
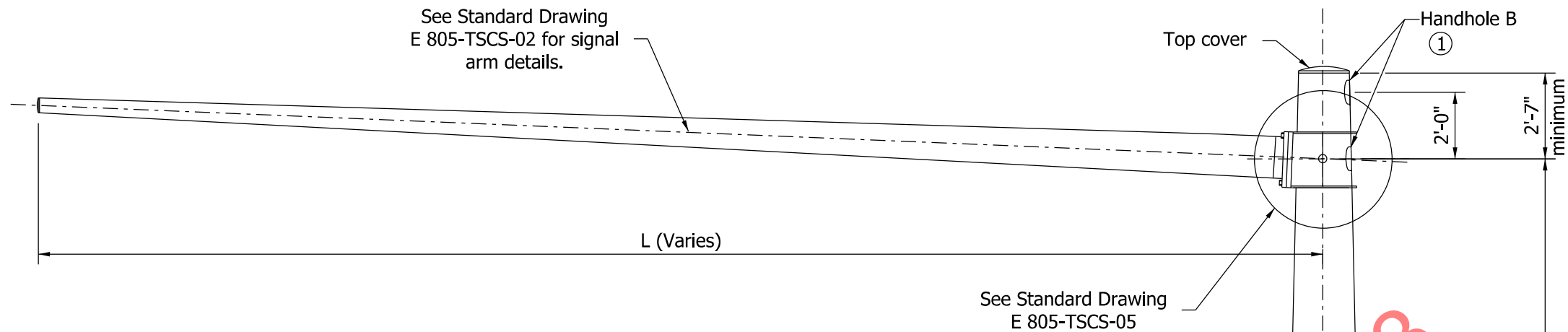
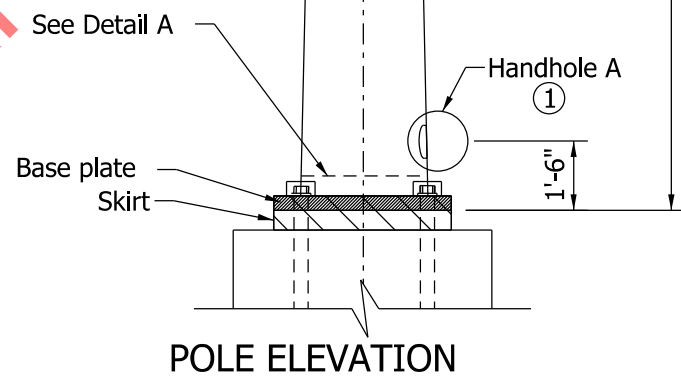
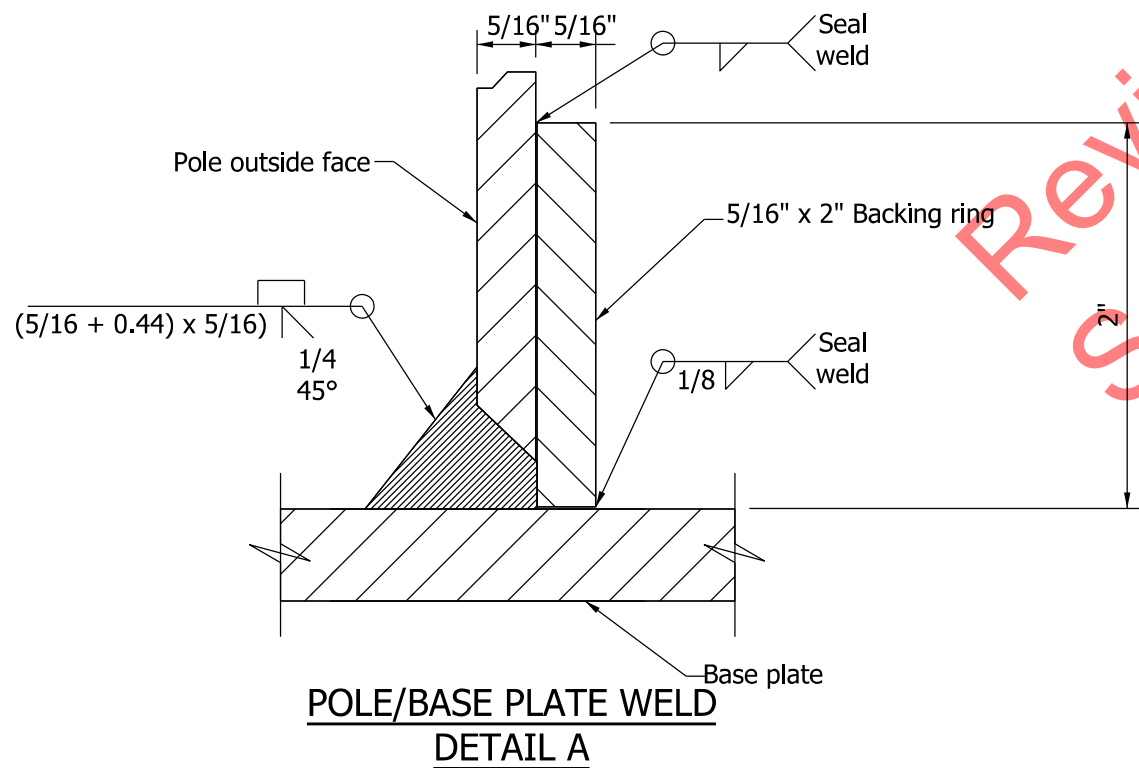


INDEX	
SHEET NO.	SUBJECT
1	Drawing Index
2	Single Signal Arm Pole Elevation, Dimensions, and Base Plate Weld Detail
3	Signal Arm Dimensions & Details
4	Signal Arm Pole Base Plate, Bottom Splice Plates, and Pole Top Cover Details
5	Signal Arm Connection Details
6	Handhole Details
7	Placement of Signals and Signs, Loading for Arm of 35' or Less
8	Placement of Signals and Signs, Loading for Arm of Greater Than 35' to 60'
9	Combination Pole Elevation, Dimensions, and Base Plate Weld Detail
10	Combination Arm Dimensions & Details
11	Combination Arm Connection Details
12	Combination Pole Splice Details for Arms 35' or Less
13	Combination Pole Splice Details for Arm of Greater Than 35' to 60'
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INDIANA DEPARTMENT OF TRANSPORTATION									
TRAFFIC SIGNAL CANTILEVER STRUCTURE DRAWING INDEX									
SEPTEMBER 2013									
STANDARD DRAWING NO. E 805-TSCS-01									
	<table><tr><td><i>/s/ Alfredo B. Hanza</i></td><td><i>02/05/13</i></td></tr><tr><td>DESIGN STANDARDS ENGINEER</td><td>DATE</td></tr><tr><td><i>/s/ Mark A. Miller</i></td><td><i>03/27/13</i></td></tr><tr><td>CHIEF ENGINEER</td><td>DATE</td></tr></table>	<i>/s/ Alfredo B. Hanza</i>	<i>02/05/13</i>	DESIGN STANDARDS ENGINEER	DATE	<i>/s/ Mark A. Miller</i>	<i>03/27/13</i>	CHIEF ENGINEER	DATE
<i>/s/ Alfredo B. Hanza</i>	<i>02/05/13</i>								
DESIGN STANDARDS ENGINEER	DATE								
<i>/s/ Mark A. Miller</i>	<i>03/27/13</i>								
CHIEF ENGINEER	DATE								



POLE DIMENSIONS		
CANTILEVER ARM LENGTH L	SECTION 1	
	BASE DIAMETER	WALL THICKNESS
15' to 35'	17"	5/16"
>35' to 60'	24"	5/16"



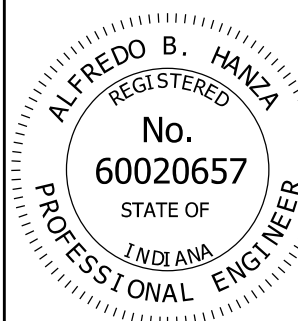
NOTES:

- ① See Standard Drawing E 805-TSCS-06 for handhole details.
2. See Standard Drawing E 805-SGGR-01 to -03 for grounding details.

INDIANA DEPARTMENT OF TRANSPORTATION

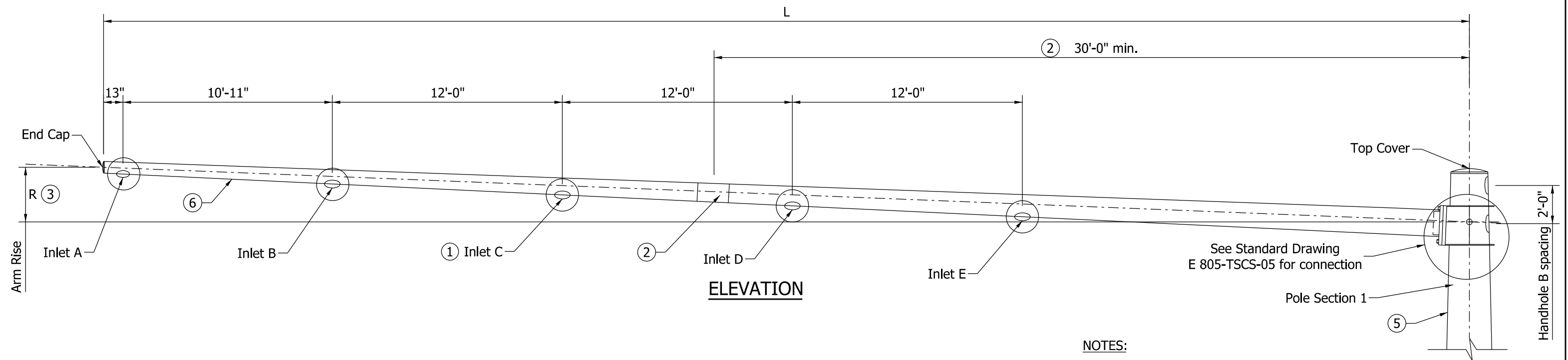
TRAFFIC SIGNAL CANTILEVER STRUCTURE
SINGLE SIGNAL ARM POLE ELEVATION,
DIMENSIONS, AND BASE PLATE WELD DETAIL
SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-02



/s/ *Alfredo B. Hanza* 02/05/13
DESIGN STANDARDS ENGINEER DATE

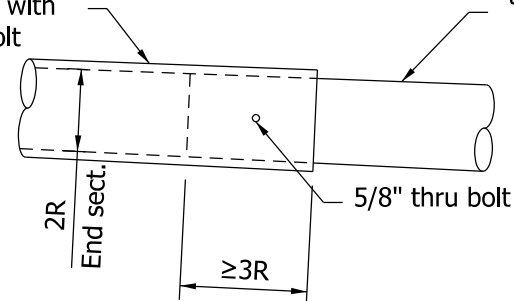
/s/ *Mark A. Miller* 03/27/13
CHIEF ENGINEER DATE



NOTES:

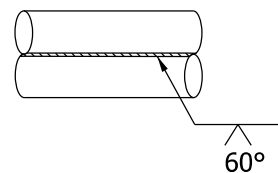
- ① Number of cable inlets depends on arm L (See Arm Dimensions Table). The inlet diameter shall be 1 3/4" with rubber grommet (Typ.)
- ② Optional splice can be used for arm length of greater than 40'. Field assembly shall achieve a snug tight joint, with minimum overlap not less than 1.5 times the inside dimension of the end section.
- ③ Arm rise R is measured in the undeflected position without vertical loads on the arm.
4. See Standard Drawings E 805-TSCS-07 and -08 for placement of signal and signs for each arm length.
- ⑤ If seam welds are used, the weld location for the arms shall be along the bottom, and on the side of pole as shown.

End section extension with wall thickness 3/16" min. and with drilled hole for 5/8" bolt



Base section with wall thickness 5/16" and field drilled hole for 5/8" bolt with curved washer and lock nut

② OPTIONAL ARM SPLICE DETAIL



⑤ TYPICAL SEAM WELD

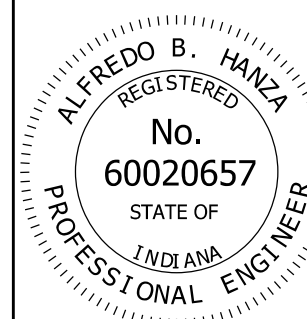
ARM DIMENSIONS TABLE				
L (ft.)	ARM DIAMETER AT POLE	ARM WALL THICKNESS (in.)	R (in.)	CABLE INLETS
15	8"	5/16"	7 1/2"	A, B
20	10"	5/16"	10"	A, B
25	11"	5/16"	1'-0 1/2"	A, B
30	13"	5/16"	1'-3"	A, B
35	14"	5/16"	1'-5 1/2"	A, B, C
40	15"	5/16"	1'-8"	A, B, C
45	17"	5/16"	1'-10 1/2"	A, B, C
50	19"	5/16"	2'-1"	A, B, C, D
55	20"	5/16"	2'-3 1/2"	A, B, C, D
60	21"	5/16"	2'-6"	A, B, C, D, E

INDIANA DEPARTMENT OF TRANSPORTATION

**TRAFFIC SIGNAL CANTILEVER STRUCTURE
SIGNAL ARM DIMENSIONS & DETAILS**

SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-03

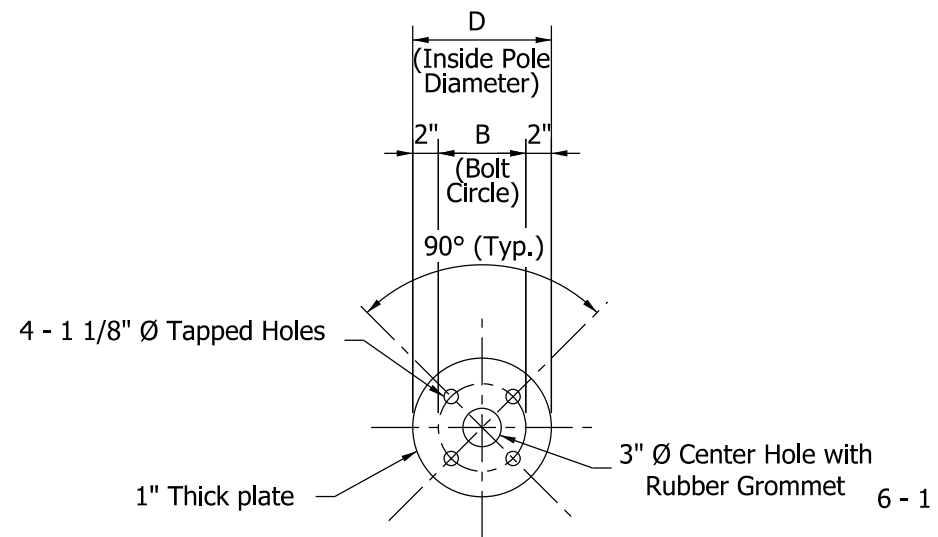


/s/ Alfredo B. Hanza 02/05/13

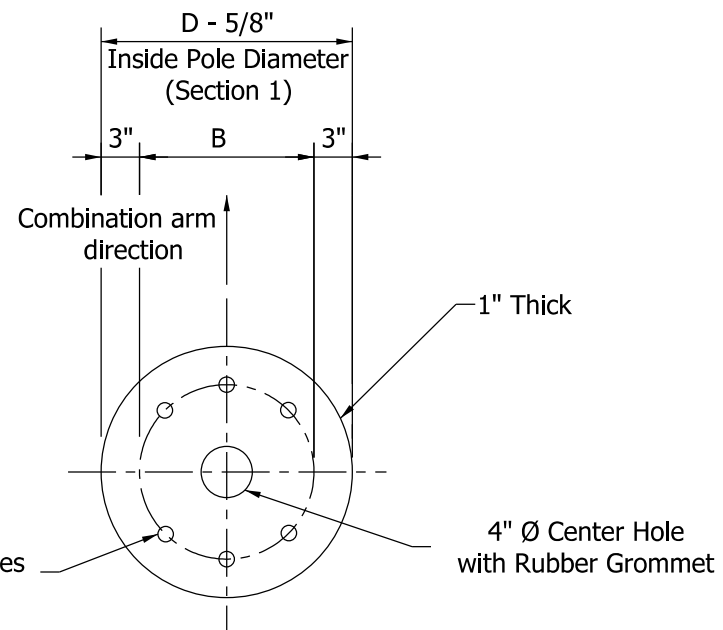
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

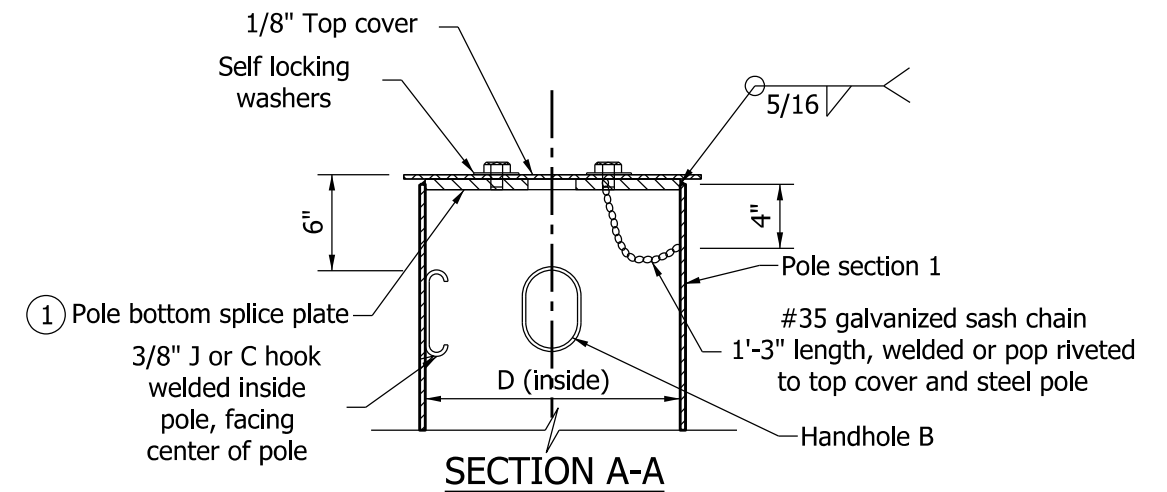
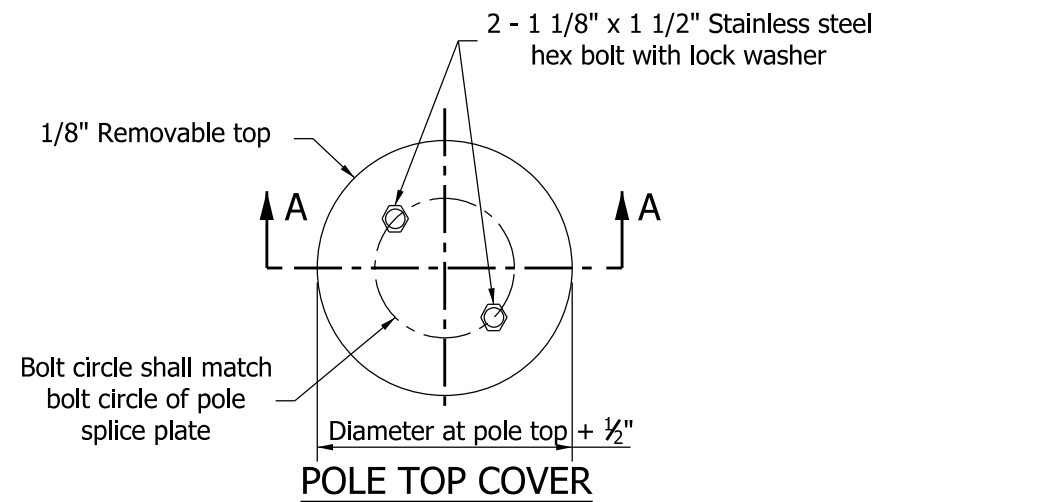
CHIEF ENGINEER DATE



① **BOTTOM SPLICE PLATE**
(For Cantilever Arm Length of 35' or Less)

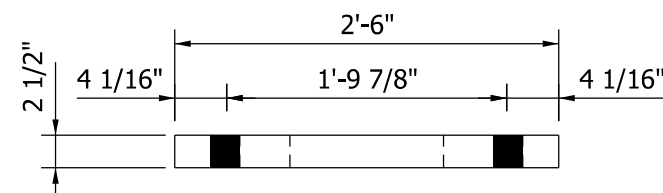
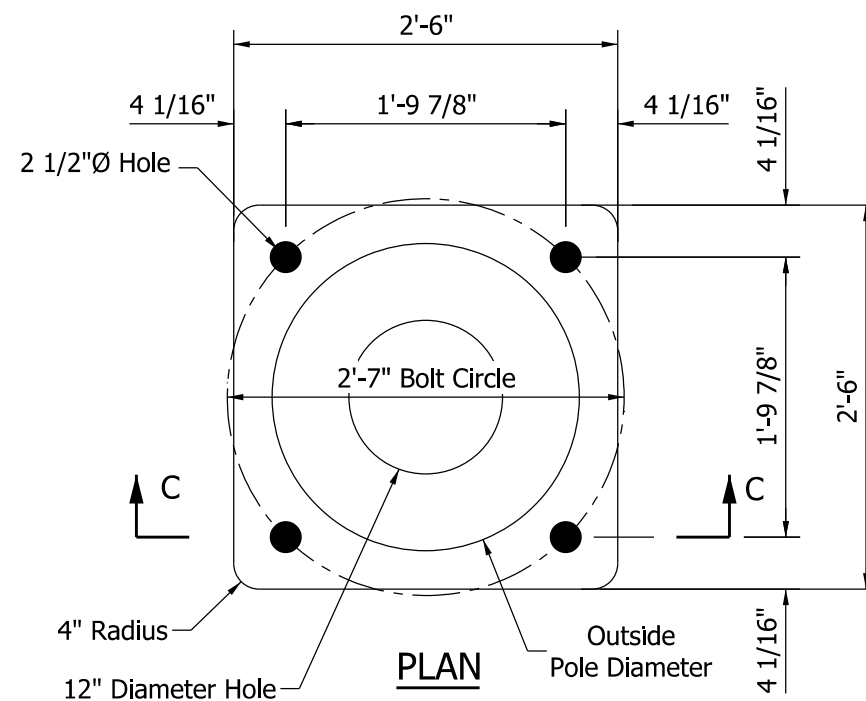
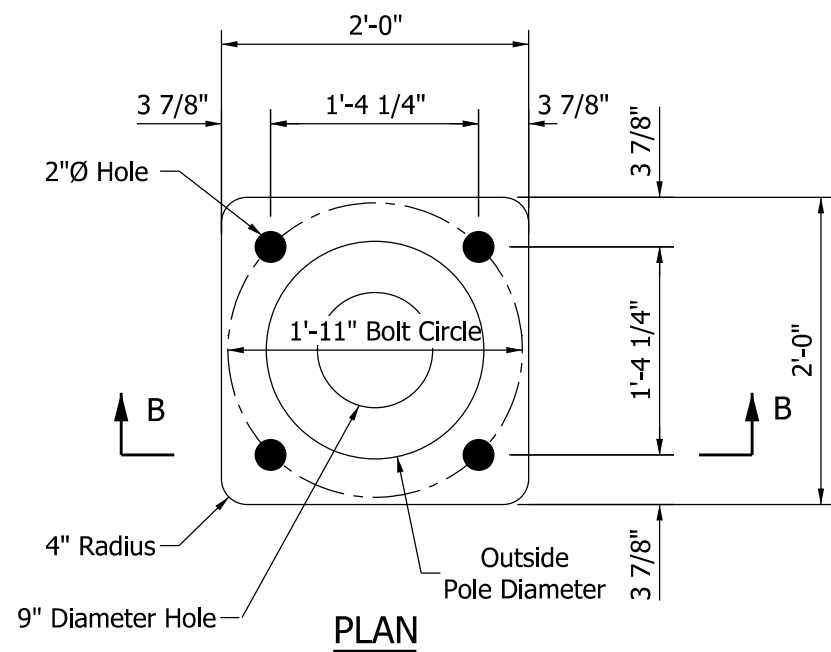


① **BOTTOM SPLICE PLATE**
(For Cantilever Arm Length Greater Than 35' to 60')



NOTES:

- ① See Standard Drawings E 805-TSCS-12 and -13 for bottom splice details.
2. Bolt circle shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.

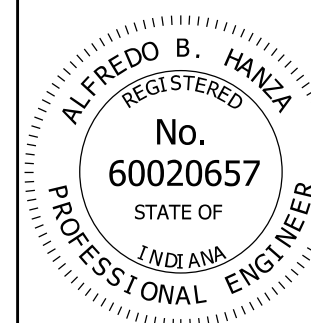


SECTION C-C
BASE PLATE B

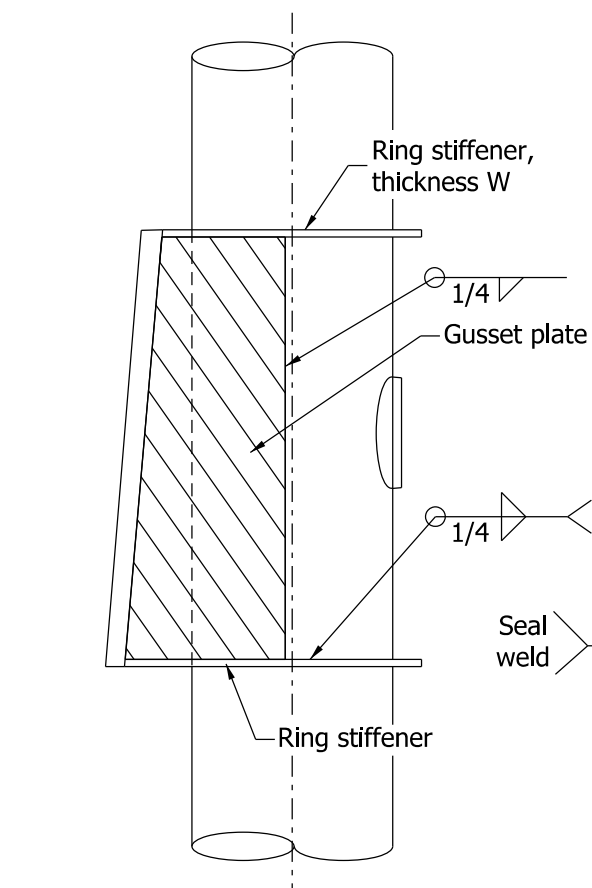
INDIANA DEPARTMENT OF TRANSPORTATION

**TRAFFIC SIGNAL CANTILEVER STRUCTURE
SIGNAL ARM POLE BASE PLATE, BOTTOM
SPLICE PLATES, AND POLE TOP COVER DETAILS
SEPTEMBER 2013**

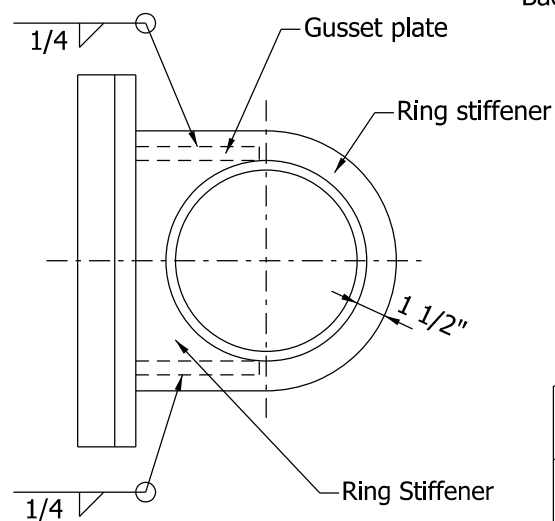
STANDARD DRAWING NO. E 805-TSCS-04



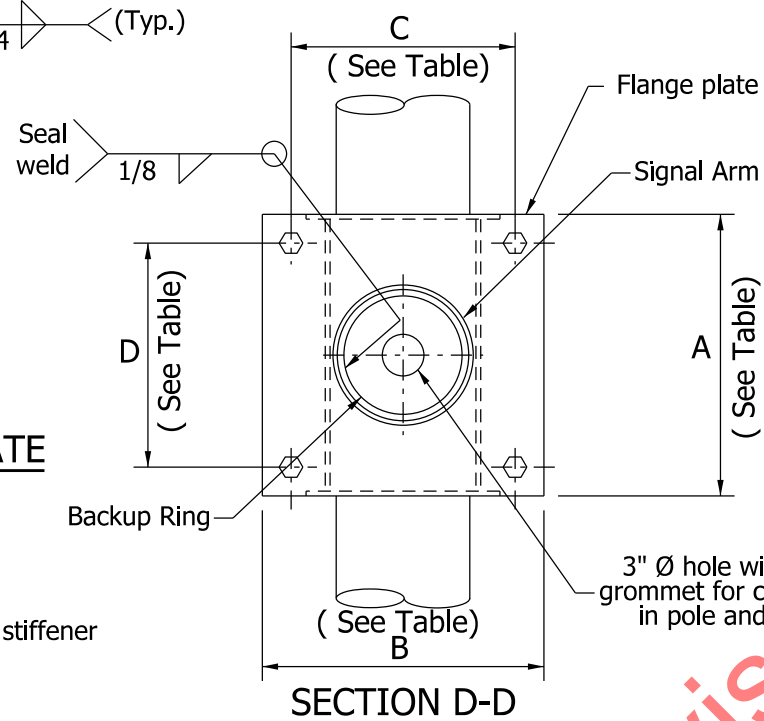
/s/ Alfredo B. Hanza	03/26/13
DESIGN STANDARDS ENGINEER	DATE
/s/ Mark A. Miller	03/27/13
CHIEF ENGINEER	DATE



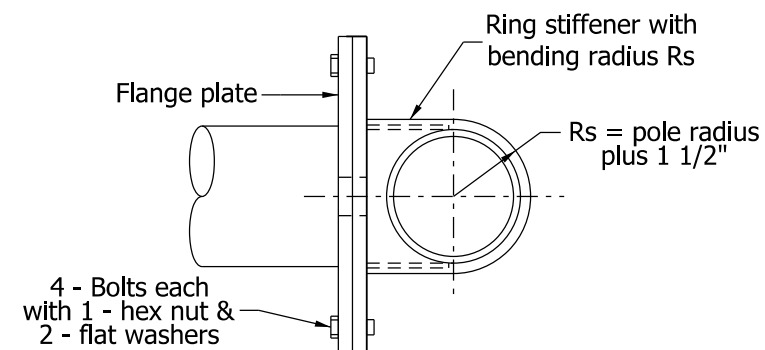
ELEVATION OF GUSSET PLATE



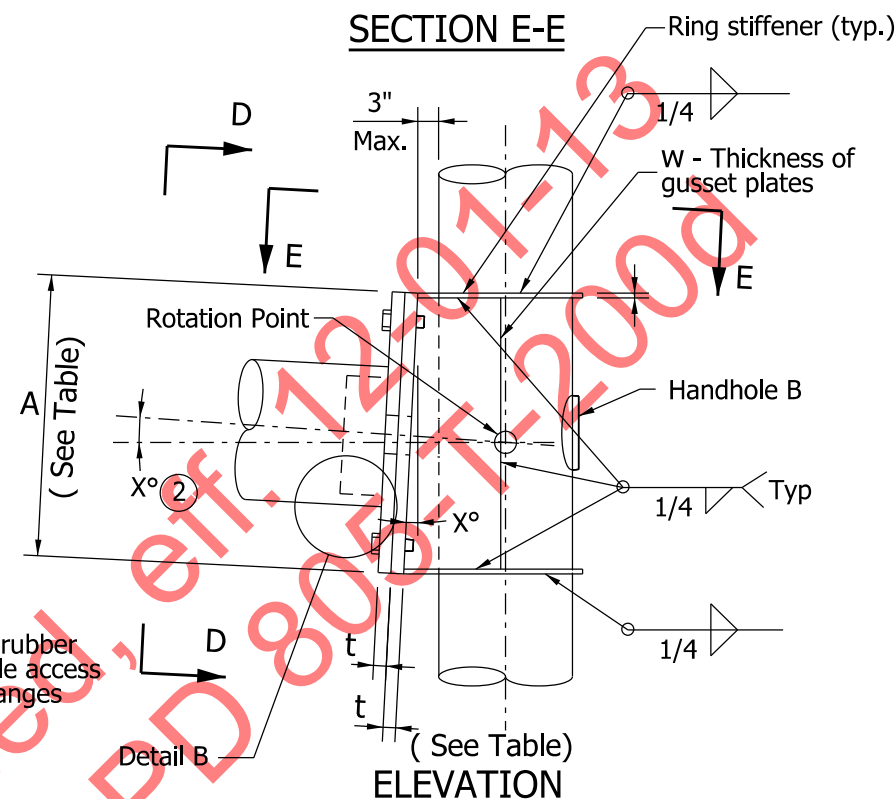
TOP OF GUSSET PLATE



SECTION D-D



SECTION E-E

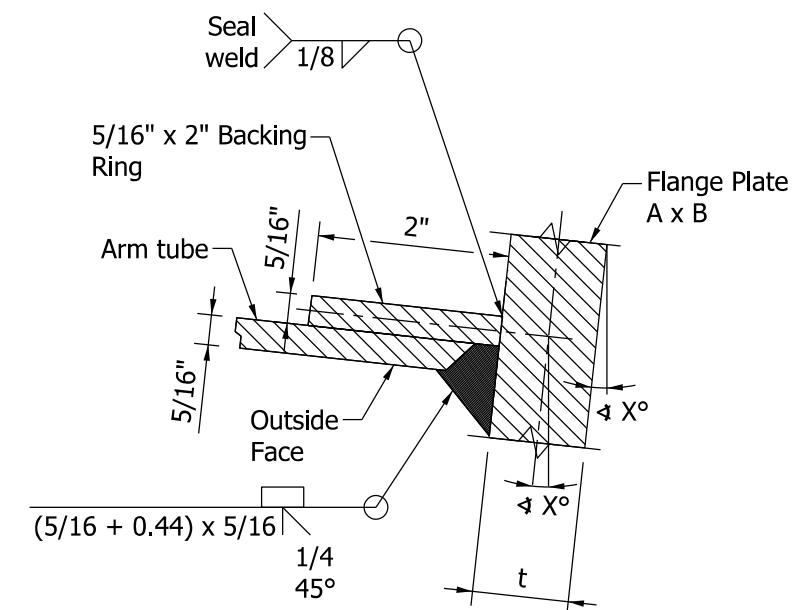


SIGNAL ARM CONNECTION DETAIL

PLATES AND BOLTS FOR SIGNAL SINGLE ARM CANTILEVER					
ARM LENGTH	FLANGE PLATE A x B	BOLT PATTERN C x D	RING STIFFNER GUSSET PLATE W	FLANGE PLATE THICKNESS t	BOLT
15' TO 35'	22" X 22"	17 1/2" X 17 1/2"	3/8"	1 1/2"	1 1/8" - 7 UNC x 4 1/4" LONG
>35' TO 60'	33" X 33"	27 1/2" X 27 1/2"	1/2"	1 3/4"	1 1/2" - 6 UNC x 6 1/4" LONG

NOTES:

- See Standard Drawing E 805-TSCS-06 for Handhole B details.
- The required signal arm rise shall be built into the gusset plate at the angle X. The angle X is described as arc tan R/L, where R is the arm rise and L is the arm length. Both R and L vary and are listed in the Arm Dimension Table on Standard Drawing E 805-TSCS-03.



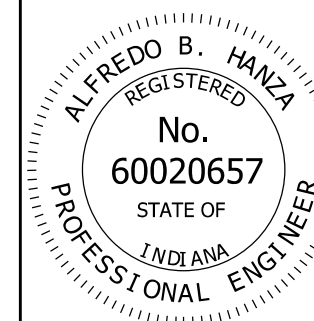
DETAIL B - ARM WELD

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
SIGNAL ARM CONNECTION DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-05

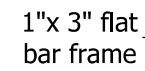


/s/ Alfredo B. Hanza 02/05/13

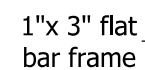
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

CHIEF ENGINEER DATE

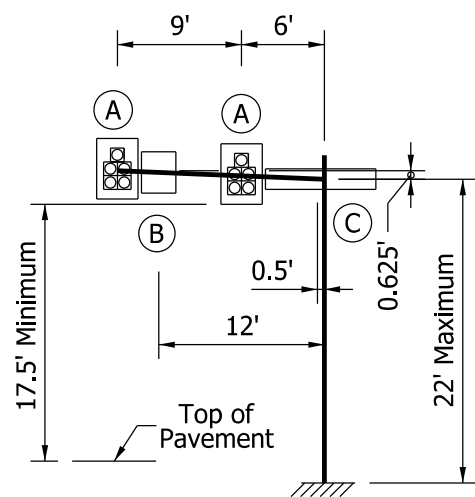


- 1 Handhole A shall be used at the base of the pole. Handhole B shall be used at all other locations.
- ② In lieu of fabricated handhole frame as shown, frame may be cut from 3" plate with rolling direction vertical.
- 3 See Standard Drawings E 805-TSCS-02 and -09 for handhole locations.

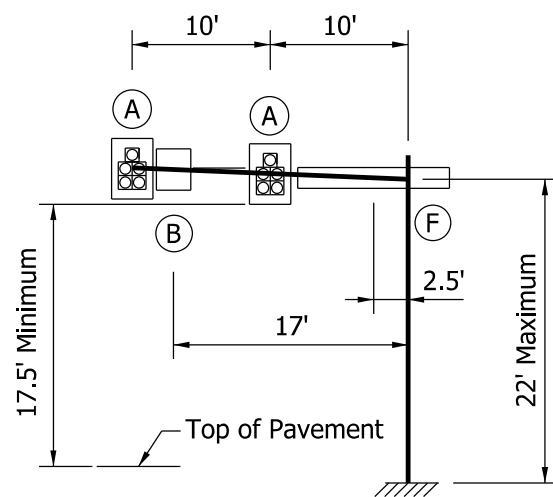


ALFREDO B. HANZA
REGISTERED
No.
60020657
STATE OF
INDIANA
PROFESSIONAL ENGINEER

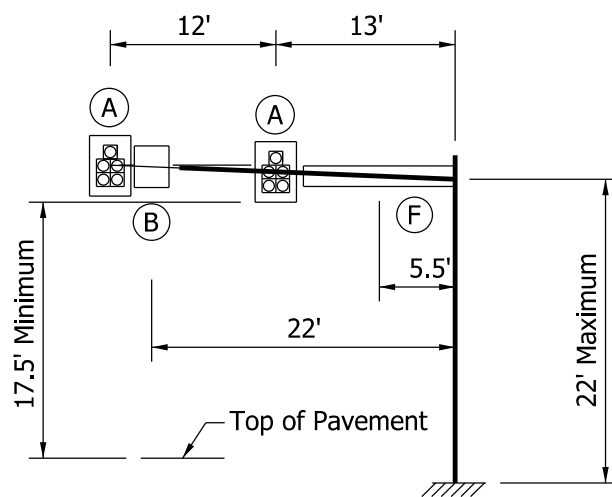
CHIEF ENGINEER	DATE
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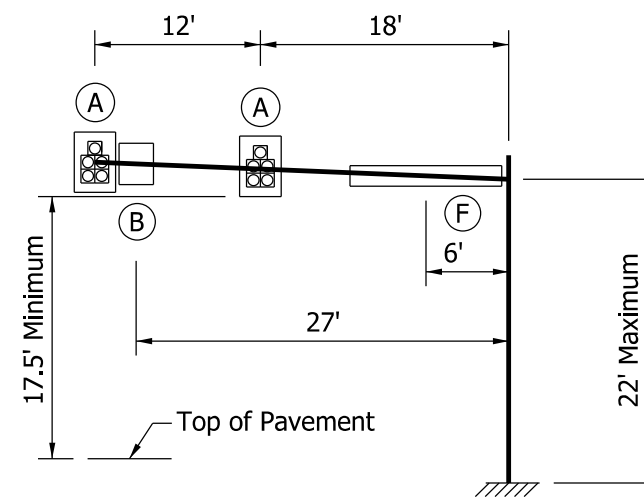
15' ARM



20' ARM



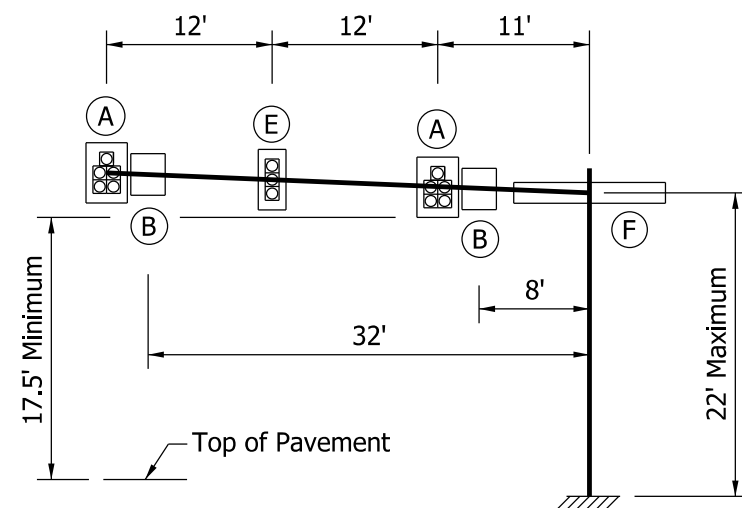
25' ARM



30' ARM

NOTE:

1. The structure arms and pole are designed for the above loading conditions. Foundation types A and C are designed for arms having length of 35 ft or less. See Standard Drawings E 805-TSCS-16 and -18 for foundation types A and C.



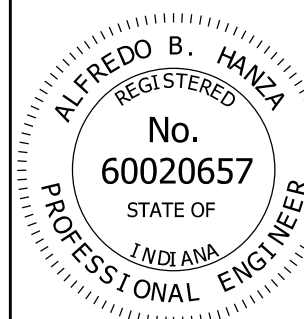
35' ARM

LEGEND	
Device	Description
(A)	12" - 5 Section Signal Head With Backplates
(B)	36" x 30" Regulatory Sign
(C)	18" x 96" Street Name Sign
(E)	12" - 3 Section Signal Head With Backplates
(F)	18" x 132" Street Name Sign

INDIANA DEPARTMENT OF TRANSPORTATION

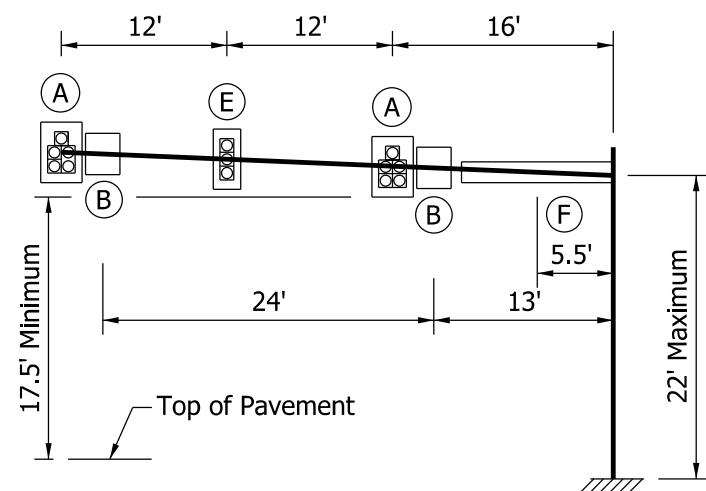
**TRAFFIC SIGNAL CANTILEVER STRUCTURE
PLACEMENT OF SIGNALS AND SIGNS
LOADING FOR ARM OF 35' OR LESS
SEPTEMBER 2013**

STANDARD DRAWING NO. E 805-TSCS-07

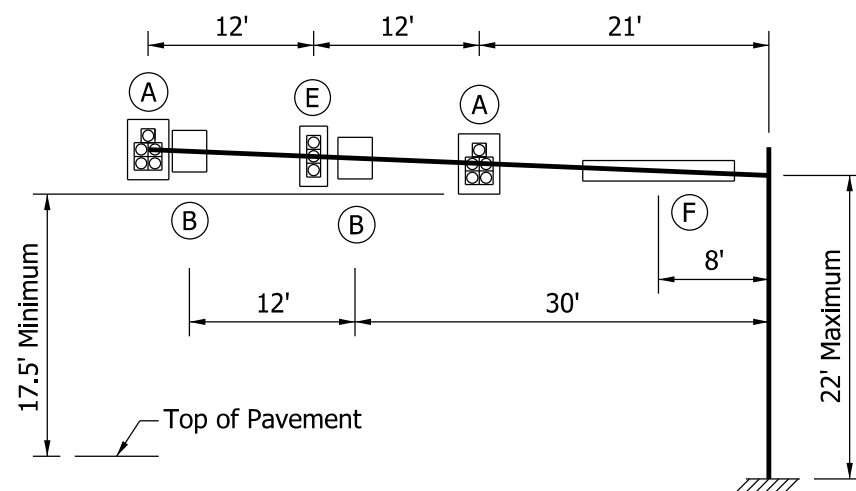


/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE

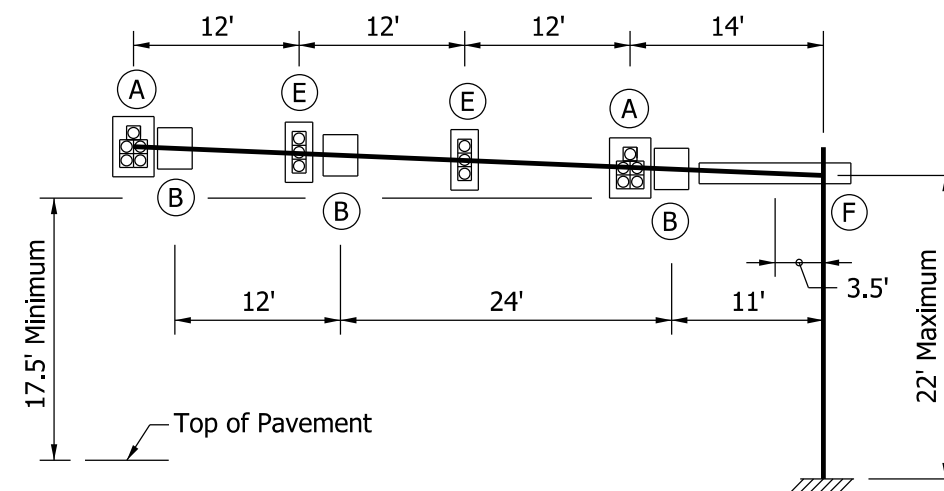
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



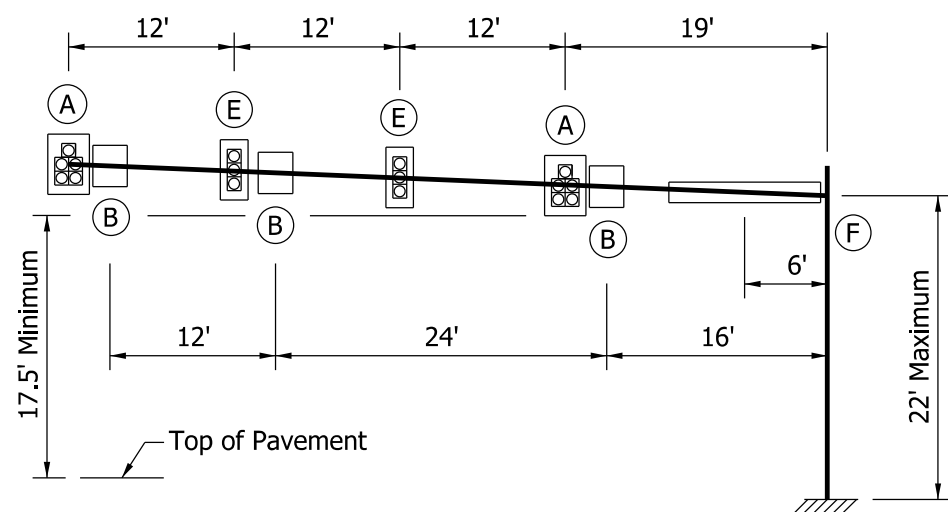
40' ARM



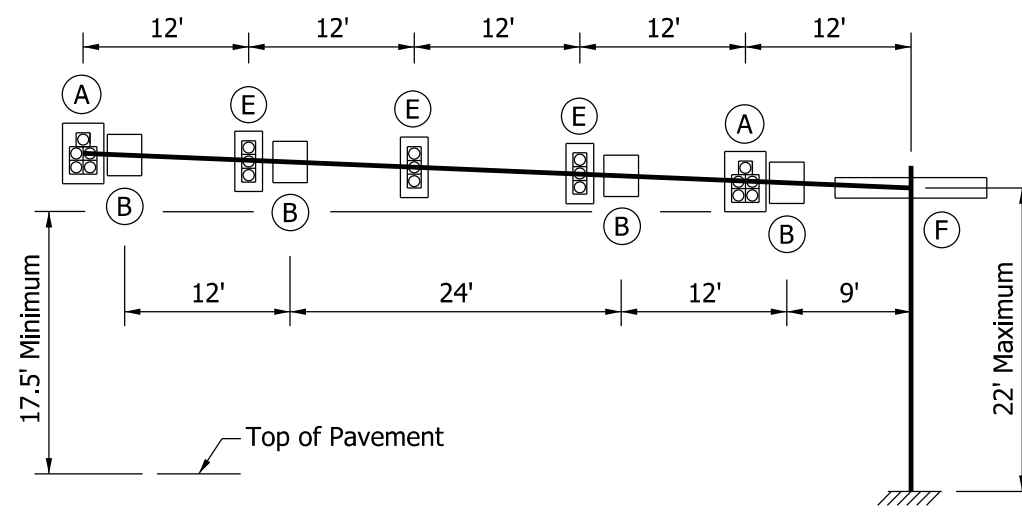
45' ARM



50' ARM



55' ARM

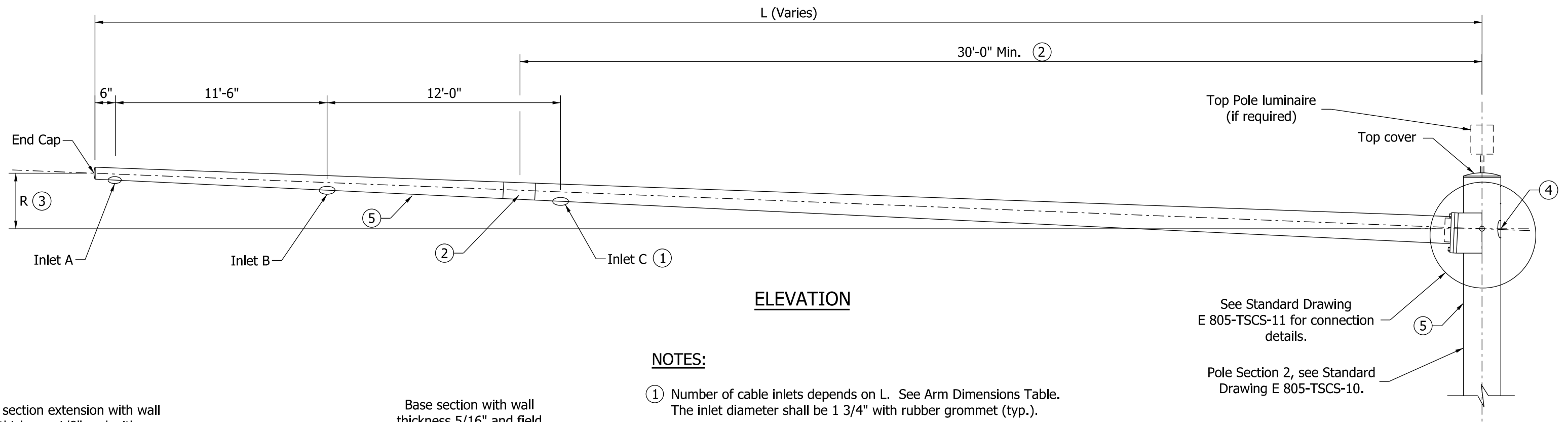


60' ARM

NOTES:

1. See Standard Drawing E 805-TSCS-07 for Legend.
2. The structure arms and pole are designed for the above loading conditions. Foundation types B and D are designed for arms having length of greater than 35 ft to 60 ft. See Standard Drawings E 805-TSCS-17 and -19 for foundation types B and D.

INDIANA DEPARTMENT OF TRANSPORTATION			
TRAFFIC SIGNAL CANTILEVER STRUCTURE PLACEMENT OF SIGNALS AND SIGNS LOADING FOR ARM OF GREATER THAN 35' TO 60' SEPTEMBER 2013			
STANDARD DRAWING NO.		E 805-TSCS-08	
	/s/ Alfredo B. Hanza		02/05/13
	DESIGN STANDARDS ENGINEER		DATE
	/s/ Mark A. Miller		03/27/13
	CHIEF ENGINEER		DATE

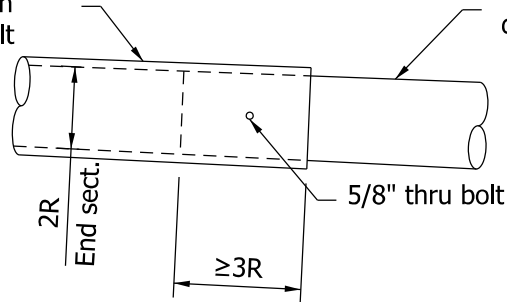


ELEVATION

NOTES:

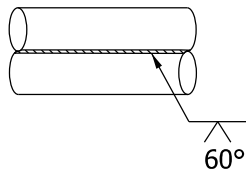
- (1) Number of cable inlets depends on L. See Arm Dimensions Table. The inlet diameter shall be 1 3/4" with rubber grommet (typ.).
- (2) Optional splice can be used for arm length of greater than 40 ft. Field assembly shall achieve a snug tight joint having overlap not less than 1.5 times the inside dimension of the end section.
- (3) Arm rise R is measured in the undeflected position without vertical loads on the arm.
- (4) See Standard Drawing E 805-TSCS-06 for handhole details.
- (5) If seam welds are used, the weld location for the arms shall be along the bottom, and on the side of the pole as shown.

End section extension with wall thickness 1/8" and with drilled hole for 5/8" bolt



Base section with wall thickness 5/16" and field drilled hole for 5/8" bolt with curved washer and lock nut

(2) OPTIONAL ARM SPLICE DETAIL



(5) TYPICAL SEAM WELD

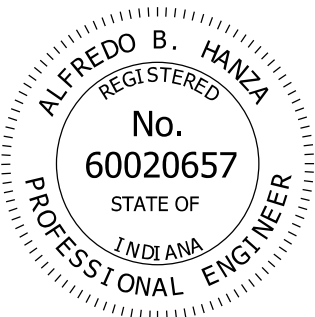
ARM DIMENSIONS TABLE				
L	ARM DIAMETER AT POLE	ARM WALL THICKNESS	R (3)	CABLE INLETS (1)
15'	5 1/2"	1/8"	7 1/2"	A
20'	5 1/2"	1/8"	10"	A
25'	7"	1/8"	1'-0 1/2"	A
30'	8"	1/8"	1'-3"	A, B
35'	8"	1/8"	1'-5 1/2"	A, B
40'	9"	1/8"	1'-8"	A, B, C
45'	10"	1/8"	1'-10 1/2"	A, B, C
50'	11"	1/8"	2'-1"	A, B, C
55'	11"	1/8"	2'-3 1/2"	A, B, C
60'	12"	1/8"	2'-6"	A, B, C

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM DIMENSIONS & DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-10

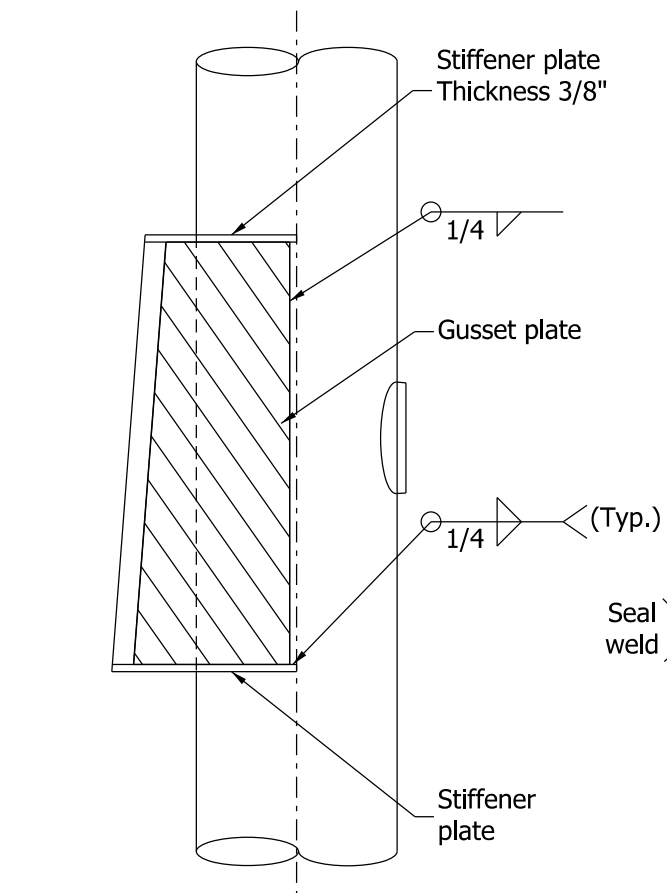


/s/ Alfredo B. Hanza 02/05/13

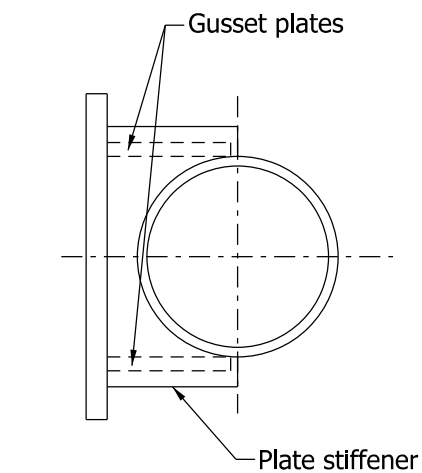
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

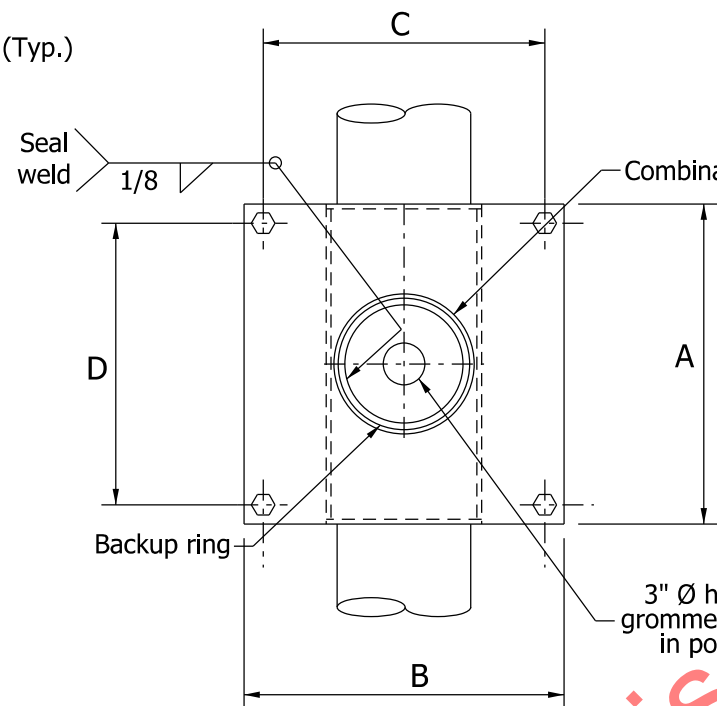
CHIEF ENGINEER DATE



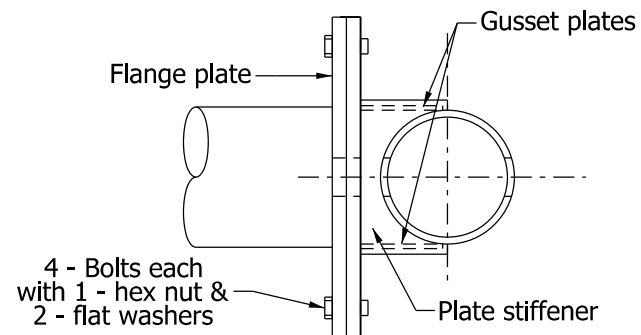
ELEVATION OF GUSSET PLATES



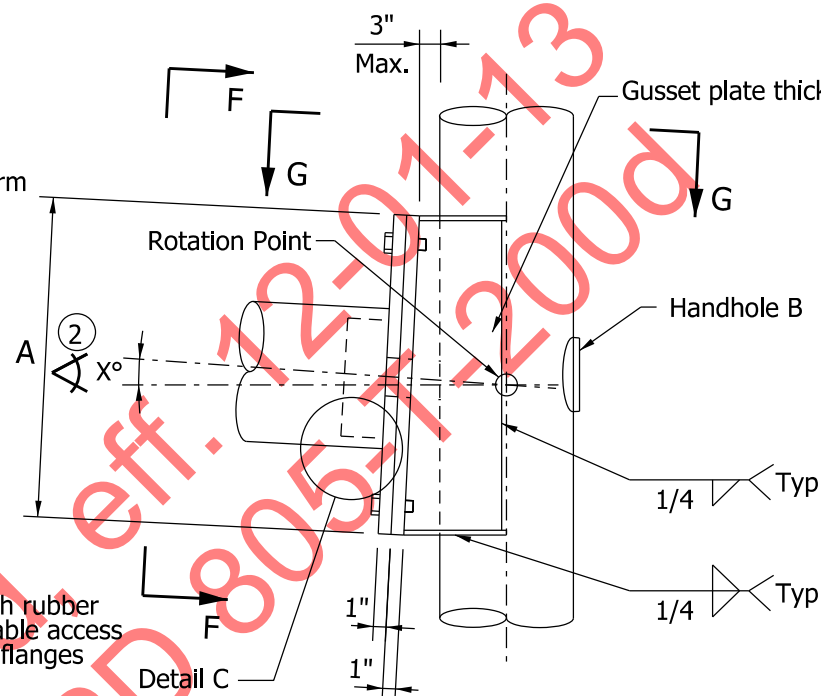
TOP OF GUSSET PLATES



SECTION F-F



SECTION G-G



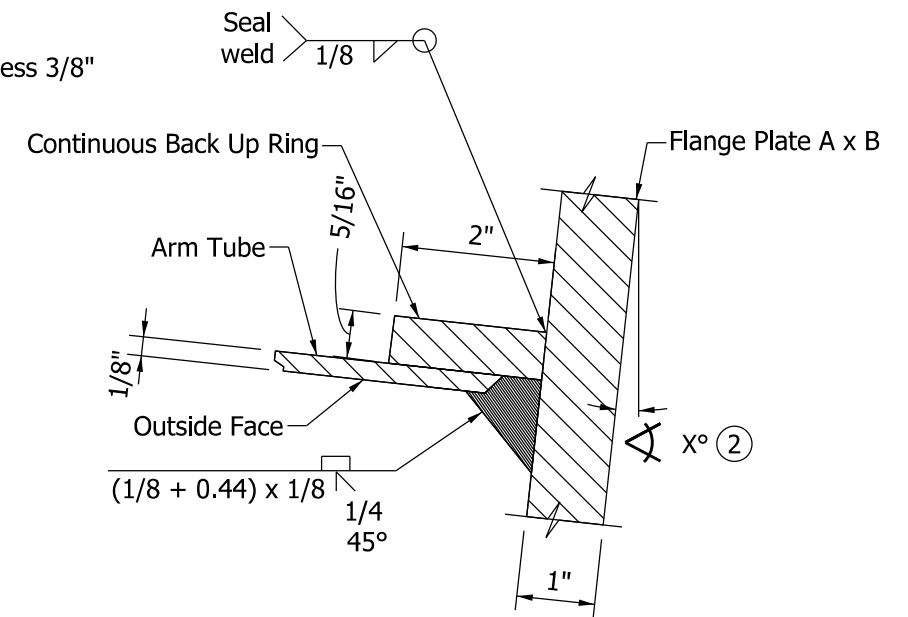
ELEVATION

COMBINATION ARM CONNECTION DETAIL

PLATES AND BOLTS FOR COMBINATION ARM CANTILEVER				
ARM LENGTH	FLANGE PLATE A x B	BOLT PATTERN C x D	FLANGE PLATE THICKNESS	BOLT
15' TO 35'	20" x 20"	17" x 17"	1"	7/8" - 9 UNC x 3.5" LONG
>35' TO 60'	25" x 25"	22" x 22"	1"	7/8" - 9 UNC x 3.5" LONG

NOTES:

- See Standard Drawing E 805-TSCS-06 for handhole details.
- The required combination arm rise shall be built into the gusset plate at the angle X. The angle X is described as $\text{arc tan } R/L$, where R is the combination arm rise and L is the arm length. Both R and L vary and are listed in the Arm Dimensions Table on Standard Drawing E 805-TSCS-03.



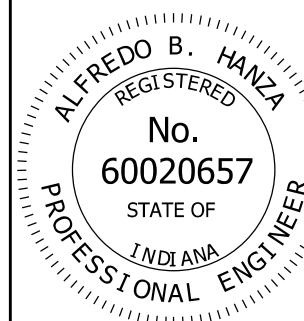
DETAIL C - ARM WELD

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM CONNECTION DETAILS

SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-11

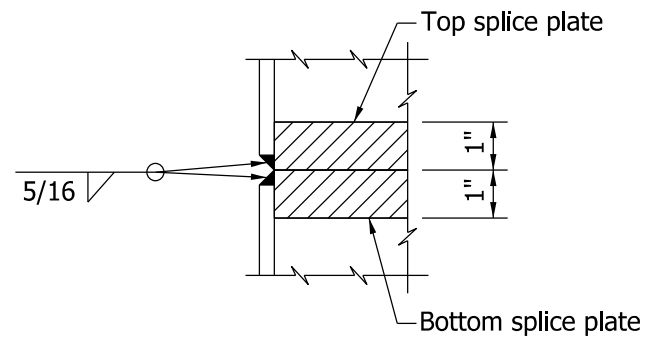


/s/ Alfredo B. Hanza 02/05/13

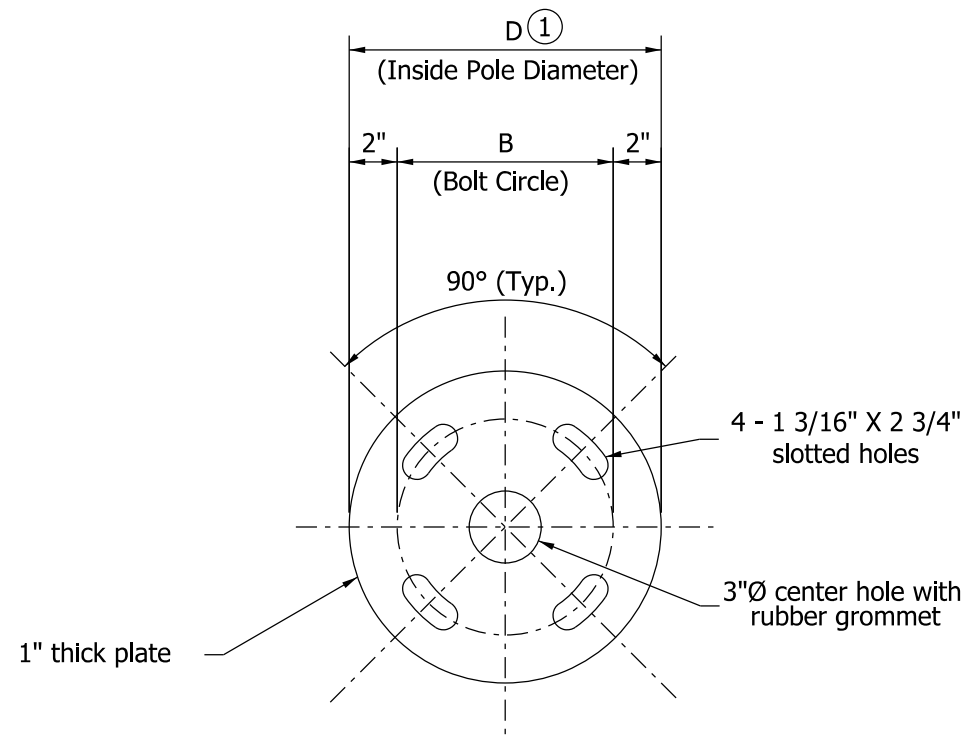
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

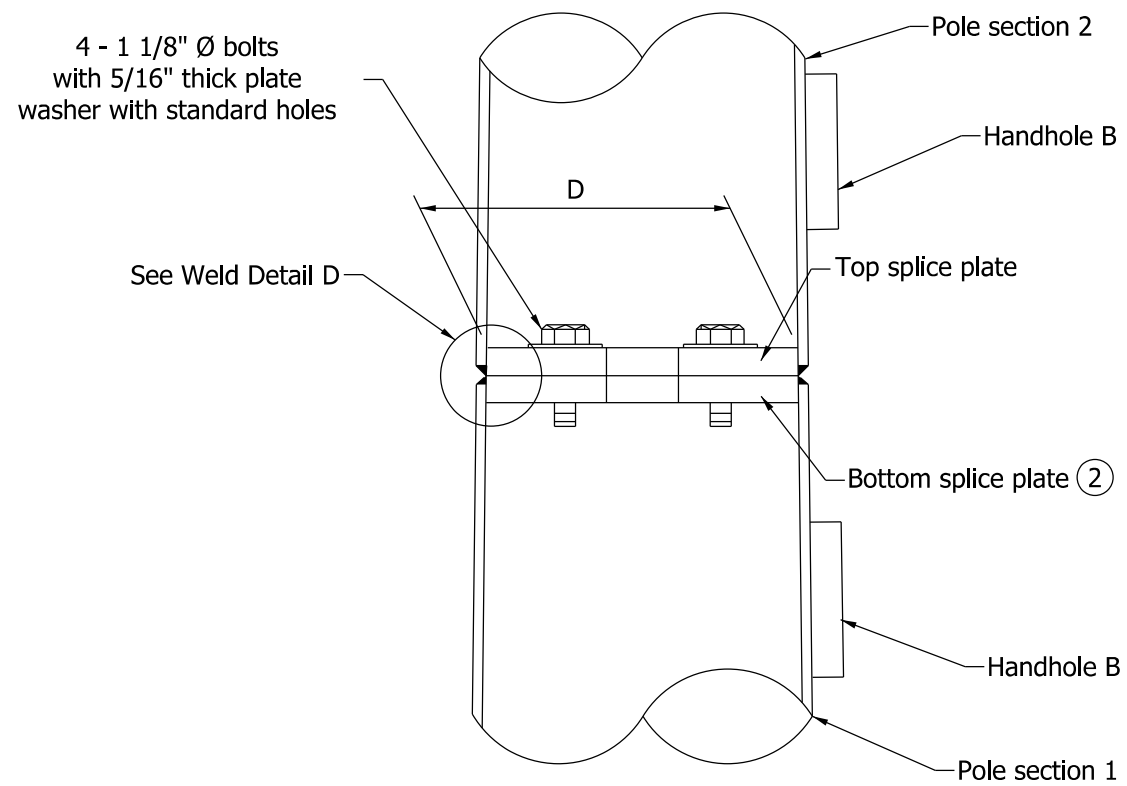
CHIEF ENGINEER DATE



WELD DETAIL D



TOP SPLICE PLATE



ELEVATION

NOTES:

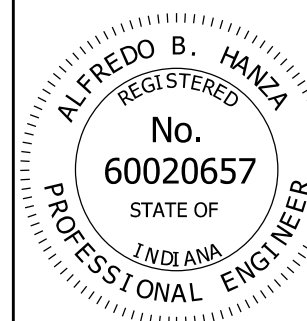
- ① See Standard Drawing E 805-TSCS-09 for pole dimensions.
- ② See Standard Drawings E 805-TSCS-04 and -13 for bottom splice plate details.
3. Diameter at the bottom of Pole Section 2 shall match the diameter at the top of Pole Section 1.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION POLE SPLICE DETAILS
FOR ARMS 35' OR LESS

SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-12

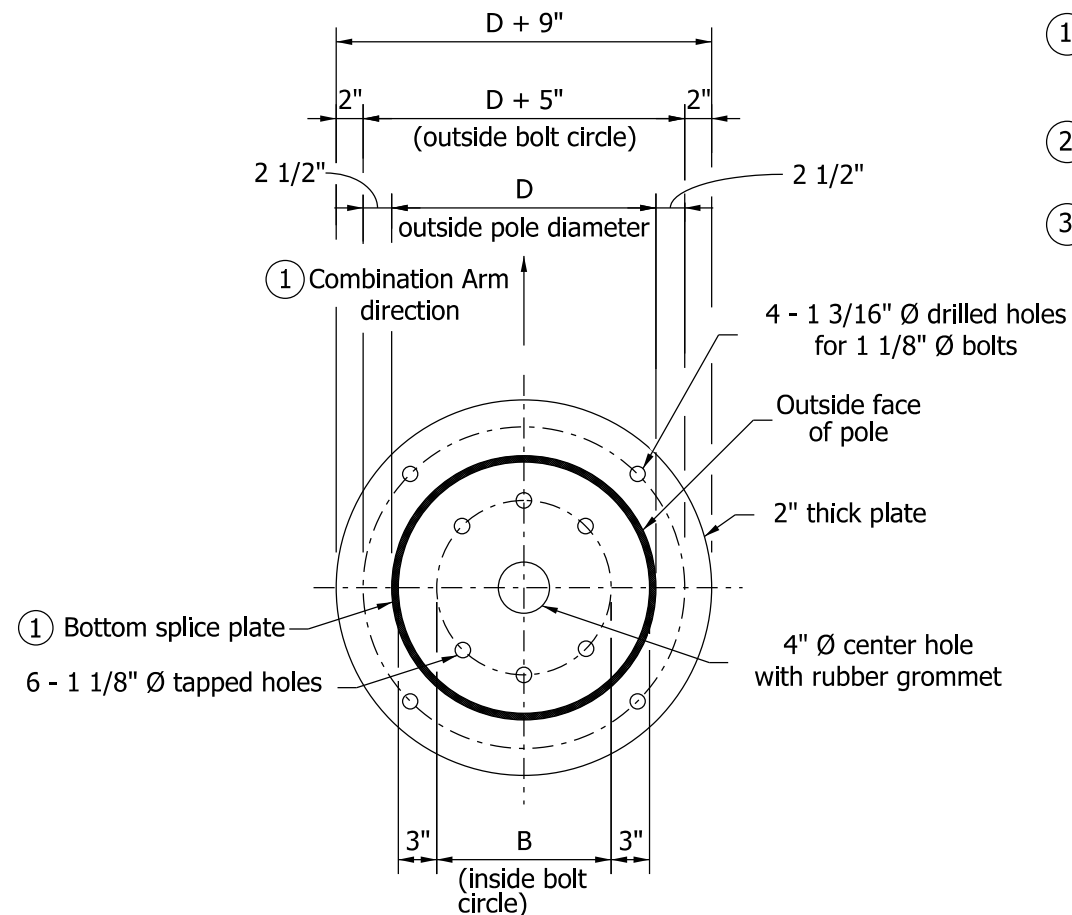
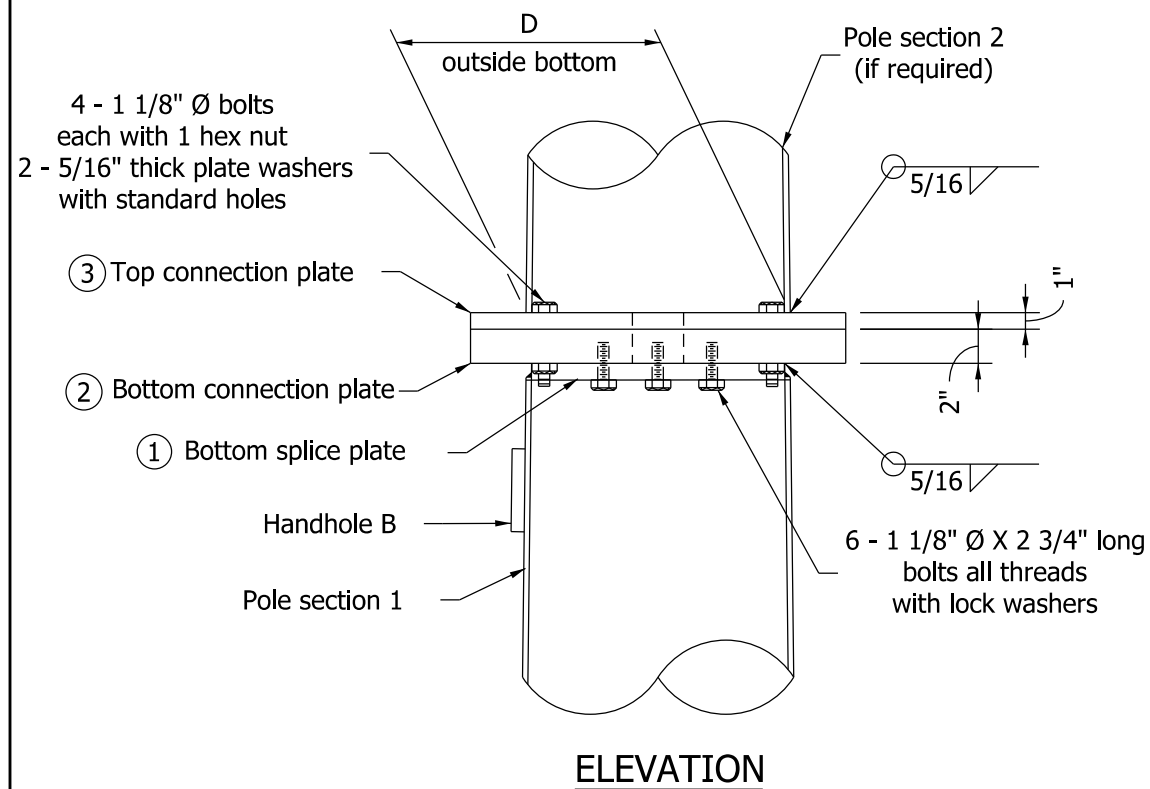
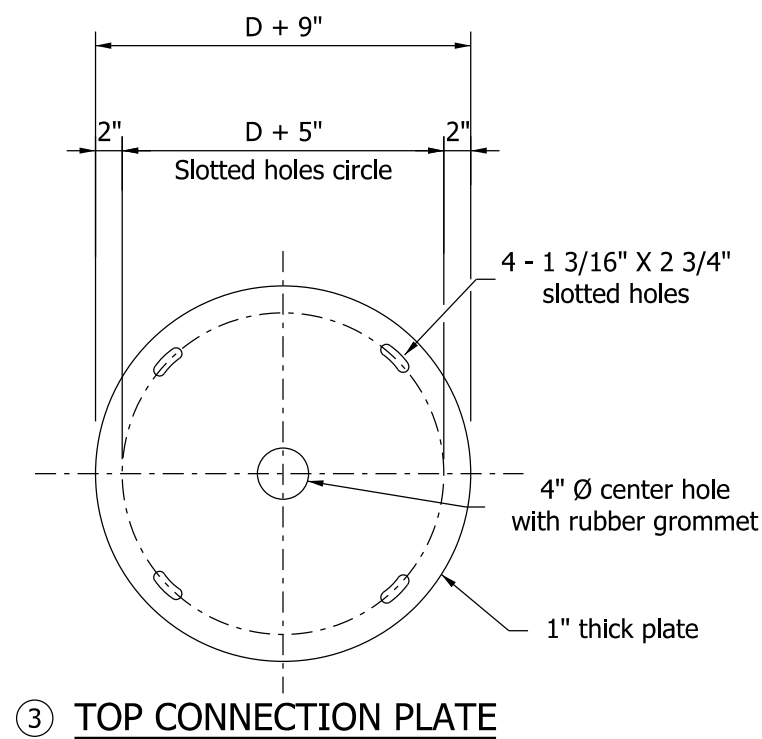


/s/ Alfredo B. Hanza 02/05/13

DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

CHIEF ENGINEER DATE



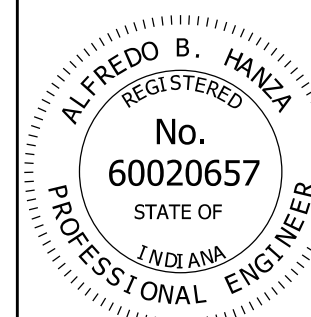
NOTES:

- 1 Orient bottom splice and bottom connection plates with combination arm as shown on the bottom splice plate detail on Standard Drawings E 805-TSCS-04 and -12.
- 2 All plate dimensions shall be based upon the outside diameter D at the top of pole section 1.
- 3 Diameter at bottom of pole section 2 shall match the diameter at the top of pole section 1.

INDIANA DEPARTMENT OF TRANSPORTATION

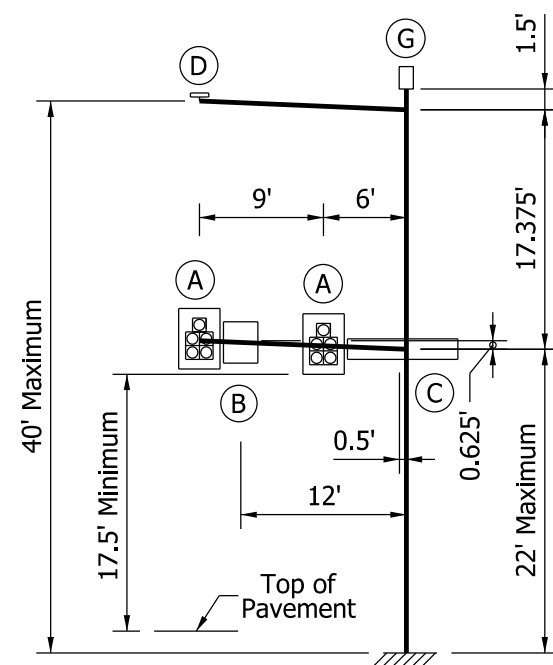
TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION POLE SPLICE DETAILS
FOR ARM OF GREATER THAN 35' TO 60'
SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-13

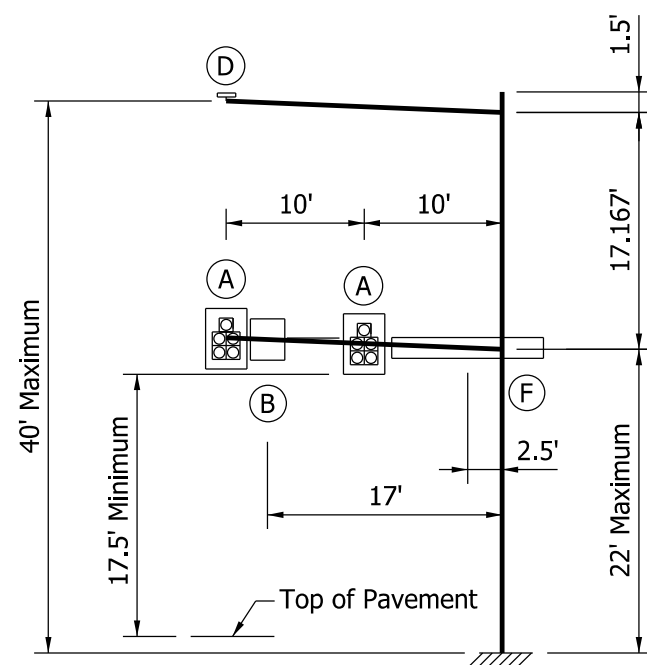


/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE

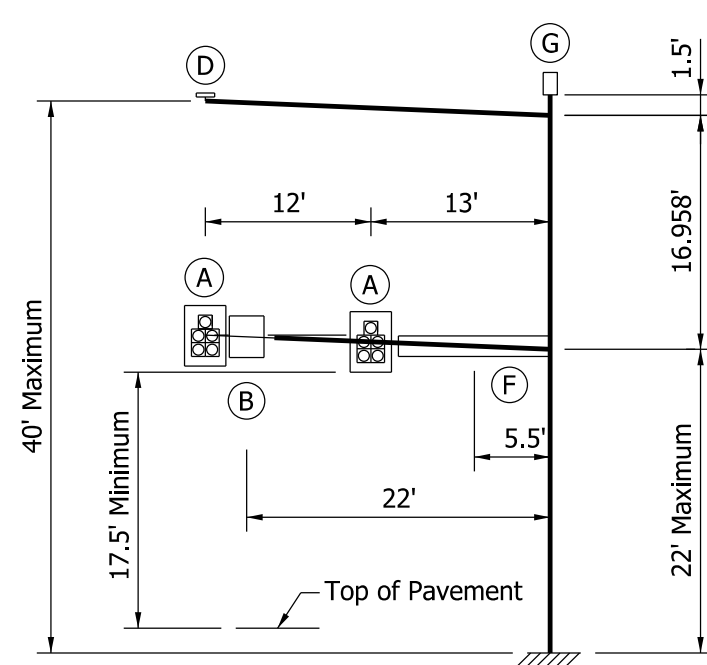
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE



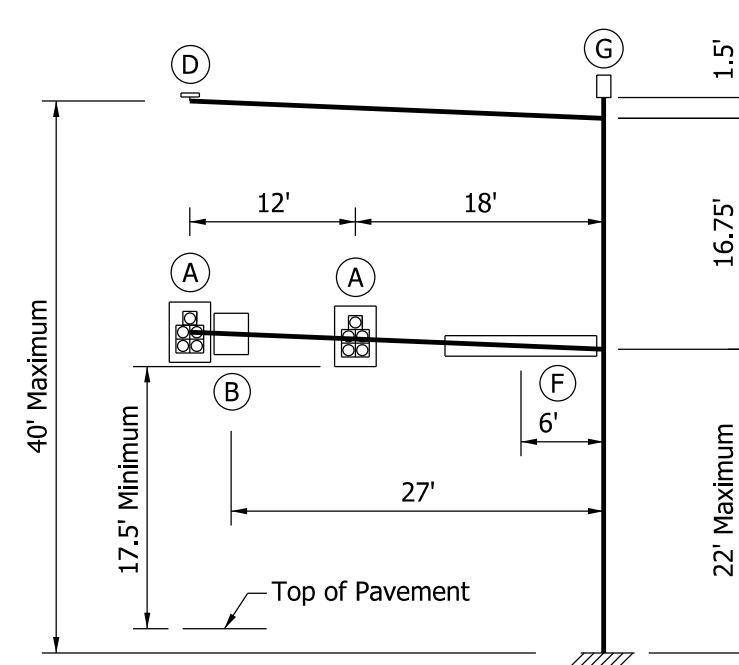
15' ARM



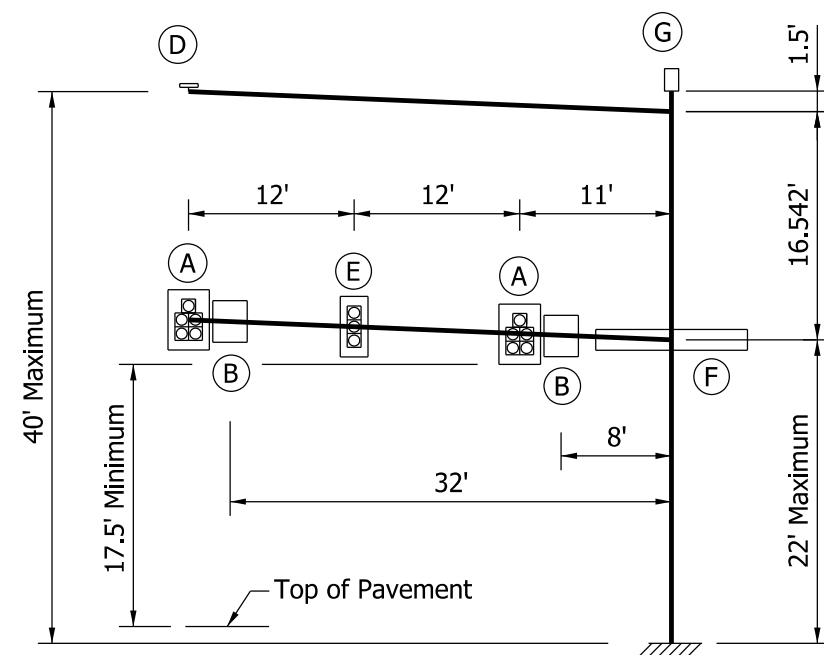
20' ARM



25' ARM



30' ARM



35' ARM

LEGEND	
DEVICE	DESCRIPTION
(A)	12" - 5 Section Signal Head With Backplates
(B)	36" x 30" Regulatory Sign
(C)	18" x 96" Street Name Sign
(D)	1 - Mounted Camera
(E)	12" - 3 Section Signal Head With Backplates
(F)	18" x 132" Street Name Sign
(G)	Top Pole Luminaire

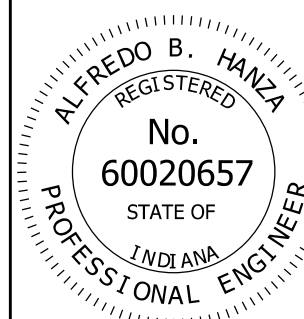
NOTE:

- The structure arms and pole are designed for the above loading conditions. Foundation types A and C are designed for arms having length of 35 ft or less. See Standard Drawings E 805-TSCS-16 and -18 for foundation types A and C.

INDIANA DEPARTMENT OF TRANSPORTATION

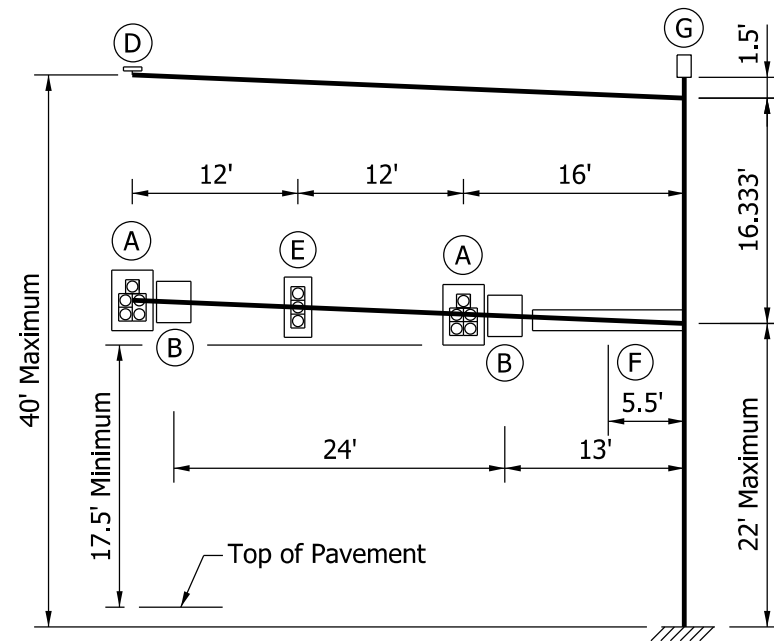
**TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM LOADING
FOR ARM OF 35' OR LESS
SEPTEMBER 2013**

STANDARD DRAWING NO. E 805-TSCS-14

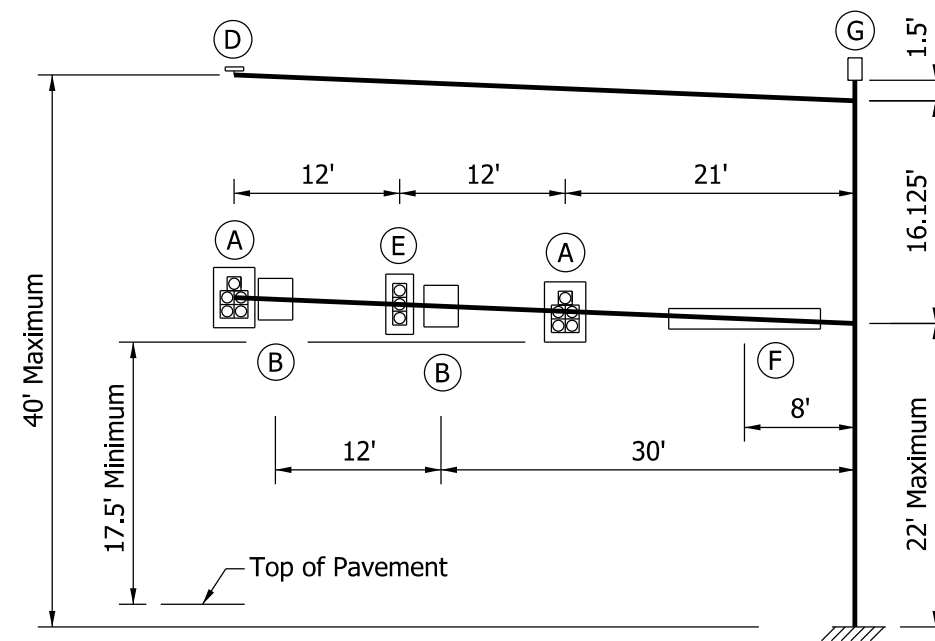


/s/ *Alfredo B. Hanza* 02/05/13
DESIGN STANDARDS ENGINEER DATE

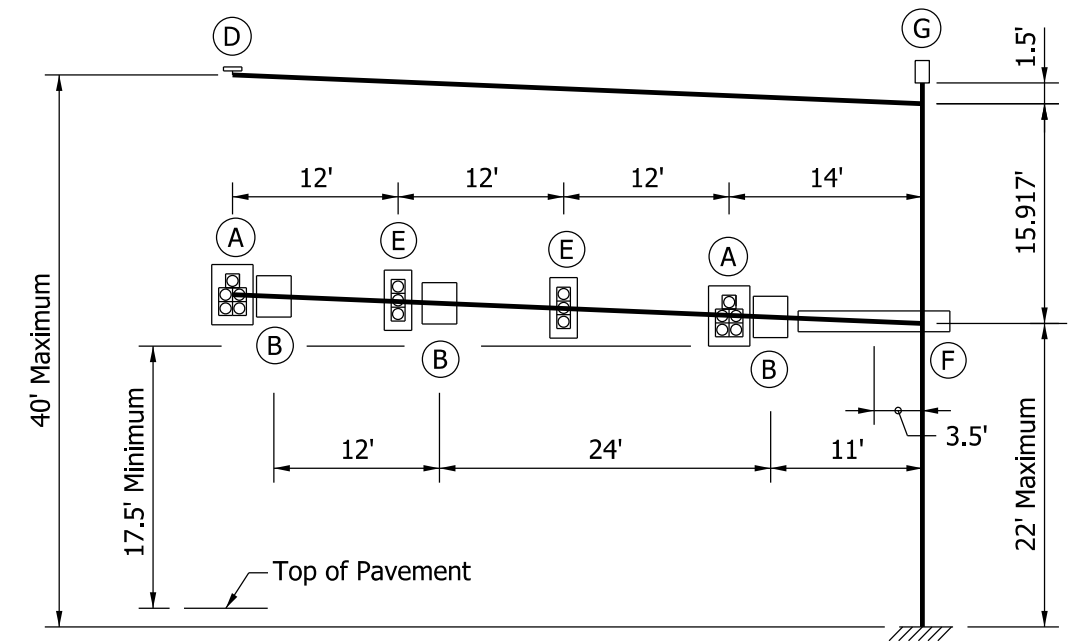
/s/ *Mark A. Miller* 03/27/13
CHIEF ENGINEER DATE



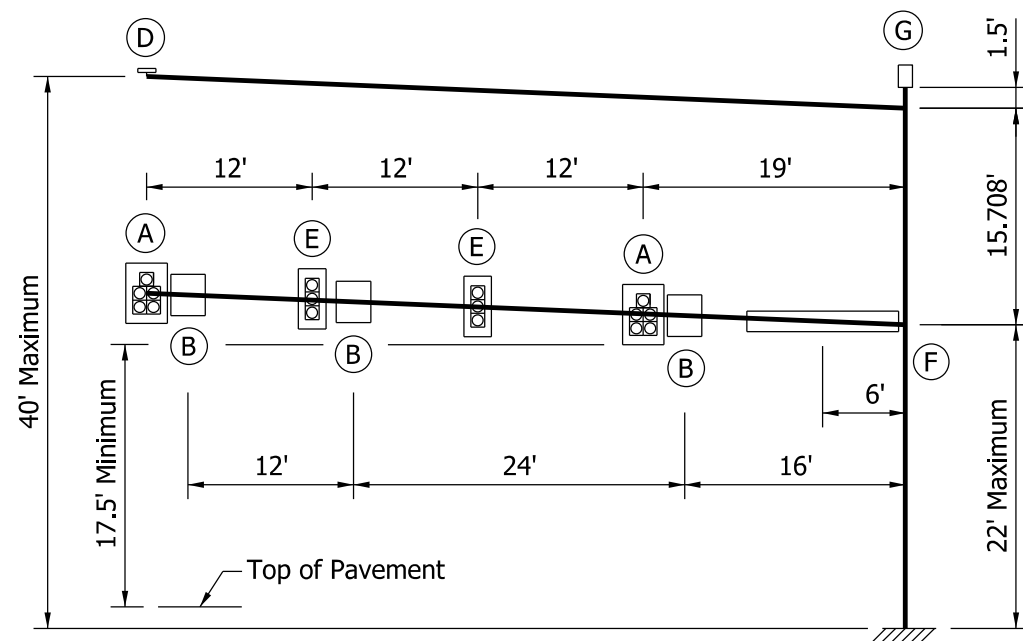
40' ARM



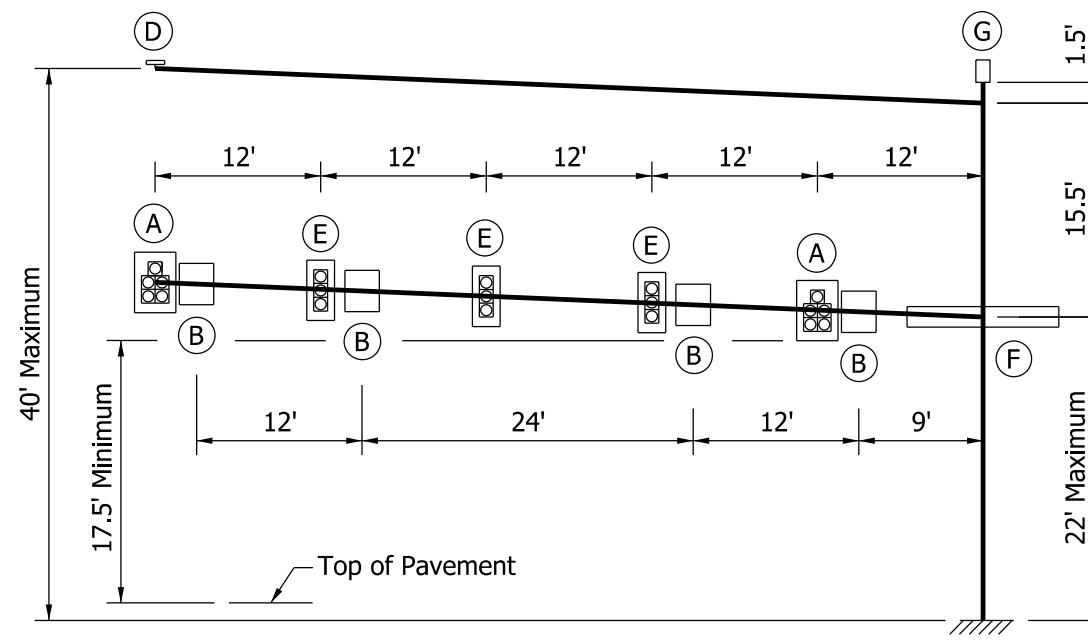
45' ARM



50' ARM



55' ARM



60' ARM

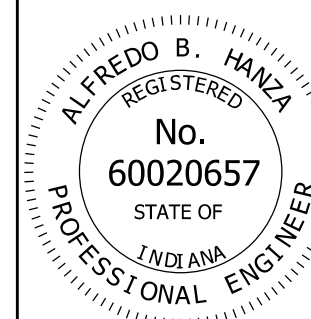
NOTES:

1. See Standard Drawing E 805-TSCS-14 for Legend.
2. The structure arms and pole are designed for the above loading conditions. Foundation types B and D are designed for arms having length of greater than 35 ft to 60 ft. See Standard Drawings E 805-TSCS-17 and -19 for foundation types B and D.

INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE
COMBINATION ARM LOADING
FOR ARM OF GREATER THAN 35' TO 60'
SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-15

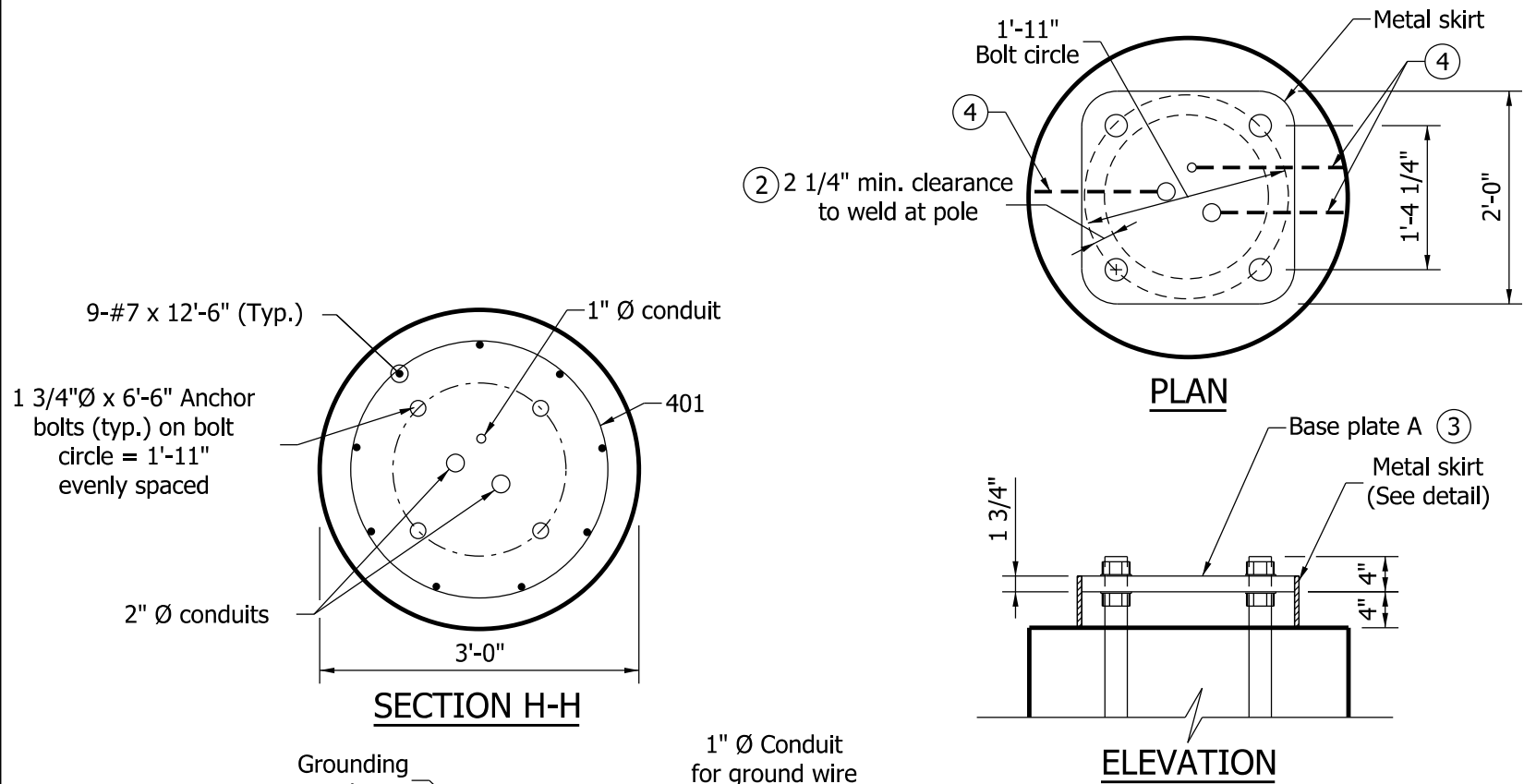


/s/ Alfredo B. Hanza 02/05/13

DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 03/27/13

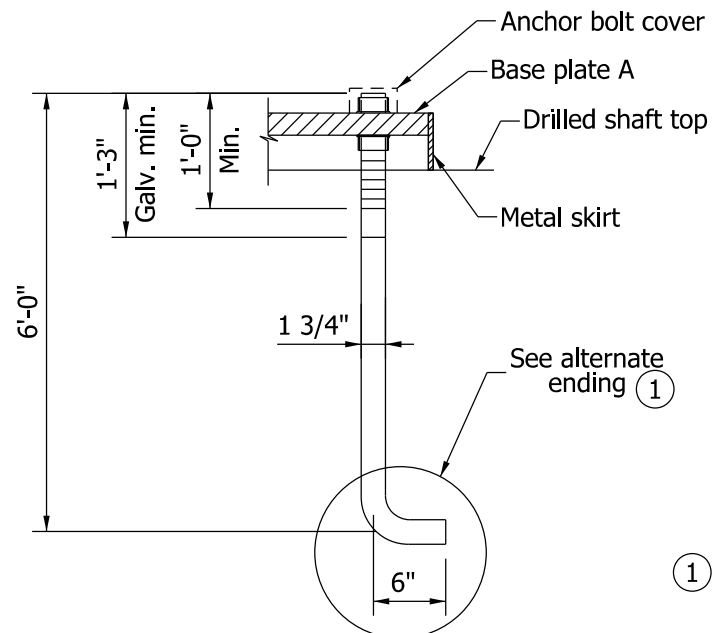
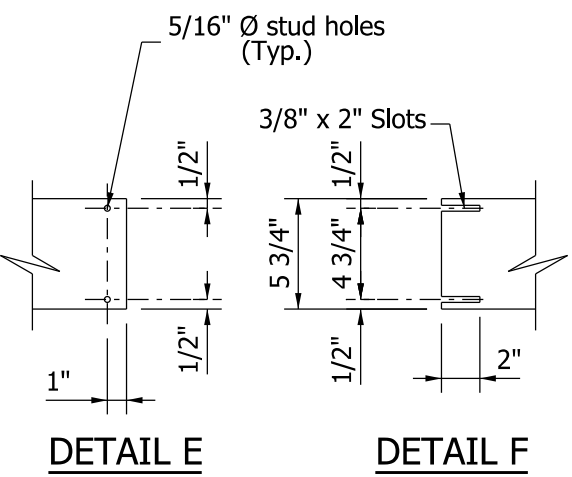
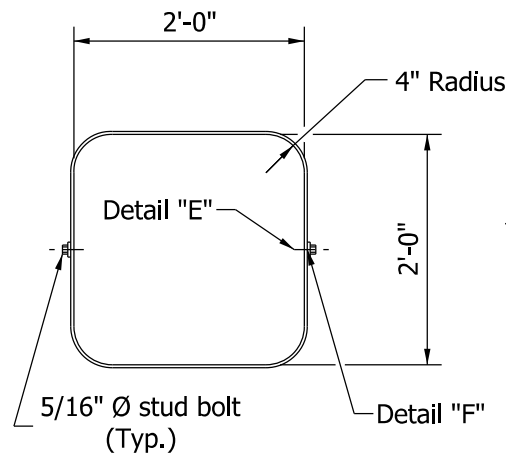
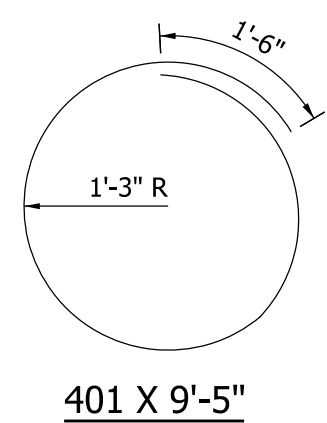
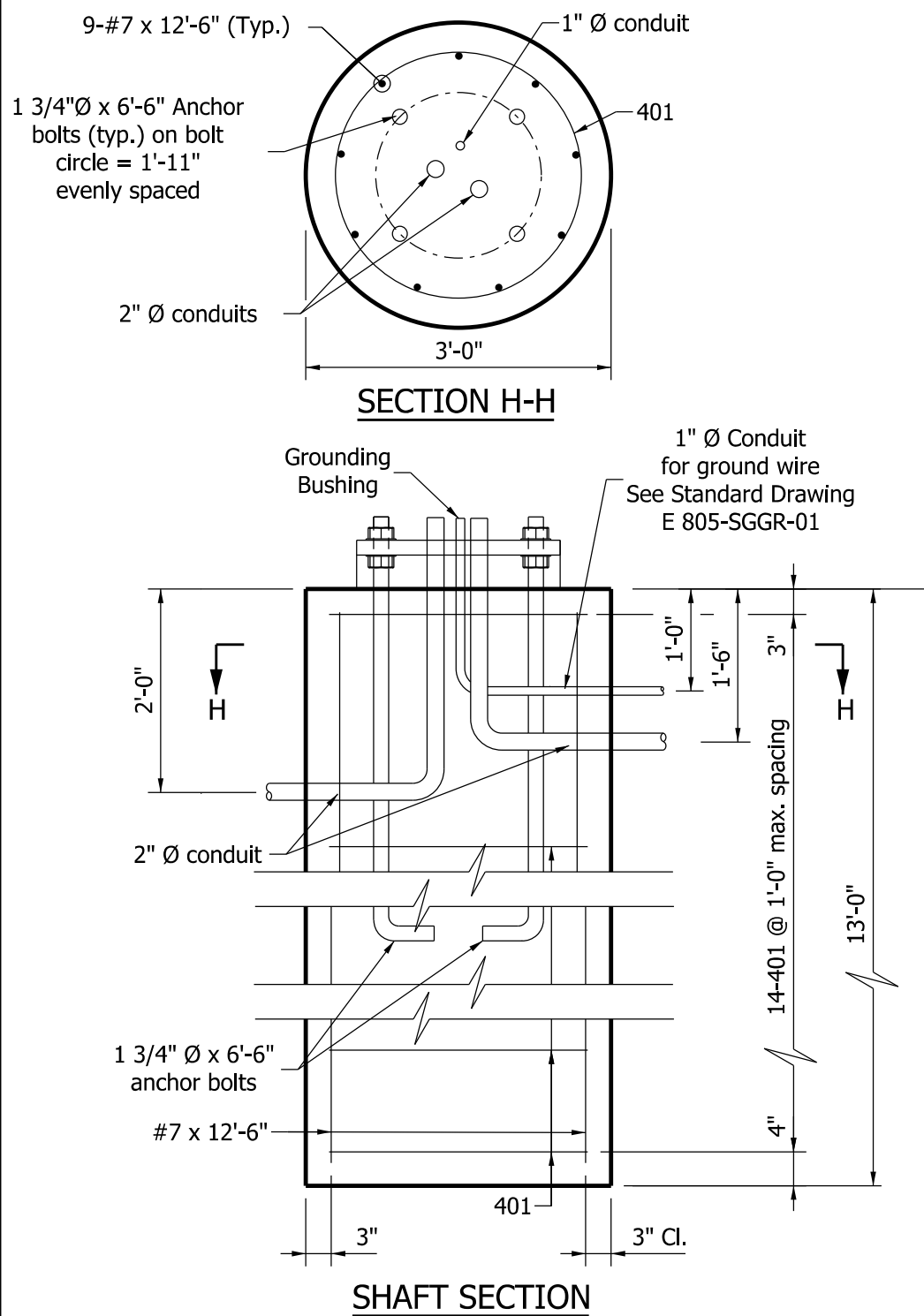
CHIEF ENGINEER DATE



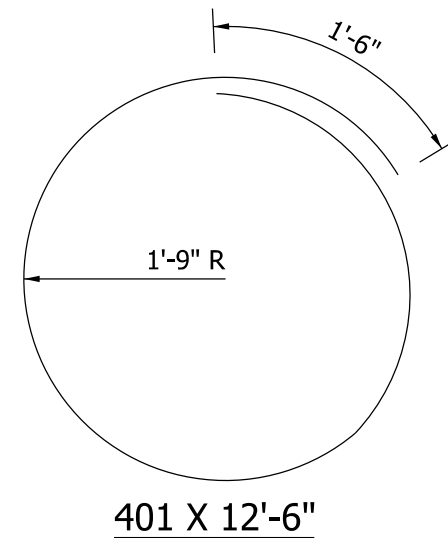
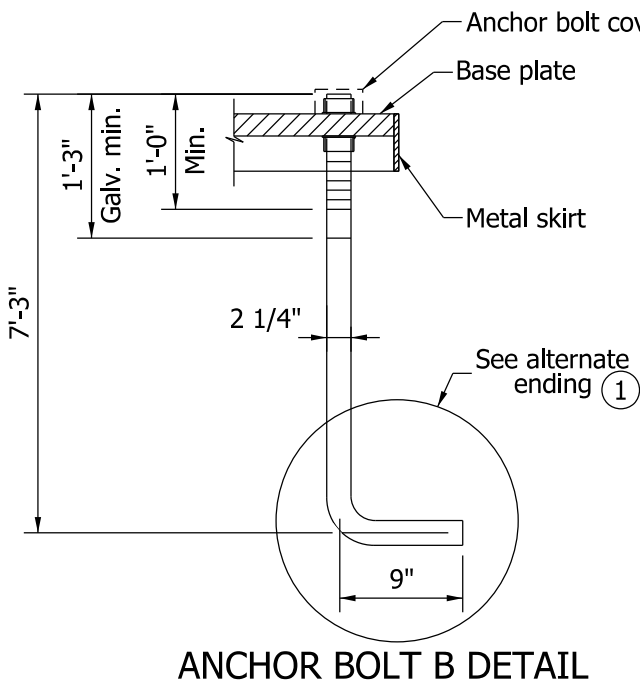
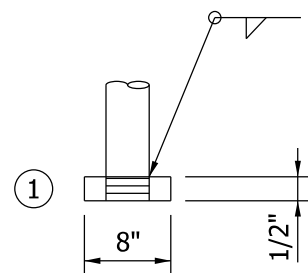
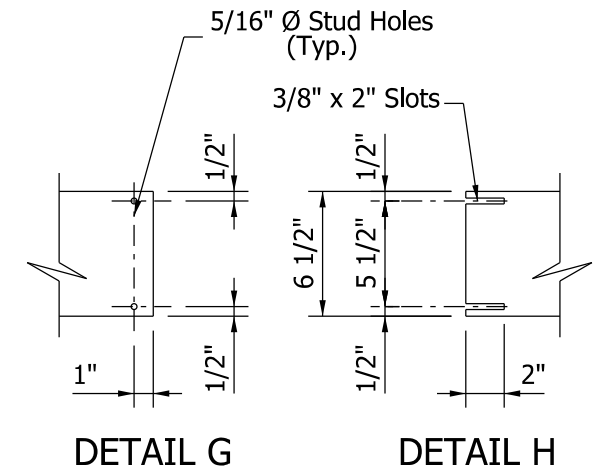
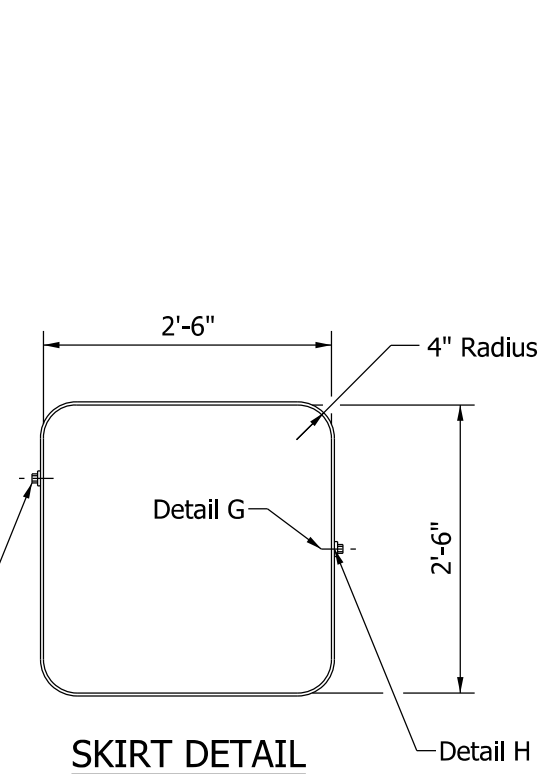
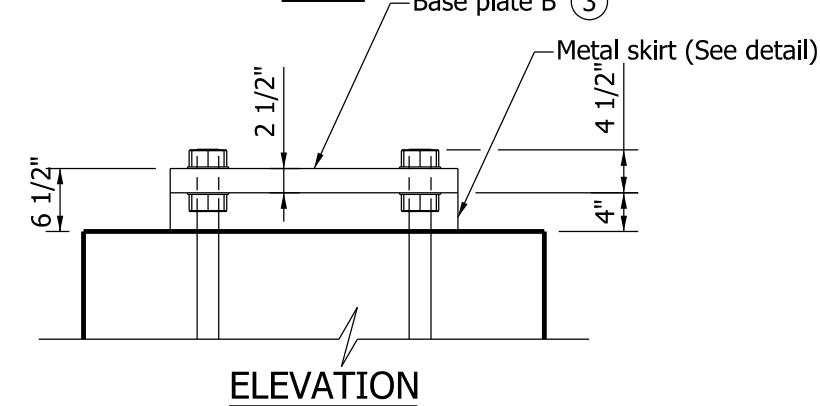
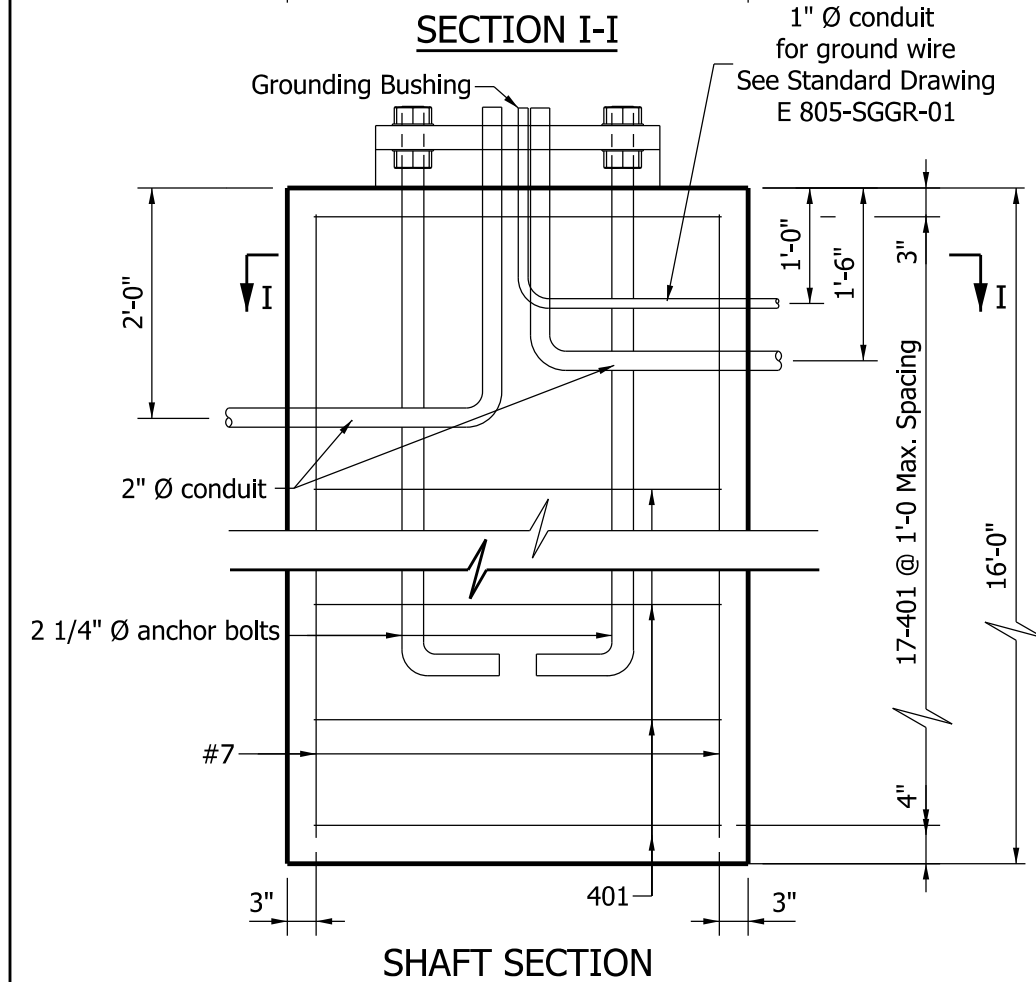
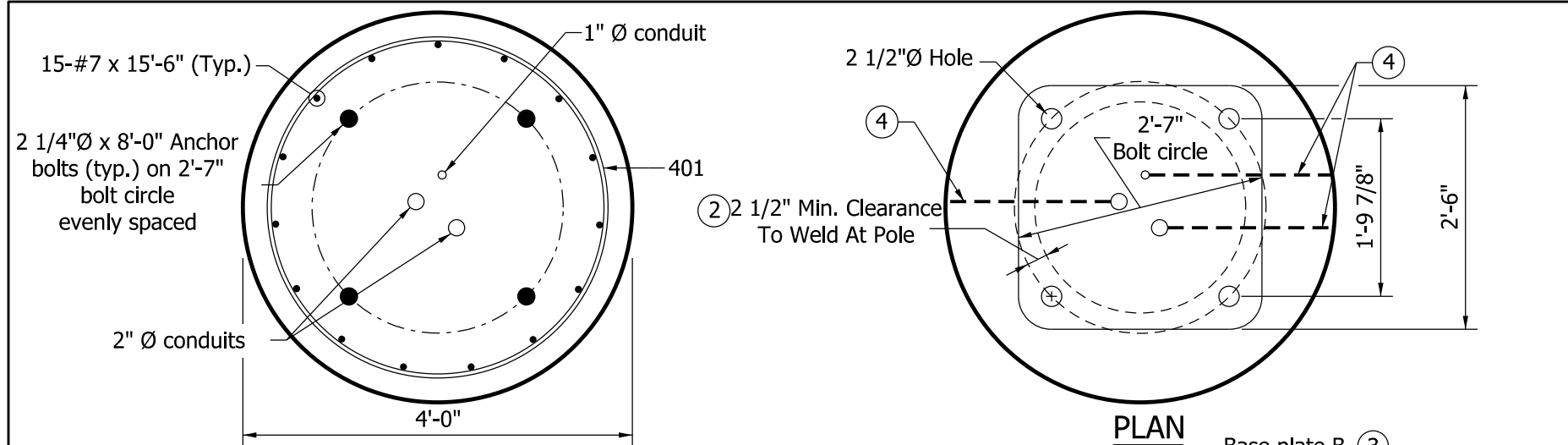
NOTES:

- 1 Alternate 6" x 6" x 1/2" square washer with hex nut welded to lower end may be substituted for bent anchor bolt.
- 2 Bolt circle, b, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
- 3 See Standard Drawing E 805-TSCS-04 for base plate A details.
- 4 A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduit.

BILL OF MATERIALS DRILLED SHAFT TYPE A			
REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH (ft.)	WEIGHT (lbs.)
#7	9	12'-6"	
Total #7			230
401	14	9'-5"	
Total #4			88
Total Reinforcing Bars			318
CONCRETE			
Concrete, Class A			3.4 CYS



INDIANA DEPARTMENT OF TRANSPORTATION									
TRAFFIC SIGNAL CANTILEVER STRUCTURE DRILLED SHAFT FOUNDATION TYPE A FOR ARM OF 35' OR LESS SEPTEMBER 2013									
STANDARD DRAWING NO.	E 805-TSCS-16								
	<table border="0"> <tr> <td>/s/ Alfredo B. Hanza</td> <td>02/05/13</td> </tr> <tr> <td>DESIGN STANDARDS ENGINEER</td> <td>DATE</td> </tr> <tr> <td>/s/ Mark A. Miller</td> <td>03/27/13</td> </tr> <tr> <td>CHIEF ENGINEER</td> <td>DATE</td> </tr> </table>	/s/ Alfredo B. Hanza	02/05/13	DESIGN STANDARDS ENGINEER	DATE	/s/ Mark A. Miller	03/27/13	CHIEF ENGINEER	DATE
/s/ Alfredo B. Hanza	02/05/13								
DESIGN STANDARDS ENGINEER	DATE								
/s/ Mark A. Miller	03/27/13								
CHIEF ENGINEER	DATE								



NOTES:

- 1 Alternate 8" x 8" x 1/2" square plate tapped and welded to the anchor bolt may be substituted for bent anchor bolt.
- 2 Bolt circle, b, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
- 3 See Standard Drawing E 805-TSCS-04 for base plate B details.
- 4 A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

BILL OF MATERIALS DRILLED SHAFT TYPE B

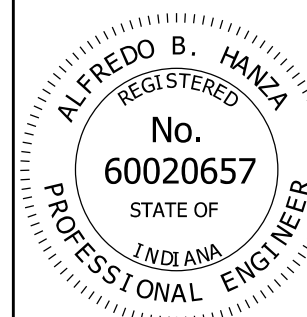
REINFORCING BARS

SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
#7	15	15'-6"	
Total #7			475
401	17	12'-6"	
Total #4			142
Total Reinforcing Bars			617
CONCRETE			
Concrete, Class A			7.5 CYS

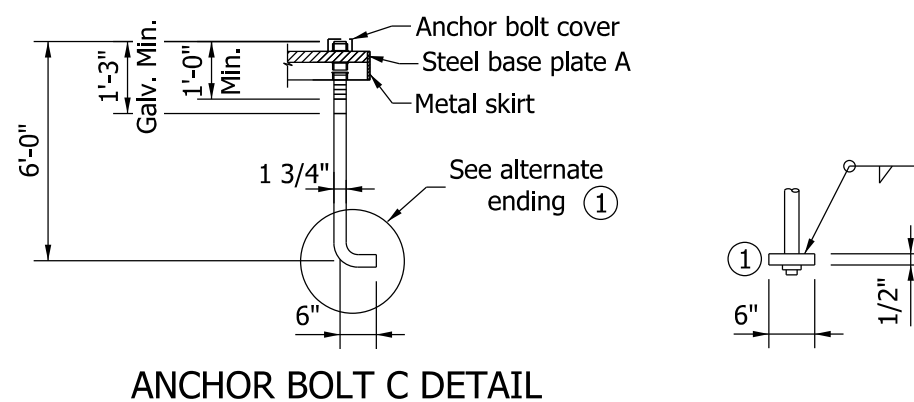
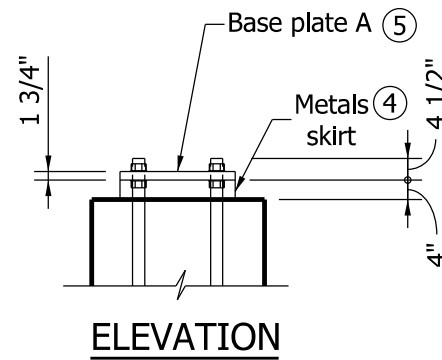
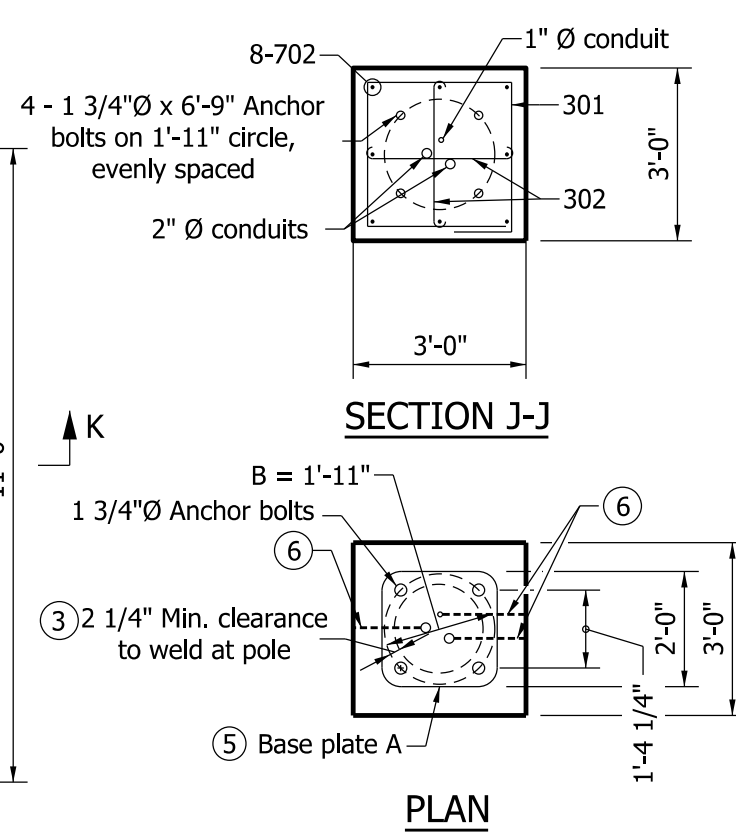
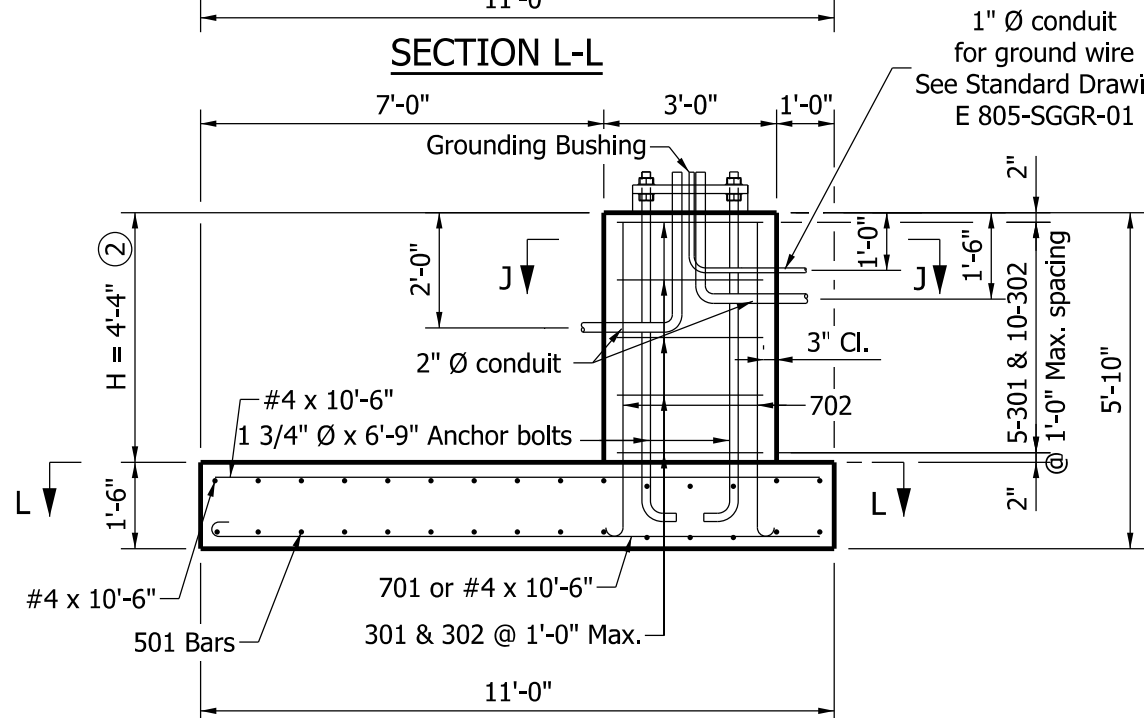
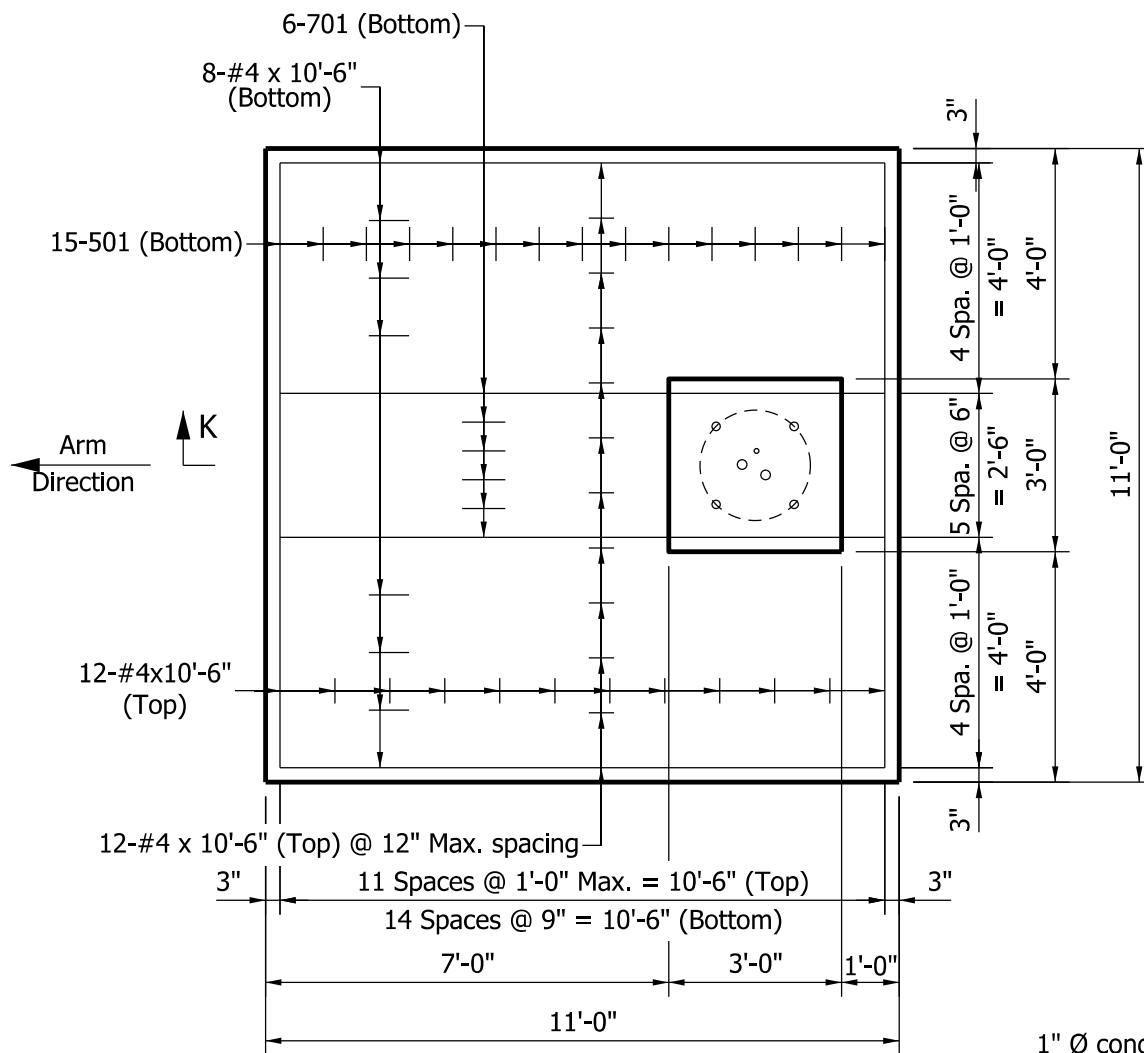
INDIANA DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL CANTILEVER STRUCTURE DRILLED SHAFT FOUNDATION TYPE B FOR ARM OF GREATER THAN 35' TO 60' SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-17

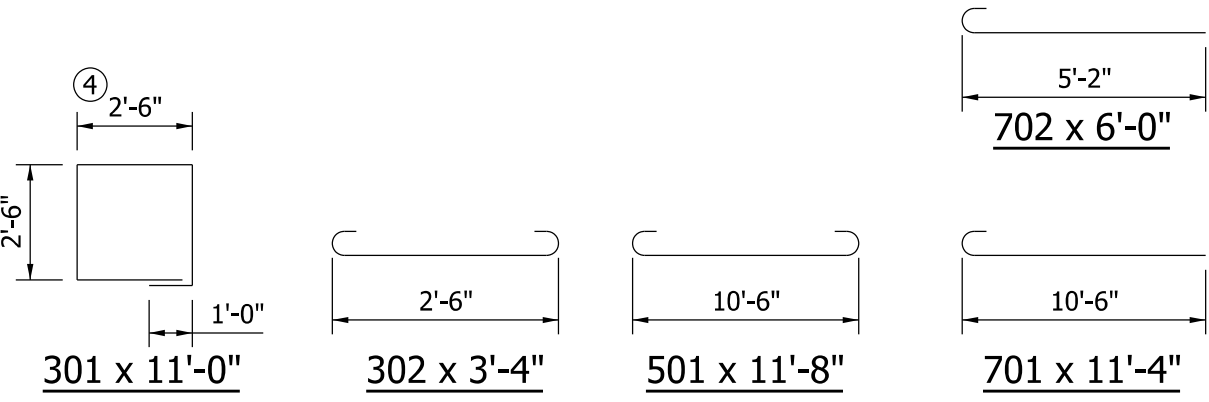


/s/ Alfredo B. Hanza	02/05/13
DESIGN STANDARDS ENGINEER	DATE
/s/ Mark A. Miller	03/27/13
CHIEF ENGINEER	DATE



- NOTES:**
- ① Alternate 6" x 6" x 1/2" square washer with hex nut welded to lower end may be substituted for the bend in the anchor bolt.
 - ② Minimum H required is 4 ft. soil cover over the entire footing area.
 - ③ Bolt circle, B, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
 - ④ See Standard Drawing E 805-TSCS-16 for metal skirt details.
 - ⑤ See Standard Drawing E 805-TSCS-04 for base plate A details.
 - ⑥ A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

BILL OF MATERIALS			
SPREAD FOOTING			
TYPE C			
REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
701	6	11'-4"	
702	8	6'-0"	
Total #7			237
501	15	11'-8"	
Total #5			183
#4	32	10'-6"	
Total #4			224
301	5	11'-0"	
302	10	3'-4"	
Total #3			33
Total Reinforcing Bars			677
CONCRETE			
Concrete, Class A			8.2 CYS

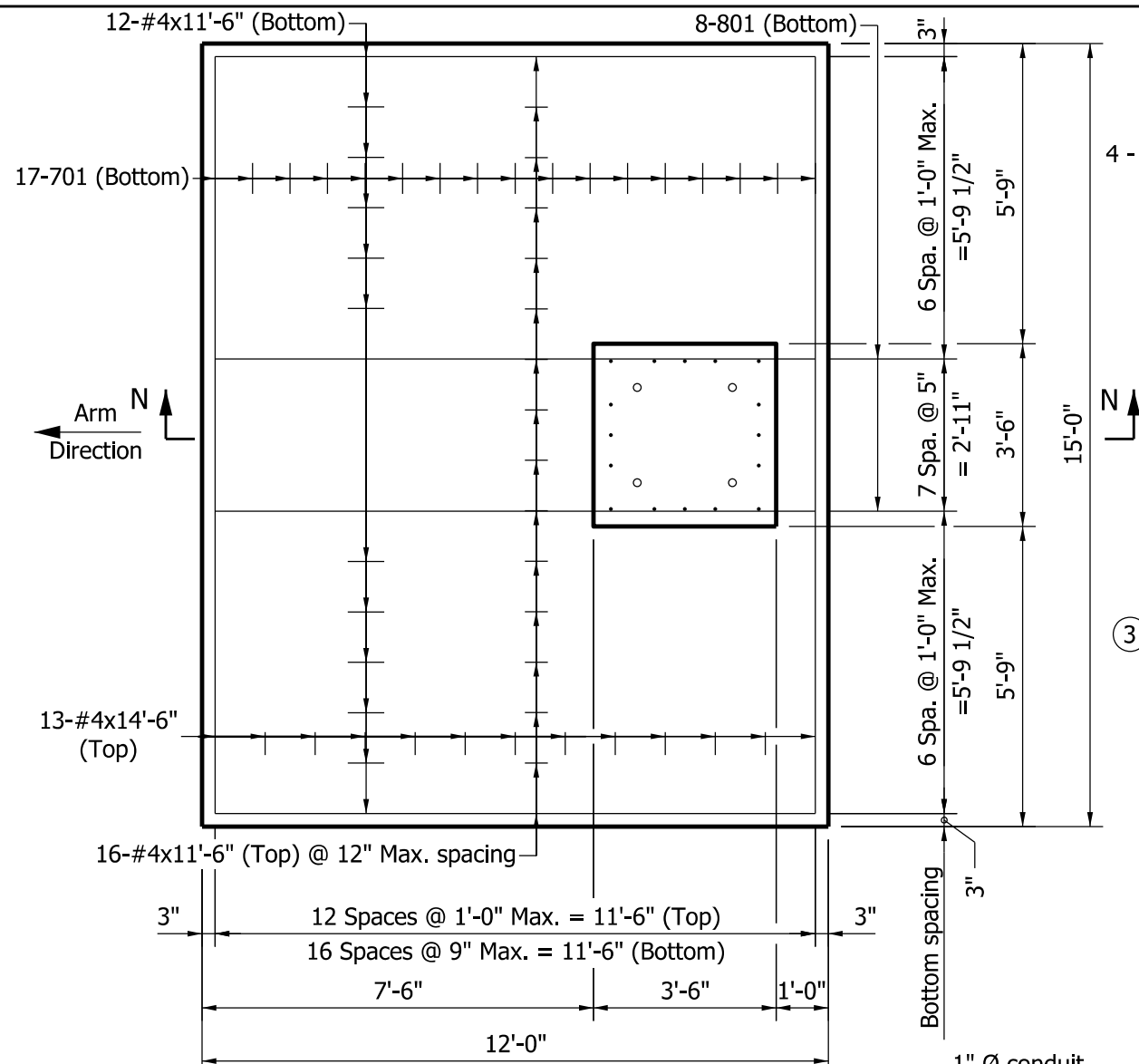


INDIANA DEPARTMENT OF TRANSPORTATION

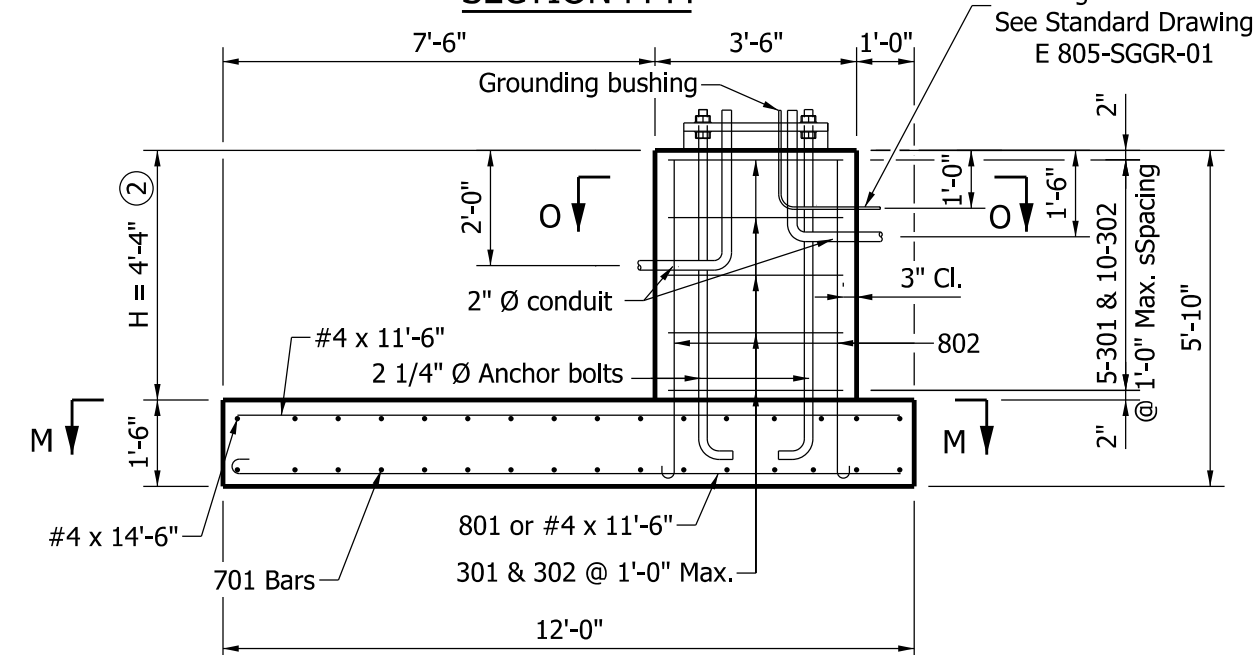
TRAFFIC SIGNAL CANTILEVER STRUCTURE
SPREAD FOOTING FOUNDATION TYPE C
FOR ARM OF 35' OR LESS
SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-18

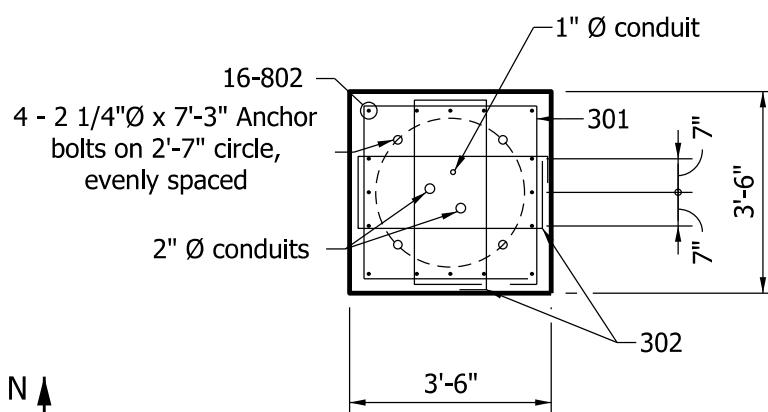
	/s/ Alfredo B. Hanza	02/05/13
	DESIGN STANDARDS ENGINEER	DATE
	/s/ Mark A. Miller	03/27/13
	CHIEF ENGINEER	DATE



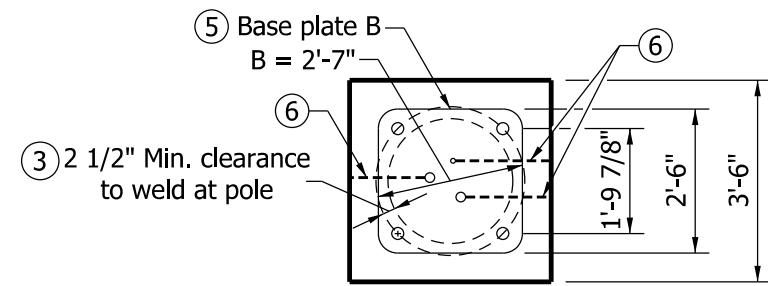
SECTION M-M



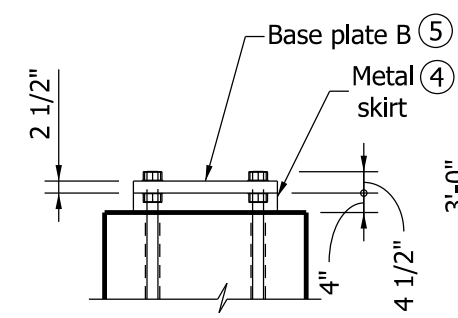
SECTION N-N



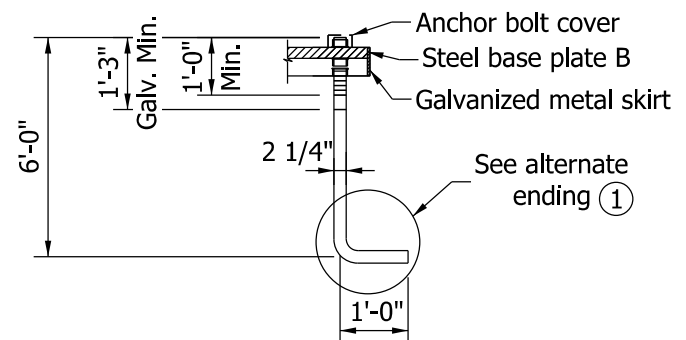
SECTION O-O



PLAN



ELEVATION

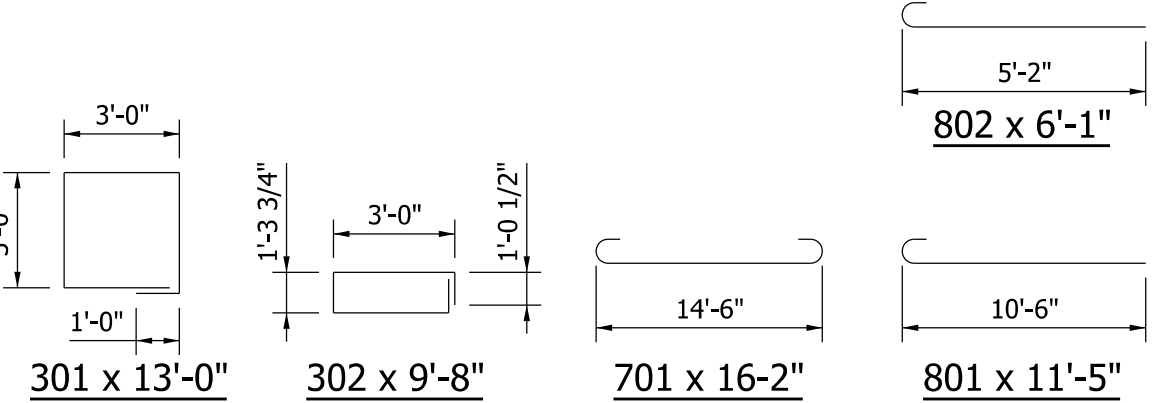


ANCHOR BOLT D DETAIL

NOTES:

- ① Alternate 8" x 8" x 1/2" square plate tapped and welded to anchor bolt may be substituted for the bent anchor bolt.
- ② Minimum H required is 4 ft. soil cover over the entire footing area.
- ③ Bolt circle, B, shall allow clearance for the plate washer. Cutting or trimming the washer will not be allowed.
- ④ See Standard Drawing E 805-TSCS-17 for metal skirt details.
- ⑤ See Standard Drawing E 805-TSCS-04 for base plate B details.
- ⑥ A tooled line or other type of permanent marking shall be provided on the top of the foundation to indicate the direction of the conduits.

BILL OF MATERIALS			
SPREAD FOOTING			
TYPE D			
REINFORCING BARS			
SIZE OR MARK	NUMBER OF BARS	LENGTH	WEIGHT (lbs.)
801	8	11'-5"	
802	16	6'-1"	
Total #8			504
701	17	16'-2"	
Total #7			562
#4	13	14'-6"	
#4	28	11'-6"	
Total #4			341
301	5	13'-0"	
302	10	9'-8"	
Total #3			61
Total Reinforcing Bars			1468
CONCRETE			
Concrete, Class A			12.0 CYS



INDIANA DEPARTMENT OF TRANSPORTATION
TRAFFIC SIGNAL CANTILEVER STRUCTURE
SPREAD FOOTING FOUNDATION TYPE D
FOR ARM OF GREATER THAN 35' TO 60'
SEPTEMBER 2013

STANDARD DRAWING NO. E 805-TSCS-19

/s/ Alfredo B. Hanza 02/05/13
DESIGN STANDARDS ENGINEER DATE
/s/ Mark A. Miller 03/27/13
CHIEF ENGINEER DATE