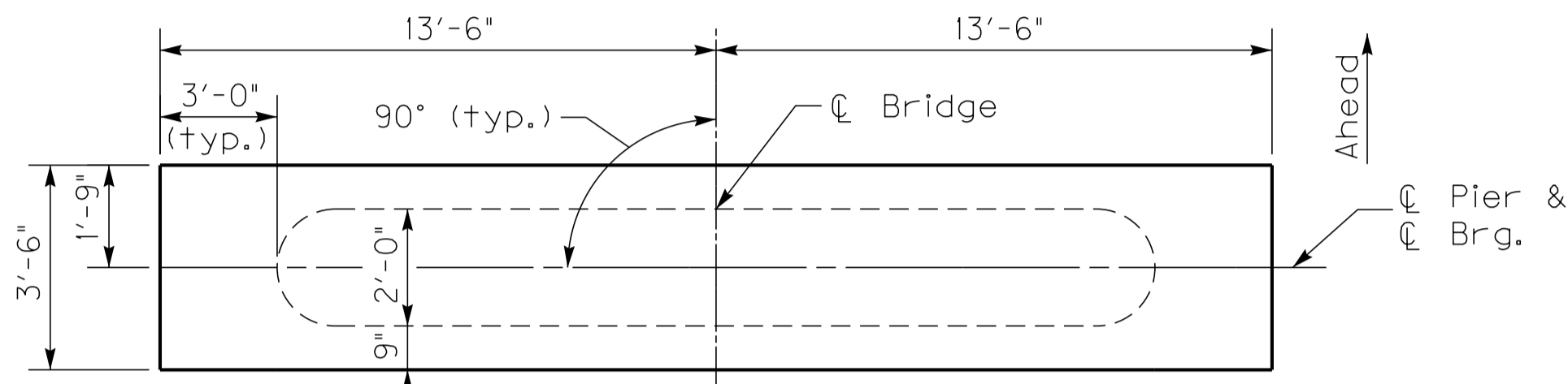


DIMENSIONS TABLE						QUANTITIES		
						CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.
10-11	2 6	2 9	13 3	5 6	10-11	52.2	1055	5973
12-13	2 6	2 9	13 3	5 6	12-13	55.3	1055	6438
14-15	2 6	2 9	13 3	5 6	14-15	58.3	1055	6902
16-17	2 6	2 9	13 3	5 6	16-17	61.4	1055	7366
18-19	2 6	2 9	13 3	5 6	18-19	64.4	1055	7830
20-21	2 6	2 9	13 3	5 6	20-21	67.5	1055	8295
22-23	2 6	2 9	13 3	5 6	22-23	70.5	1055	8759
24-25	2 6	2 9	13 3	5 6	24-25	73.6	1055	9223

Note: All bars in cap shall be epoxy coated.

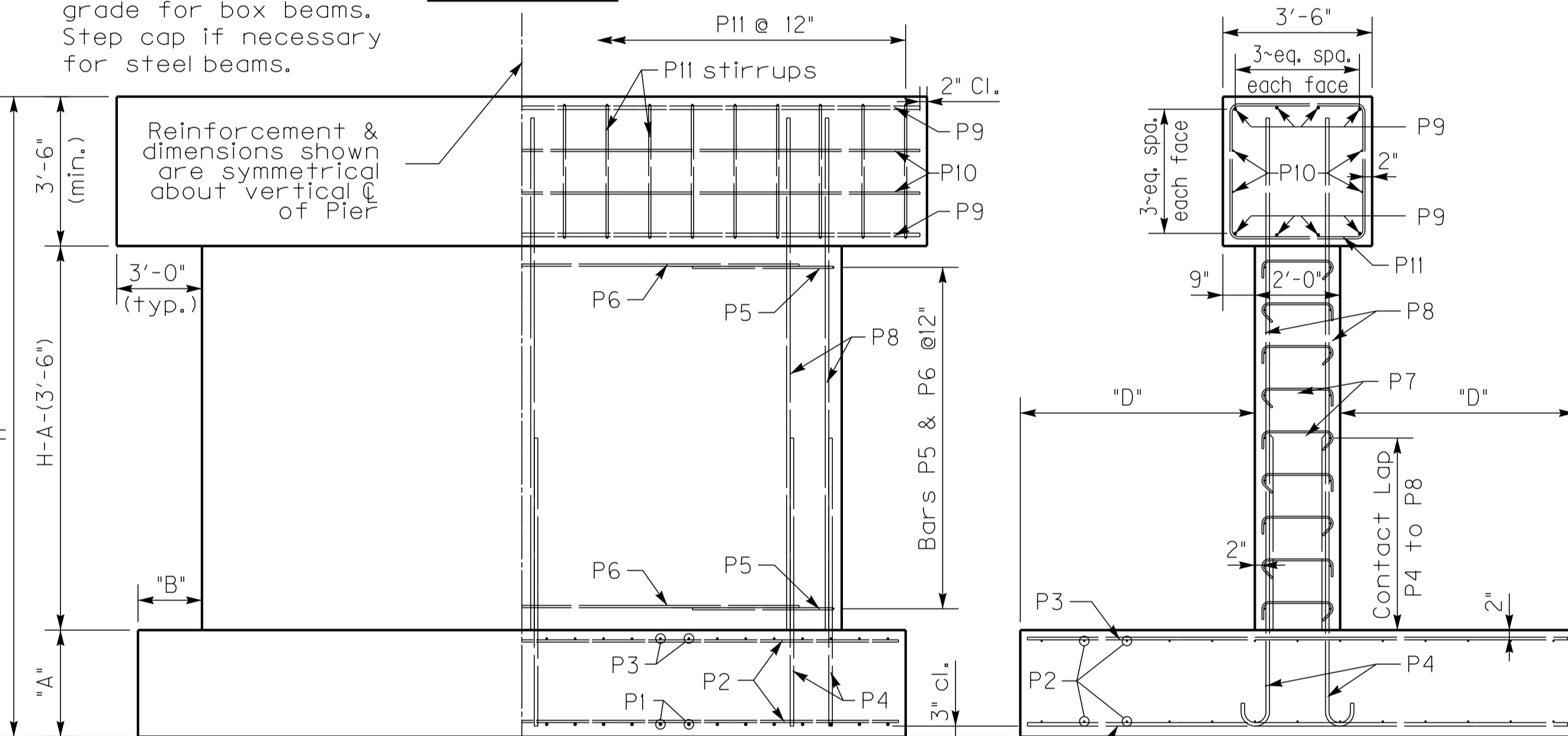
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.5 cubic yard for shorter height.



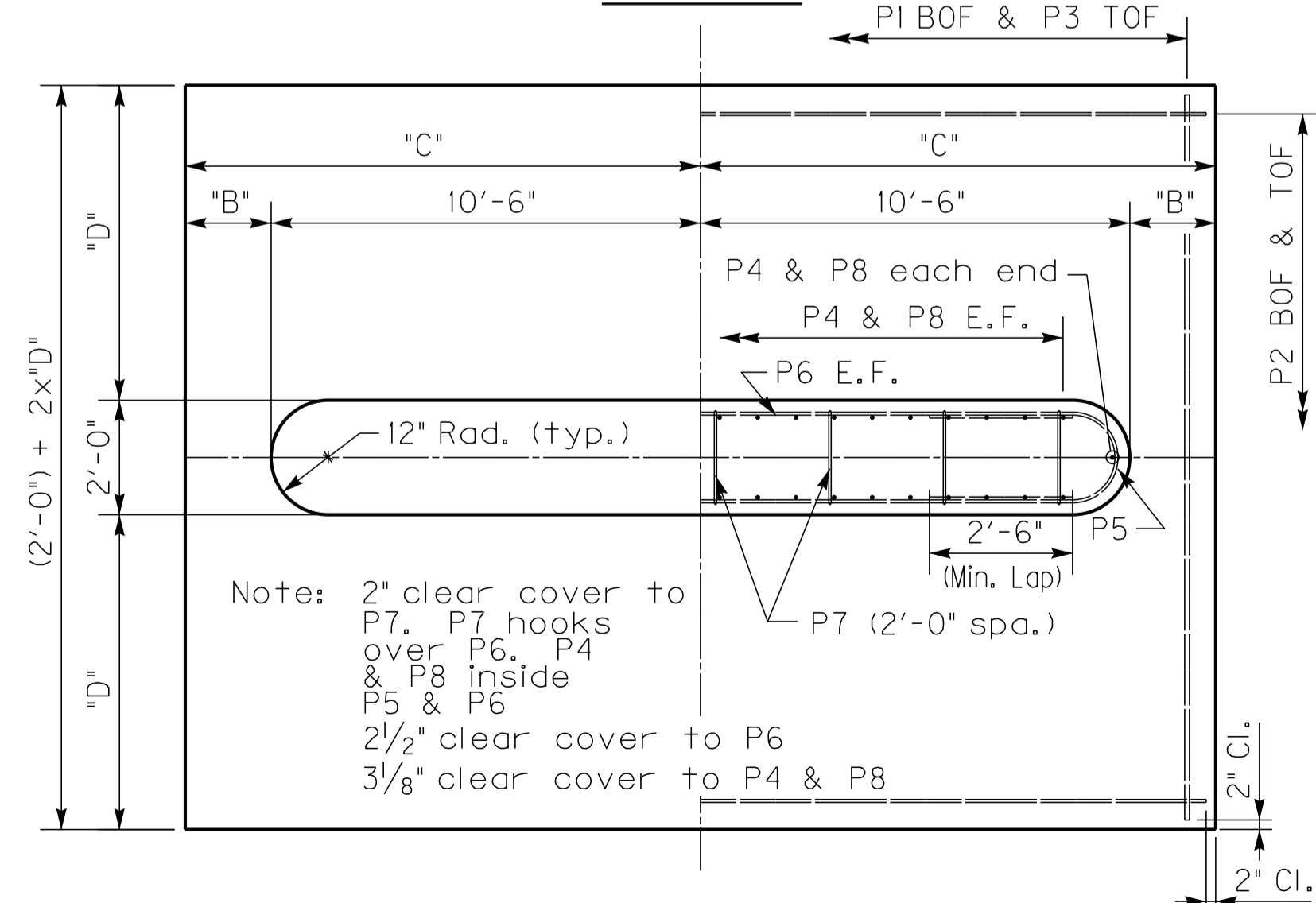
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



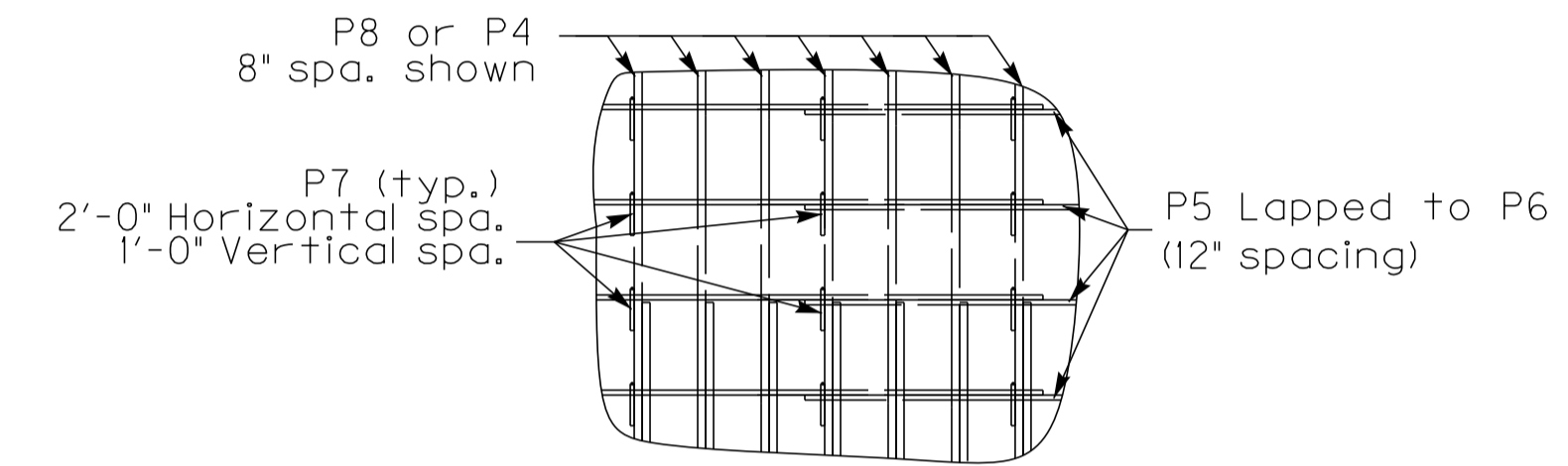
ELEVATION

END ELEVATION



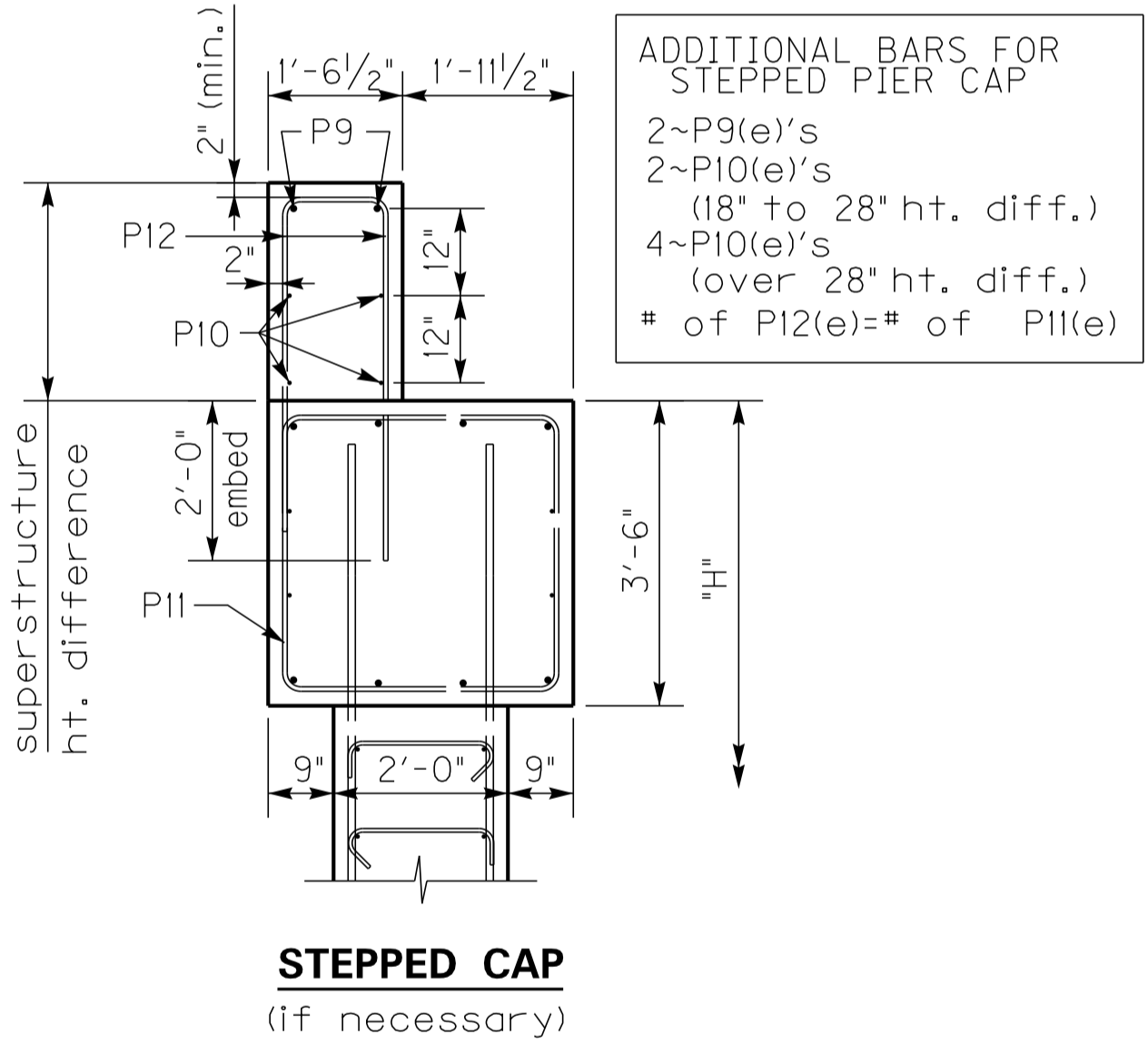
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 25'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

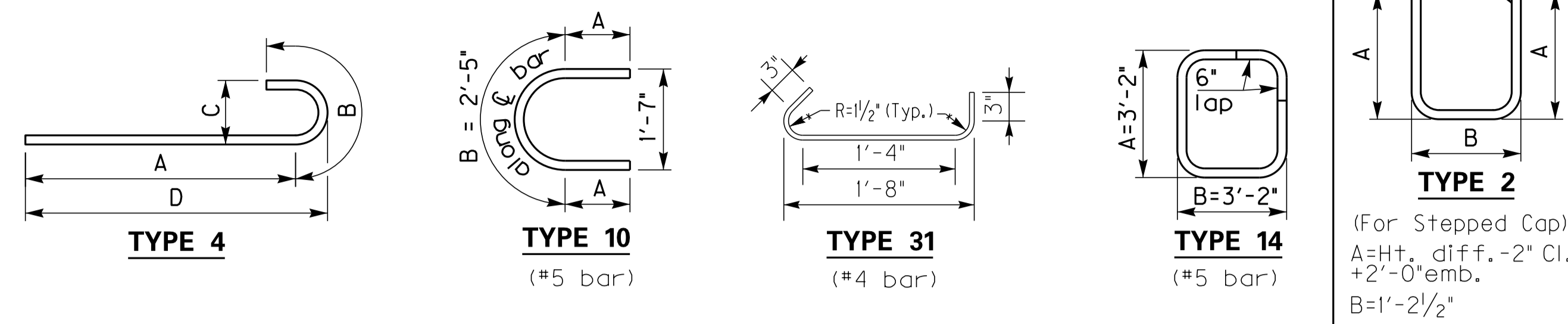
PIER DETAILS		
SKEW	WIDTH	DATE
0	24	July 2017

0° SKEW 32'-0" - 33'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)																														
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14																															
SIZE	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing																											
10-11	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	27	0	12	70	2	5	84	8	8	0	8	8	34	8	4	34	8	35	13	2
12-13	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	27	0	12	98	2	5	84	8	10	0	8	8	34	8	4	34	8	35	13	2
14-15	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	27	0	12	126	2	5	84	8	12	0	8	8	34	8	4	34	8	35	13	2
16-17	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	27	0	12	154	2	5	84	8	14	0	8	8	34	8	4	34	8	35	13	2
18-19	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	27	0	12	182	2	5	84	8	16	0	8	8	34	8	4	34	8	35	13	2
20-21	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	27	0	12	210	2	5	84	8	18	0	8	8	34	8	4	34	8	35	13	2
22-23	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	27	0	12	238	2	5	84	8	20	0	8	8	34	8	4	34	8	35	13	2
24-25	52	8	12	8	26	6	34	2	12	52	5	12	8	84	8	8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	27	0	12	266	2	5	84	8	22	0	8	8	34	8	4	34	8	35	13	2

Reinforcement Details

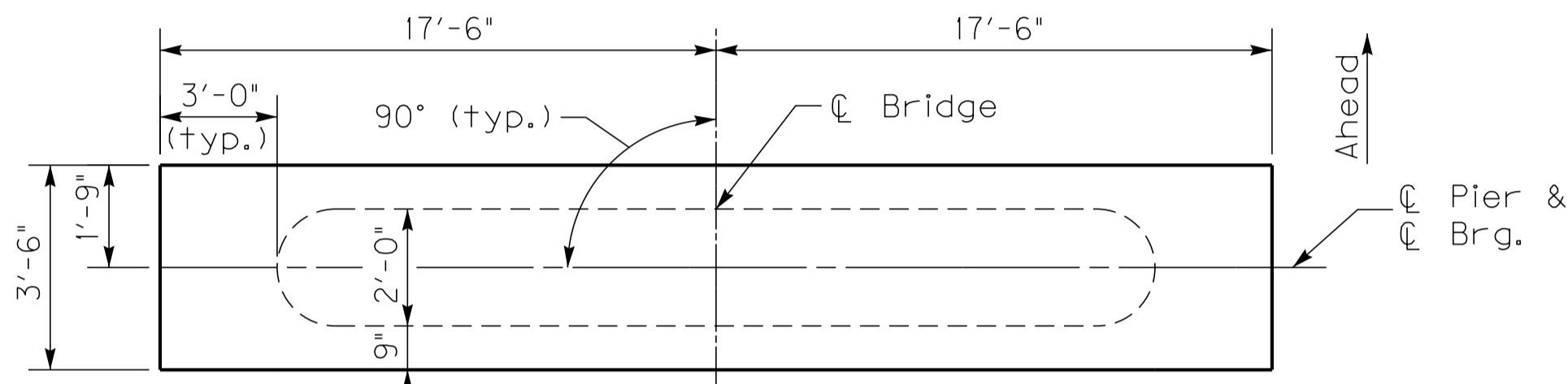


DIMENSIONS TABLE						QUANTITIES						
						CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT				
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.				
10-11	2	6	2	9	17	3	5	6	10-11	68.8	1370	8051
12-13	2	6	2	9	17	3	5	6	12-13	73	1370	8691
14-15	2	6	2	9	17	3	5	6	14-15	77.2	1370	9330
16-17	2	6	2	9	17	3	5	6	16-17	81.5	1370	9969
18-19	2	6	2	9	17	3	5	6	18-19	85.7	1370	10608
20-21	2	6	2	9	17	3	5	6	20-21	89.9	1370	11247
22-23	2	6	2	9	17	3	5	6	22-23	94.2	1370	11887
24-25	2	6	2	9	17	3	5	6	24-25	98.4	1370	12526

Note: All bars in cap shall be epoxy coated.

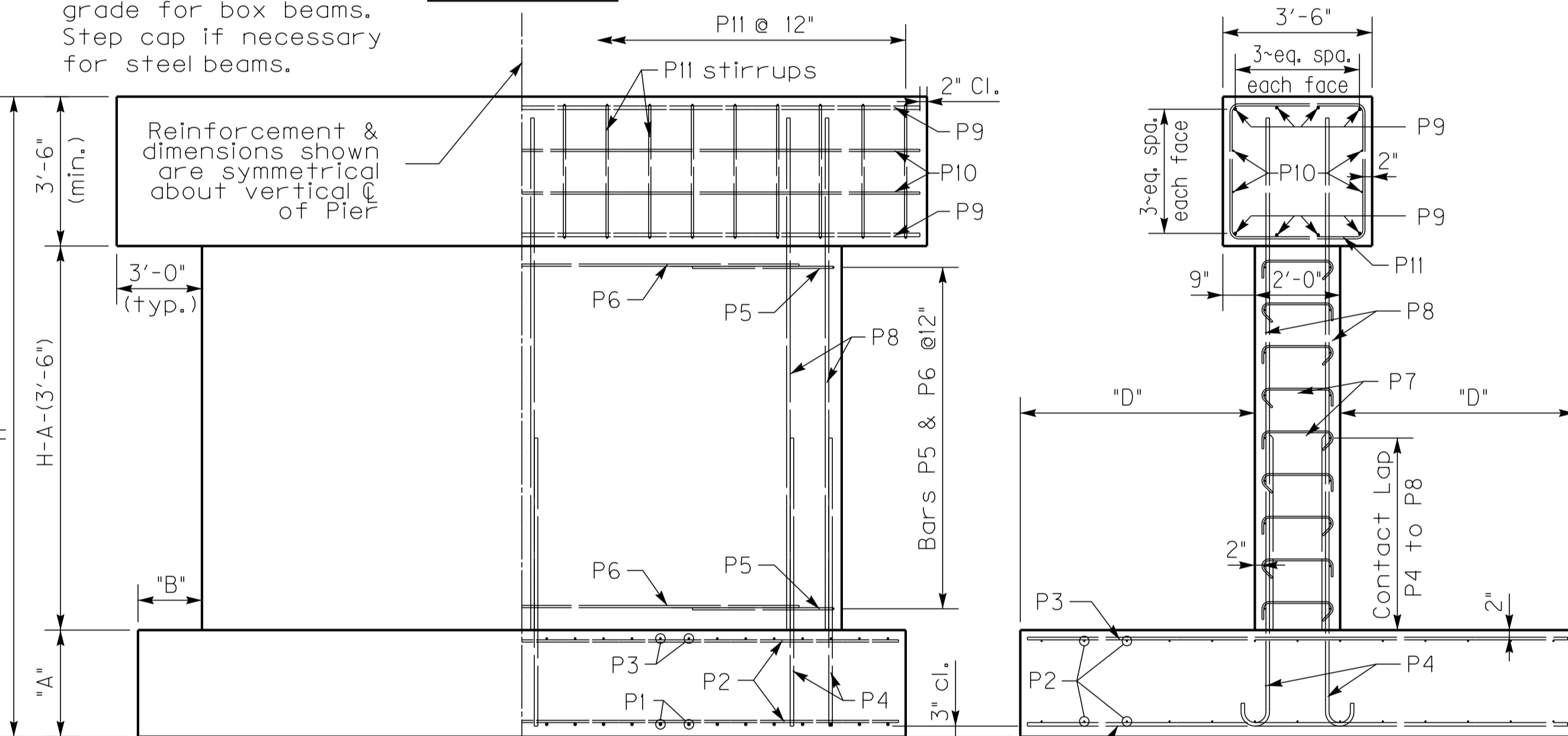
Note: All concrete shall be Class "A"

Quantity is based on taller height. Reduce by 2.1 cubic yard for shorter height.



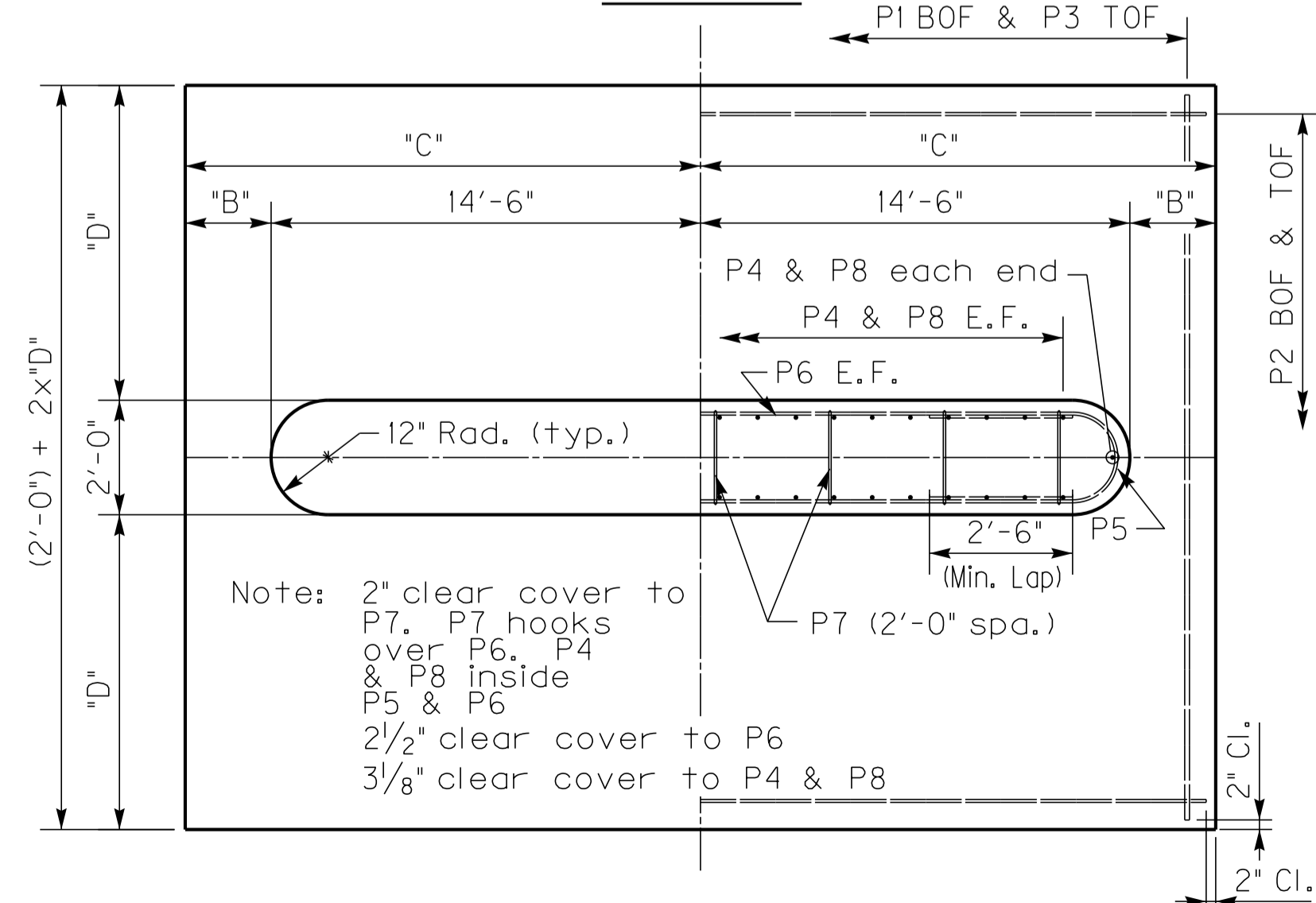
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



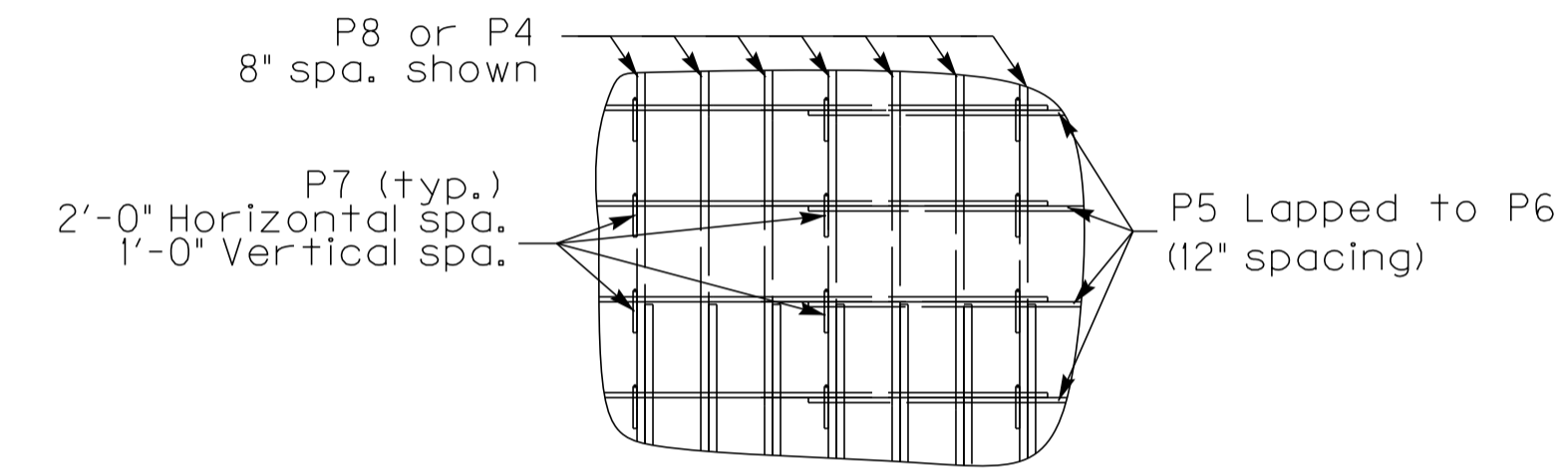
ELEVATION

END ELEVATION



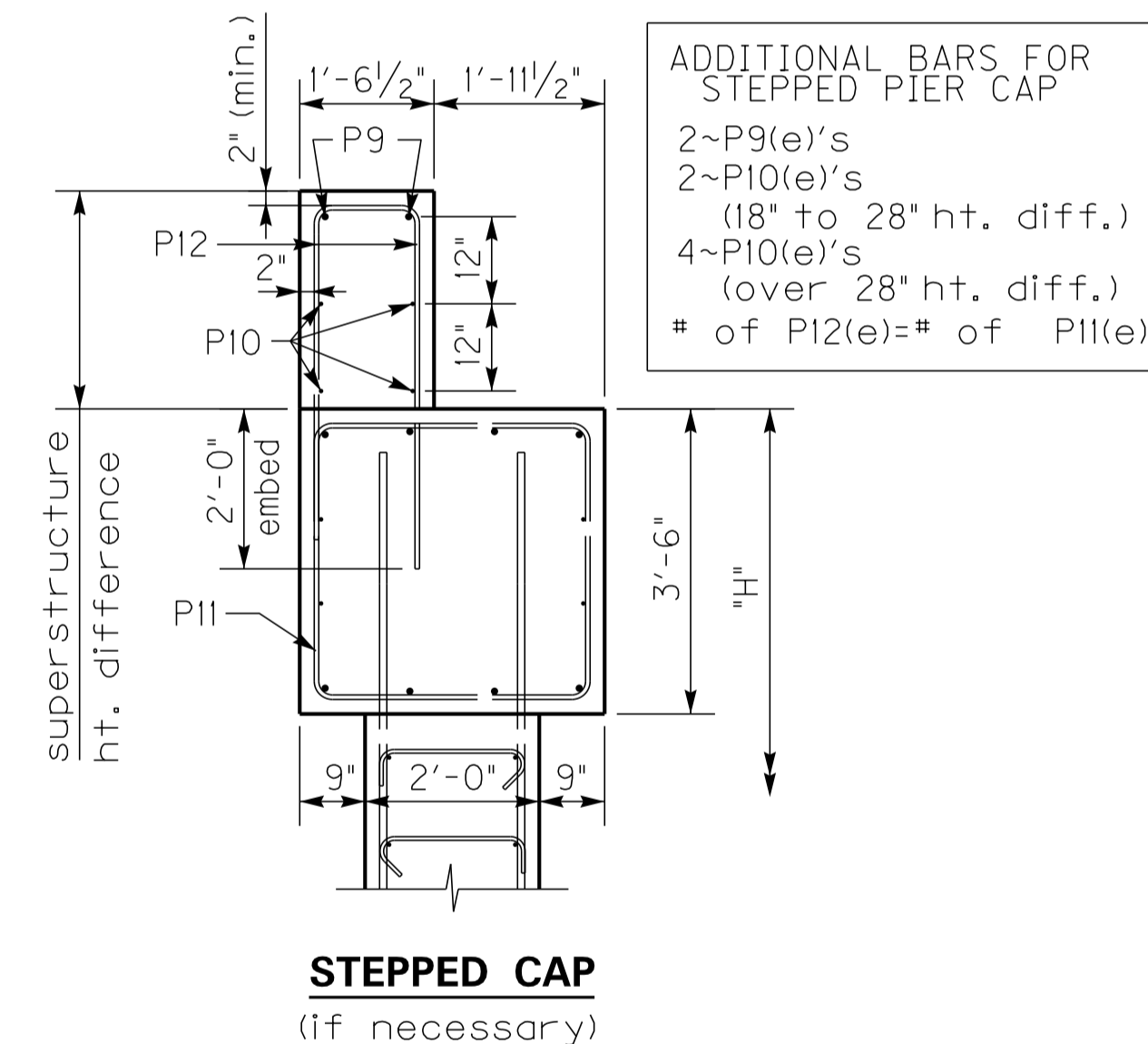
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 33'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

PIER DETAILS

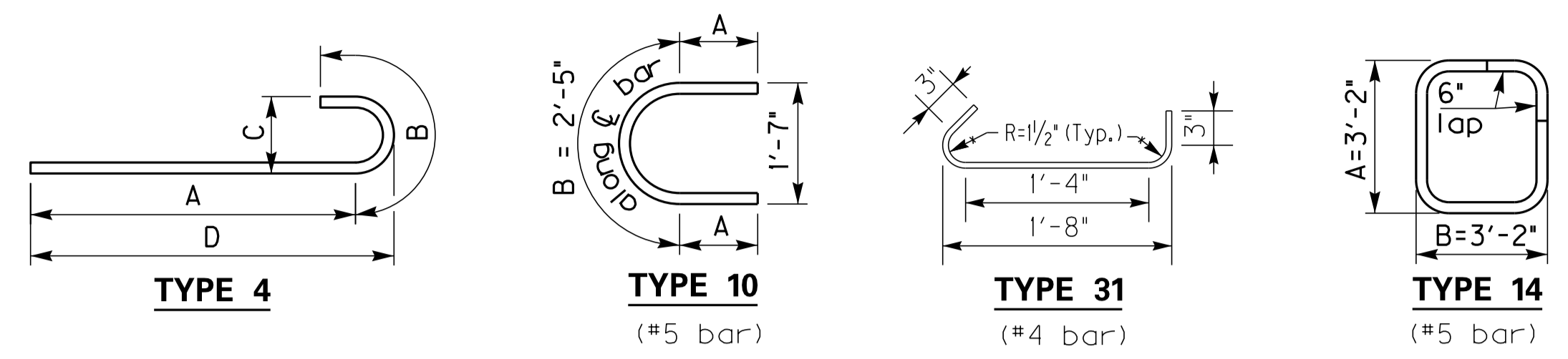
SKEW	WIDTH	DATE
0	32	July 2017

15° SKEW 16'-0" - 17'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)																													
	Type	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14																														
SIZE	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing																										
10-11	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	13	0	12	35	2	5	42	#8	8	0	8	8	20	2	4	20	2	20	13	2
12-13	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	13	0	12	49	2	5	42	#8	10	0	8	8	20	2	4	20	2	20	13	2
14-15	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	13	0	12	63	2	5	42	#8	12	0	8	8	20	2	4	20	2	20	13	2
16-17	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	13	0	12	77	2	5	42	#8	14	0	8	8	20	2	4	20	2	20	13	2
18-19	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	13	0	12	91	2	5	42	#8	16	0	8	8	20	2	4	20	2	20	13	2
20-21	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	13	0	12	105	2	5	42	#8	18	0	8	8	20	2	4	20	2	20	13	2
22-23	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	13	0	12	119	2	5	42	#8	20	0	8	8	20	2	4	20	2	20	13	2
24-25	29	#8	12	2	26	#5	19	2	12	29	#5	12	2	42	#8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	13	0	12	133	2	5	42	#8	22	0	8	8	20	2	4	20	2	20	13	2

Reinforcement Details

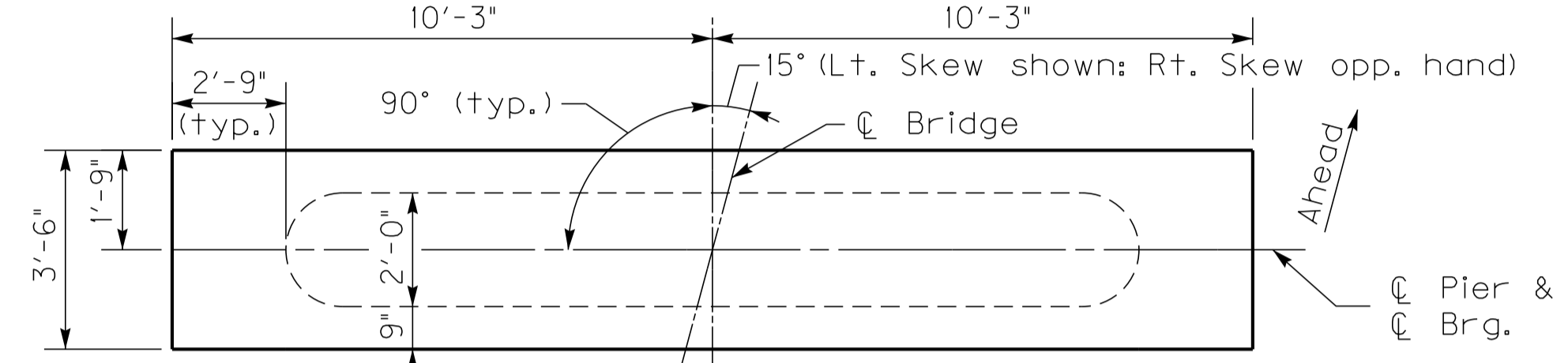


DIMENSIONS TABLE		QUANTITIES									
		CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT							
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.			
10-11	2	6	2	3	9	5	3	10-11	37.5	792	3998
12-13	2	6	2	3	9	5	3	12-13	39.7	792	4331
14-15	2	6	2	3	9	5	3	14-15	41.8	792	4665
16-17	2	6	2	3	9	5	3	16-17	44	792	4998
18-19	2	6	2	3	9	5	3	18-19	46.2	792	5331
20-21	2	6	2	3	9	5	3	20-21	48.3	792	5664
22-23	2	6	2	3	9	5	3	22-23	50.5	792	5997
24-25	2	6	2	3	9	5	3	24-25	52.6	792	6330

Note: All bars in cap shall be epoxy coated.

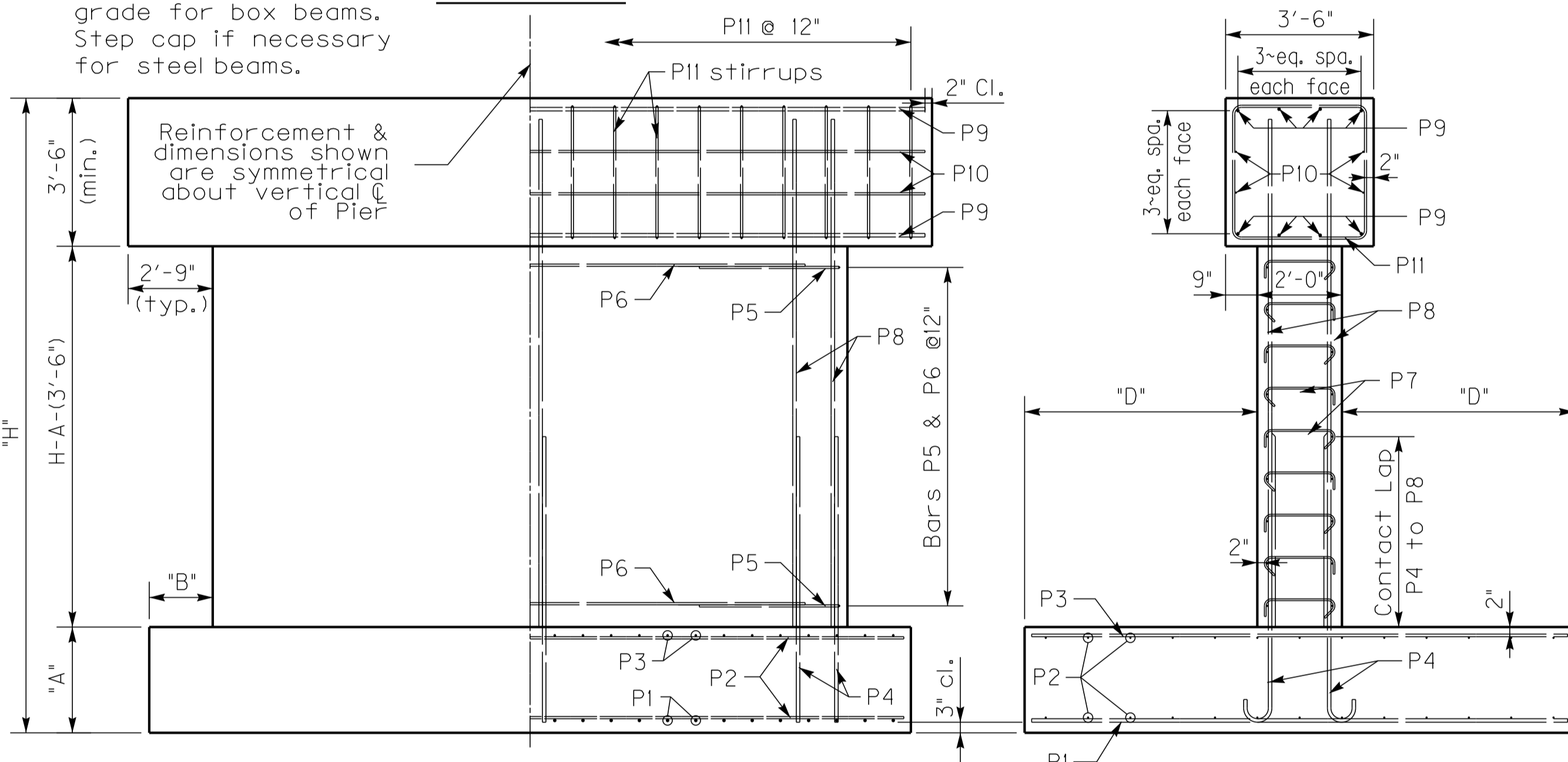
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.0 cubic yd. for shorter height.



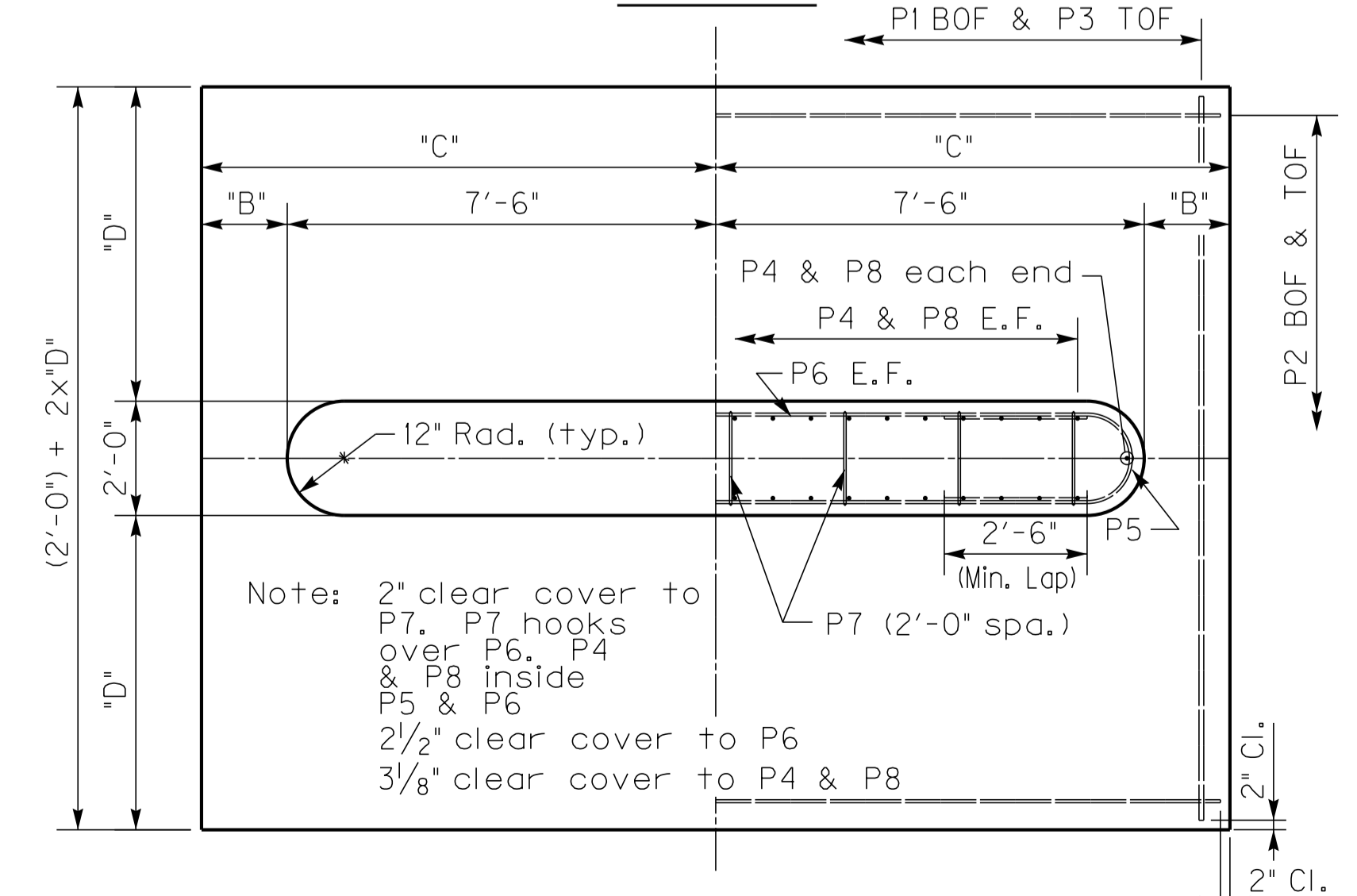
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



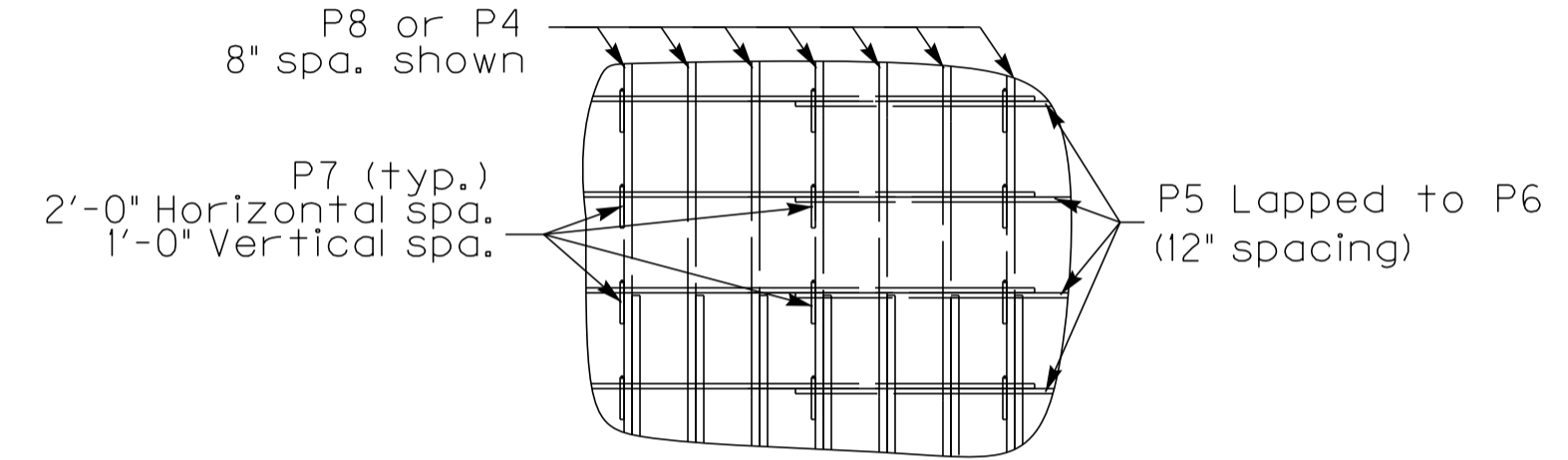
ELEVATION

END ELEVATION



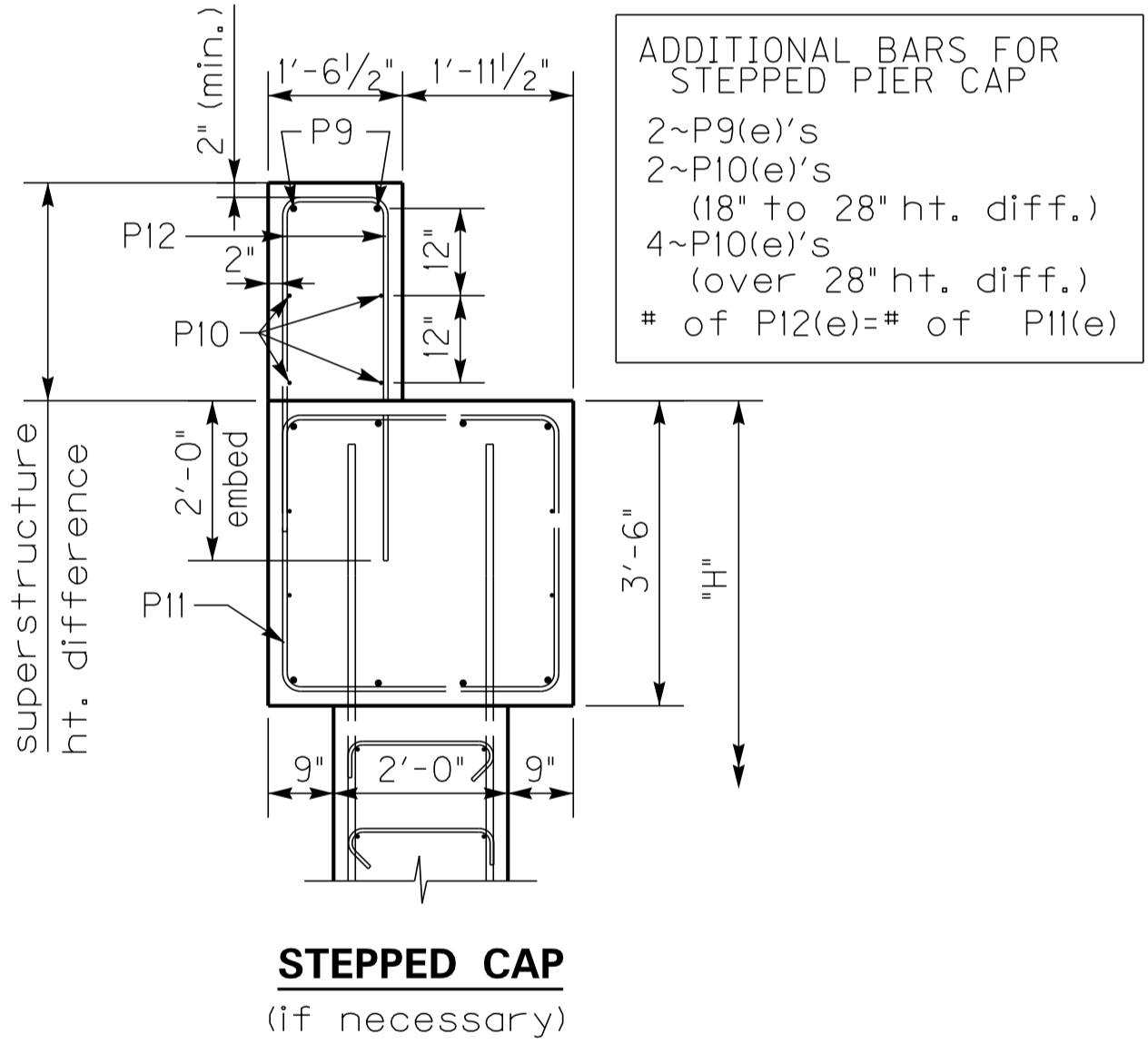
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 17'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

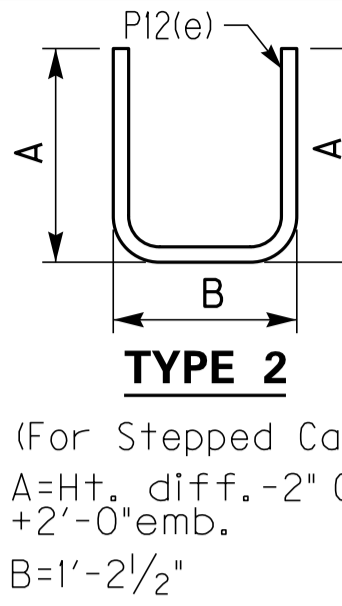
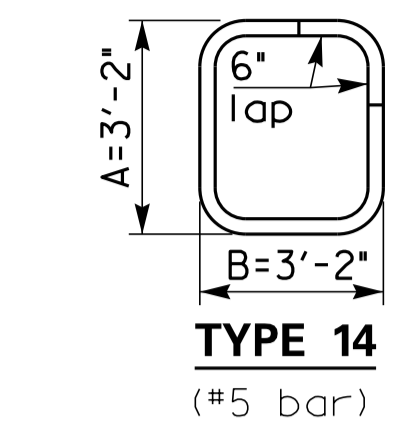
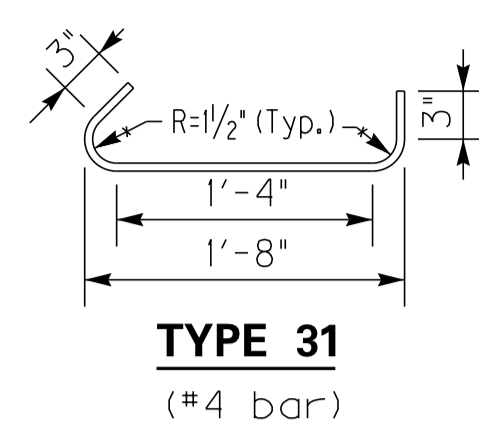
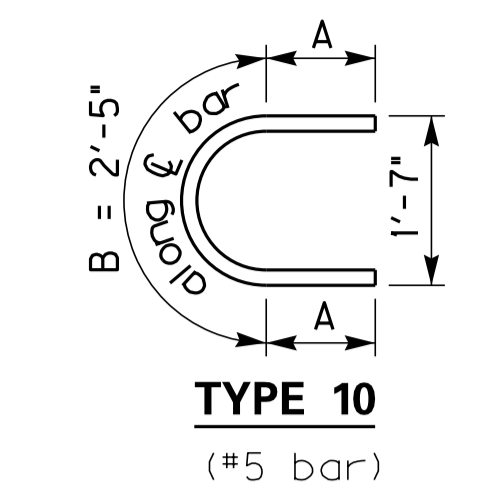
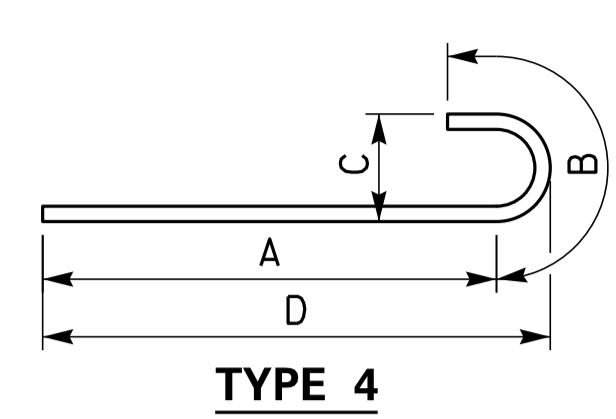
PIER DETAILS		
SKIEW	WIDTH	DATE
15	16	July 2017

15° SKEW 24'-0" - 25'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK TYPE SIZE	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)	
	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	A	B	C	D	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	No.	Length ft., in.	#8	#5	#5	#5	#5	
10-11	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	10	5 7 5 12	2 6	10	5 20 6	12	55	2 5 5	64	8 8 0 8	8	28	2 4	28	2 28	13 2
12-13	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	14	5 7 5 12	2 6	14	5 20 6	12	77	2 5 5	64	8 10 0 8	8	28	2 4	28	2 28	13 2
14-15	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	18	5 7 5 12	2 6	18	5 20 6	12	99	2 5 5	64	8 12 0 8	8	28	2 4	28	2 28	13 2
16-17	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	22	5 7 5 12	2 6	22	5 20 6	12	121	2 5 5	64	8 14 0 8	8	28	2 4	28	2 28	13 2
18-19	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	26	5 7 5 12	2 6	26	5 20 6	12	143	2 5 5	64	8 16 0 8	8	28	2 4	28	2 28	13 2
20-21	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	30	5 7 5 12	2 6	30	5 20 6	12	165	2 5 5	64	8 18 0 8	8	28	2 4	28	2 28	13 2
22-23	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	34	5 7 5 12	2 6	34	5 20 6	12	187	2 5 5	64	8 20 0 8	8	28	2 4	28	2 28	13 2
24-25	43	8 12 8	26	5 28 2	43	5 12 8	64	8 8 10	8 7 5 1	5 0 8 7 9	38	5 7 5 12	2 6	38	5 20 6	12	209	2 5 5	64	8 22 0 8	8	28	2 4	28	2 28	13 2

Reinforcement Details



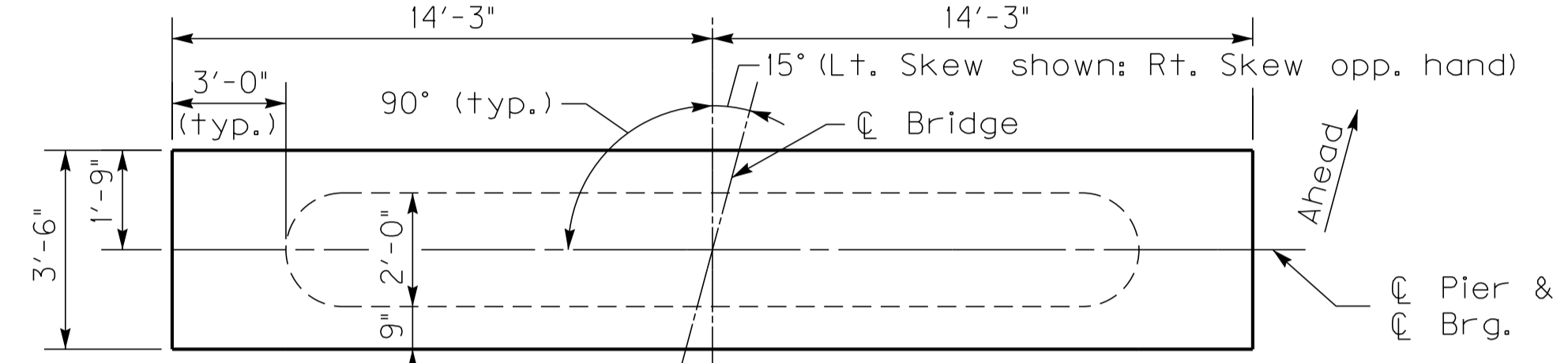
DIMENSIONS TABLE

H	DIMENSIONS TABLE				H	QUANTITIES		
	A	B	C	D		CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT
ft., in.	ft., in.	ft., in.	ft., in.	ft., in.	CU. YDS. (1)	LBS.	LBS.	
10-11	2 6 3	0 14 3	5 6	10-11	55.9	1107	6060	
12-13	2 6 3	0 14 3	5 6	12-13	59.2	1107	6555	
14-15	2 6 3	0 14 3	5 6	14-15	62.5	1107	7051	
16-17	2 6 3	0 14 3	5 6	16-17	65.7	1107	7546	
18-19	2 6 3	0 14 3	5 6	18-19	69	1107	8041	
20-21	2 6 3	0 14 3	5 6	20-21	72.3	1107	8536	
22-23	2 6 3	0 14 3	5 6	22-23	75.5	1107	9031	
24-25	2 6 3	0 14 3	5 6	24-25	78.8	1107	9527	

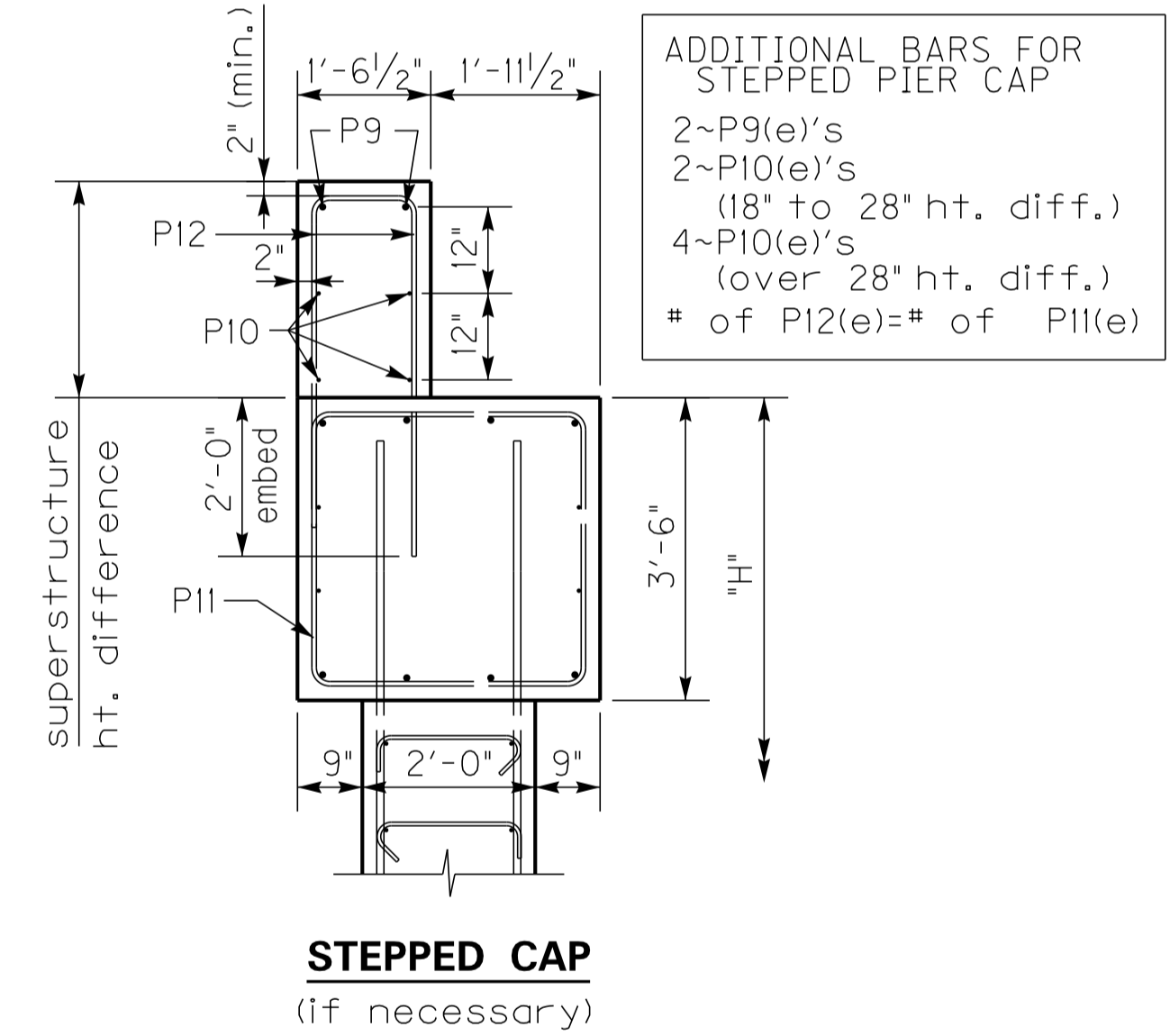
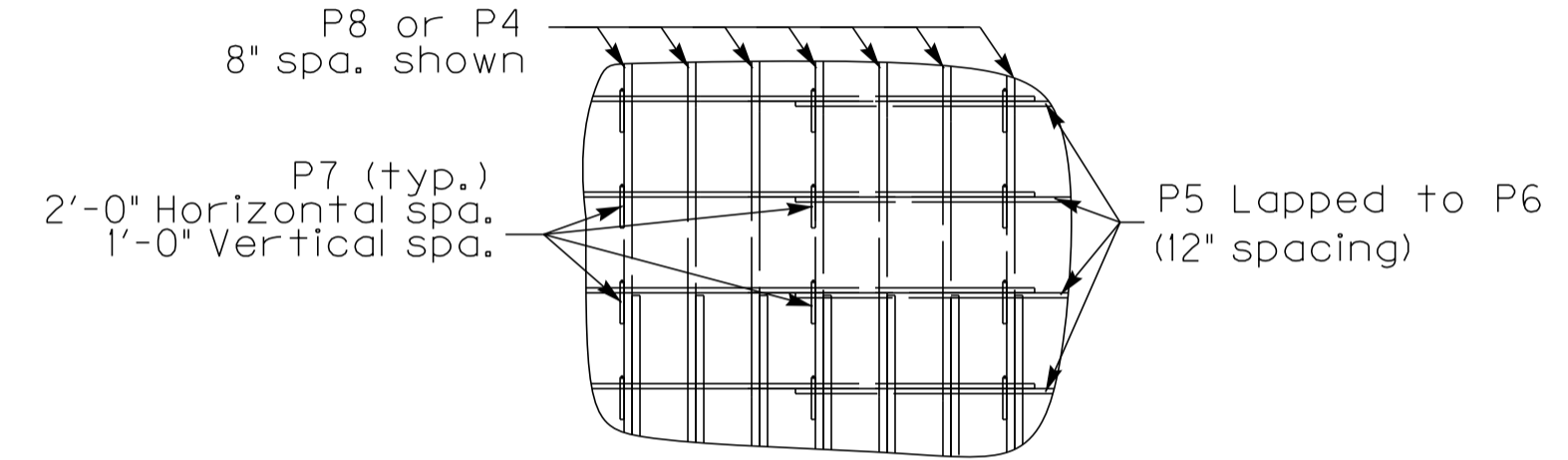
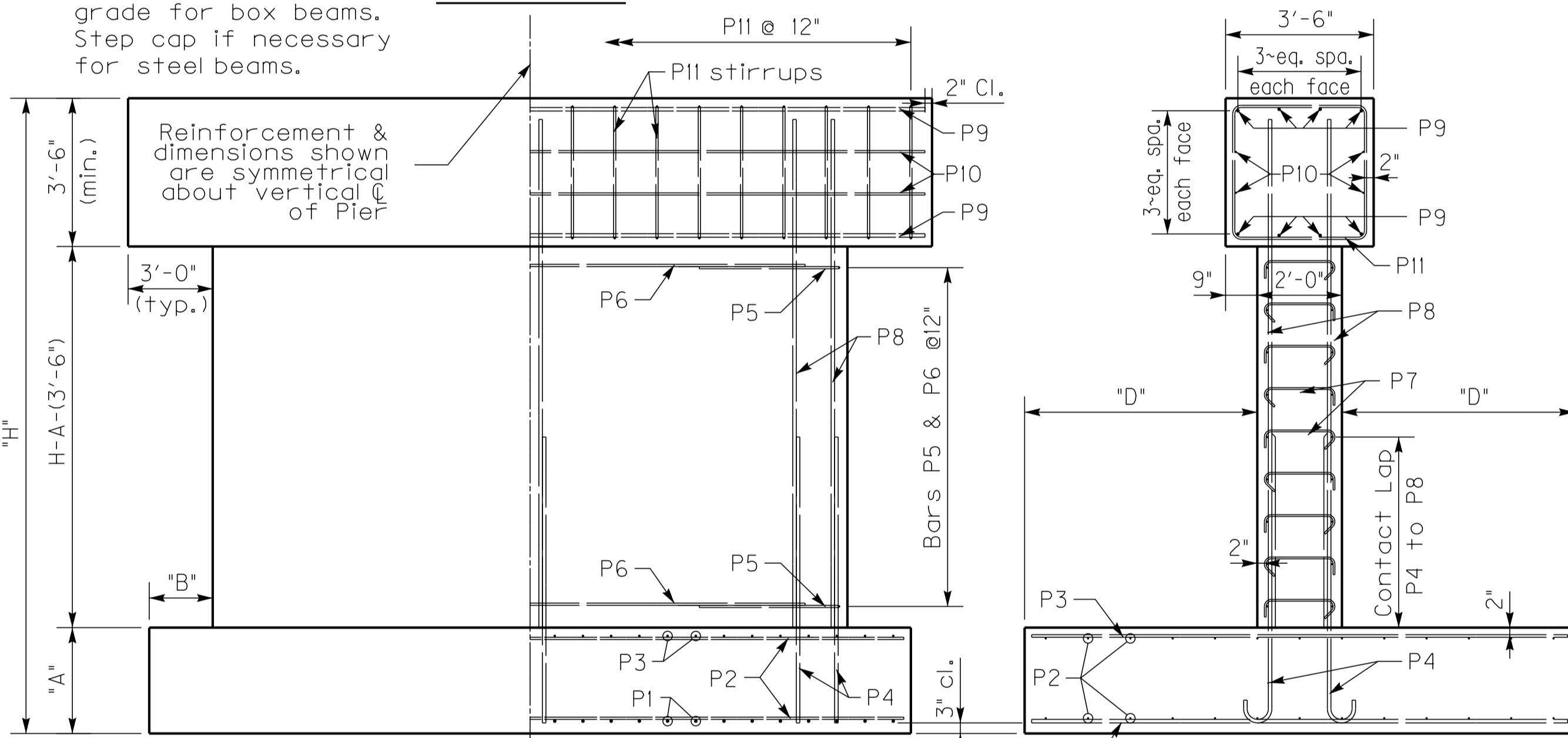
Note: All bars in cap shall be epoxy coated.

Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.6 cubic yard for shorter height.



Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 25'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

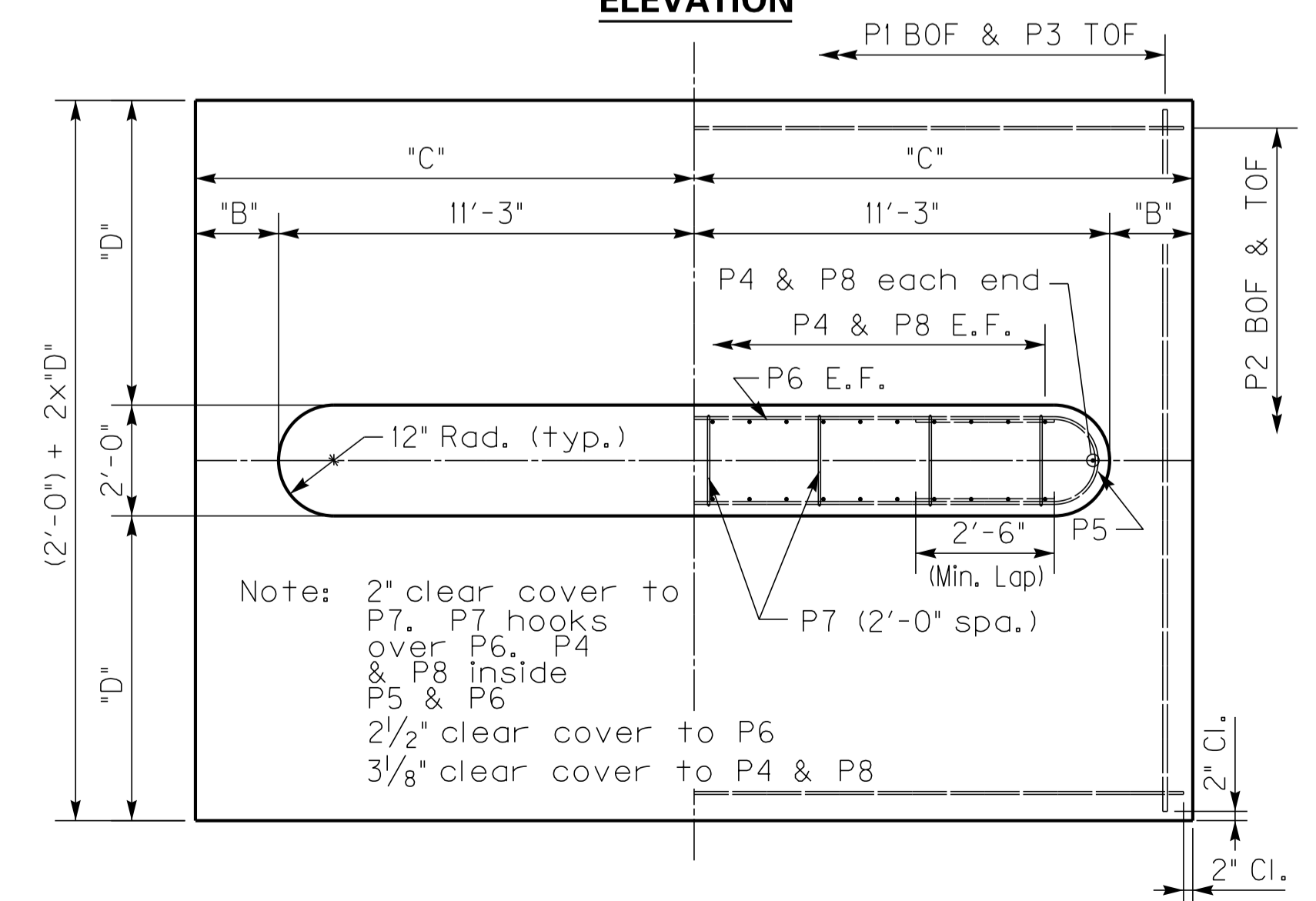
DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60



Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8

PIER DETAILS

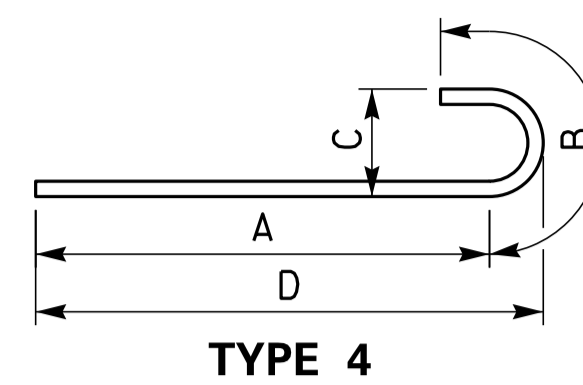
SKEW	WIDTH	DATE
15	24	July 2017

15° SKEW 32'-0" - 33'-6" BRIDGE WIDTH (No Seismic Load)

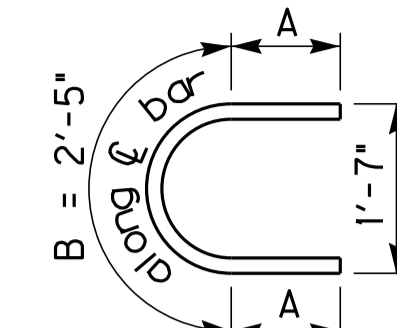
Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)																														
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14	Type 14																														
SIZE	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing																											
10-11	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	29	0	12	75	2	5	90	8	8	0	8	8	36	8	4	36	8	37	13	2
12-13	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	29	0	12	105	2	5	90	8	10	0	8	8	36	8	4	36	8	37	13	2
14-15	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	29	0	12	135	2	5	90	8	12	0	8	8	36	8	4	36	8	37	13	2
16-17	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	29	0	12	165	2	5	90	8	14	0	8	8	36	8	4	36	8	37	13	2
18-19	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	29	0	12	195	2	5	90	8	16	0	8	8	36	8	4	36	8	37	13	2
20-21	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	29	0	12	225	2	5	90	8	18	0	8	8	36	8	4	36	8	37	13	2
22-23	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	29	0	12	255	2	5	90	8	20	0	8	8	36	8	4	36	8	37	13	2
24-25	55	8	12	8	26	6	36	2	12	55	5	12	8	90	8	8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	29	0	12	285	2	5	90	8	22	0	8	8	36	8	4	36	8	37	13	2

Reinforcement Details

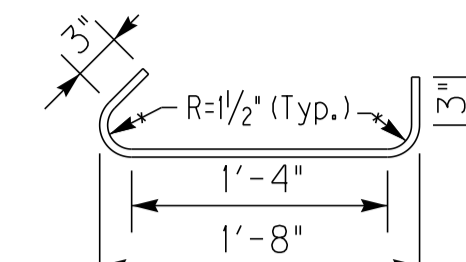


TYPE 4



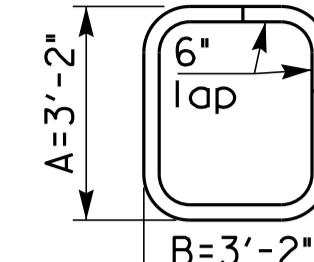
TYPE 10

(#5 bar)



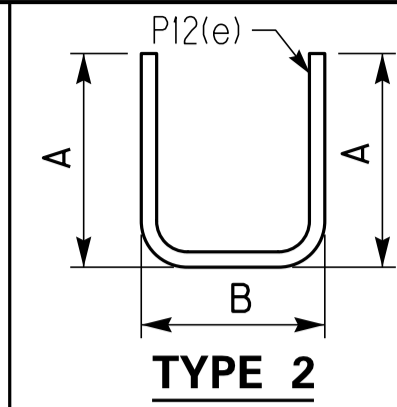
TYPE 31

(#4 bar)



TYPE 14

(#5 bar)



TYPE 2

(For Stepped Cap)
A=Ht. diff. -2" Cl.
+2'-0" emb.
B=1'-2 1/2"

DIMENSIONS TABLE

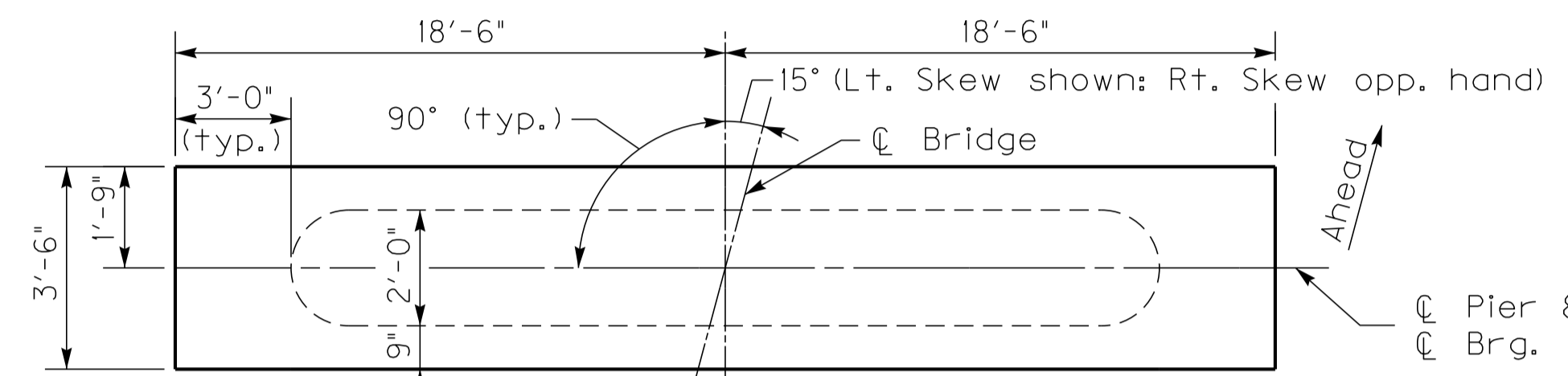
H	A				B				C				D				H	CONCRETE CLASS "A" CU. YDS. (1)	STEEL REINFORCEMENT EPOXY COATED LBS.	STEEL REINFORCEMENT LBS.
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.						
10-11	2	6	2	9	18	3	5	6	10-11	72.9	1449	8570								
12-13	2	6	2	9	18	3	5	6	12-13	77.4	1449	9253								
14-15	2	6	2	9	18	3	5	6	14-15	82	1449	9936								
16-17	2	6	2	9	18	3	5	6	16-17	86.5	1449	10619								
18-19	2	6	2	9	18	3	5	6	18-19	91	1449	11302								
20-21	2	6	2	9	18	3	5	6	20-21	95.5	1449	11985								
22-23	2	6	2	9	18	3	5	6	22-23	100.1	1449	12668								
24-25	2	6	2	9	18	3	5	6	24-25	104.6	1449	13351								

QUANTITIES

Note: All bars in cap shall be epoxy coated.

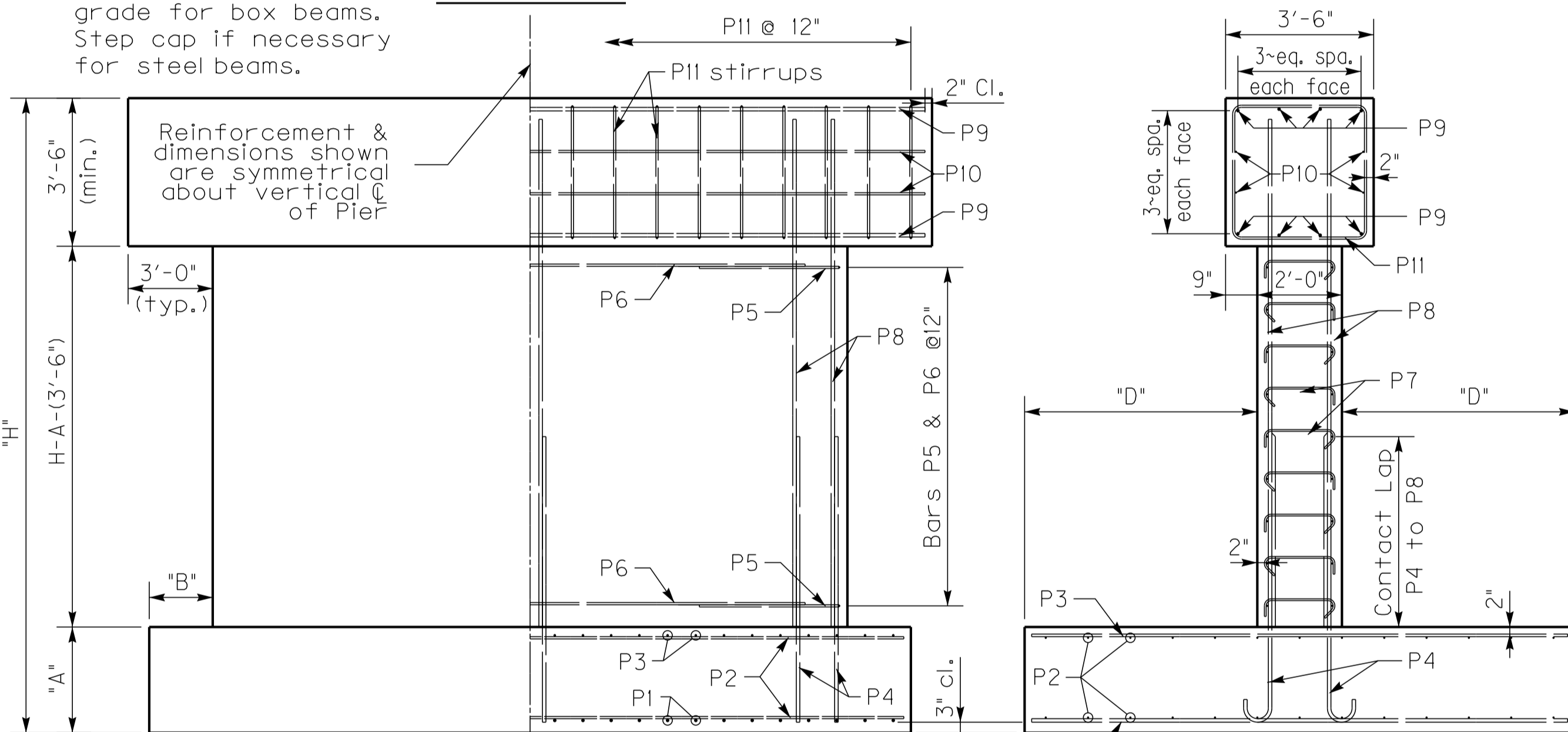
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 2.2 cubic yard for shorter height.



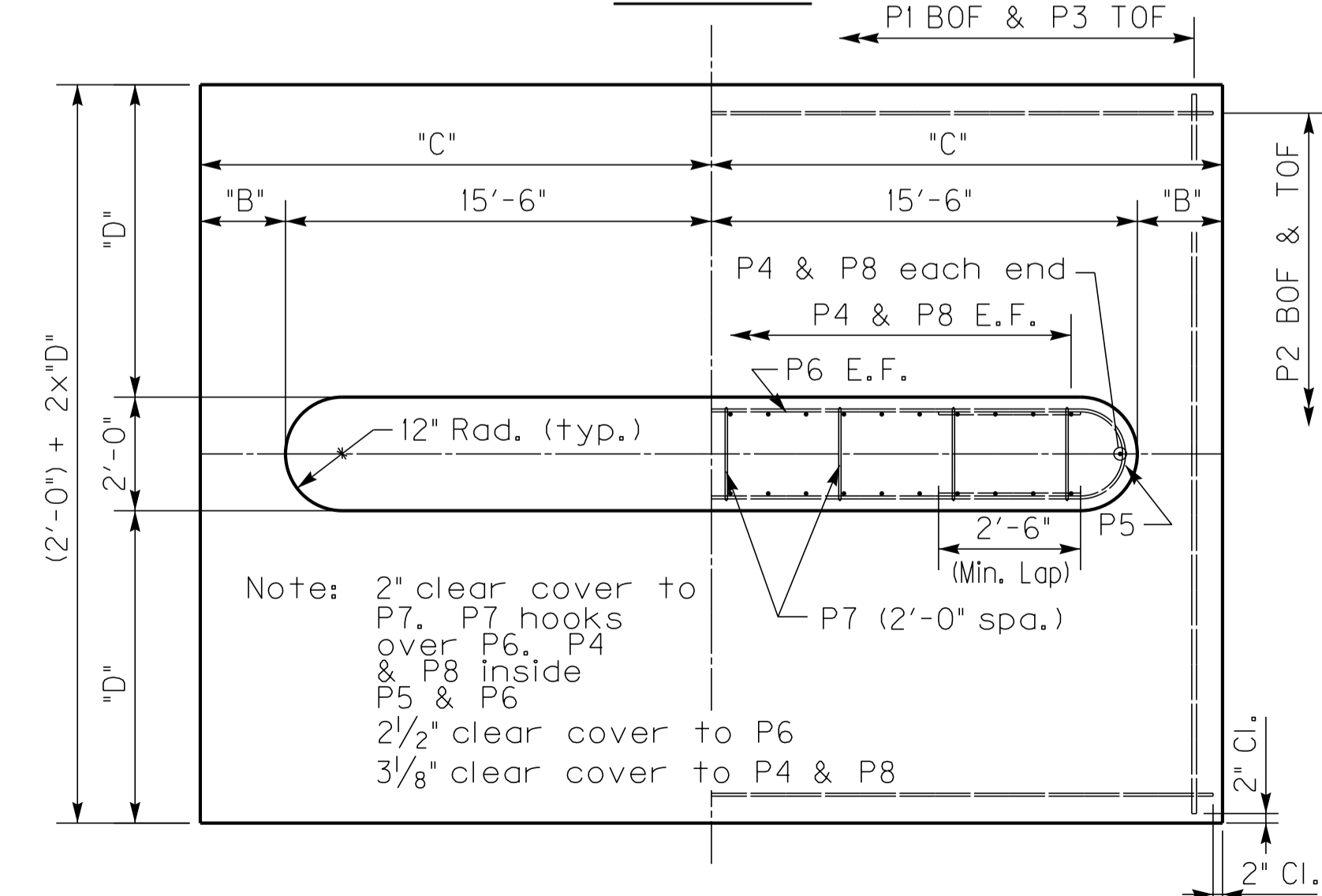
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



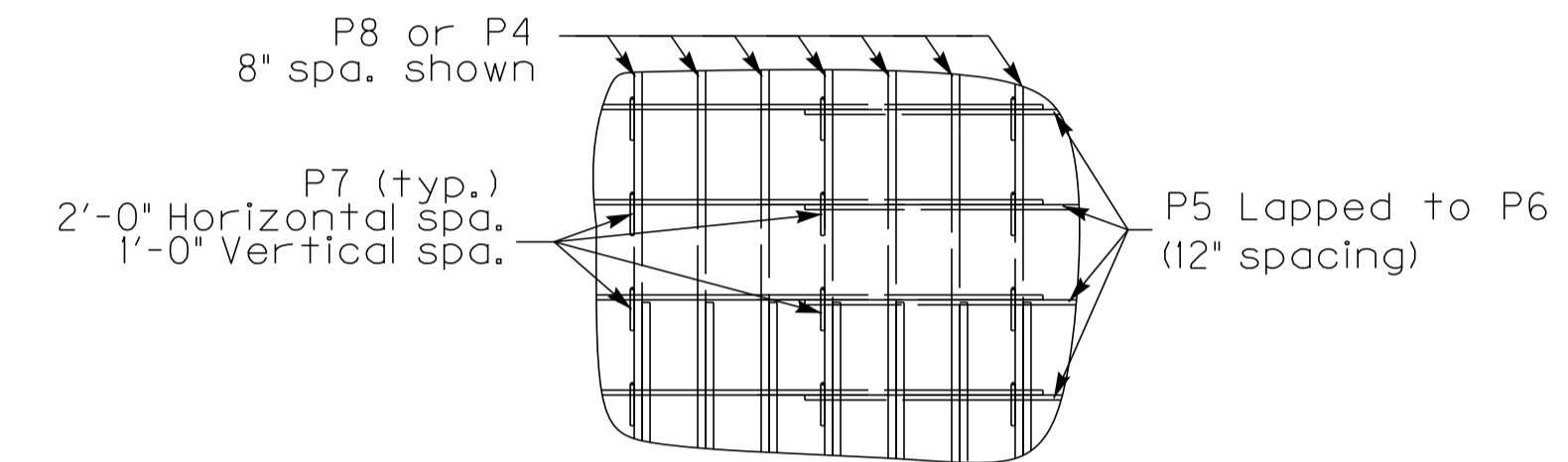
ELEVATION

END ELEVATION



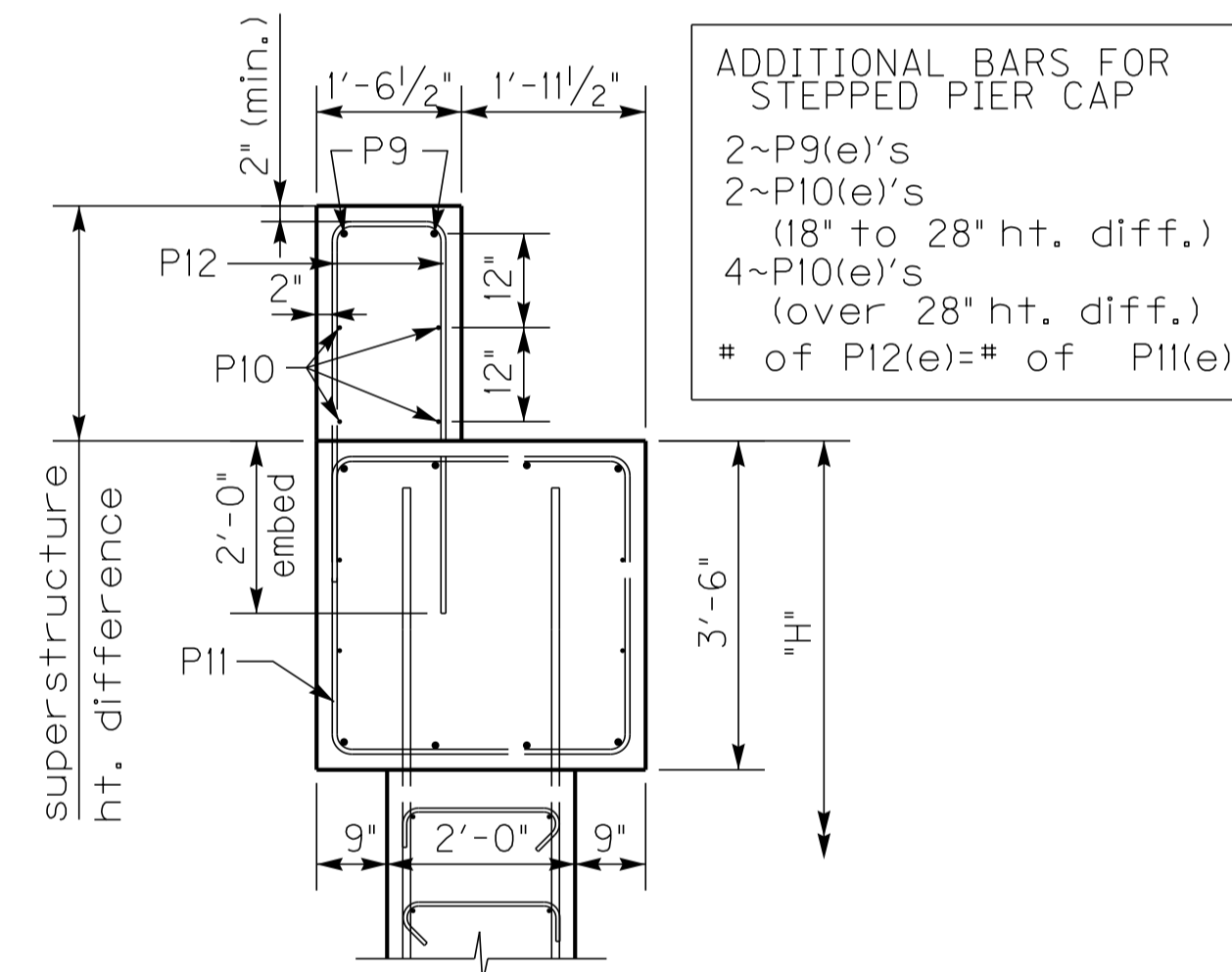
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

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NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

PIER DETAILS

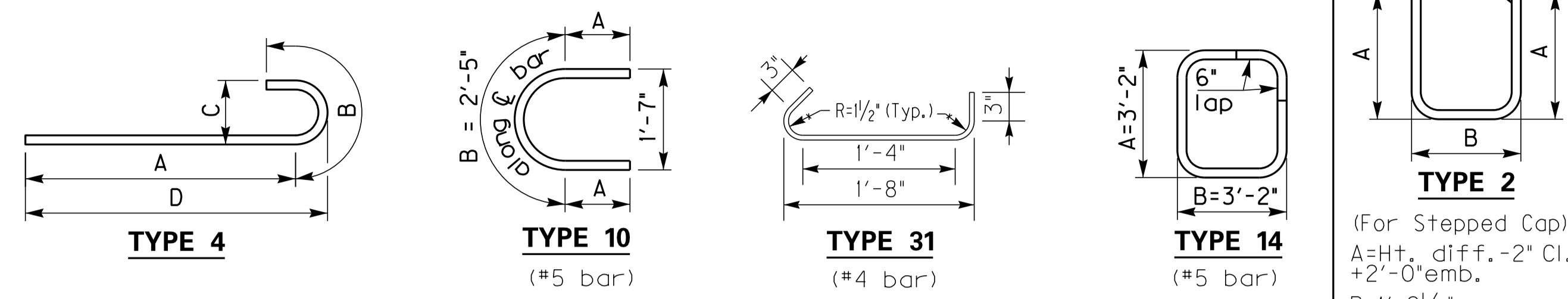
SKEW	WIDTH	DATE
15	32	July 2017

30° SKEW 16'-0" - 17'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)	
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14		
SIZE	No.	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length		
10-11	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	10 5 7 5 12 2	6 10 5 15 0 12	40 2 5 48	8 8 0 8	8 23 8	4 23 8	24 13 2												
12-13	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	14 5 7 5 12 2	6 14 5 15 0 12	56 2 5 48	8 10 0 8	8 23 8	4 23 8	24 13 2												
14-15	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	18 5 7 5 12 2	6 18 5 15 0 12	72 2 5 48	8 12 0 8	8 23 8	4 23 8	24 13 2												
16-17	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	22 5 7 5 12 2	6 22 5 15 0 12	88 2 5 48	8 14 0 8	8 23 8	4 23 8	24 13 2												
18-19	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	26 5 7 5 12 2	6 26 5 15 0 12	104 2 5 48	8 16 0 8	8 23 8	4 23 8	24 13 2												
20-21	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	30 5 7 5 12 2	6 30 5 15 0 12	120 2 5 48	8 18 0 8	8 23 8	4 23 8	24 13 2												
22-23	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	34 5 7 5 12 2	6 34 5 15 0 12	136 2 5 48	8 20 0 8	8 23 8	4 23 8	24 13 2												
24-25	32	8 12 2 2	26 5 21 2 12	32 5 12 2 8	48 8 8 10 8	7 5 1 5 0	8 7 9 9	38 5 7 5 12 2	6 38 5 15 0 12	152 2 5 48	8 22 0 8	8 23 8	4 23 8	24 13 2												

Reinforcement Details

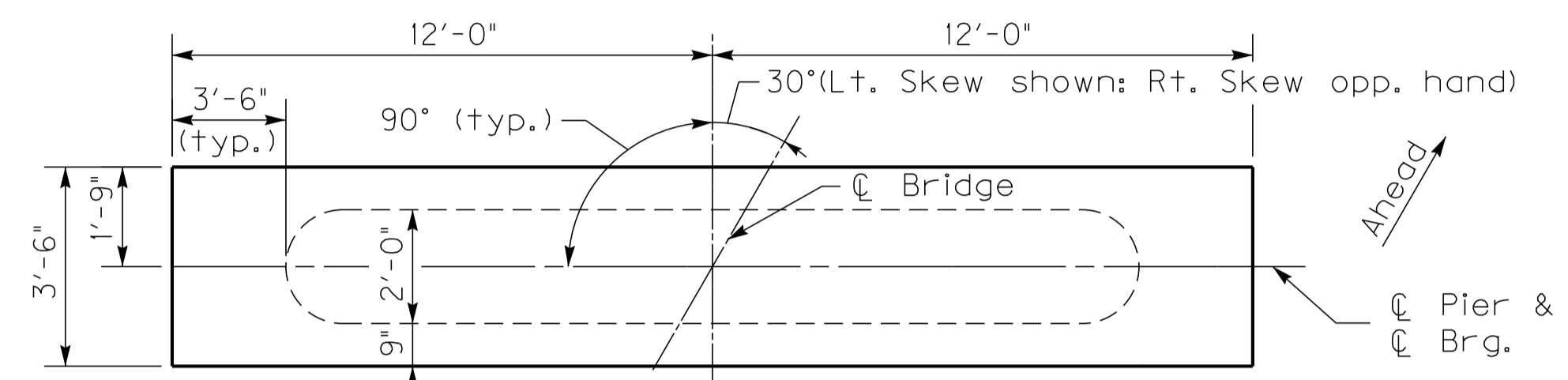


DIMENSIONS TABLE		QUANTITIES						
		CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT				
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.
10-11	2 6 2 3 10 9 5 3	10-11	42.2	937	4489			
12-13	2 6 2 3 10 9 5 3	12-13	44.7	937	4866			
14-15	2 6 2 3 10 9 5 3	14-15	47.1	937	5242			
16-17	2 6 2 3 10 9 5 3	16-17	49.6	937	5619			
18-19	2 6 2 3 10 9 5 3	18-19	52.1	937	5996			
20-21	2 6 2 3 10 9 5 3	20-21	54.5	937	6373			
22-23	2 6 2 3 10 9 5 3	22-23	57	937	6750			
24-25	2 6 2 3 10 9 5 3	24-25	59.4	937	7126			

Note: All bars in cap shall be epoxy coated.

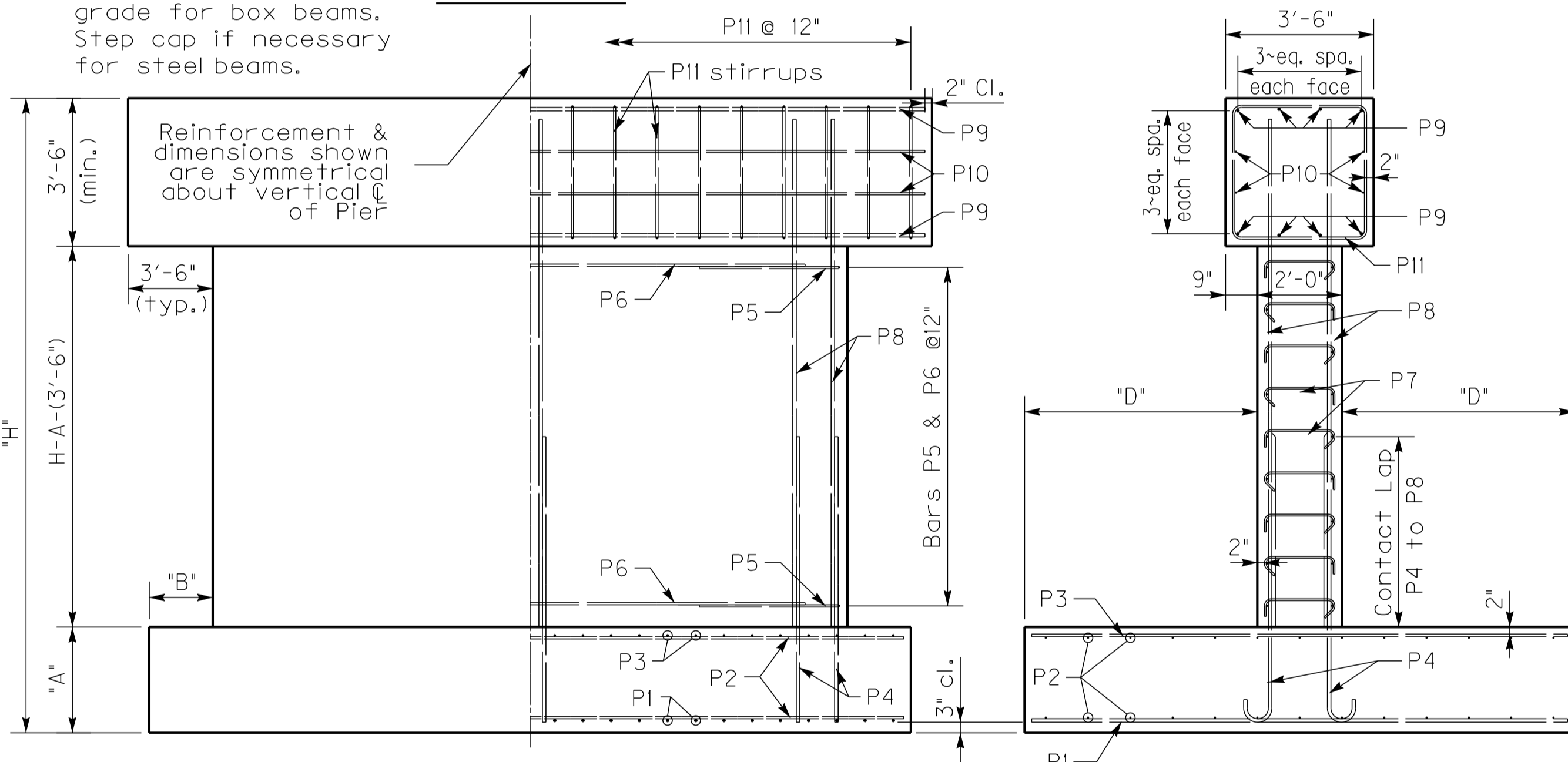
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.2 cubic yd. for shorter height.



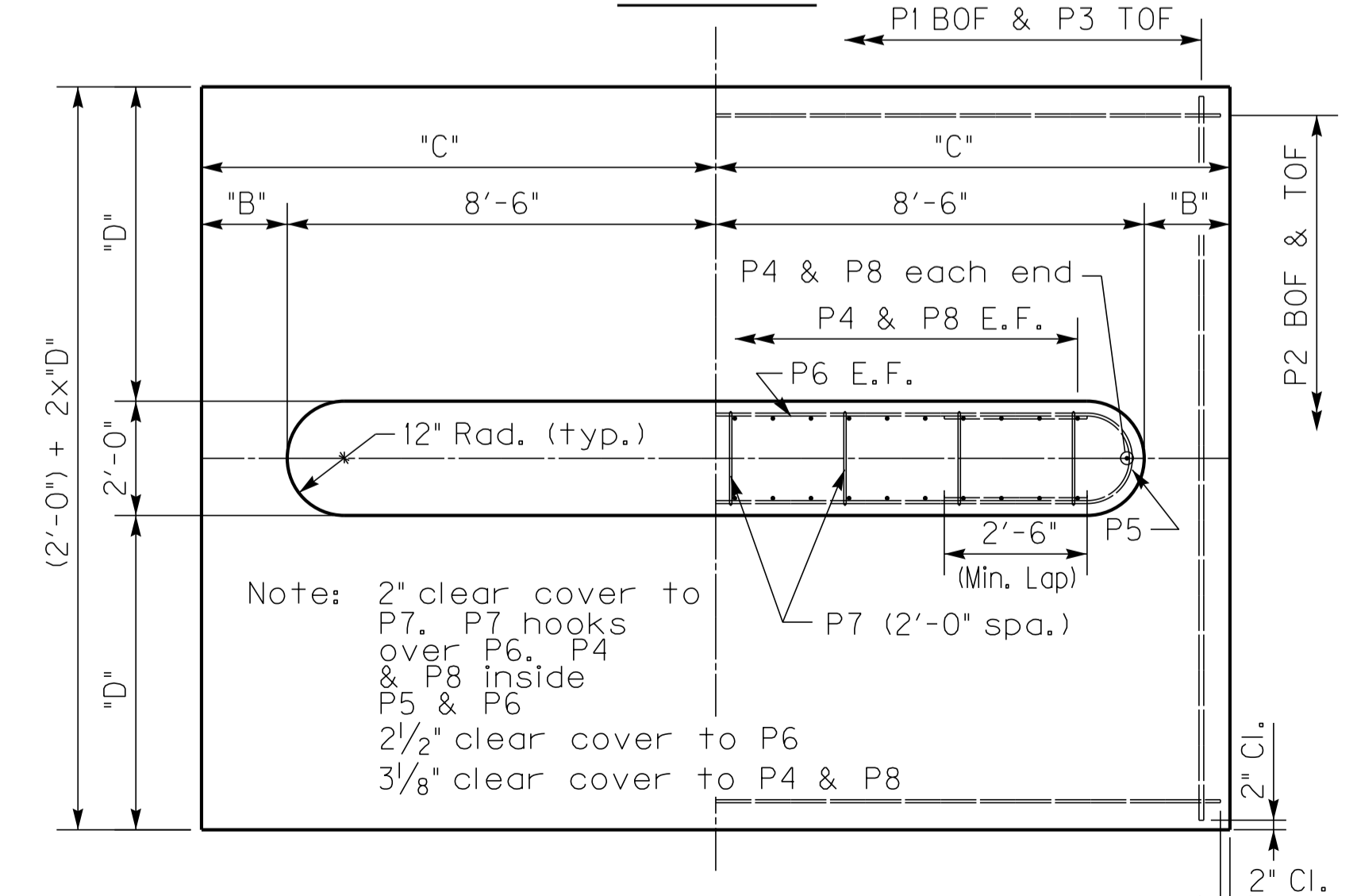
Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.

PLAN OF CAP

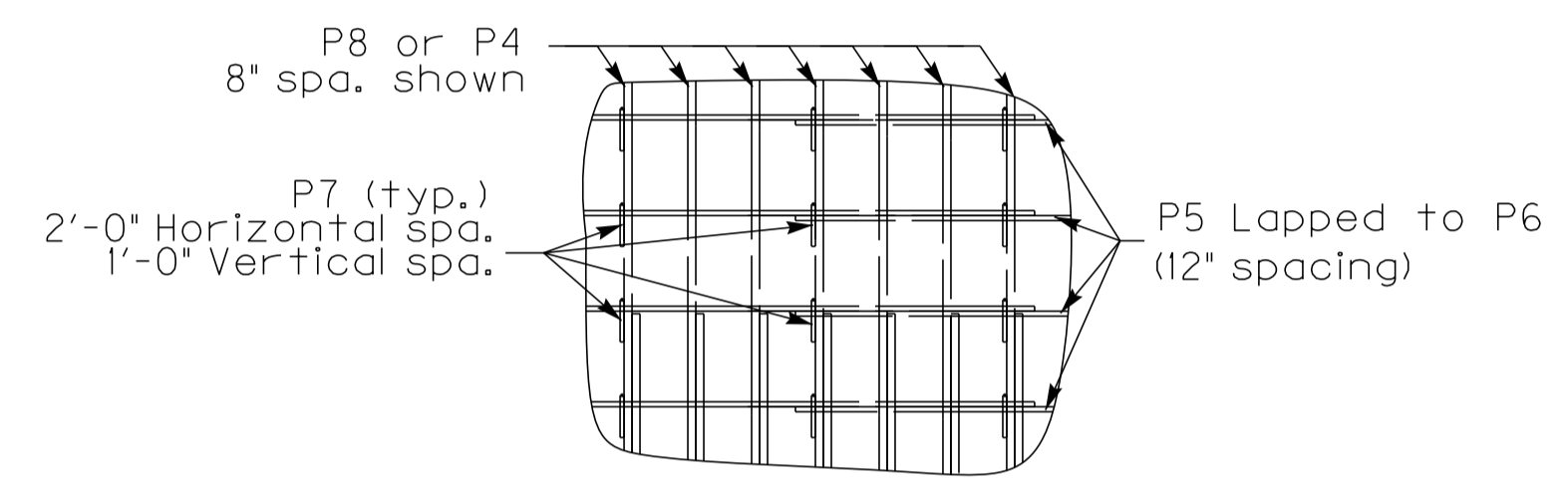


ELEVATION

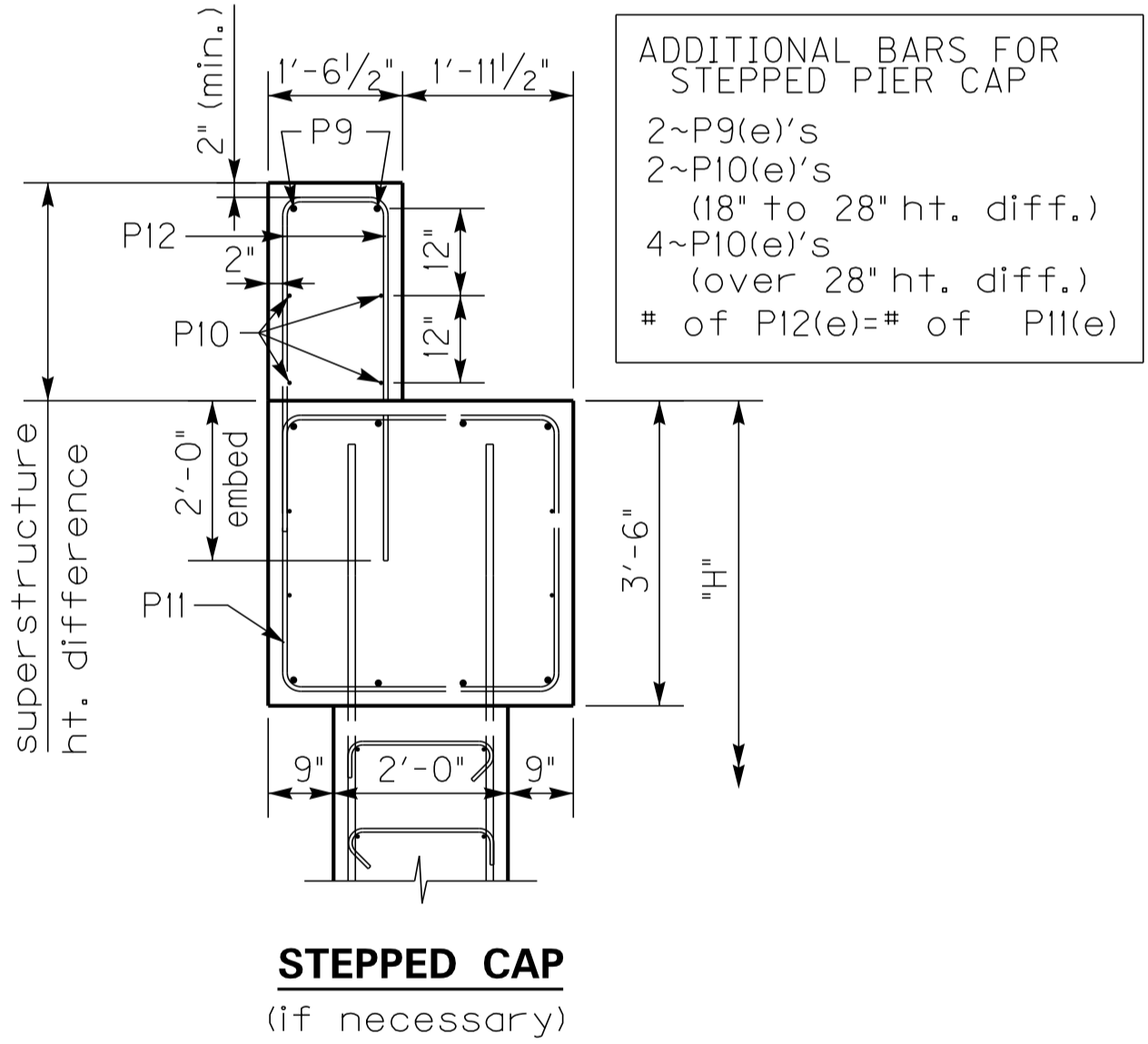
END ELEVATION



PLAN OF FOOTING



P7 BAR PLACEMENT



STEPPED CAP

(if necessary)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 17'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60

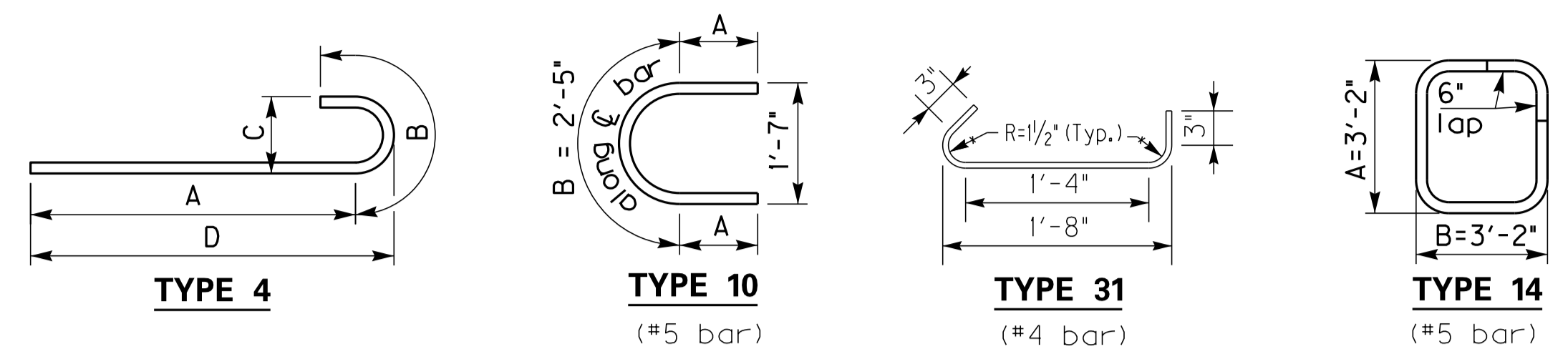
PIER DETAILS		
SKEW	WIDTH	DATE
30	16	July 2017

30° SKEW 24'-0" - 25'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)																														
	Str.		Str.		Str.		Type 4				Type 10				Str.		Type 31		Str.		Str.		Str.		Type 14																														
TYPE	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing	No.	Size	Length	Spacing																											
10-11	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	24	0	12	65	2	5	76	8	8	0	8	8	32	8	4	32	8	33	13	2
12-13	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	24	0	12	91	2	5	76	8	10	0	8	8	32	8	4	32	8	33	13	2
14-15	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	24	0	12	117	2	5	76	8	12	0	8	8	32	8	4	32	8	33	13	2
16-17	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	24	0	12	143	2	5	76	8	14	0	8	8	32	8	4	32	8	33	13	2
18-19	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	24	0	12	169	2	5	76	8	16	0	8	8	32	8	4	32	8	33	13	2
20-21	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	24	0	12	195	2	5	76	8	18	0	8	8	32	8	4	32	8	33	13	2
22-23	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	24	0	12	221	2	5	76	8	20	0	8	8	32	8	4	32	8	33	13	2
24-25	47	8	12	8	26	6	31	2	12	47	5	12	8	76	8	8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	24	0	12	247	2	5	76	8	22	0	8	8	32	8	4	32	8	33	13	2

Reinforcement Details

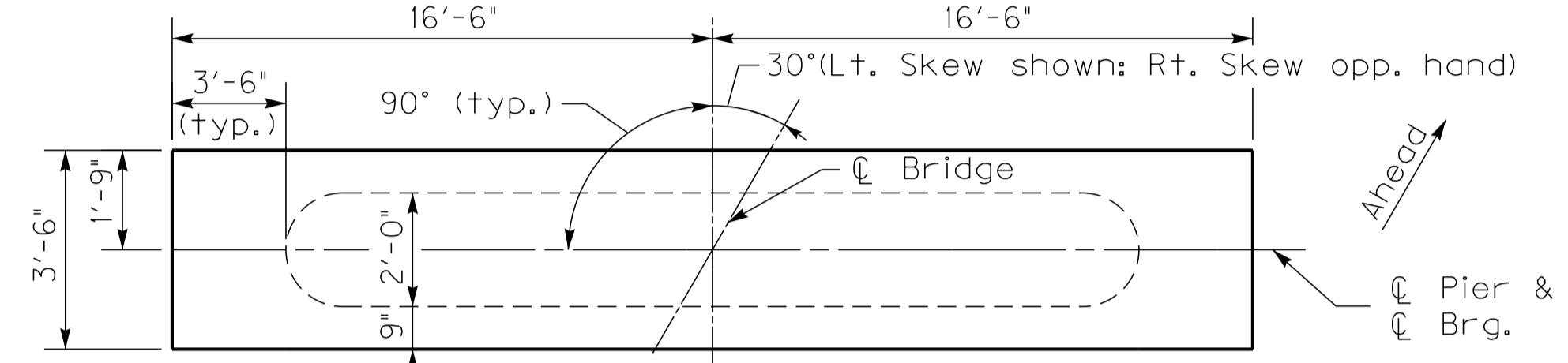


DIMENSIONS TABLE										QUANTITIES		
H	A	B	C	D	H	CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT				
						CU. YDS. (1)	LBS.	LBS.				
10-11	2	6	2	9	15	9	5	6	10-11	63	1291	7298
12-13	2	6	2	9	15	9	5	6	12-13	66.8	1291	7878
14-15	2	6	2	9	15	9	5	6	14-15	70.5	1291	8459
16-17	2	6	2	9	15	9	5	6	16-17	74.3	1291	9039
18-19	2	6	2	9	15	9	5	6	18-19	78.1	1291	9620
20-21	2	6	2	9	15	9	5	6	20-21	81.9	1291	10200
22-23	2	6	2	9	15	9	5	6	22-23	85.7	1291	10781
24-25	2	6	2	9	15	9	5	6	24-25	89.5	1291	11362

Note: All bars in cap shall be epoxy coated.

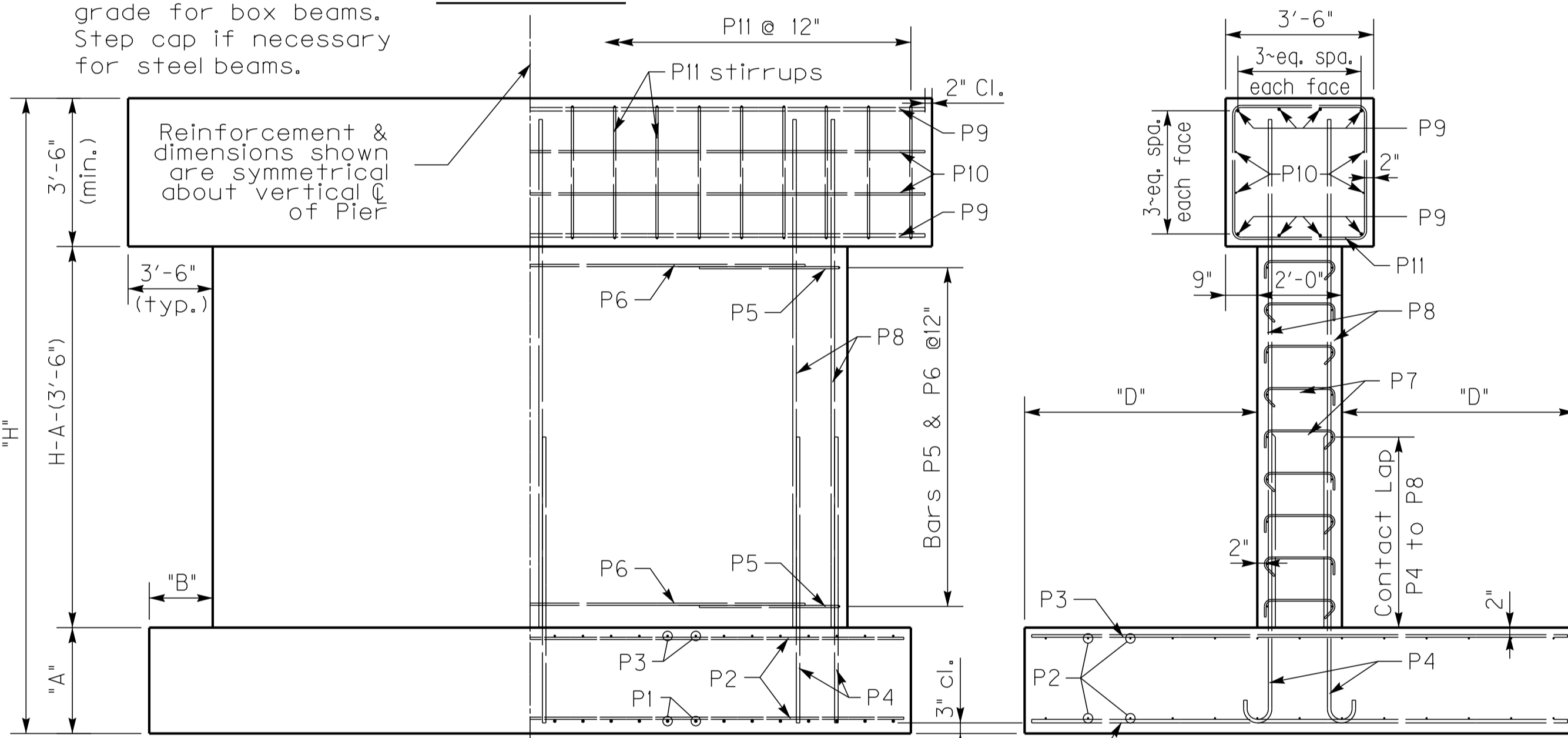
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.9 cubic yd. for shorter height.



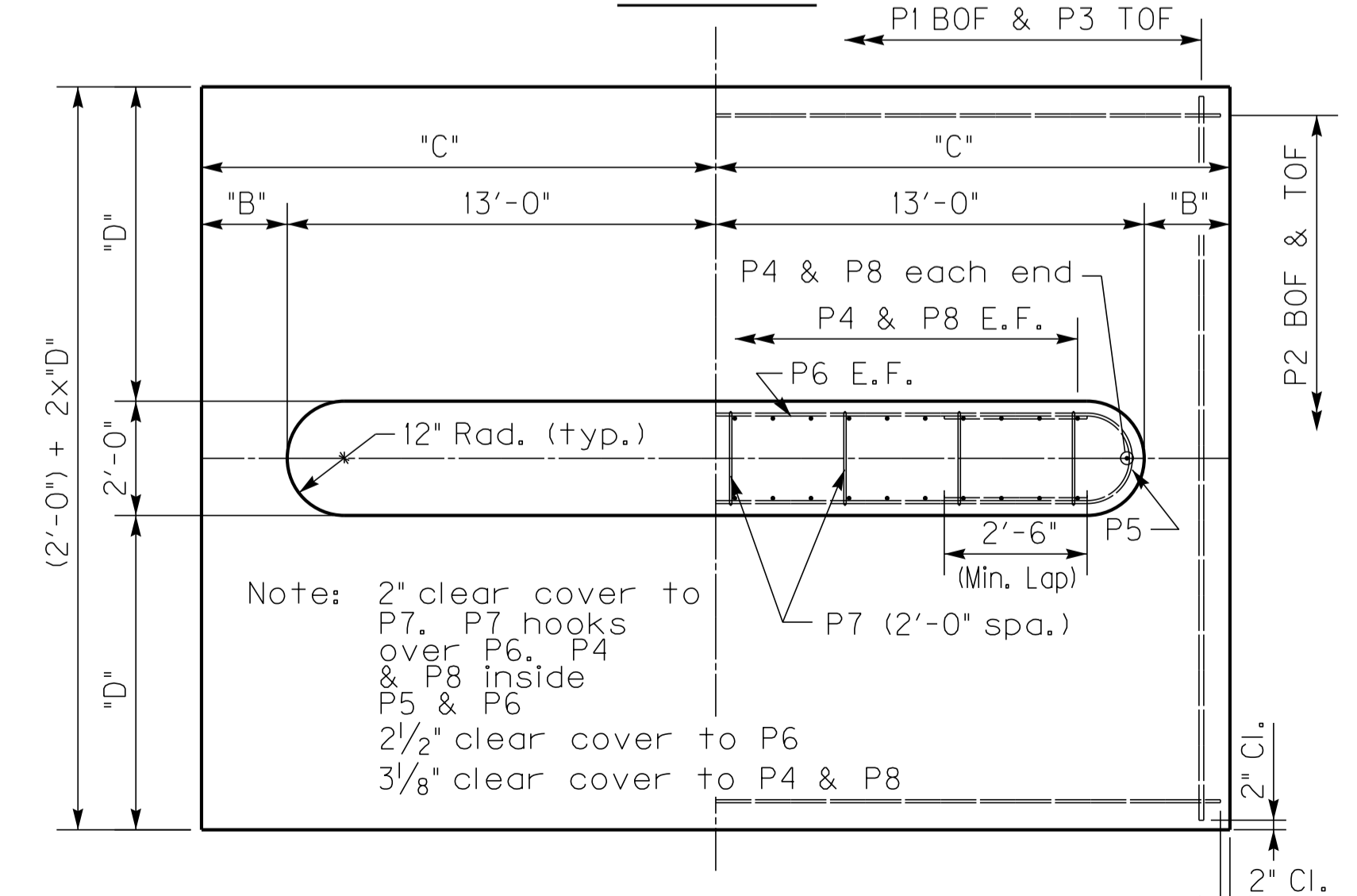
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



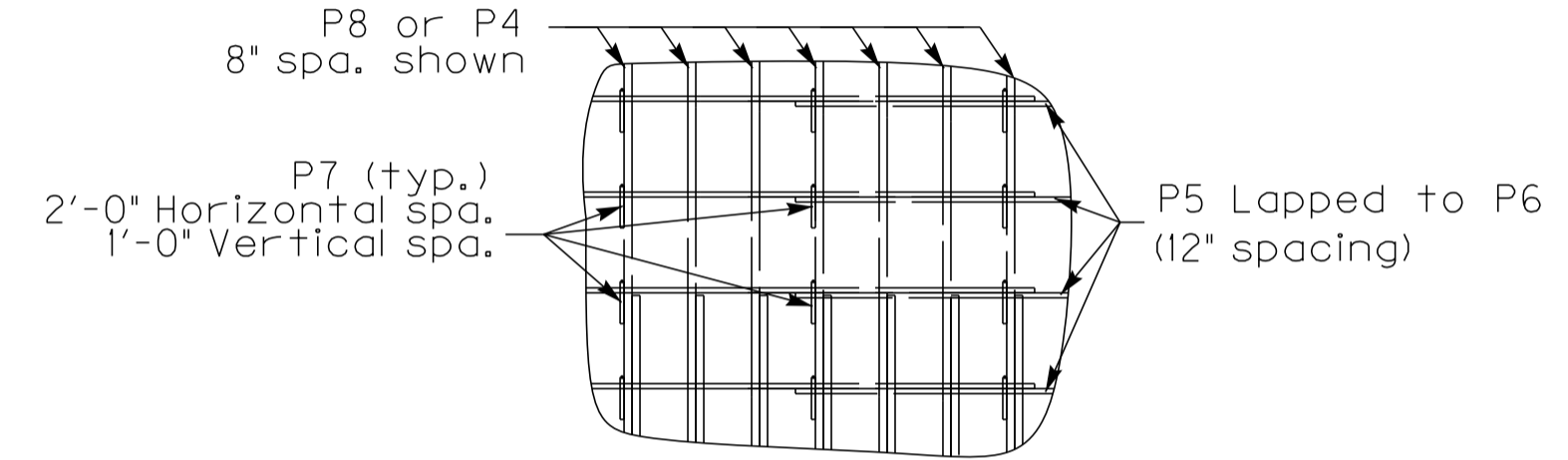
ELEVATION

END ELEVATION



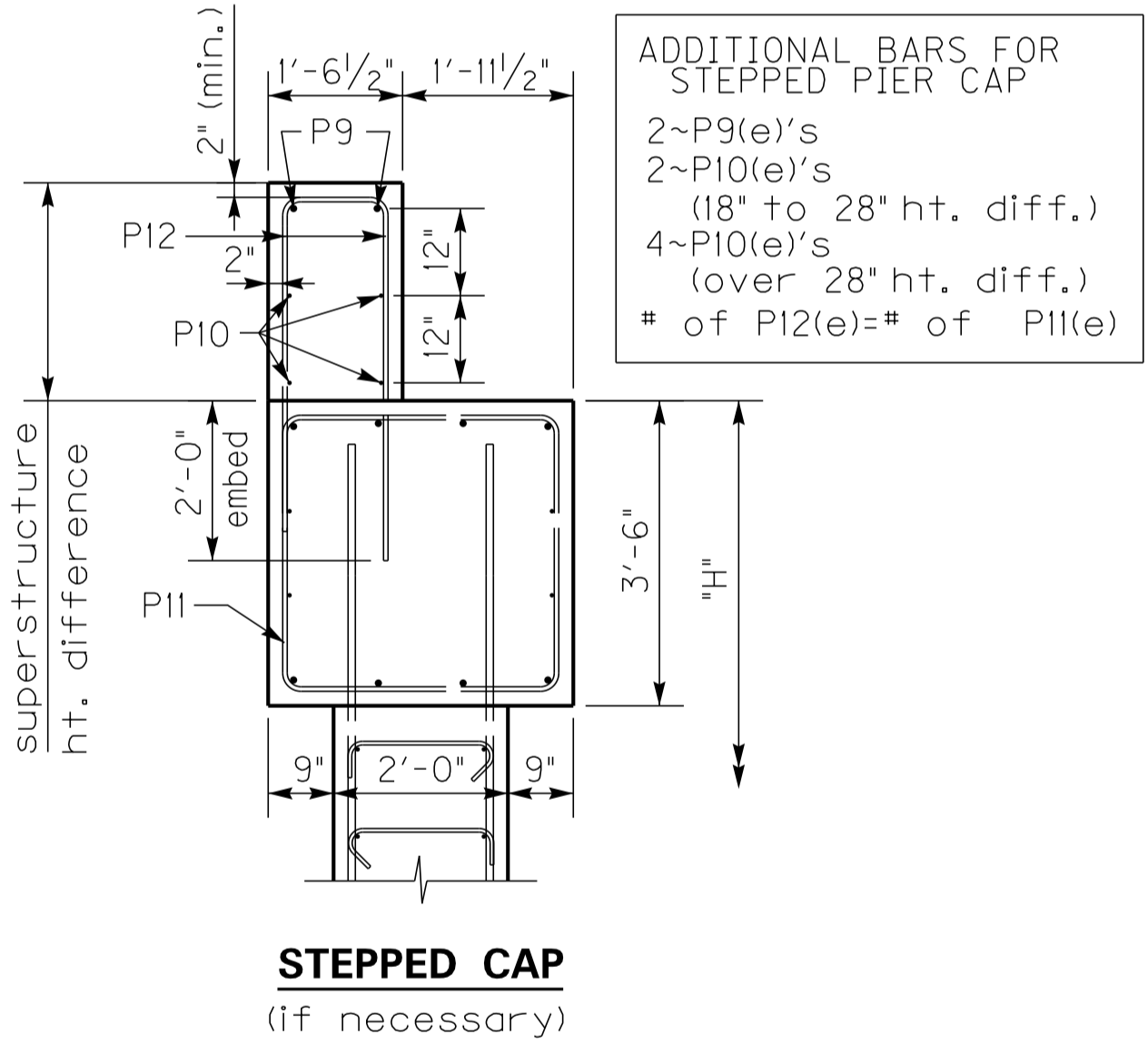
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 25'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

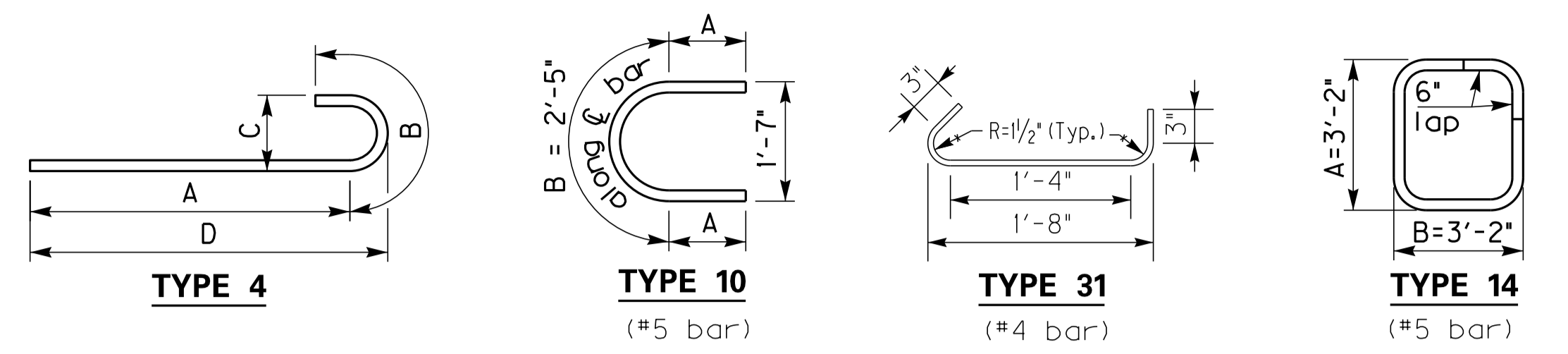
PIER DETAILS		
SKEW	WIDTH	DATE
30	24	July 2017

30° SKEW 32'-0" - 33'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1	P2	P3	P4				P5				P6	P7	P8	P9(e)	P10(e)	P11(e)																																	
TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Type 14																																		
SIZE																																																		
H	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length	No.	Size	Length																																
10-11	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	33	6	12	85	2	5	104	8	8	0	8	8	42	2	4	42	2	42	13	2
12-13	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	33	6	12	119	2	5	104	8	10	0	8	8	42	2	4	42	2	42	13	2
14-15	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	33	6	12	153	2	5	104	8	12	0	8	8	42	2	4	42	2	42	13	2
16-17	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	33	6	12	187	2	5	104	8	14	0	8	8	42	2	4	42	2	42	13	2
18-19	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	33	6	12	221	2	5	104	8	16	0	8	8	42	2	4	42	2	42	13	2
20-21	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	33	6	12	255	2	5	104	8	18	0	8	8	42	2	4	42	2	42	13	2
22-23	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	33	6	12	289	2	5	104	8	20	0	8	8	42	2	4	42	2	42	13	2
24-25	61	8	12	26	6	40	61	5	12	104	8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	33	6	12	323	2	5	104	8	22	0	8	8	42	2	4	42	2	42	13	2

Reinforcement Details

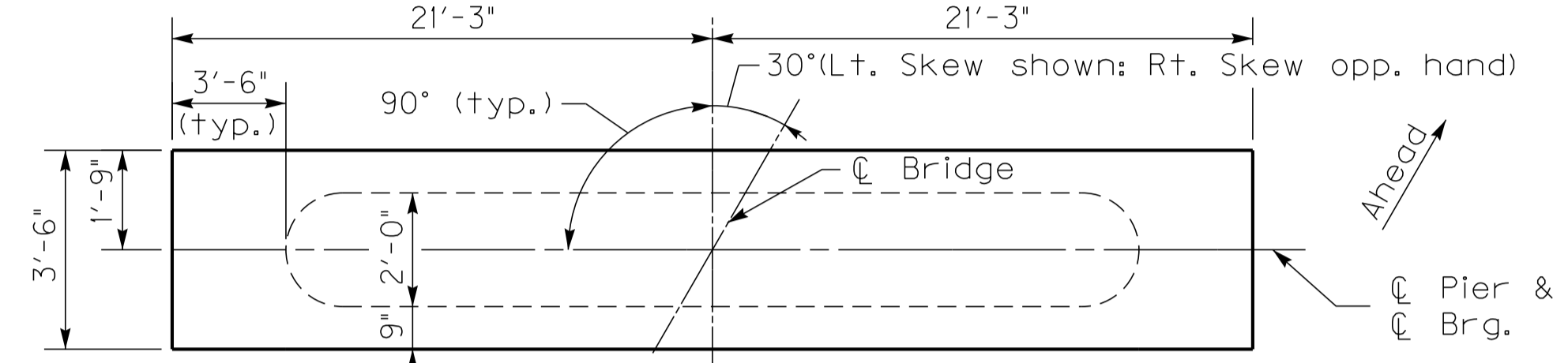


DIMENSIONS TABLE							QUANTITIES		
H	A	B	C	D	H	CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT	
ft., in.	ft., in.	ft., in.	ft., in.	ft., in.		CU. YDS. (1)	LBS.	LBS.	
10-11	2	6	2	6	20	3	5	6	
12-13	2	6	2	6	20	3	5	6	
14-15	2	6	2	6	20	3	5	6	
16-17	2	6	2	6	20	3	5	6	
18-19	2	6	2	6	20	3	5	6	
20-21	2	6	2	6	20	3	5	6	
22-23	2	6	2	6	20	3	5	6	
24-25	2	6	2	6	20	3	5	6	

Note: All bars in cap shall be epoxy coated.

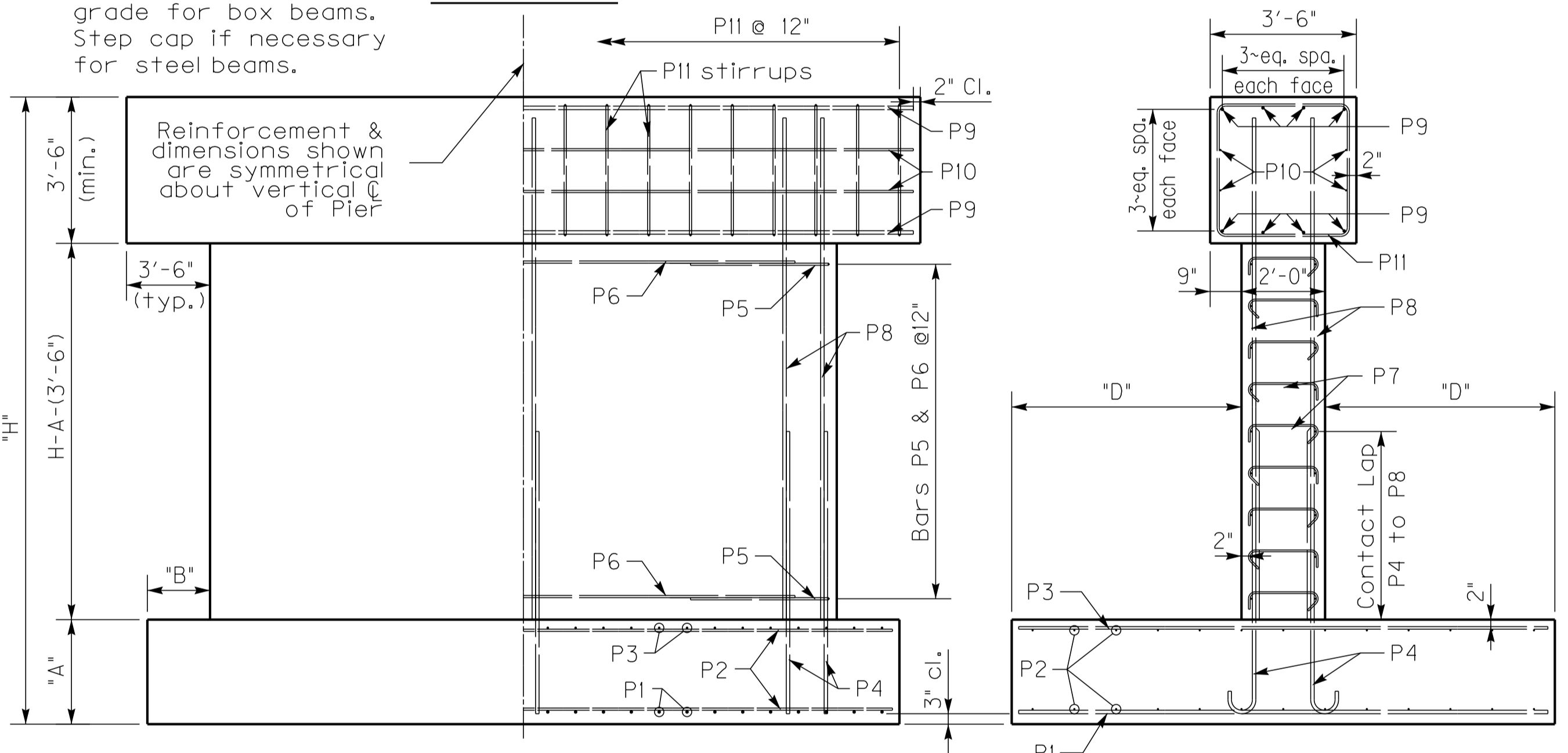
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 2.6 cubic yd. for shorter height.



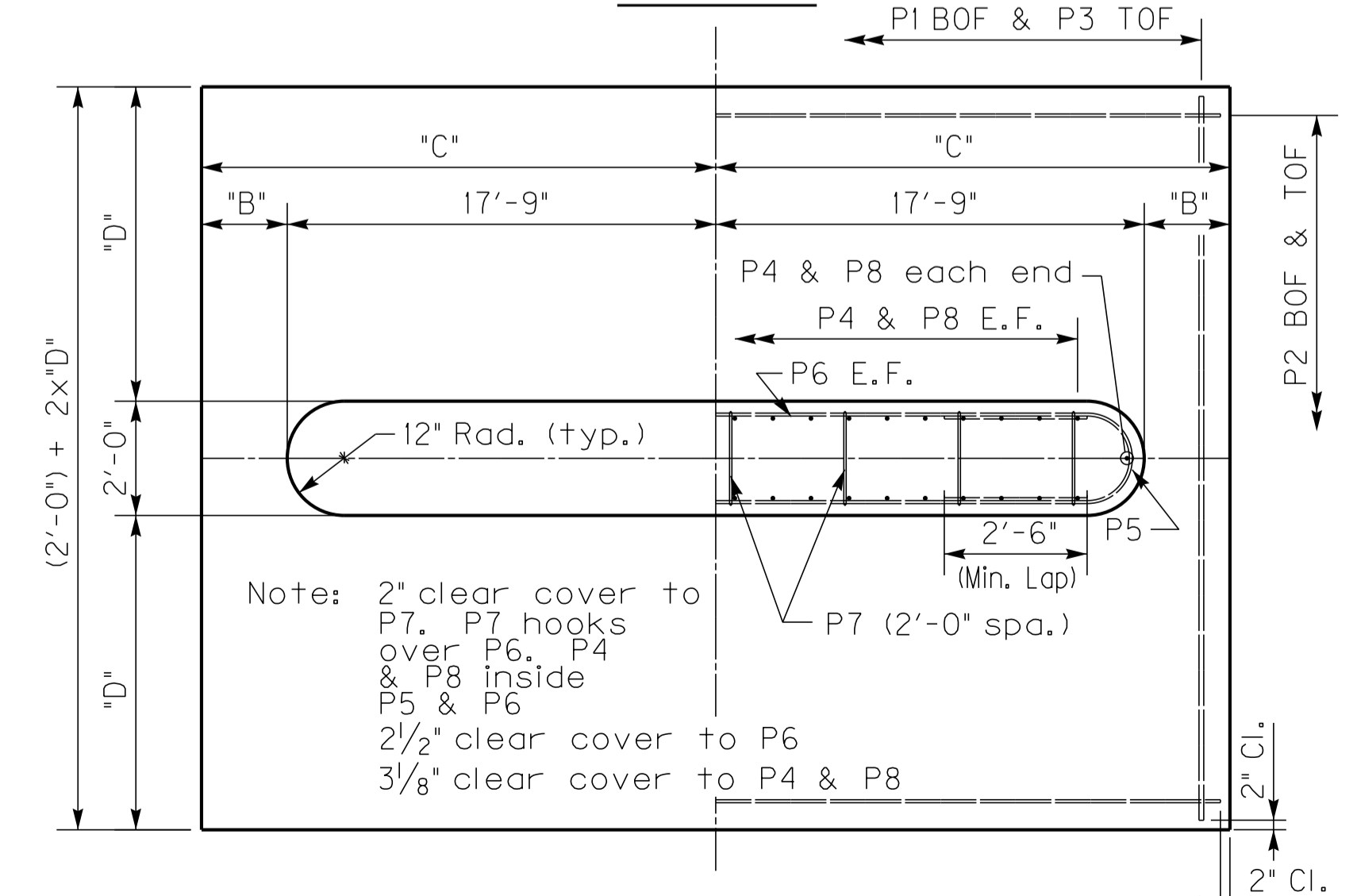
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



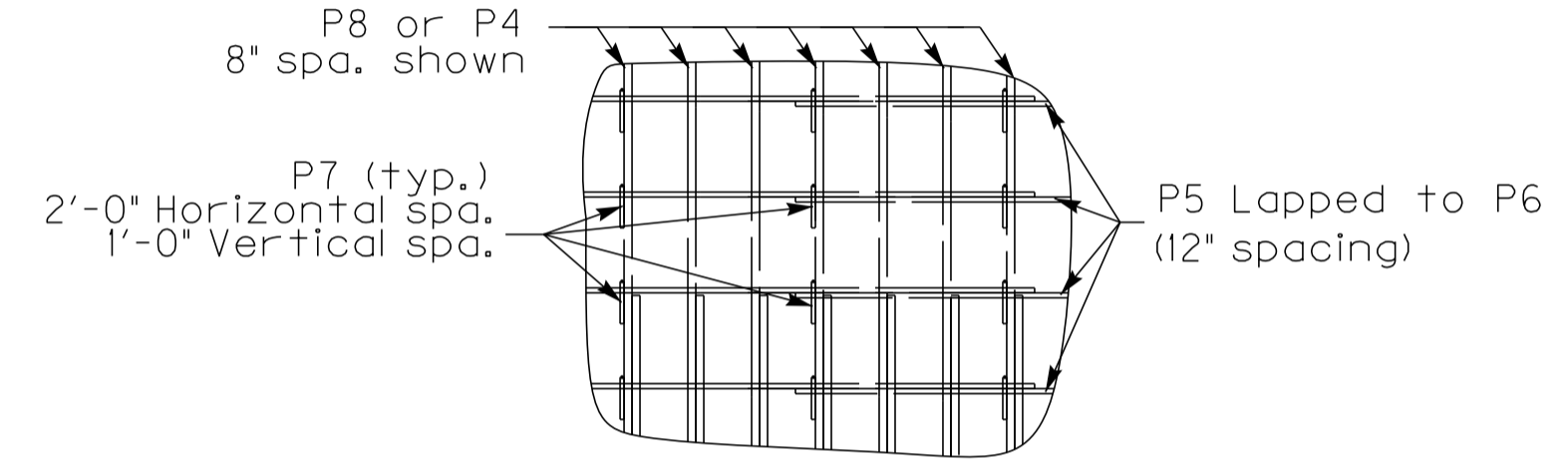
ELEVATION

END ELEVATION



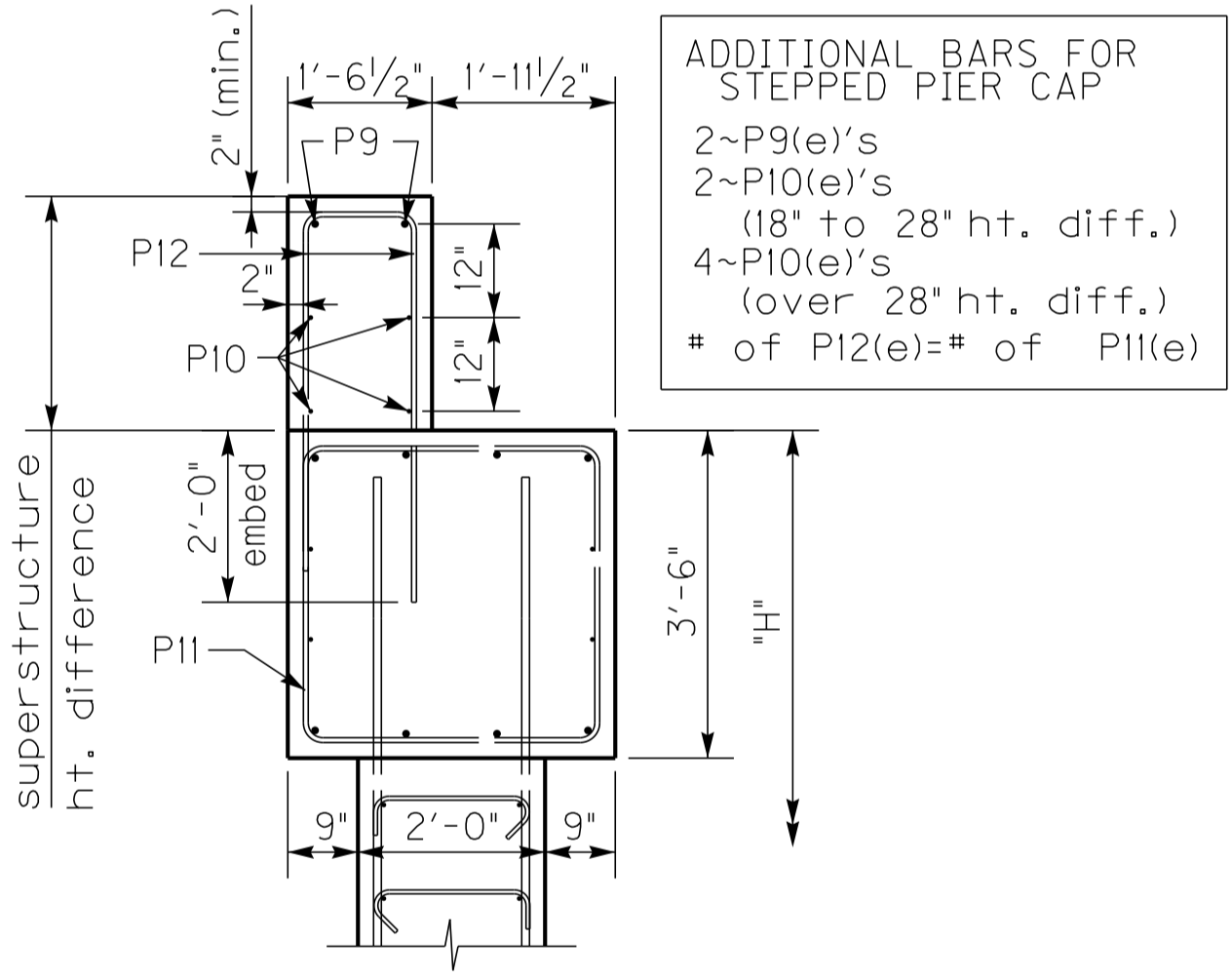
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6. 2 1/2" clear cover to P6. 3/8" clear cover to P4 & P8.



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
 2~P9(e)'s
 2~P10(e)'s (18" to 28" ht. diff.)
 4~P10(e)'s (over 28" ht. diff.)
 # of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 33'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60

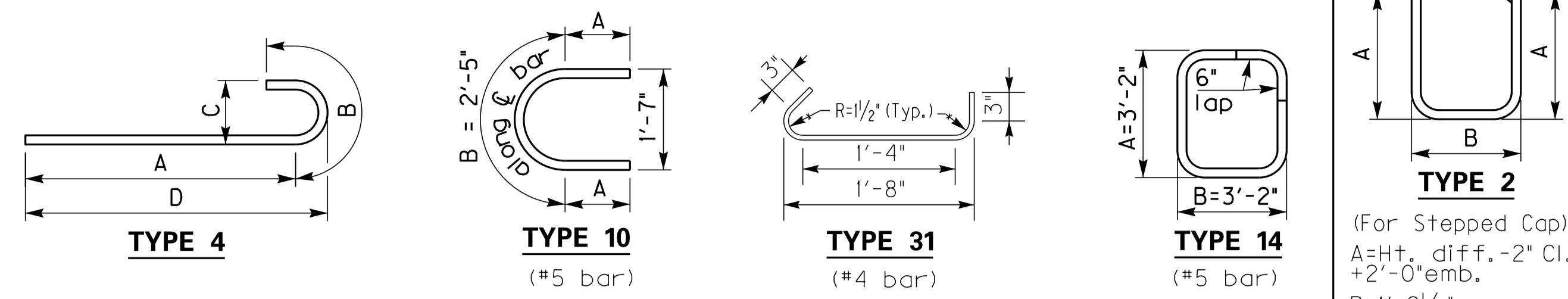
PIER DETAILS		
SKEW	WIDTH	DATE
30	32	July 2017

45° SKEW 16'-0" - 17'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)																														
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14	Type 14																														
SIZE	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing	No.	Length Spacing																													
10-11	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	10	5	7	5	12	2	6	10	5	19	6	12	50	2	5	62	8	8	0	8	8	29	2	4	29	2	29	13	2
12-13	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	14	5	7	5	12	2	6	14	5	19	6	12	70	2	5	62	8	10	0	8	8	29	2	4	29	2	29	13	2
14-15	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	18	5	7	5	12	2	6	18	5	19	6	12	90	2	5	62	8	12	0	8	8	29	2	4	29	2	29	13	2
16-17	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	22	5	7	5	12	2	6	22	5	19	6	12	110	2	5	62	8	14	0	8	8	29	2	4	29	2	29	13	2
18-19	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	26	5	7	5	12	2	6	26	5	19	6	12	130	2	5	62	8	16	0	8	8	29	2	4	29	2	29	13	2
20-21	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	30	5	7	5	12	2	6	30	5	19	6	12	150	2	5	62	8	18	0	8	8	29	2	4	29	2	29	13	2
22-23	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	34	5	7	5	12	2	6	34	5	19	6	12	170	2	5	62	8	20	0	8	8	29	2	4	29	2	29	13	2
24-25	40	7' 10"	8	22	6	26	8	12	40	5	10	8	8	62	8	8	10	8	7	5	1	5	0	8	7	9	38	5	7	5	12	2	6	38	5	19	6	12	190	2	5	62	8	22	0	8	8	29	2	4	29	2	29	13	2

Reinforcement Details

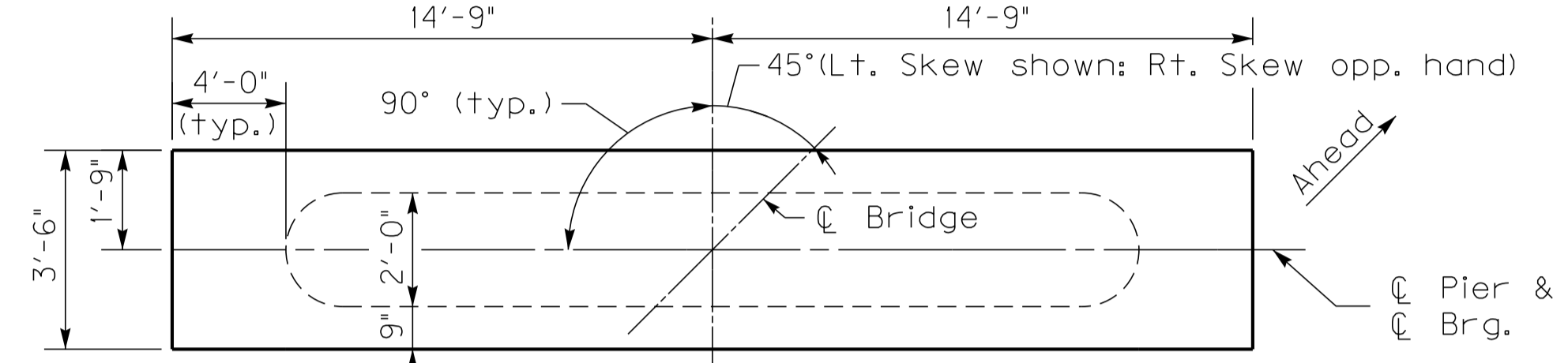


DIMENSIONS TABLE						QUANTITIES		
H	A	B	C	D	H	CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT
						CU. YDS. (1)	LBS.	LBS.
10-11	2	6	2	9	13	6	4	6
12-13	2	6	2	9	13	6	4	6
14-15	2	6	2	9	13	6	4	6
16-17	2	6	2	9	13	6	4	6
18-19	2	6	2	9	13	6	4	6
20-21	2	6	2	9	13	6	4	6
22-23	2	6	2	9	13	6	4	6
24-25	2	6	2	9	13	6	4	6

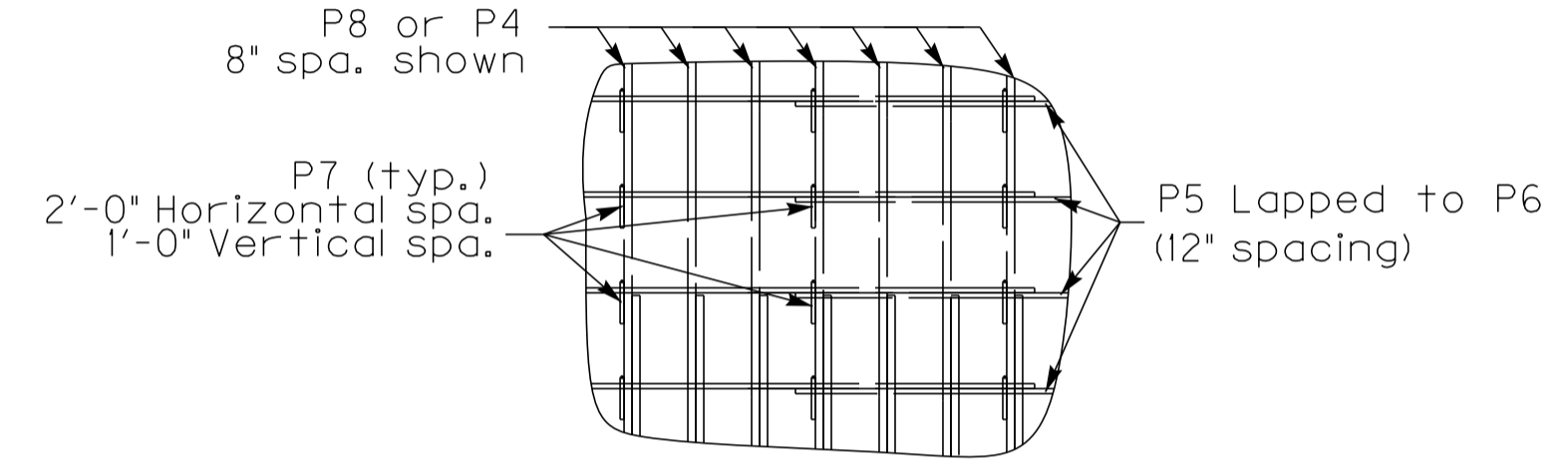
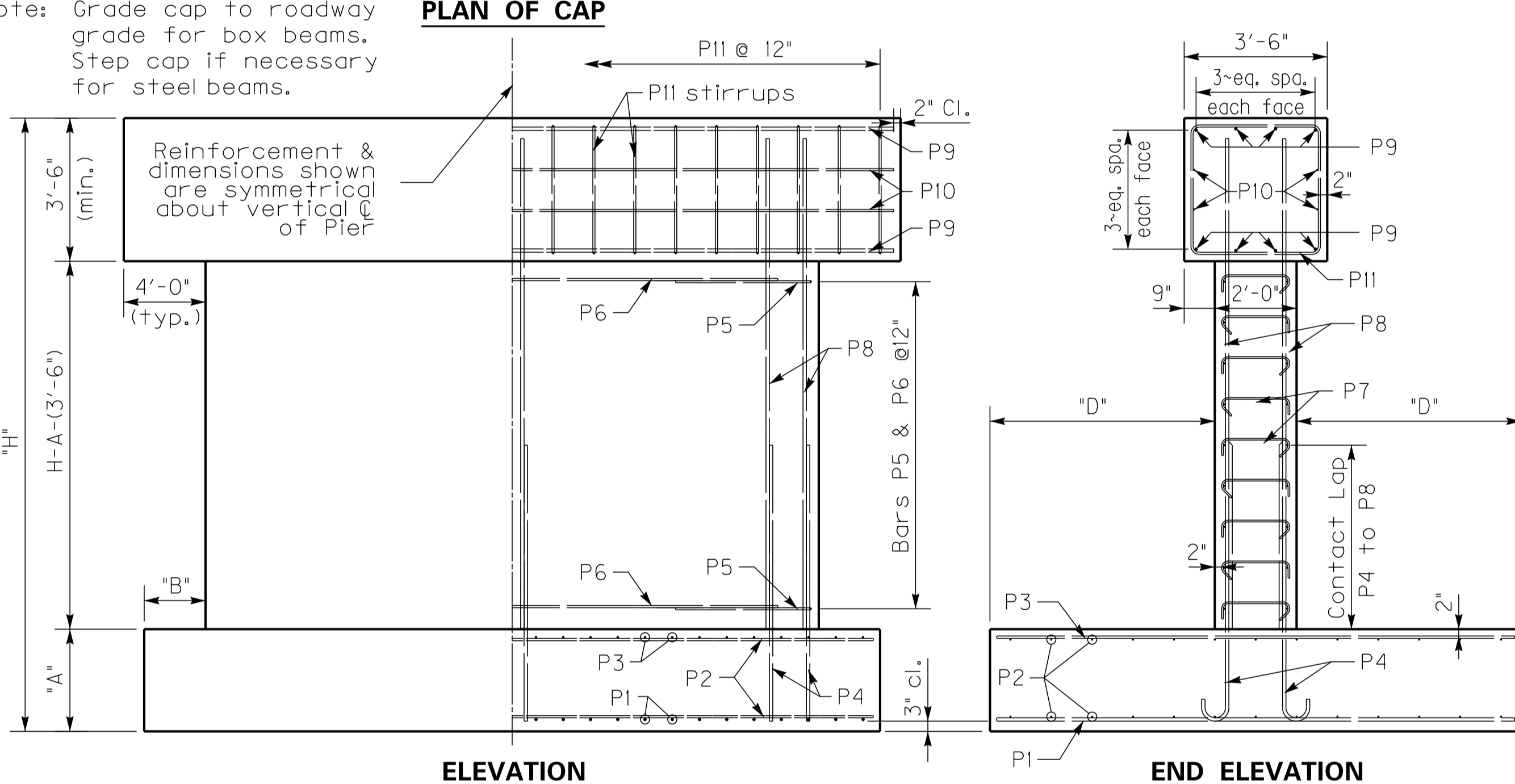
Note: All bars in cap shall be epoxy coated.

Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 1.5 cubic yd. for shorter height.

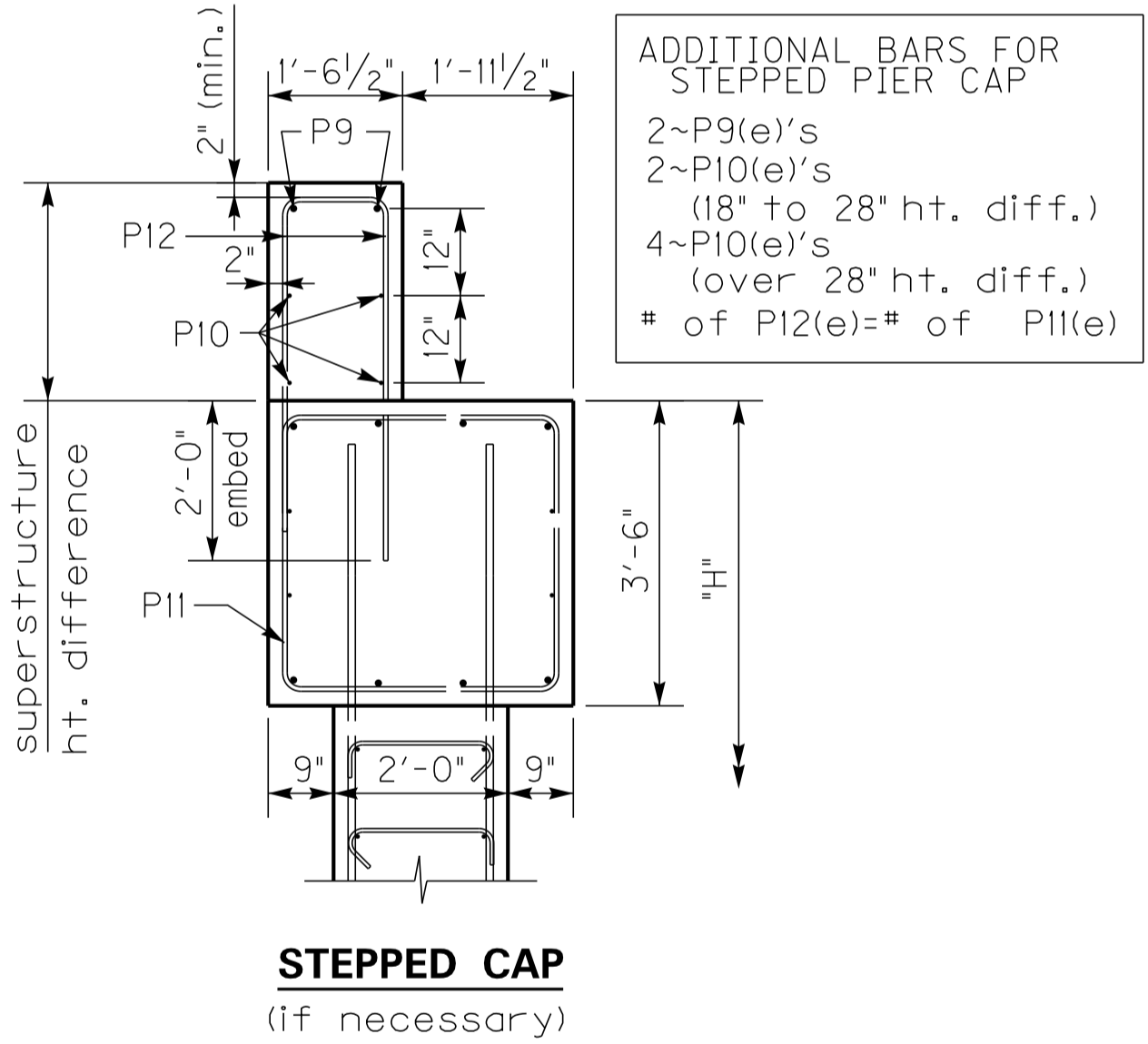


Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



ADDITIONAL BARS FOR STEPPED PIER CAP
 2~P9(e)'s
 2~P10(e)'s (18" to 28" ht. diff.)
 4~P10(e)'s (over 28" ht. diff.)
 # of P12(e) = # of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 17'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

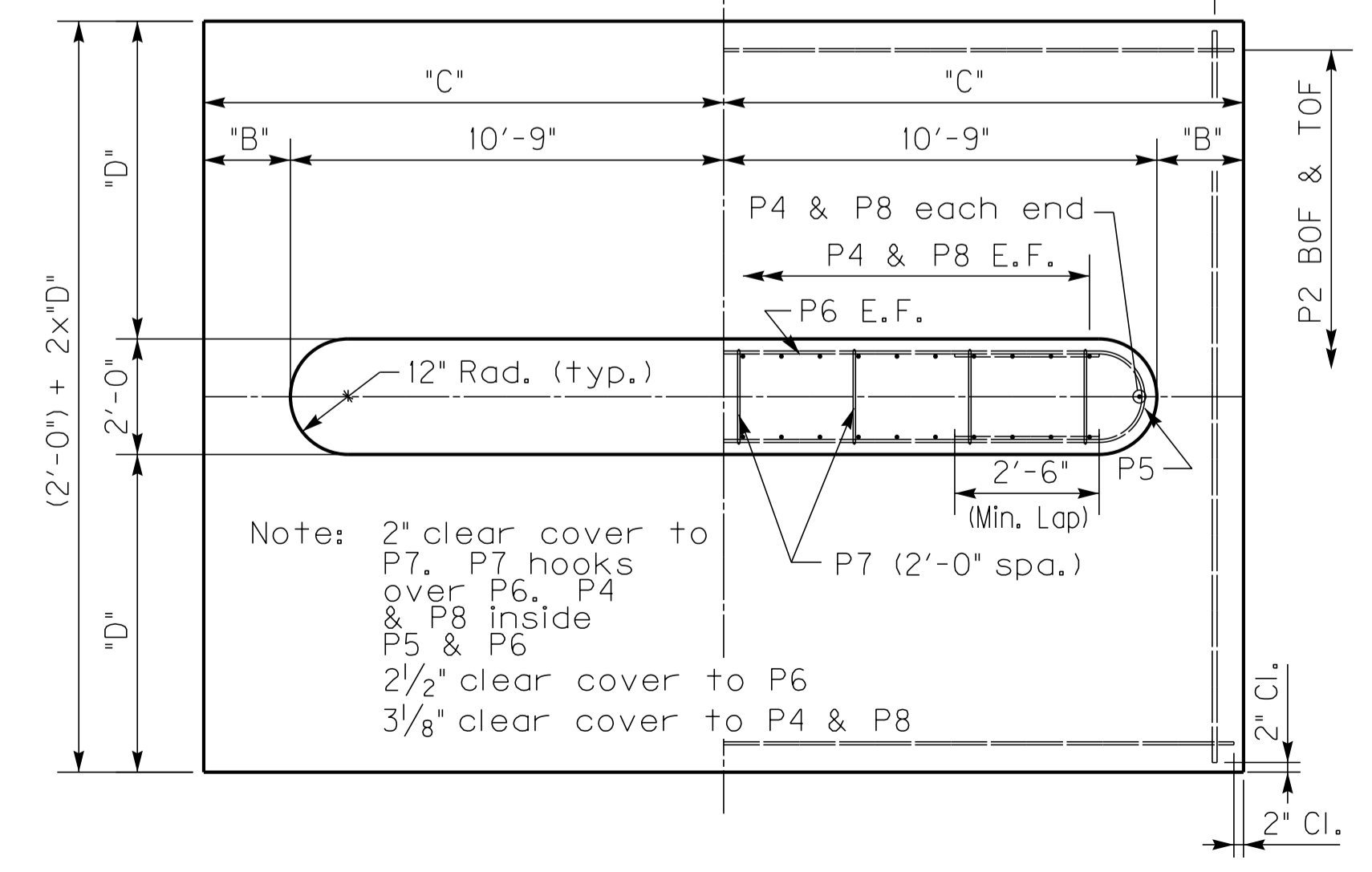
DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60



Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
 2 1/2" clear cover to P6
 3/8" clear cover to P4 & P8

PIER DETAILS

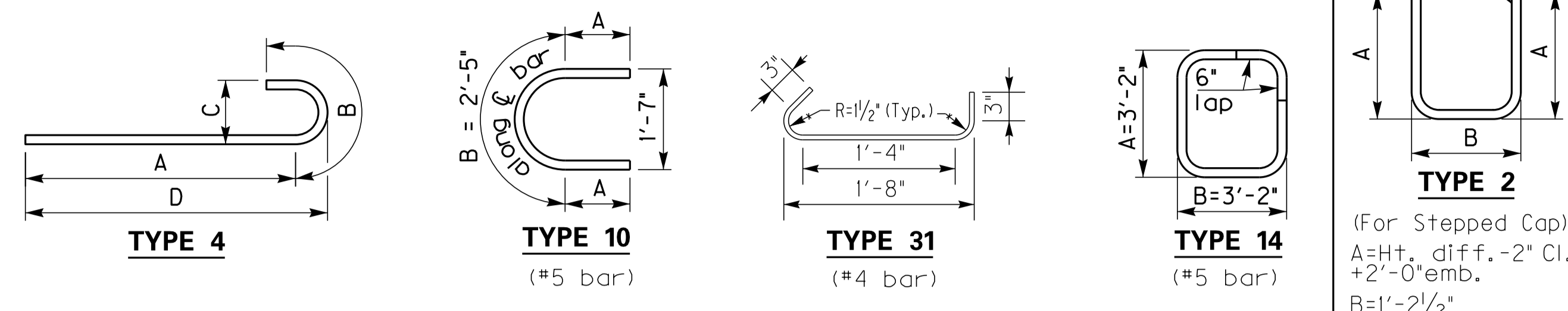
SKEW	WIDTH	DATE
45	16	July 2017

45° SKEW 24'-0" - 25'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)	
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14	Type 14		
SIZE	No.	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	
H	No.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	ft.	
10-11	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 14	5 7 5 12 2 6	10 5 30 6 12	80 2 5 94	8 8 0 8 8 8 40 2 4 40 2 40 13 2									
12-13	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 14	5 7 5 12 2 6	14 5 30 6 12	112 2 5 94	8 10 0 8 8 8 40 2 4 40 2 40 13 2									
14-15	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 18	5 7 5 12 2 6	18 5 30 6 12	144 2 5 94	8 12 0 8 8 8 40 2 4 40 2 40 13 2									
16-17	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 22	5 7 5 12 2 6	22 5 30 6 12	176 2 5 94	8 14 0 8 8 8 40 2 4 40 2 40 13 2									
18-19	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 26	5 7 5 12 2 6	26 5 30 6 12	208 2 5 94	8 16 0 8 8 8 40 2 4 40 2 40 13 2									
20-21	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 30	5 7 5 12 2 6	30 5 30 6 12	240 2 5 94	8 18 0 8 8 8 40 2 4 40 2 40 13 2									
22-23	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 34	5 7 5 12 2 6	34 5 30 6 12	272 2 5 94	8 20 0 8 8 8 40 2 4 40 2 40 13 2									
24-25	56	7 1/2	2 8	26	6 3/7	2 12	56	5 1/2	2 8	94	8 8	10 8	8 7 5 1 5 0 8 7 9 38	5 7 5 12 2 6	38 5 30 6 12	304 2 5 94	8 22 0 8 8 8 40 2 4 40 2 40 13 2									

Reinforcement Details

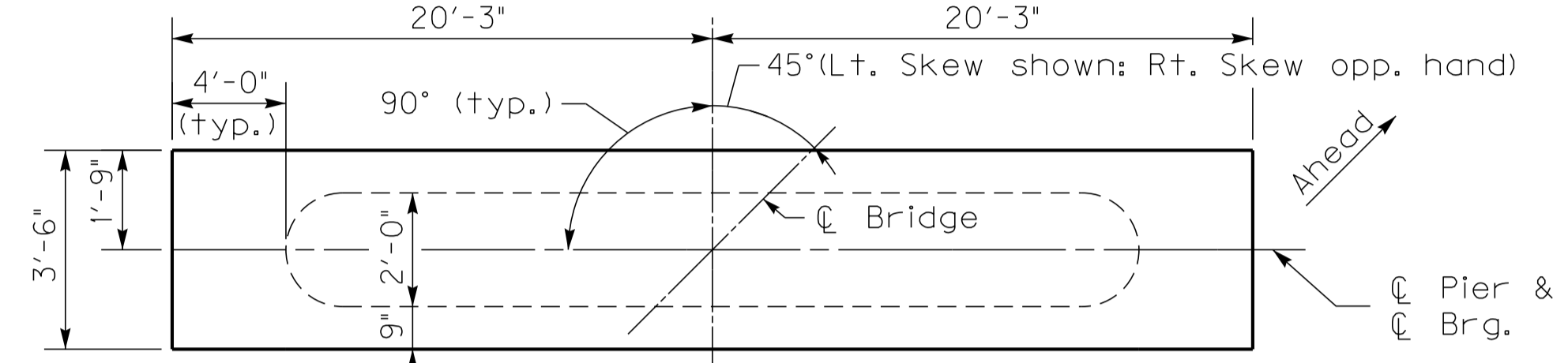


DIMENSIONS TABLE		QUANTITIES						
		CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT				
H	A	B	C	D	H	CU. YDS. (1)	LBS.	LBS.
10-11	2 6 2 6	18 9 5 3	10-11	74.4	1580	8329		
12-13	2 6 2 6	18 9 5 3	12-13	79.2	1580	9049		
14-15	2 6 2 6	18 9 5 3	14-15	83.9	1580	9757		
16-17	2 6 2 6	18 9 5 3	16-17	88.7	1580	10471		
18-19	2 6 2 6	18 9 5 3	18-19	93.4	1580	11184		
20-21	2 6 2 6	18 9 5 3	20-21	98.2	1580	11898		
22-23	2 6 2 6	18 9 5 3	22-23	102.9	1580	12612		
24-25	2 6 2 6	18 9 5 3	24-25	107.7	1580	13326		

Note: All bars in cap shall be epoxy coated.

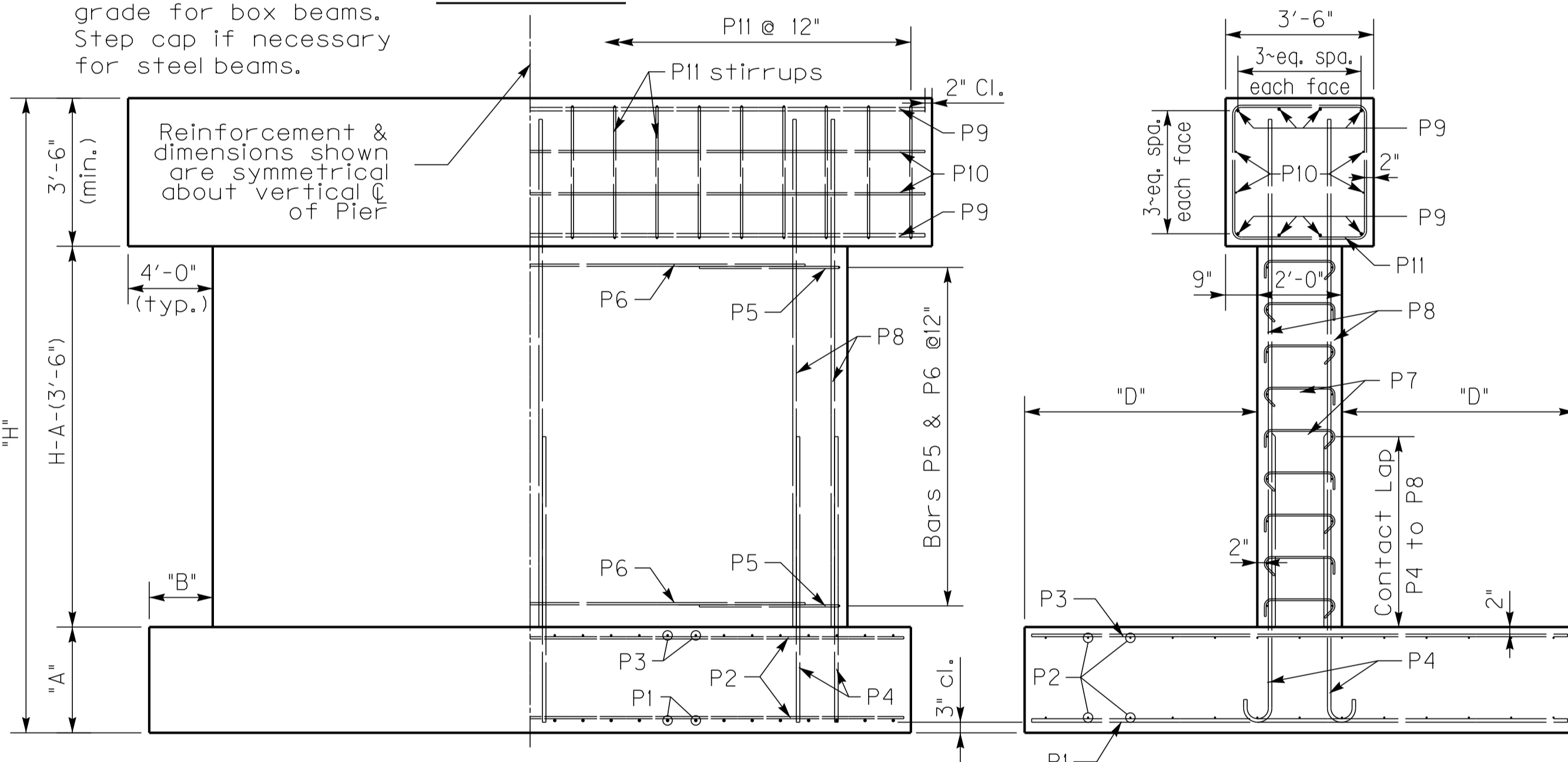
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 2.3 cubic yd. for shorter height.



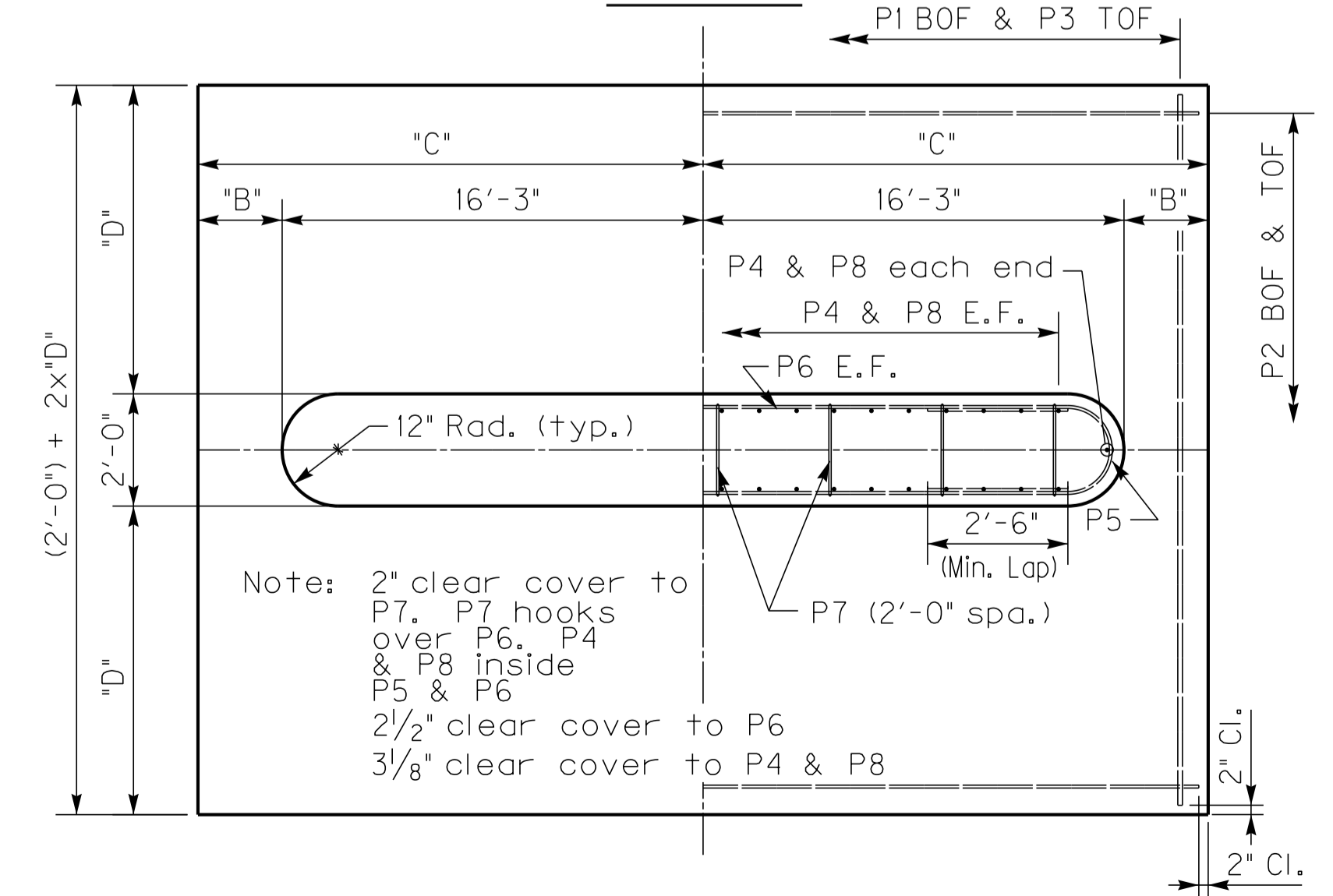
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.



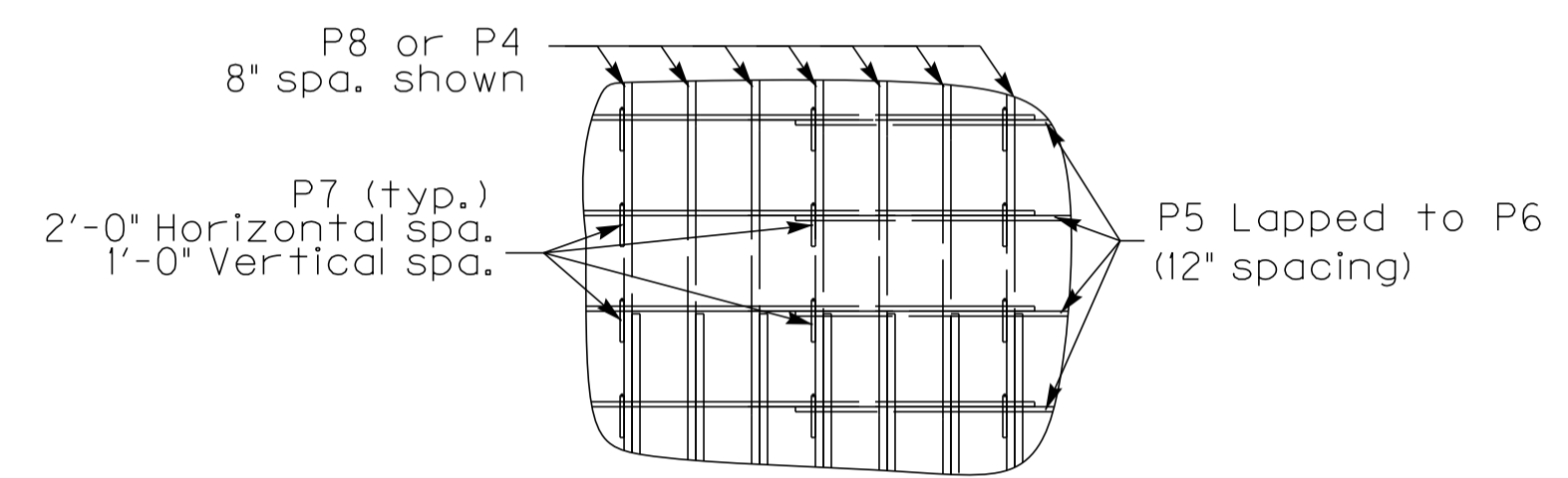
ELEVATION

END ELEVATION



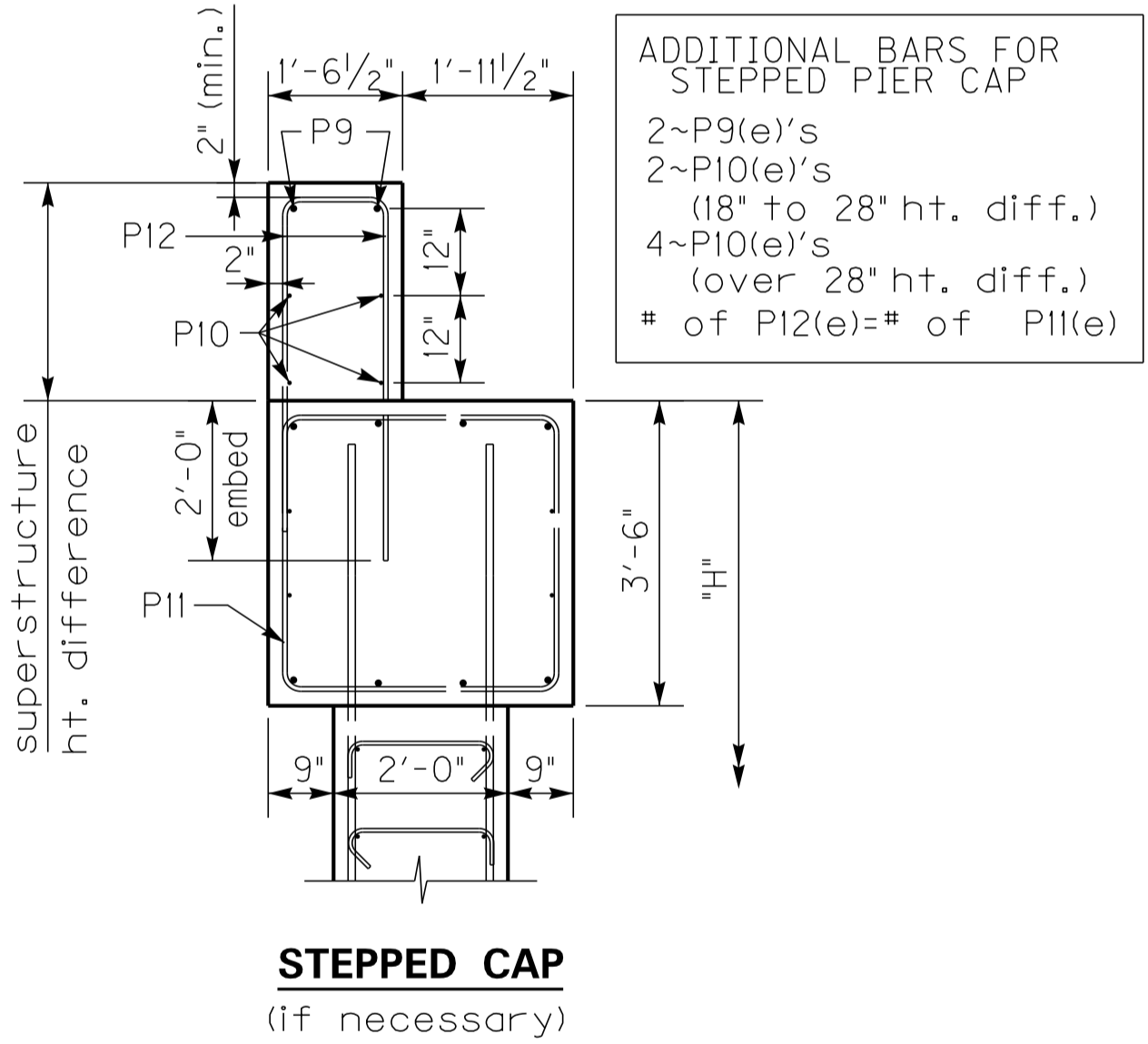
PLAN OF FOOTING

Note: 2" clear cover to P7. P7 hooks over P6. P4 & P8 inside P5 & P6
2 1/2" clear cover to P6
3/8" clear cover to P4 & P8



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
2~P9(e)'s
2~P10(e)'s (18" to 28" ht. diff.)
4~P10(e)'s (over 28" ht. diff.)
of P12(e) = # of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 25'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
Concrete, Class "A" = 3500 psi
Steel Reinforcement = Grade 60

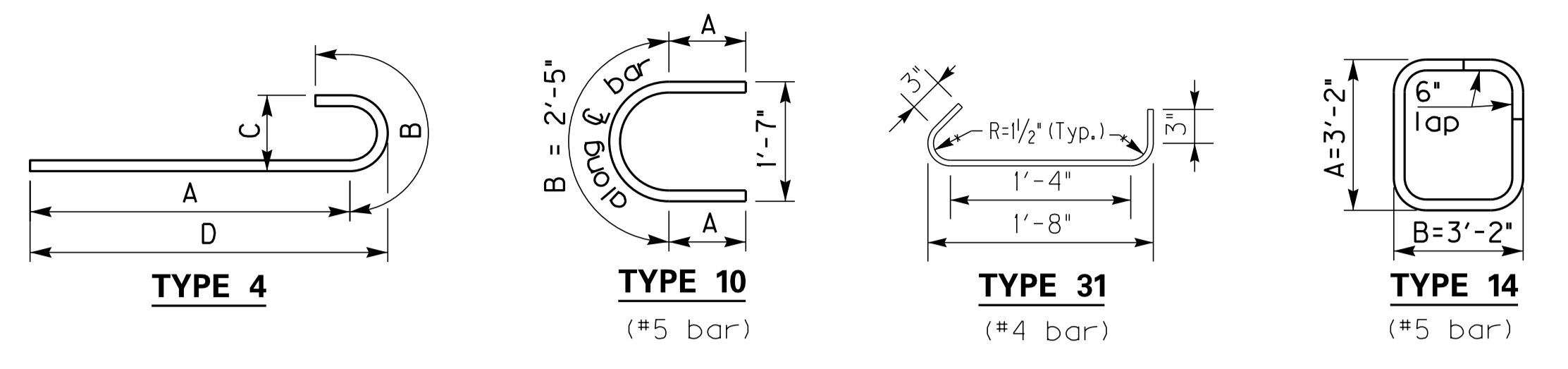
PIER DETAILS		
SKEW	WIDTH	DATE
45	24	July 2017

45° SKEW 32'-0" - 33'-6" BRIDGE WIDTH (No Seismic Load)

Bill of Reinforcement

MARK	P1		P2		P3		P4				P5				P6		P7		P8		P9(e)		P10(e)		P11(e)									
	TYPE	Str.	Str.	Str.	Type 4				Type 10				Str.	Type 31	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Str.	Type 14	Type 14										
SIZE	No.	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length	Length									
10-11	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 14	5 7	5 12	2 6	10	5 41	0 12	105	2 5	126	8 8	0 8	8 5	2 4	5 1	2 5	13	2
12-13	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 14	5 7	5 12	2 6	14	5 41	0 12	147	2 5	126	8 10	0 8	8 5	2 4	5 1	2 5	13	2
14-15	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 18	5 7	5 12	2 6	18	5 41	0 12	189	2 5	126	8 12	0 8	8 5	2 4	5 1	2 5	13	2
16-17	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 22	5 7	5 12	2 6	22	5 41	0 12	231	2 5	126	8 14	0 8	8 5	2 4	5 1	2 5	13	2
18-19	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 26	5 7	5 12	2 6	26	5 41	0 12	273	2 5	126	8 16	0 8	8 5	2 4	5 1	2 5	13	2
20-21	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 30	5 7	5 12	2 6	30	5 41	0 12	315	2 5	126	8 18	0 8	8 5	2 4	5 1	2 5	13	2
22-23	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 34	5 7	5 12	2 6	34	5 41	0 12	357	2 5	126	8 20	0 8	8 5	2 4	5 1	2 5	13	2
24-25	72	7 1/2	8 8	26	5 47	8 12	72	5 12	8 8	126	8 8	10 8	8 7	5 1	5 0	8 7	9 38	5 7	5 12	2 6	38	5 41	0 12	399	2 5	126	8 22	0 8	8 5	2 4	5 1	2 5	13	2

Reinforcement Details

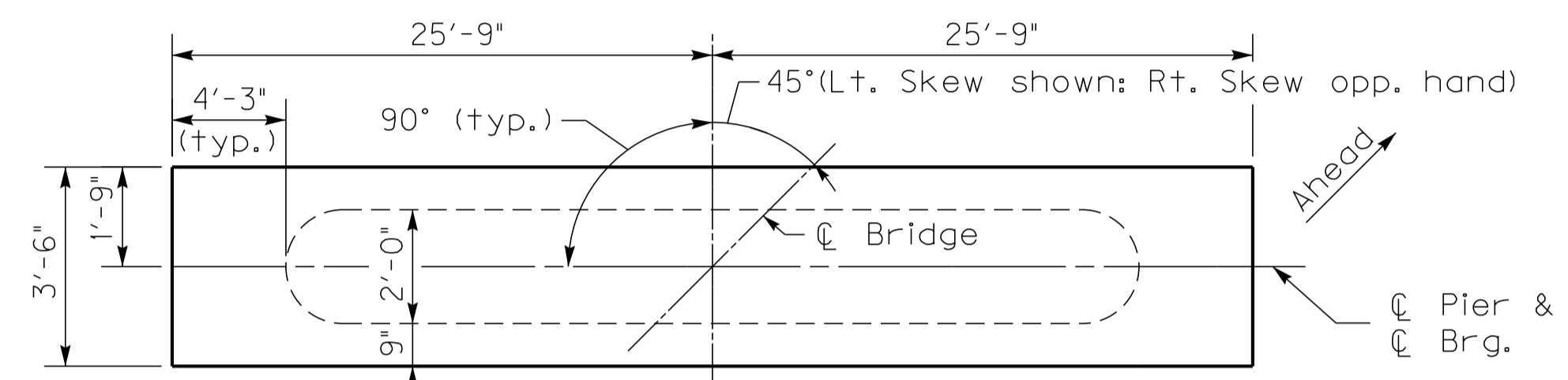


DIMENSIONS TABLE						QUANTITIES			
H	A	B	C	D	H	CONCRETE CLASS "A"	STEEL REINFORCEMENT EPOXY COATED	STEEL REINFORCEMENT	
						CU. YDS. (1)	LBS.	LBS.	
10-11	2 6	2 6	2 4	0 5	6	10-11	98.1	2013	10477
12-13	2 6	2 6	2 4	0 5	6	12-13	104.4	2013	11422
14-15	2 6	2 6	2 4	0 5	6	14-15	110.7	2013	12367
16-17	2 6	2 6	2 4	0 5	6	16-17	117	2013	13313
18-19	2 6	2 6	2 4	0 5	6	18-19	123.4	2013	14278
20-21	2 6	2 6	2 4	0 5	6	20-21	129.7	2013	15204
22-23	2 6	2 6	2 4	0 5	6	22-23	136	2013	16149
24-25	2 6	2 6	2 4	0 5	6	24-25	142.3	2013	17094

Note: All bars in cap shall be epoxy coated.

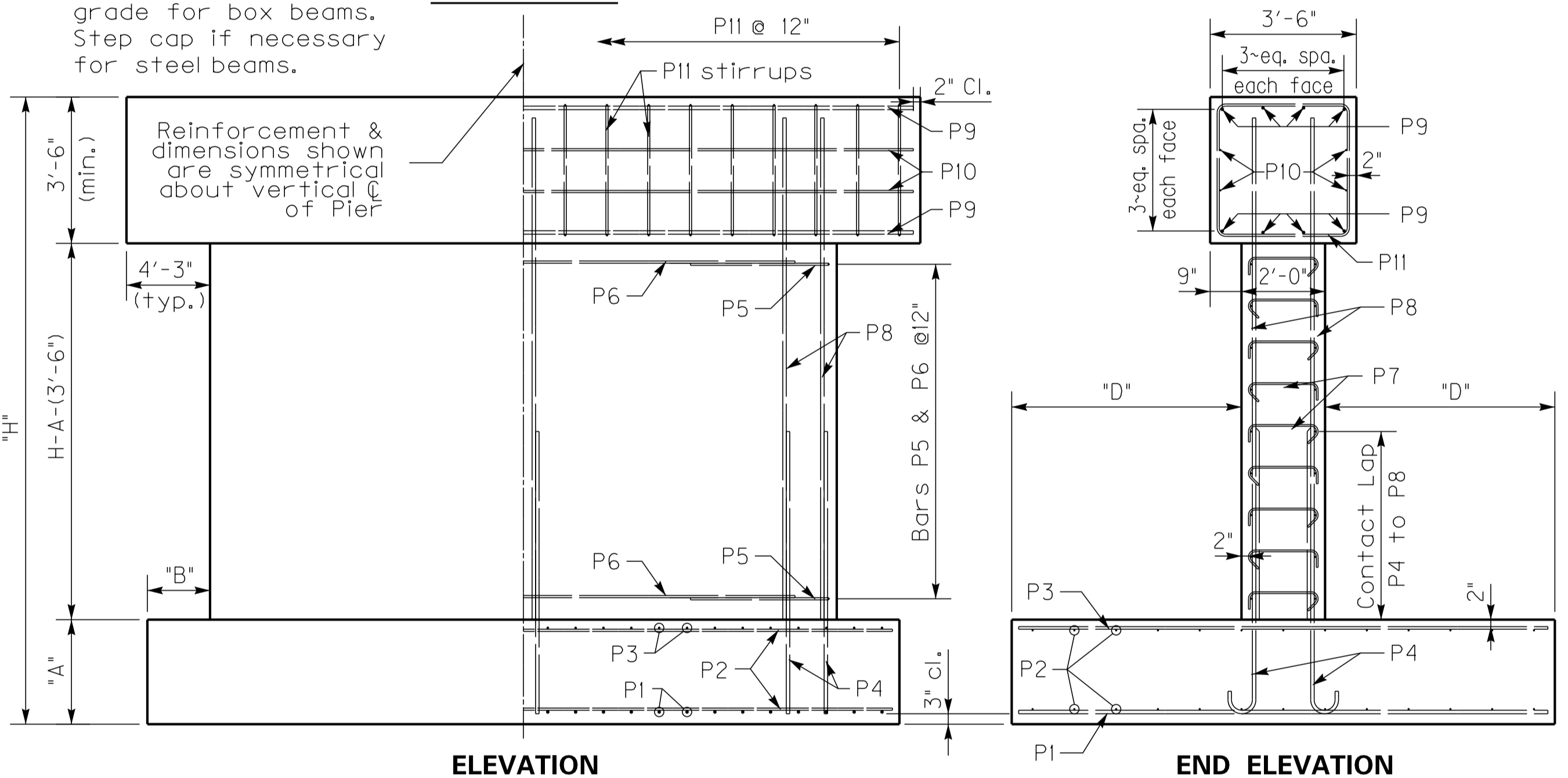
Note: All concrete shall be Class "A"

(1) Quantity is based on taller height. Reduce by 3.1 cubic yd. for shorter height.



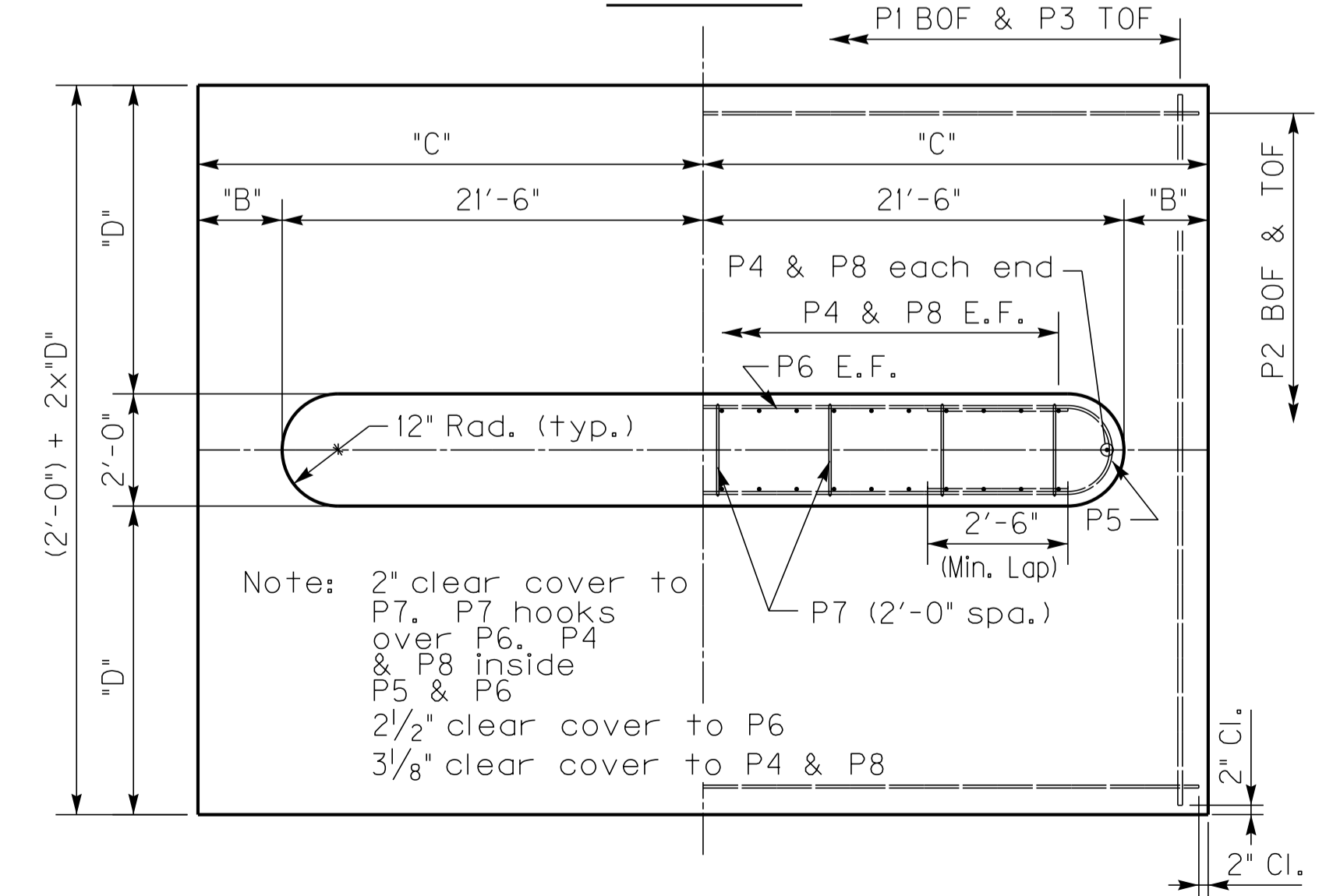
PLAN OF CAP

Note: Grade cap to roadway grade for box beams. Step cap if necessary for steel beams.

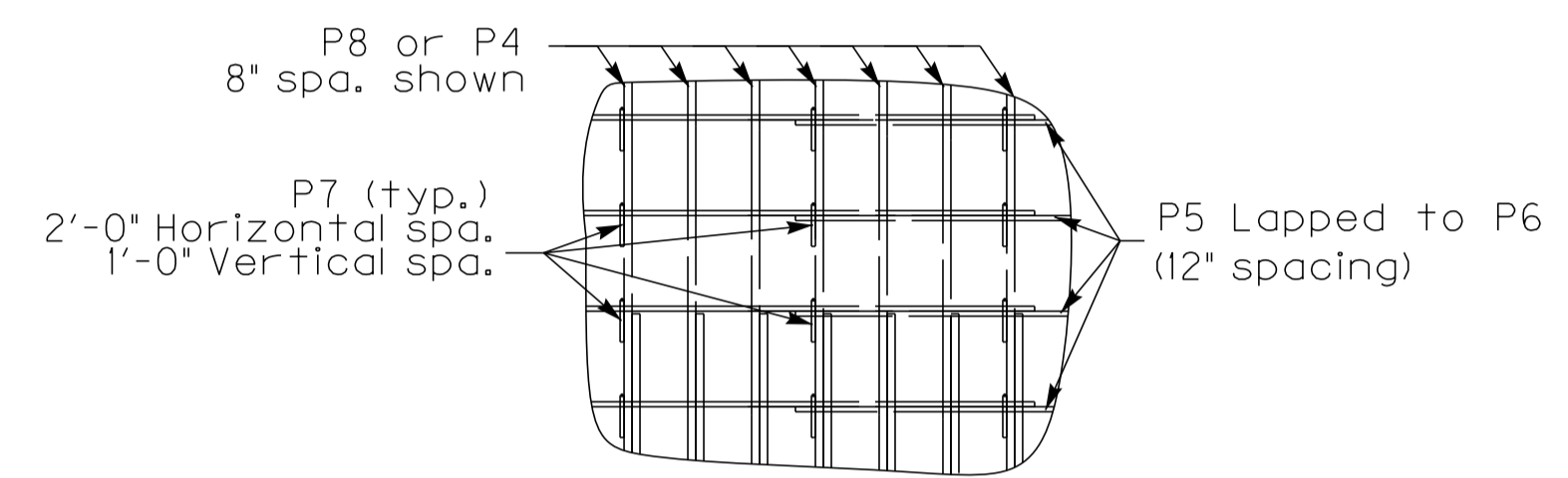


ELEVATION

END ELEVATION

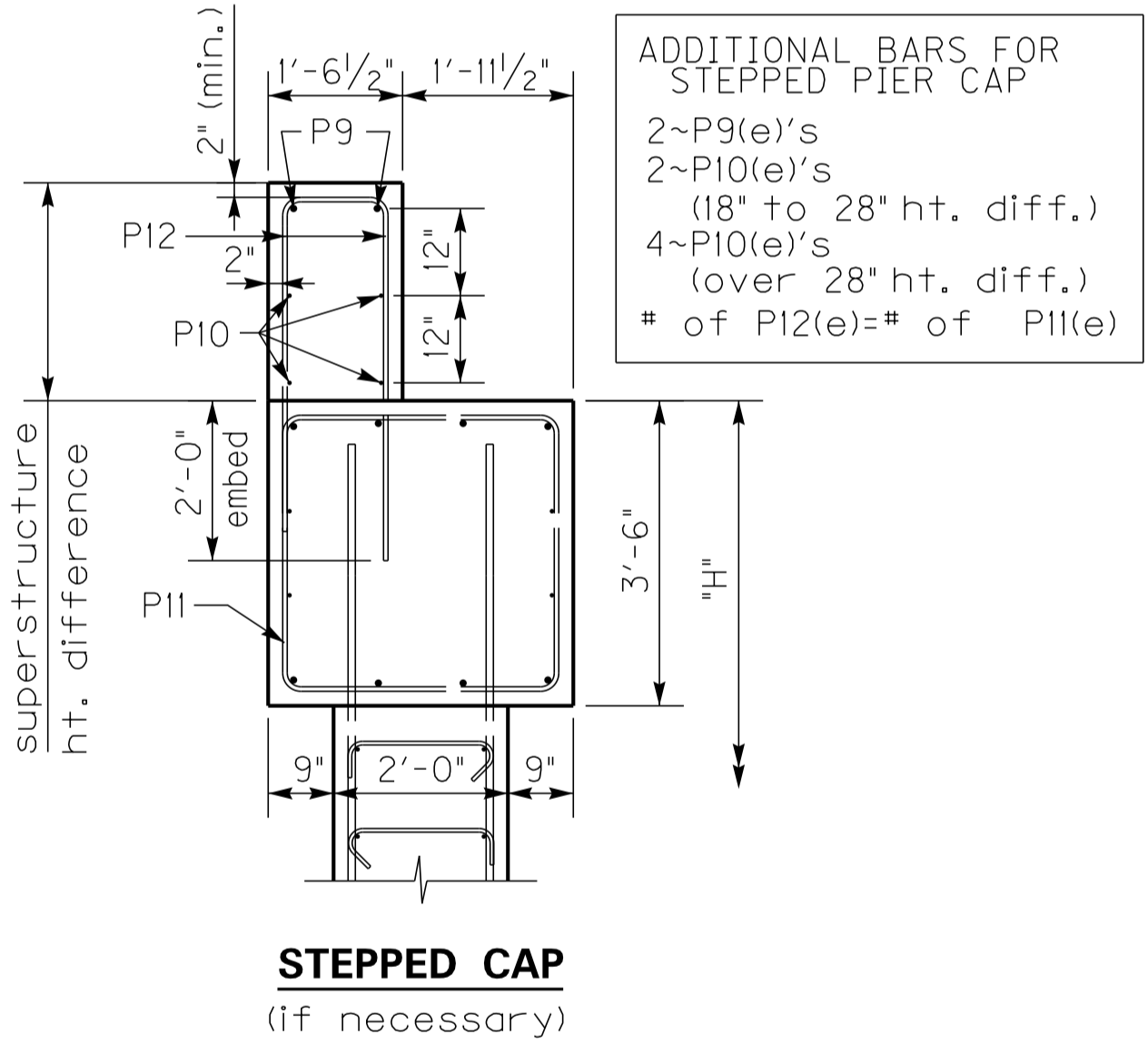


PLAN OF FOOTING



P7 BAR PLACEMENT

(alternate 90° & 135° bar ends)



STEPPED CAP

(if necessary)

ADDITIONAL BARS FOR STEPPED PIER CAP
 2~P9(e)'s
 2~P10(e)'s (18" to 28" ht. diff.)
 4~P10(e)'s (over 28" ht. diff.)
 # of P12(e)=# of P11(e)

GENERAL NOTES

SPECIFICATIONS: Construct piers according to the current edition of the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction. Piers are designed for side by side box beams as detailed in Standard Drawings BDP-001 through BDP-012, current edition. They may be slightly modified to allow for 33'-6" rolled steel beam bridge width.

FOUNDATION PRESSURE: Construct pier footings on solid rock bearing material that can support a pressure of 8000 psf service or 10,800 psf strength factored, as recommended by a geotechnical engineer.

DESIGN LOADS: Pier is designed for the CB42 beam superstructure with 3-97 foot spans. Pier is designed to handle a half a 97 foot span for thermal load with expansion bearings under the beams. Pier is designed for 100 mph wind. Wind on superstructure is for 1-97' span longitudinal and transverse. Pier is designed for stream flow of 10 ft./sec. up to the top of the pier. It is not designed for flow acting on the superstructure. Pier is not designed for earthquake loading.

DESIGN APPLICABILITY: Consult with a structural engineer to determine if these details are applicable for any particular project.

FOOTING ELEVATION: Construct bottom of footing below the anticipated scour elevation. (This typically entails embedding the footings 1'-0" to 2'-0" into rock and pouring concrete directly against cut rock faces, as recommended by geotechnical engineer.)

NOTE: Distances to bars shown are clear dimensions unless otherwise noted.

MATERIAL SPECIFICATIONS:
 Concrete, Class "A" = 3500 psi
 Steel Reinforcement = Grade 60

PIER DETAILS		
SKEW	WIDTH	DATE
45	32	July 2017