CONFIGURATIONS 03

INSTRUCTION(s):

1. Historical Neutral Locations

   A. CIPS Service Territory

      Since at least 1986, CIPS Distribution Standard DS2100 has stated that the preferable location for the neutral is down 6'-2" from the crossarm or lowest conductor on spans less than 200 feet. Where span lengths exceeded 200 feet, the space btn 6'-2" spacing was mandatory. However, it was permitted to place the neutral on the crossarm or at 40" spacing to eliminate replacing otherwise adequate poles for increased height.

   B. UE Service Territory

      UE Distribution Construction Standards called for neutrals on new line poles without any equipment mounted on the pole to be 40" down from the crossarm or lowest conductor. This was applicable to both 4kV and 12kV areas. Several Standards indicate 22" spacing is permitted for existing construction on 4kV poles or on poles being converted from 2400 Volt single phase to 7200 Volt single phase.

2. Consolidated Ameren Standards

   The Standards in this book show neutral spacing on all new configurations to be 6'-0". The previous range was to accommodate present conditions of most of the existing poles at being at 40" and many of the existing poles at 6'-2".

   A. New Pole Installations

      New pole lines and relocated pole lines should use the 6'-0" neutral spacing in general. Major advantage to the 6'-0" spacing is that it permits a truck's basket to maneuver between the phase conductors and the neutral to reach the field side of the pole.

   B. Working on Existing Poles or Replacing Existing Poles

      The rule of permitting 40" to avoid replacing otherwise acceptable poles shall continue. When replacing a pole in a lead, the existing spacing should generally be used on the new pole, except that a 40" minimum neutral spacing from the crossarm or lowest conductor is required. Increasing from a 40" spacing to a 6'-0" spacing would change the conductor tensions considerably and likely cause both design and construction problems.

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/21/12	MJ	

The phase locations shown in this distribution standard shall be standard for the Ameren System. It is not intended to change all existing structures that do not conform to this standard. However, all new constructions, as well as reconstructed existing circuits, shall, to the extent it is practicable, be in accordance with this standard.

1. Guidelines

The phase locations should be selected so as to give the maximum distance between conductors. For example, for 5kV and 15kV when going from the flat configuration as shown on Sheet 2 to vertical, the phase designation from the top of the pole shall be B, A, and C. The neutral conductor, when present on vertical corners, shall take a position below the primary phase conductor.

2. 4160 Volt Single Phase Construction Insulated for 7200 Volt Operation

Where a line is built for initial operation at 4160 Volt single phase but is insulated and spaced for future 7200 Volt operation, the conductor on the road side shall be considered the future phase wire and the field side conductor shall be the future multigrounded neutral, as shown on Sheet 2. On private property the east, northeast, north and northwest sides shall be equivalent to the road side, while the west, southwest, south and southeast sides shall be equivalent to the field side. At vertical corners the road side conductor (future 7200 Volt phase wire) shall occupy the high position on the pole. There will be instances where it will be impracticable to follow these general rules (e.g. where adjacent poles are on opposite sides of a winding road to keep line angles at a minimum). Where it is necessary to deviate from the standard conductor locations on poles adjacent to vertical corner poles the estimator shall show on his construction plats the conductor that must take the high position on the corner pole. This will obviate the need for construction changes when the line is cutover for 7200 Volt operation.

When the line is cutover to 7200 Volt operation all conductors in positions other than the standard shall be marked by placing the proper identifying aluminum letter on the crossarm directly below the conductor.

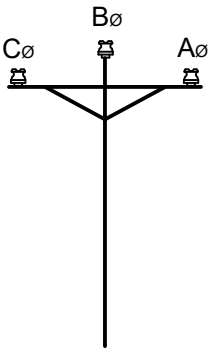
3. Marking

Any deviations from the standard phase locations shall be plainly marked with letters "A", "B", "C", or "N" attached to the crossarm below the respective conductor. These deviations may be due to transpositions or unusual construction. In addition to the marking of these deviations, all 3-phase switch locations, 3-phase capacitor installations, 3-phase recloser installations, 3-phase sectionalizer installations, and 3-phase terminal poles shall be plainly marked with the proper phase letter. These letters shall be placed on the crossarm or pole so that phases can be readily identified.

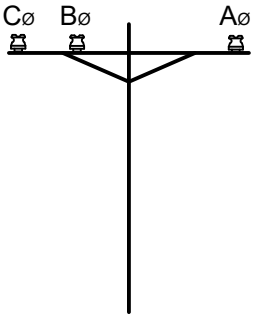
On long feeders with considerable distances between 3-phase switches, additional locations as required may also be marked to facilitate phase identification. Normally, these additional phase identification points should be located on poles where single phase taps take off from the 3-phase feeder main.

The phase locations on poles adjacent to vertical configurations shall be plainly marked to facilitate identification when making repairs. These letters shall be placed to the crossarm below the respective conductors.

REV	DATE	ENG	DESCRIPTION
3	07/01/25	AEP	Revised vertical single circuit detail
2	10/01/23	AEP	Converted to new format, combined with 03 00 01 02



Triangular



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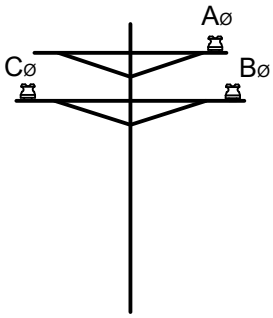
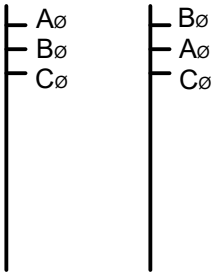
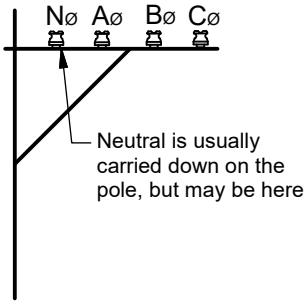


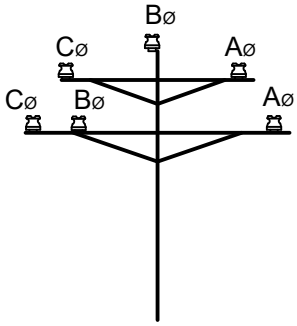
35kV Delta
Single Circuit



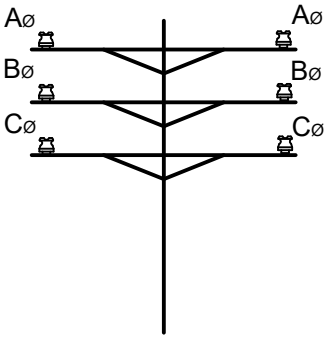
35kV 15kV
Vertical Single Circuit



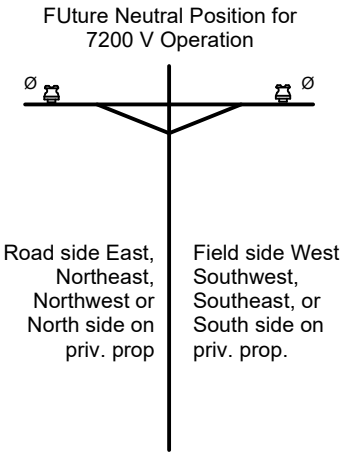
Sidearm



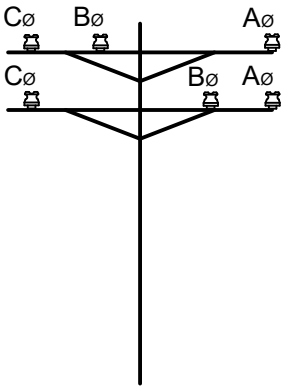
15kV Double Circuit



35kV Vertical
Double Circuit



4160V Single Phase
Insulated for Future
7200V Operation



15kV Double
Circuit Underbuild

REV	DATE	ENG	DESCRIPTION
3	07/01/25	AEP	Revised vertical single circuit detail
2	10/01/23	AEP	Converted to new format, combined with 03 00 01 02

This standard gives the design limits of the structural elements employed in building standard configurations. These limits are based on the allowable loading of crossarms and pins as shown in DCS **04 00 01 ****.

1. Angle Limits

Tables 1 thru 8 specify the maximum angle capable of being turned on pins, insulators, fiberglass standoffs, and fiberglass crossarms for various types of construction. This data is based on the transverse strength of the components of the structure and the load applied to it, due to the line angles.

2. Dead End Loadings

Table 3 specifies the maximum fiberglass crossarm deadend and loopover angle limitations. For loading criteria and number of wire attachments see DCS **04 00 01 ****. Crossarm guys should be used on unbalanced crossarm loads.

Table 1 - 600 lb Line Angle Limit on Single Pin Insulator - FG & Wood Crossarm

Conductor Size	Ruling Span					
	100'	150'	200'	250'	300'	350'
1/0 AAAC (Azusa)	23	18	14	11	8	6
336.4 ACSR (Merlin)	17	11	8	6	4	3
556 AAC (Dahlia)	22	8	5	4	3	2
954 ACSR (Rail)	14	6	4	3	2	1
1272 ACSR (Bittern)	14	6	3	2	1	1
T2-4/0 ACSR (T2 Penguin)	22	10	6	4	2	2
T2-336.4 ACSR (T2 Merlin)	11	6	4	3	2	1
T2-556 AAC (T2 Dahlia)	10	4	3	2	1	1
T2 954 ACSR (T2 Rail)	8	4	2	1	0	0
110.8 ACSR (Minorca)	23	14	9	7	5	4

Table 2 - 600 lb Line Angle Limit on Double-Insulator Single Pin - FG Crossarm

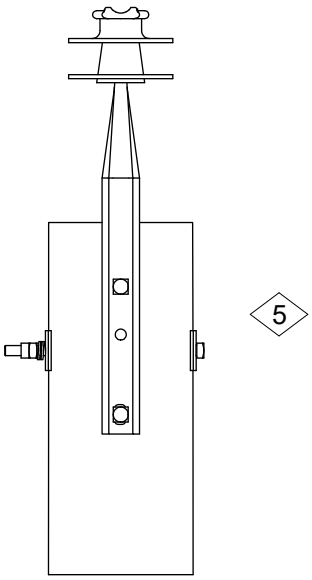
Conductor Size	Ruling Span					
	100'	150'	200'	250'	300'	350'
1/0 AAAC (Azusa)	46	35	28	21	17	13
336.4 ACSR (Merlin)	34	22	15	11	8	6
556 AAC (Dahlia)	44	15	10	7	5	4
954 ACSR (Rail)	28	12	8	5	3	2
1272 ACSR (Bittern)	27	12	6	4	2	1
T2-4/0 ACSR (T2 Penguin)	43	19	11	7	5	3
T2-336.4 ACSR (T2 Merlin)	21	12	8	5	3	2
T2-556 AAC (T2 Dahlia)	20	9	6	4	2	1
T2 954 ACSR (T2 Rail)	15	8	4	2	1	0
110.8 ACSR (Minorca)	46	28	19	14	10	8

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format, Updated Tables
7	02/21/12	DCG	

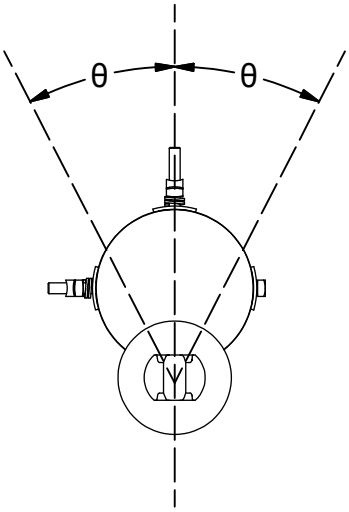
Table 3 - Maximum Deadend Line Angles for Loopovers - FG Crossarm						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	30	30	30	30	30	30
336.4 ACSR (Merlin)	30	30	30	30	30	30
556 AAC (Dahlia)	30	30	30	30	30	30
954 ACSR (Rail)	30	30	30	30	30	24
1272 ACSR (Bittern)	30	30	30	30	24	19
T2-4/0 ACSR (T2 Penguin)	30	30	30	30	30	30
T2-336.4 ACSR (T2 Merlin)	30	30	30	30	30	25
T2-556 AAC (T2 Dahlia)	30	30	30	30	25	22
T2 954 ACSR (T2 Rail)	30	30	30	25	19	14
110.8 ACSR (Minorca)	30	30	30	30	30	30

DESIGN NOTE(s):

1. The maximum line angle is limited to 30° to prevent conductor contact.
2. Double pins or double deadend pole top construction shall always be used at all NESC Grade B crossings.
3. For existing double wood crossarms at 2000 lbs per conductor during heavy loading, double pins and ties may be used.
4. Angles shown for single or double pins refer to crossarm pins and existing pole top pins mounted on the face of the pole.



Front View



Top View

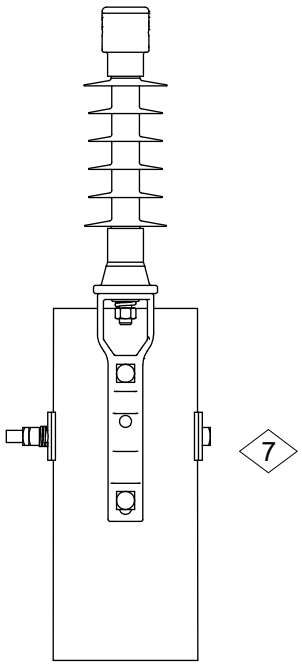
Table 4 - 1000 lb Line Angle Limit on Single Pin Insulator - Pole Top & Double Wood Crossarm						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	41	33	27	21	18	14
336.4 ACSR (Merlin)	31	21	15	12	9	8
556 AAC (Dahlia)	40	15	10	8	7	6
954 ACSR (Rail)	26	12	8	6	5	3
1272 ACSR (Bittern)	26	12	7	5	3	3
T2-4/0 ACSR (T2 Penguin)	40	18	11	8	6	4
T2-336.4 ACSR (T2 Merlin)	19	12	8	6	5	4
T2-556 AAC (T2 Dahlia)	19	9	6	5	4	3
T2 954 ACSR (T2 Rail)	15	8	5	4	2	1
110.8 ACSR (Minorca)	41	26	18	14	11	9

DESIGN NOTE(s):

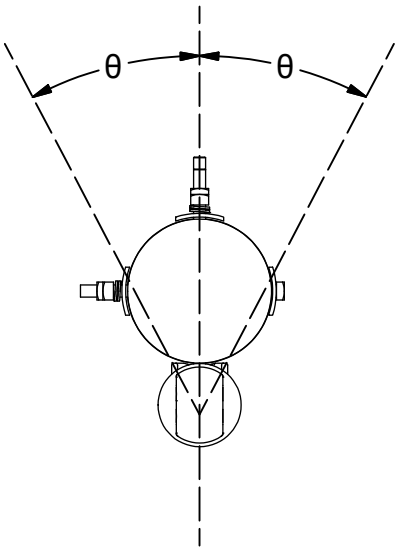
5. For standard construction, see DCS **06 12 01 02**.

6. Maximum tension caused by line angle of conductor is 1000lbs. For any cases above 1000lbs contact standards.

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format. Updated Tables
7	02/21/12	DCG	



Front View



Top View

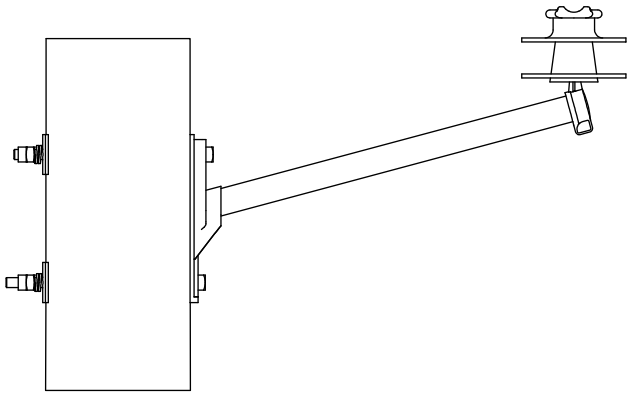
Table 5 - 1120 lb Line Angle Limit on Single Short Pin Insulator - Pole Top (34kV & 69kV)						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	47	37	30	25	21	17
336.4 ACSR (Merlin)	35	24	18	14	11	9
556 AAC (Dahlia)	46	17	11	9	8	7
954 ACSR (Rail)	30	14	10	7	5	4
1272 ACSR (Bittern)	29	13	8	6	4	3
T2-4/0 ACSR (T2 Penguin)	46	21	13	9	7	5
T2-336.4 ACSR (T2 Merlin)	22	14	10	7	6	4
T2-556 AAC (T2 Dahlia)	22	10	7	6	4	3
T2 954 ACSR (T2 Rail)	17	10	6	4	3	2
110.8 ACSR (Minorca)	47	29	21	16	13	11

DESIGN NOTE(s):

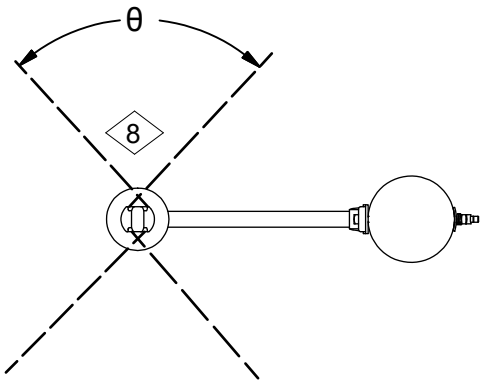
7. For standard construction, refer to DCS **06 34 01 05**.

8. Maximum tension caused by line angle of conductor is 1120lbs. For any cases above 1120lbs contact standards.

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format, Updated Tables
7	02/21/12	DCG	



Front View



Top View

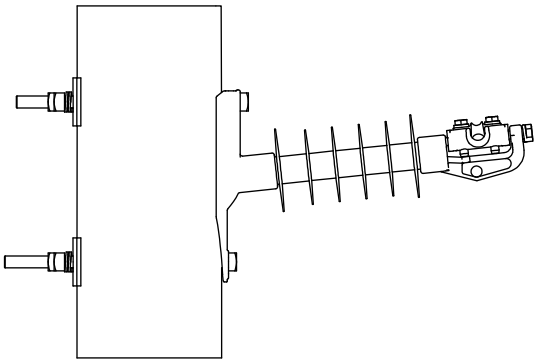
Table 6 - 1850 lb Line Angle Limit on Standoff Bracket Insulator (15kV)						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	86	67	55	45	39	32
336.4 ACSR (Merlin)	62	43	32	25	21	18
556 AAC (Dahlia)	84	30	21	17	15	14
954 ACSR (Rail)	52	25	18	14	11	8
1272 ACSR (Bittern)	52	24	15	11	8	7
T2-4/0 ACSR (T2 Penguin)	84	38	24	17	13	11
T2-336.4 ACSR (T2 Merlin)	39	25	18	14	11	9
T2-556 AAC (T2 Dahlia)	38	18	14	11	9	7
T2 954 ACSR (T2 Rail)	30	18	12	9	7	5
110.8 ACSR (Minorca)	85	52	38	29	24	21

DESIGN NOTE(s):

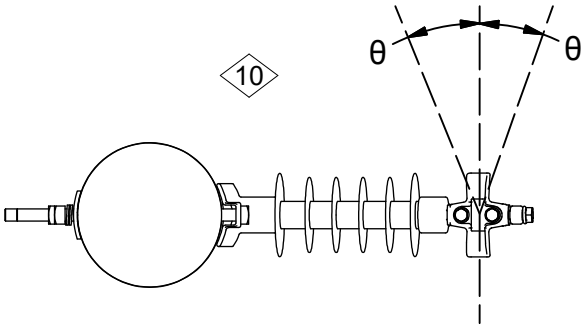
◇8.◇ Side tie in tension or compression on pin insulator of full tension take off unit.

9. Maximum tension caused by line angle of conductor is 1850lbs. For any cases above 1850lbs contact standards.

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format, Updated Tables
7	02/21/12	DCG	



Front View



Top View

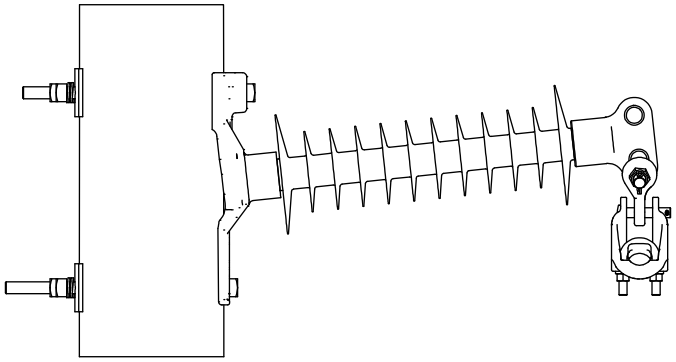
Table 7 - 2500 lb Line Angle Limit on Horizontal Line Post Insulator - Clamptop						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	20	20	20	20	20	20
336.4 ACSR (Merlin)	20	20	20	20	20	20
556 AAC (Dahlia)	20	20	20	20	20	20
954 ACSR (Rail)	20	20	20	19	16	12
1272 ACSR (Bittern)	20	20	20	16	12	10
T2-4/0 ACSR (T2 Penguin)	20	20	20	20	19	16
T2-336.4 ACSR (T2 Merlin)	20	20	20	19	16	13
T2-556 AAC (T2 Dahlia)	20	20	20	16	13	11
T2 954 ACSR (T2 Rail)	20	20	17	13	10	7
110.8 ACSR (Minorca)	20	20	20	20	20	20

DESIGN NOTE(s):

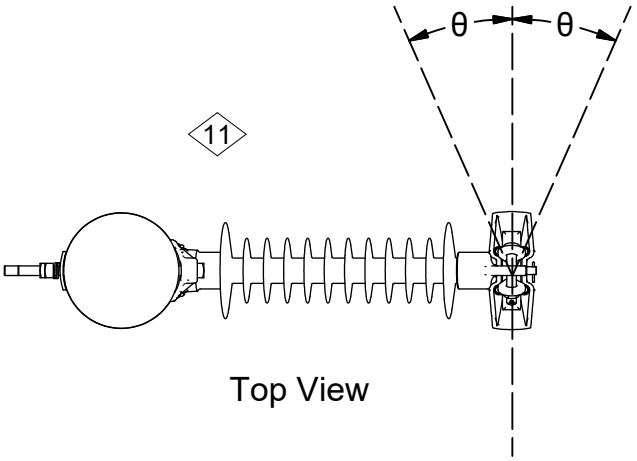
10. For standard construction in both compression and tension, refer to DCS **06 34 03 **** for 34kV and DCS **06 69 03 **** for 69kV.

11. Maximum tension caused by line angle of conductor is 2500lbs. For any cases above 2500lbs contact standards.

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format, Updated Tables
7	02/21/12	DCG	



Front View



Top View

Table 8 - 5000 lb Line Angle Limit on Horizontal Line Post Insulator - Suspension						
Conductor Size	**Ruling Span**					
	100'	**150'**	**200'**	**250'**	**300'**	**350'**
1/0 AAAC (Azusa)	30	30	30	30	30	30
336.4 ACSR (Merlin)	30	30	30	30	30	30
556 AAC (Dahlia)	30	30	30	30	30	30
954 ACSR (Rail)	30	30	30	30	30	27
1272 ACSR (Bittern)	30	30	30	30	27	22
T2-4/0 ACSR (T2 Penguin)	30	30	30	30	30	30
T2-336.4 ACSR (T2 Merlin)	30	30	30	30	30	29
T2-556 AAC (T2 Dahlia)	30	30	30	30	29	25
T2 954 ACSR (T2 Rail)	30	30	30	29	22	16
110.8 ACSR (Minorca)	30	30	30	30	30	30

DESIGN NOTE(s):

11. For standard construction in tension, refer to DCS **06 69 03 ****.

12. Maximum tension caused by line angle of conductor is 5000lbs. For any cases above 5000lbs contact standards.

REV	DATE	ENG	DESCRIPTION
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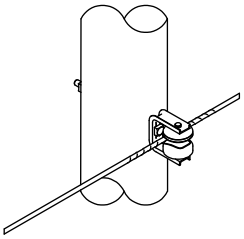
7	02/21/12	DCG	



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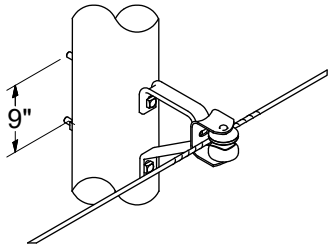

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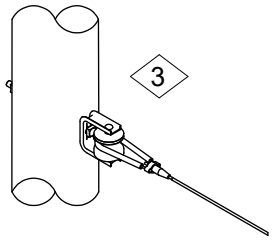

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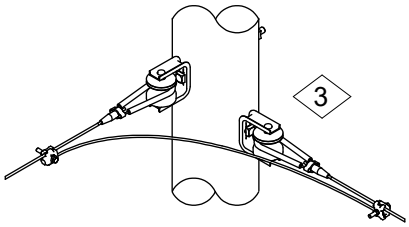

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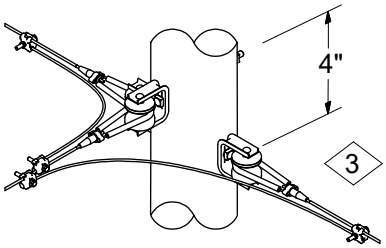

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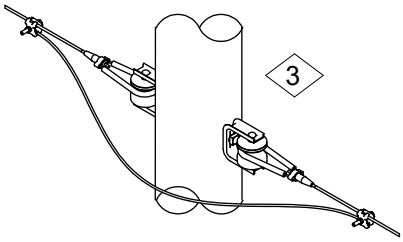
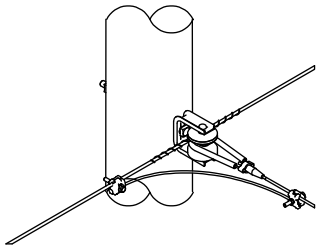
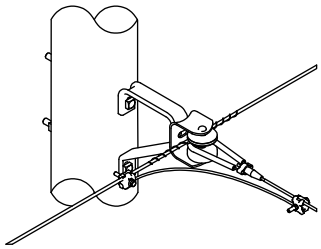


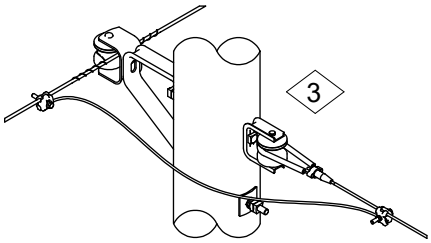
03 01 01 06



03 01 01 07



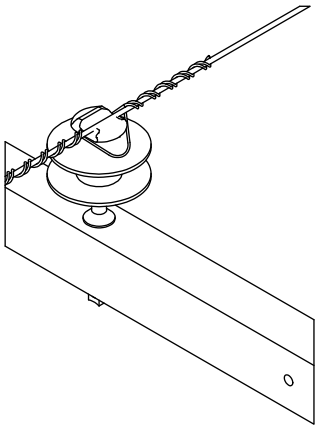
03 01 01 08



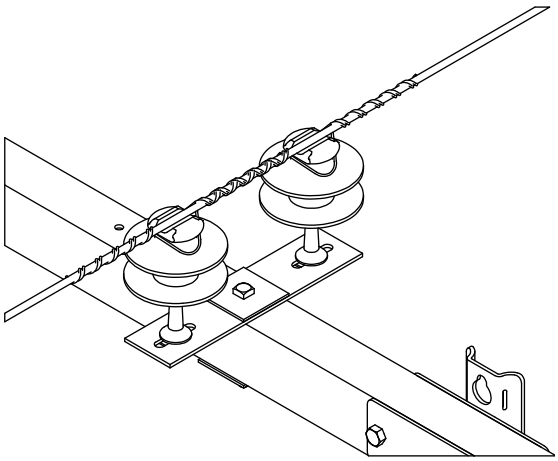
03 01 01 09

DCS #	DESCRIPTION
03 01 01 01	Thru
03 01 01 02	Thru w/ Extension
03 01 01 03	Deadend on Pole - Full Tension up to 2000 lbs
03 01 01 04	90° Angle
03 01 01 05	T-Corner
03 01 01 06	Looparound
03 01 01 07	Thru w/ Tap
03 01 01 08	Thru w/ Extension w/ Tap
03 01 01 09	Thru w/ Extension w/ Tap on Backside

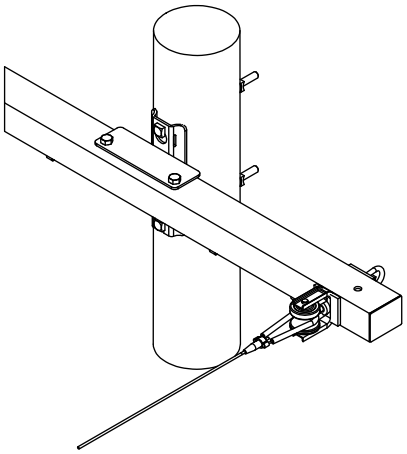
REV	DATE	ENG	DESCRIPTION
10	07/01/25	AEP	Revised note 4 & added note 5
9	10/01/23	AEP	Converted to new format



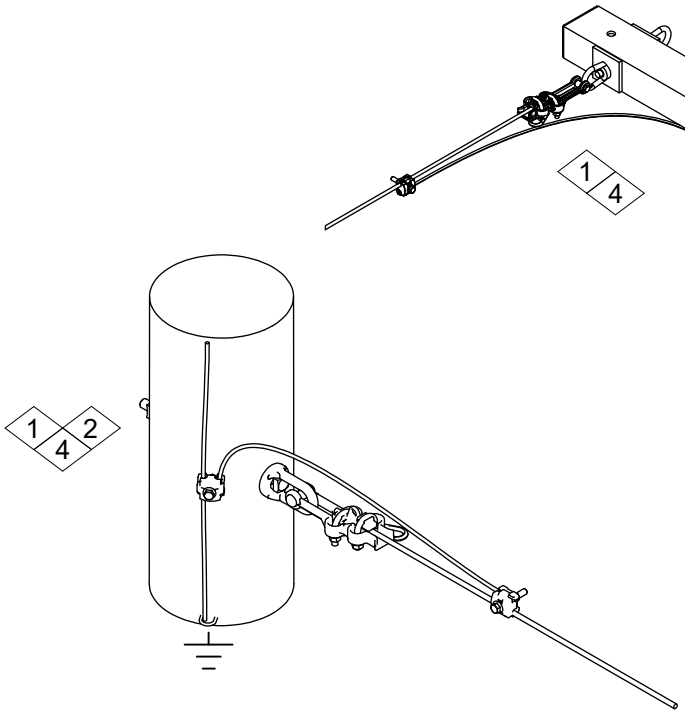
03 01 01 10



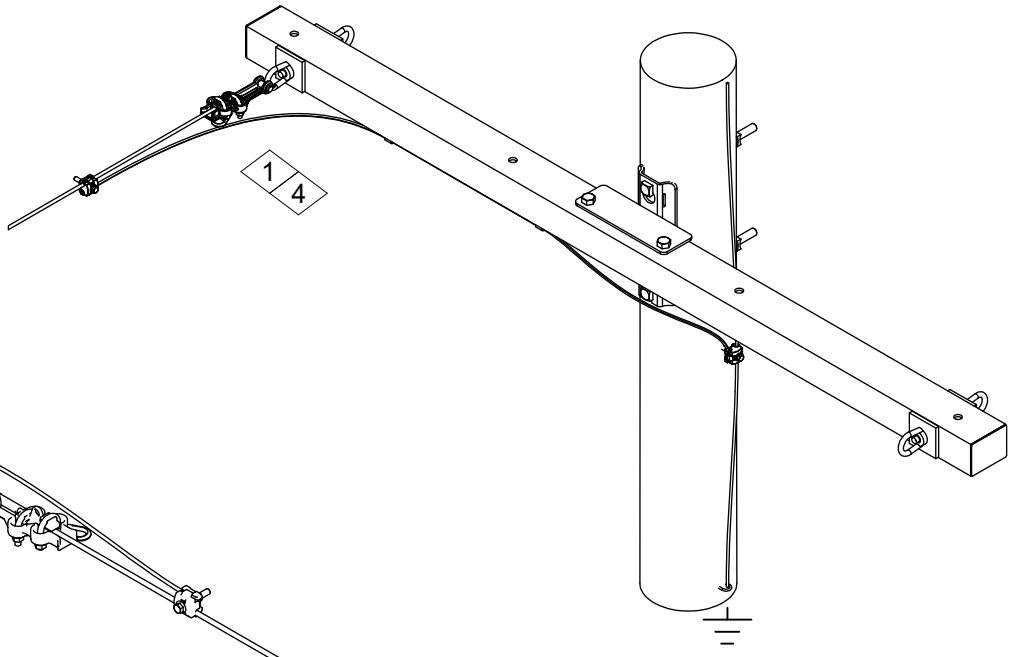
03 01 01 11



03 01 01 12



03 01 01 13



03 01 01 14

DCS #	DESCRIPTION
03 01 01 10	Thru Crossarm
03 01 01 11	Thru Double Pin on Crossarm
03 01 01 12	Deadend on Crossarm
03 01 01 13	Bolted Deadend - Slack Span or Tension > 2000 lbs
03 01 01 14	Bolted Deadend on Crossarm - Slack Span or Tension > 2000 lbs

REV	DATE	ENG	DESCRIPTION
10	07/01/25	AEP	Revised note 4 & added note 5
9	10/01/23	AEP	Converted to new format

	ITEM	STK / DCS #	DESCRIPTION 03 01 01 **	01	02	03	04	05	06	07	08	09	10	11	12	13	14
2	A	23 52 254	Bolt, Mach., 3/4" x 16" w/ square nut	-	-	-	-	-	-	-	-	-	-	-	-	1	1
	B	23 59 095	Eyelet, 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	C	23 66 135	Lock Washer - 3/4" Double Coil	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	D	23 65 042	Locknut, 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	E	23 66 031	Washer, Square, 3/4"	-	-	-	-	-	-	-	-	-	-	-	-	1	-
	F	23 66 027	Washer, Flat, Square, 5/8"	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	G	23 52 318	Bolt, Mach., 5/8" x 6" w/ square nut	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	H	23 65 043	Lock Nut - 5/8" Square	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	I	23 66 134	Lock Washer - 5/8" Double Coil	-	-	-	-	-	-	-	-	-	-	-	1	-	1
	J	23 66 132	Washer, Flat, Sq., 4"x4", w/ 13/16" hole	-	-	-	-	-	-	-	-	-	-	-	1	-	2
	K	23 59 005	Eyelet, 5/8"	-	-	-	-	-	-	-	-	-	-	-	-	-	1
	L	**06 01 01 01**	Single Clevis	1	-	1	2	1	-	1	-	1	-	-	1	-	-
	M	**06 01 01 03**	Single Clevis w/ Ext. Bracket	-	1	-	-	-	-	-	1	1	-	-	-	-	-
	N	**06 01 01 02**	Double Clevis	-	-	-	-	1	1	-	-	-	-	-	-	-	-
	O	**06 12 01 11 @**	Double Pin & Insulator - FG Crossarm	-	-	-	-	-	-	-	-	-	-	1	-	-	-
@	P	**06 12 01 02 @**	Single Pin & Insulator - Wood Crossarm	-	-	-	-	-	-	-	-	-	1	-	-	-	-
			Single Pin & Insulator - FG Crossarm	-	-	-	-	-	-	-	-	-	1	-	-	-	-
@	Q	**08 01 10 00 @**	Sec. Deadend, SDEA*W	-	-	1	2	3	2	1	1	1	-	-	-	-	-
@	R	**07 00 25 00**	Clamp, PG, PG*W	-	-	-	2	4	2	2	2	2	-	-	-	2	2
@	S	**07 00 41 00**	Insulator Ties, TT*W, DTT*W	-	-	-	-	-	-	-	-	-	1	1	-	-	-
@	T	**08 01 01 ** @**	Spool Ties, SPT*W	1	1	-	-	-	-	1	1	1	-	-	-	-	-
@	U	**07 00 11 00**	Clamp, Deadend, DEA*W	-	-	-	-	-	-	-	-	-	-	-	-	1	1
4,5,@	V	**12 00 10 ****	Grounding Unit	1	1	1	1	1	1	1	1	1	1	1	1	1	1

DESIGN NOTE(s):

1. Assemble items in order listed. Square nut provided with bolt is used after double coil washer. Double coil washer not needed on composite poles. Lock nuts must be placed after nut included with bolt stock number.

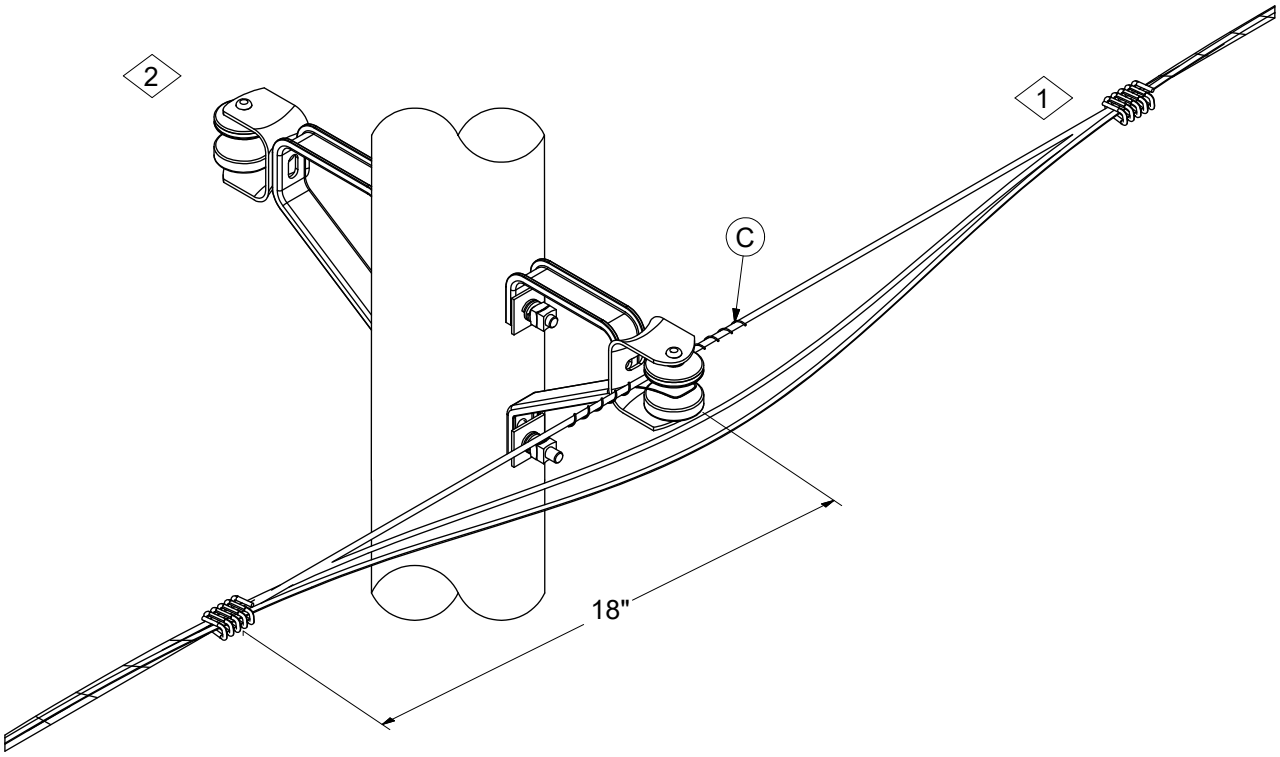
2. Use longer machine bolts for larger wood or composite poles if required.

3. If the deadend tension is > 2000 lbs, use DCS **03 01 01 13**.

4. Pole ground standard must be added when the neutral conductor is deadended without an insulator

5. A pole grounding standard is included with each equipment standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see DCS **12 00 01 01**).

REV	DATE	ENG	DESCRIPTION
10	07/01/25	AEP	Revised note 4 & added note 5
9	10/01/23	AEP	Converted to new format



DCS #	DESCRIPTION
03 01 03 01	Pre-assembled Secondary w/o Service Takeoff
03 01 03 02	Pre-assembled Secondary w/ Service Takeoff

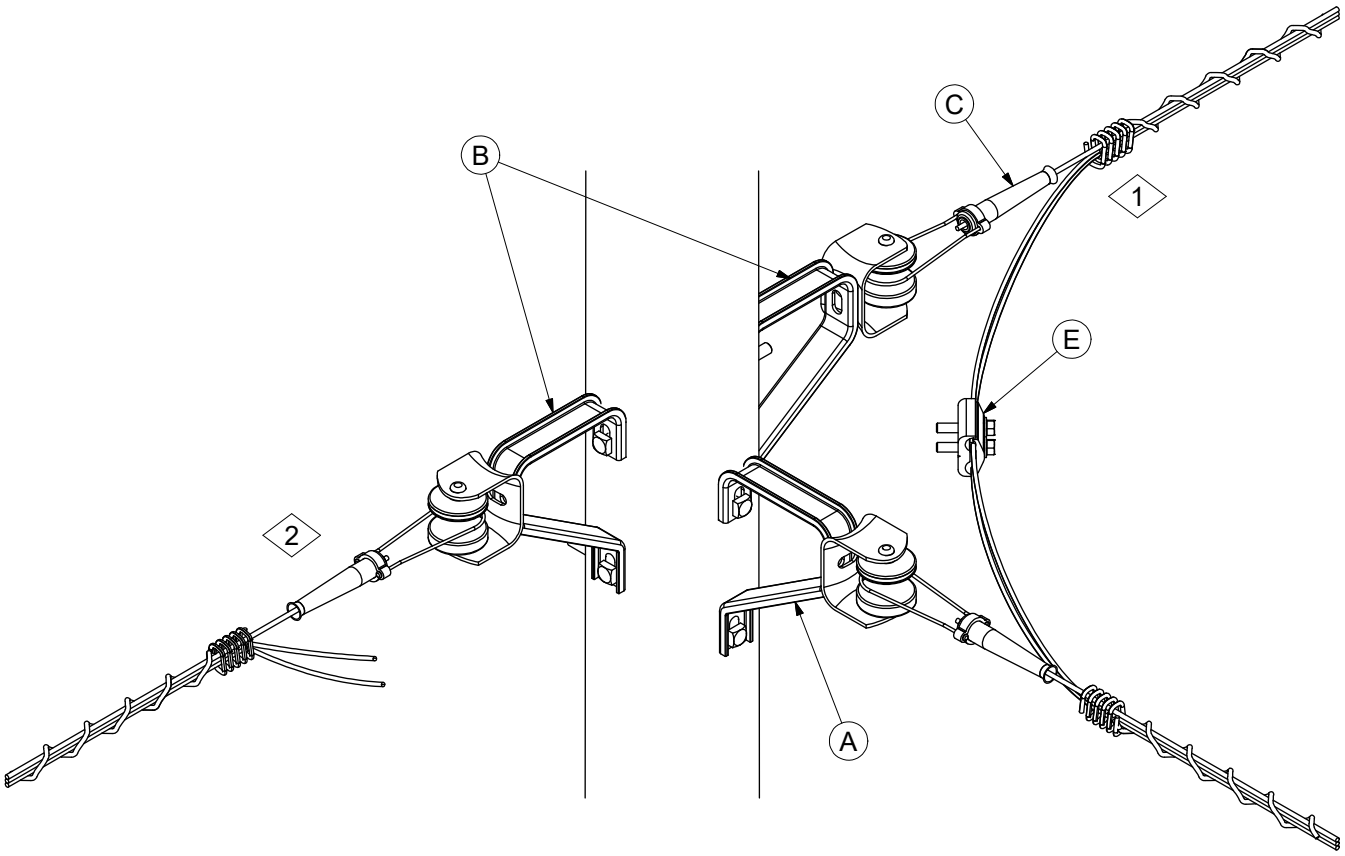
CONSTRUCTION NOTE(s):

1. Construction crew to open cable for distance of approximately 18", or more if needed, to allow room for making taps. Open cable only on side of pole where services are to be installed. Tape ends of conductors with rubber tape (Stock #25 53 080) followed by friction tape (Stock #25 53 003) and lash cable to messenger on both sides of opening with 5 close turns around entire cable and end on messenger with 2 turns and a half hitch.

2. For Service Construction Details, see DCS **09 01 34 00**.

ITEM	STK / DCS #	DESCRIPTION 03 01 03 **	01	02
A	**06 01 01 03**	Single Clevis w/ Extension Bracket	1	-
B	**06 01 01 04**	Double Clevis w/ Extension Bracket	-	1
C	**08 01 01 ** **	Tie, Preformed, SPT*W	1	1

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	10/14/11	MJ	



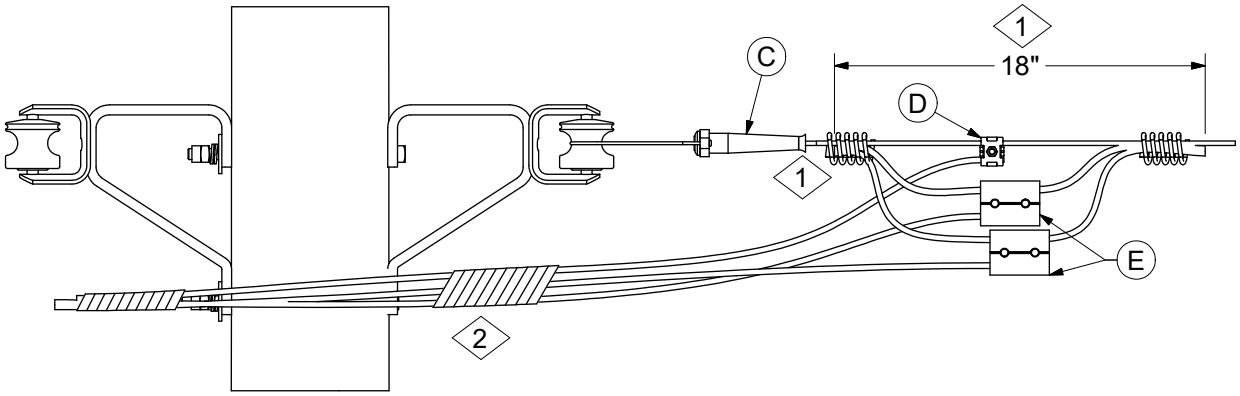
DCS #	DESCRIPTION
03 01 05 01	Pre-assembled Secondary Corner w/o Service Takeoff
03 01 05 02	Pre-assembled Secondary Corner w/ Service Takeoff

CONSTRUCTION NOTE(s):

1. Terminate lashing ribbon with 5 close turns around entire cable and end on messenger with two turns and a half hitch.

2. For more information on how to connect the service takeoff to the secondary, refer to DCS **09 01 30 00**.

ITEM	STK / DCS #	DESCRIPTION 03 01 05 **	01	02
A	**06 01 01 03**	Single Clevis w/ Extension Bracket	2	1
B	**06 01 01 04**	Double Clevis w/ Extension Bracket	-	1
C	23 78 333	Deadend - Automatic 1/0 AAAC (Bare)	2	2
	23 58 533	Deadend - Automatic 3/0 AAAC (Bare)	1	1
D	17 51 032	Clamp, PG, 1/0 AAAC	1	1
E	17 51 138	Clamp, PG , 4/0 AAAC, 3/0 AAAC	2	2



DCS #	DESCRIPTION
03 01 07 01	Pre-assembled Secondary Deadend w/o Service Takeoff
03 01 07 02	Pre-assembled Secondary Deadend w/ Service Takeoff

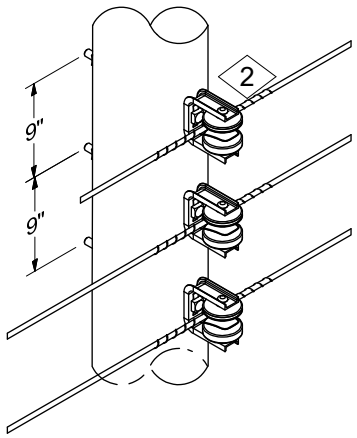
CONSTRUCTION NOTE(s):

1. Construction crew to open cable for distance of approximately 18", or more if needed, to allow room for making taps. Open cable only on side of pole where services are to be installed. Tape ends of conductors with rubber tape (Stock #25 53 080) followed by friction tape (Stock #25 53 003) and lash cable to messenger on both sides of opening with 5 close turns around entire cable and end on messenger with 2 turns and a half hitch.

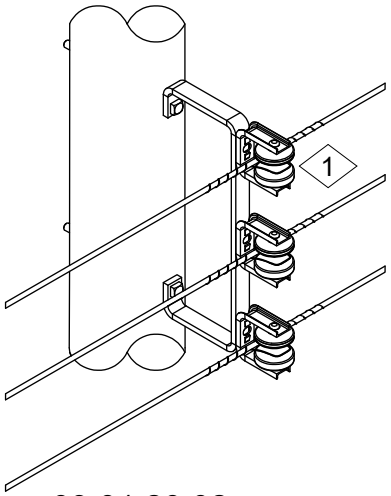
2. Bunch same phase wires to form a cable and tape as necessary.

ITEM	STK / DCS #	DESCRIPTION 03 01 07 **	01	02
A	**06 01 01 03**	Single Clevis w/ Extension Bracket	1	-
B	**06 01 01 04**	Double Clevis w/ Extension Bracket	-	1
C	23 78 333	Deadend - Automatic 1/0 AAAC (Bare)	1	1
	23 68 533	Deadend - Automatic 3/0 AAAC (Bare)	1	1
D	17 51 032	Clamp, PG, 1/0 AAAC	1	1
E	17 51 138	Clamp, PG, 4/0 AAAC, 3/0 AAAC	2	2

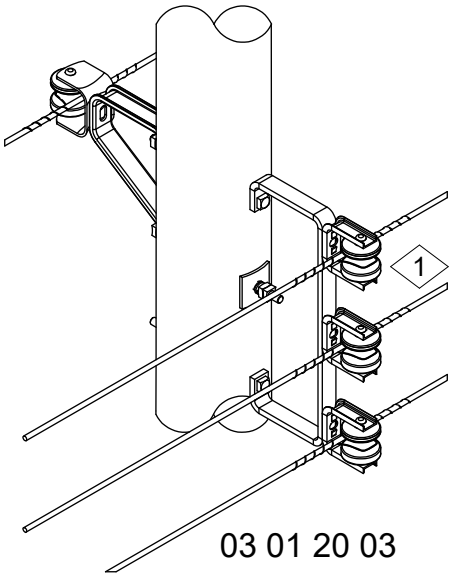
REV	DATE	ENG	DESCRIPTION
1	10/01/23	AEP	Converted to new format, Revised BOM
0	10/14/11	MJ	



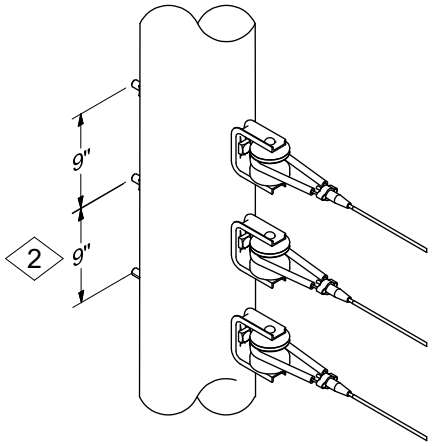
03 01 20 01



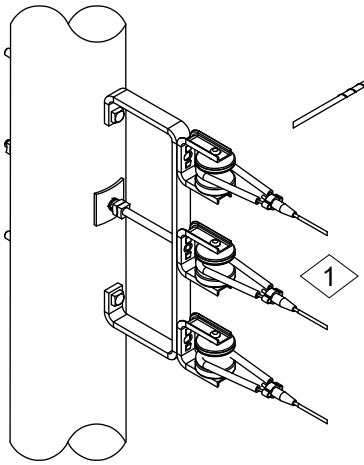
03 01 20 02



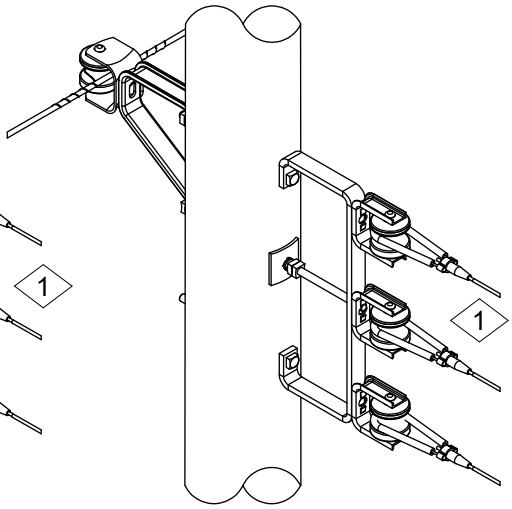
03 01 20 03



03 01 20 04



03 01 20 05



03 01 20 06

DCS#	DESCRIPTION
03 01 20 01	3-Wire Assembly Thru
03 01 20 02	3-Wire Rack Thru w/ Extension
03 01 20 03	3-Wire Rack Thru & Service w/ Extension
03 01 20 04	3-Wire Assembly Deadend
03 01 20 05	3-Wire Rack Deadend w/ Extension
03 01 20 06	3-Wire Rack Deadend & Service w/ Extension

REV	DATE	ENG	DESCRIPTION
5	07/01/25	AEP	Revised details to show DA bolt option
4	10/01/23	AEP	Converted to new format

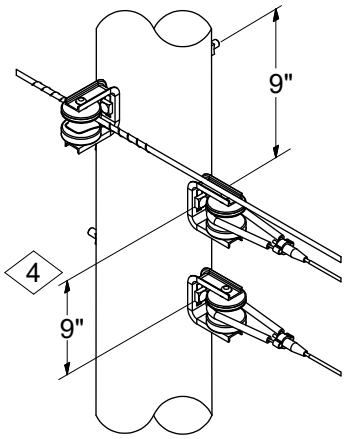
CONSTRUCTION NOTE(s):

1. Reinforce middle position with DA bolt for deadends, span guys, side strain, or line angles in excess of 5°.

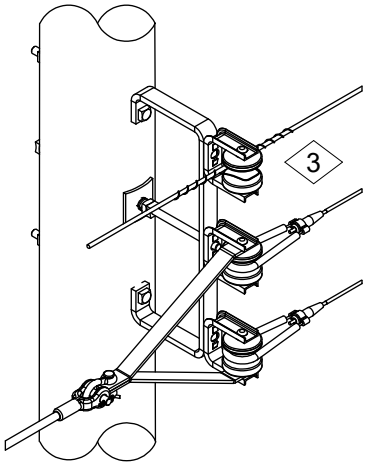
2. When multiple secondary racks are installed on the same side of the pole, a 9" separation is required between the racks.

	ITEM	STK / DCS #	DESCRIPTION 03 01 20 **	01	02	03	04	05	06
	A	**06 01 01 01**	Single Clevis	3	-	-	3	-	-
	B	**06 01 03 01 @**	Single 3-Wire Rack w/ Ext. Bracket	-	1	-	-	1	-
	C	**06 01 03 02 @**	3-Wire Rack w/ Single Clevis & Ext. Bracket	-	-	1	-	-	1
	D	**06 01 03 03 @**	Double 3-Wire Rack w/ Extension Bracket	-	-	-	-	-	-
	E	**06 01 03 04**	Single 3-Wire Rack	-	-	-	-	-	-
	F	**06 01 07 02 @**	4-Wire Secondary Assembly w/ Ext.	-	-	-	-	-	-
	G	**06 01 07 03 @**	4-Wire Secondary Assembly w/ Ext. - Double	-	-	-	-	-	-
@	H	**11 00 49 0* @**	Secondary Ext. Guy	-	-	-	-	-	-
@	I	**08 01 10 00 @**	Secondary Deadend, SDEA*W	-	-	-	3	3	3

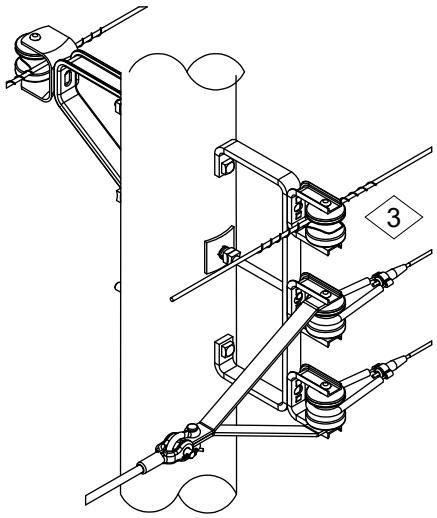
REV	DATE	ENG	DESCRIPTION
5	07/01/25	AEP	Revised details to show DA bolt option
4	10/01/23	AEP	Converted to new format



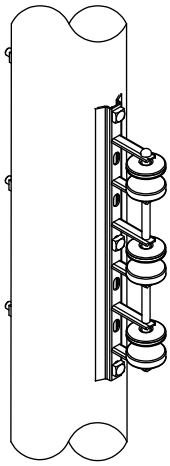
03 01 20 07



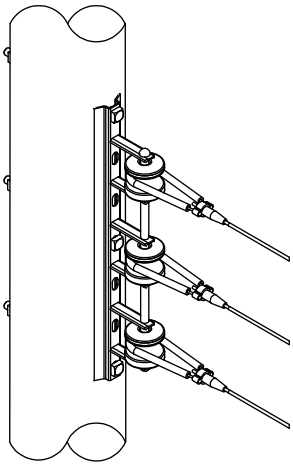
03 01 20 08



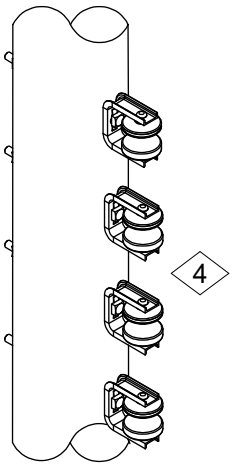
03 01 20 09



03 01 20 10



03 01 20 11



03 01 20 12

DCS #	DESCRIPTION
03 01 20 07	Neutral Thru w/ Secondary Deadend
03 01 20 08	Neutral Thru w/ Secondary Deadend w/ Extension
03 01 20 09	Neutral Thru w/ Secondary Deadend & Service w/ Extension
03 01 20 10	3-Wire Rack Thru w/o Extension
03 01 20 11	3-Wire Rack Deadend w/o Extension
03 01 20 12	4-Wire Assembly Thru
03 01 20 13	3-Wire Rack w/ Extension - Double
03 01 20 14	4-Wire Assembly w/ Extension
03 01 20 15	4-Wire Assembly w/ Extension - Double

REV	DATE	ENG	DESCRIPTION
5	07/01/25	AEP	Revised details to show DA bolt option
4	10/01/23	AEP	Converted to new format

CONSTRUCTION NOTE(s):

3. Reinforce with DA bolt for deadends, span guys, side strain, or line angles in excess of 5°.

4. When multiple secondary racks are installed on the same side of the pole, a 9" separation is required between the racks.

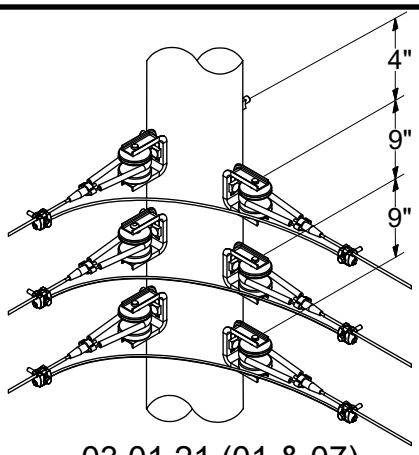
	ITEM	STK / DCS #	DESCRIPTION 03 01 20 **	07	08	09	10	11	12	13	14	15
	A	**06 01 01 01**	Single Clevis	3	-	-	-	-	4	-	-	-
	B	**06 01 03 01 @**	Single 3-Wire Rack w/ Ext. Bracket	-	1	-	-	-	-	-	-	-
	C	**06 01 03 02 @**	3-Wire Rack w/ Single Clevis & Ext. Bracket	-	-	1	-	-	-	-	-	-
	D	**06 01 03 03 @**	Double 3-Wire Rack w/ Extension Bracket	-	-	-	-	-	-	2	-	-
	E	**06 01 03 04**	Single 3-Wire Rack	-	-	-	1	1	-	-	-	-
	F	**06 01 07 02 @**	4-Wire Secondary Assembly w/ Ext.	-	-	-	-	-	-	-	1	-
	G	**06 01 07 03 @**	4-Wire Secondary Assembly w/ Ext. - Double	-	-	-	-	-	-	-	-	1
	H	**11 00 49 0* @**	Secondary Ext. Guy	-	1	1	-	-	-	-	-	-
@	I	**08 01 10 00 @**	Secondary Deadend, SDEA*W	2	2	2	-	3	-	-	-	-

REV	DATE	ENG	DESCRIPTION
5	07/01/25	AEP	Revised details to show DA bolt option
4	10/01/23	AEP	Converted to new format

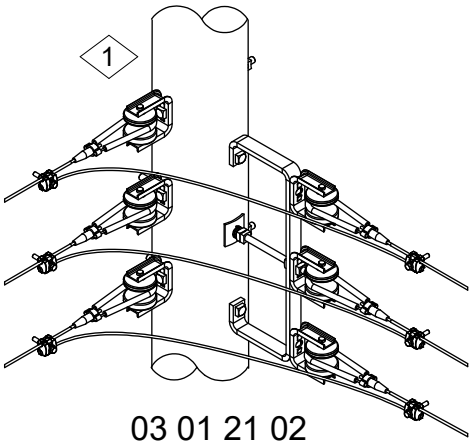
CONFIGURATIONS

Open Wire Secondary Assembly
90° Corner

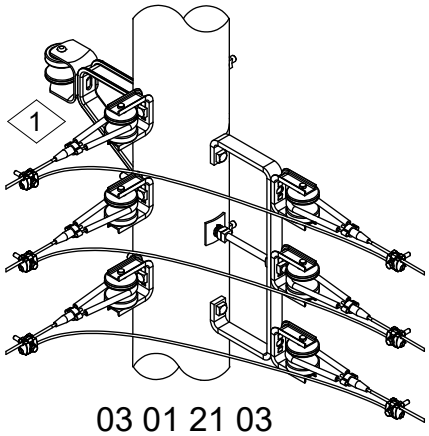
03 01 21 **
600V
1 of 1



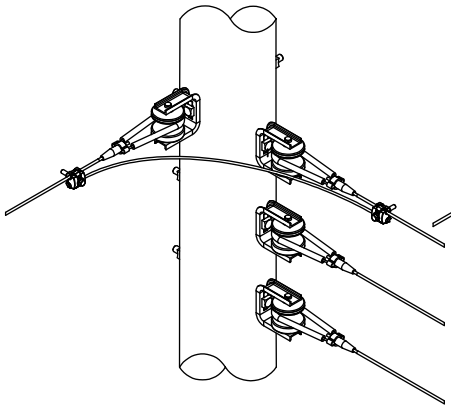
03 01 21 (01 & 07)



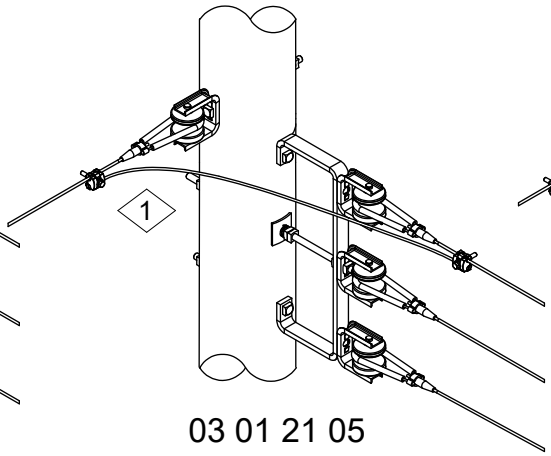
03 01 21 02



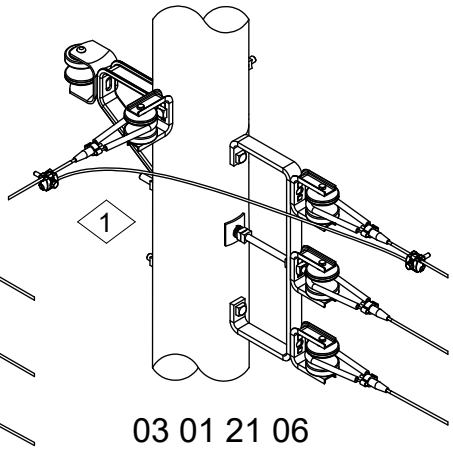
03 01 21 03



03 01 21 (04 & 08)



03 01 21 05



03 01 21 06

DCS #	DESCRIPTION
03 01 21 01	3-Wire Assembly Deadend Angle
03 01 21 02	3-Wire Assembly Deadend Angle w/ Ext.
03 01 21 03	3-Wire Assembly Deadend Angle & Service w/ Ext.
03 01 21 04	3-Wire Assembly Deadend w/ Single Neutral Angle
03 01 21 05	3-Wire Assembly Deadend w/ Single Neutral Angle w/ Ext.
03 01 21 06	3-Wire Assembly Deadend & Service w/ Single Neutral Angle w/ Ext.
03 01 21 07	3-Wire Assembly w/ 3-Wire Rack Deadend Angle
03 01 21 08	3-Wire Rack Deadend w/ Single Neutral Angle

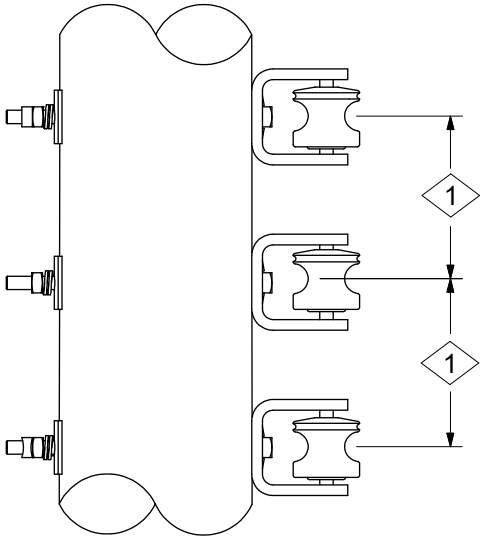
CONSTRUCTION NOTE(s):

1. Reinforce with DA bolt for deadends, span guys, side strain, or line angles in excess of 5°.

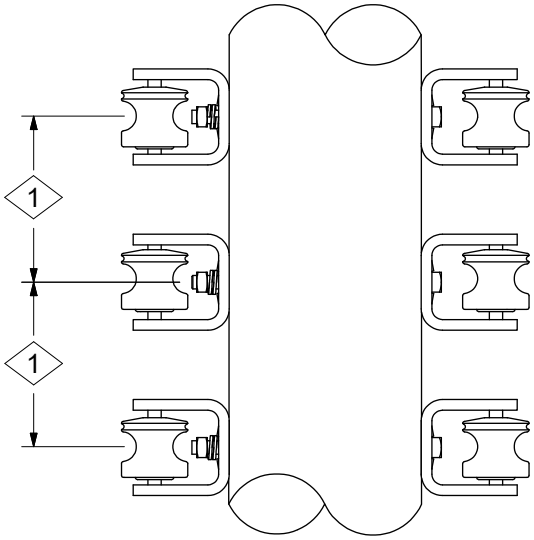
	ITEM	STK / DCS #	DESCRIPTION 03 01 21 **	01	02	03	04	05	06	07	08
	A	**06 01 01 01**	Single Clevis	6	3	3	4	1	1	3	1
	B	**06 01 03 01 @**	Single 3-Wire Rack w/ Extention Bracket	-	1	-	-	1	-	-	-
	C	**06 01 03 02 @**	3-Wire Rack w/ Single Clevis & Ext. Bracket	-	-	1	-	-	1	-	-
	D	**06 01 03 04**	Single 3-Wire Rack	-	-	-	-	-	-	1	1
@	E	**08 01 10 00 @**	Secondary Deadend, SDEA*W	6	6	6	4	4	4	6	4

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	10/14/11	MJ	



03 01 25 01



03 01 25 02

CONSTRUCTION NOTE(s):

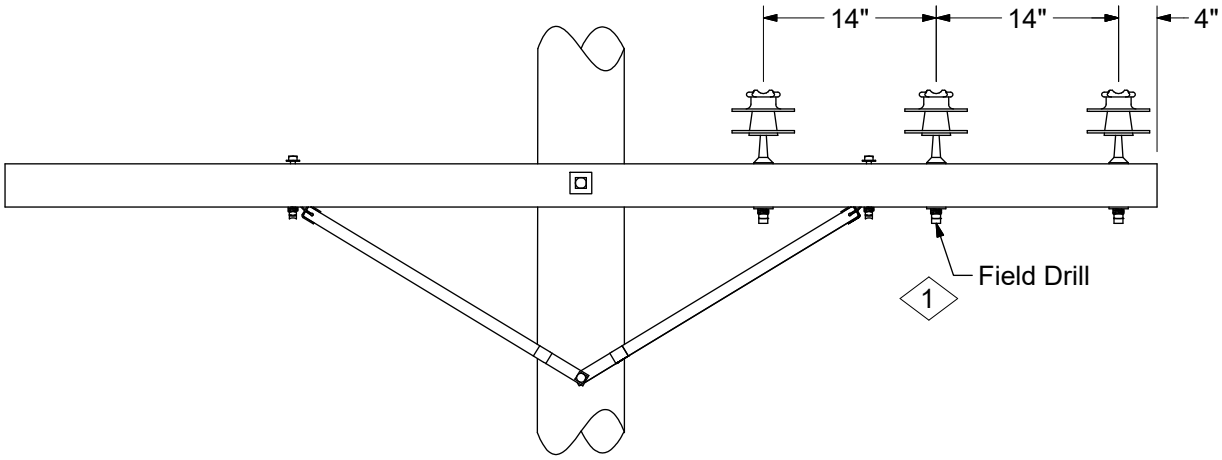
1. Distance between clevises shall be as follows:
   - A. 9” for up to 200 Ft. Spans
   - B. 12” for 200 Ft. to 250 Ft. Spans
   - C. 18” for 250 Ft. to 350 Ft. Spans
   - D. 24” for 350 Ft. to 400 Ft. Spans

2. For location of secondary clevises on rack with respect to primary circuits, see DCS **29 00 17 08**.

3. This construction is applicable to only those cases where climbing space can be obtained without use of secondary extension bracket.

ITEM	STK / DCS #	DESCRIPTION 03 01 25 **	01	02
A	**06 01 01 01**	Single Clevis	3	-
	06 01 01 02	Double Clevis	-	3

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format
7	10/14/11	MJ	



03 01 26 03
8'-0" Single Wood Arm

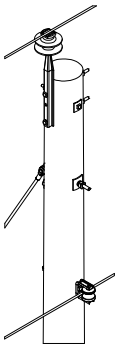
03 01 26 05
10'-0" Single Wood Arm

CONSTRUCTION NOTE(s):

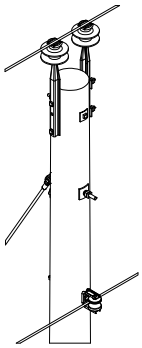
1. This construction to be used only where existing facilities prohibit the use of secondary racks or clevises.

2. For location of secondary arms with respect to primary circuits, see DCS **29 00 17 09**.

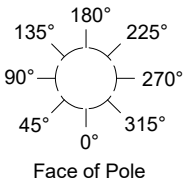
	ITEM	STK / DCS #	DESCRIPTION 03 01 26 **	03	05
	A	**04 00 20 02 @**	8' Single Wood Arm	1	-
		04 00 20 03 @	10' Single Wood Arm	-	1
	B	**06 12 01 01**	Single Pin & Insulator - Wood Crossarm	3	3
@	C	**07 00 41 00 @**	Top Ties, TT*W	3	3

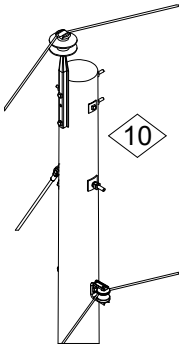


03 12 01 01

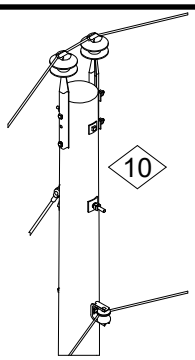


03 12 01 03

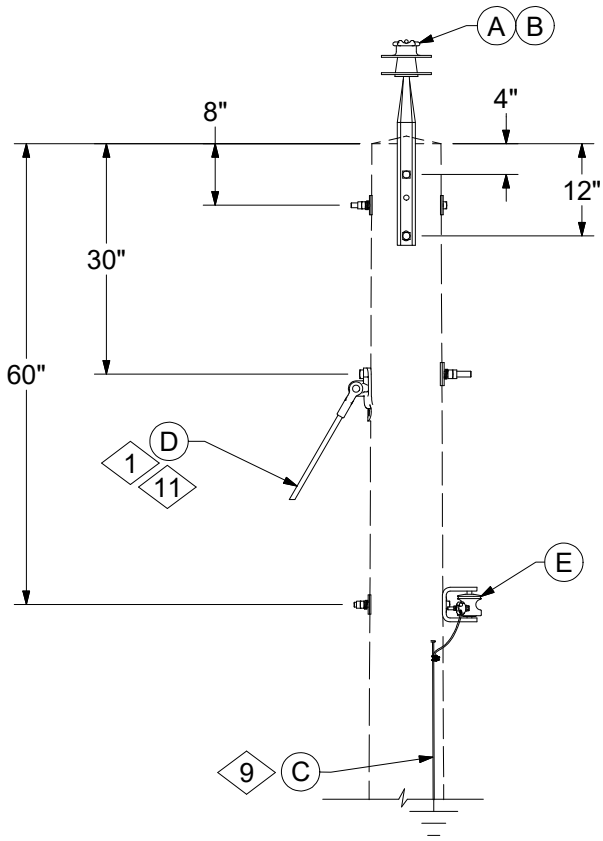




03 12 01 02



03 12 01 22



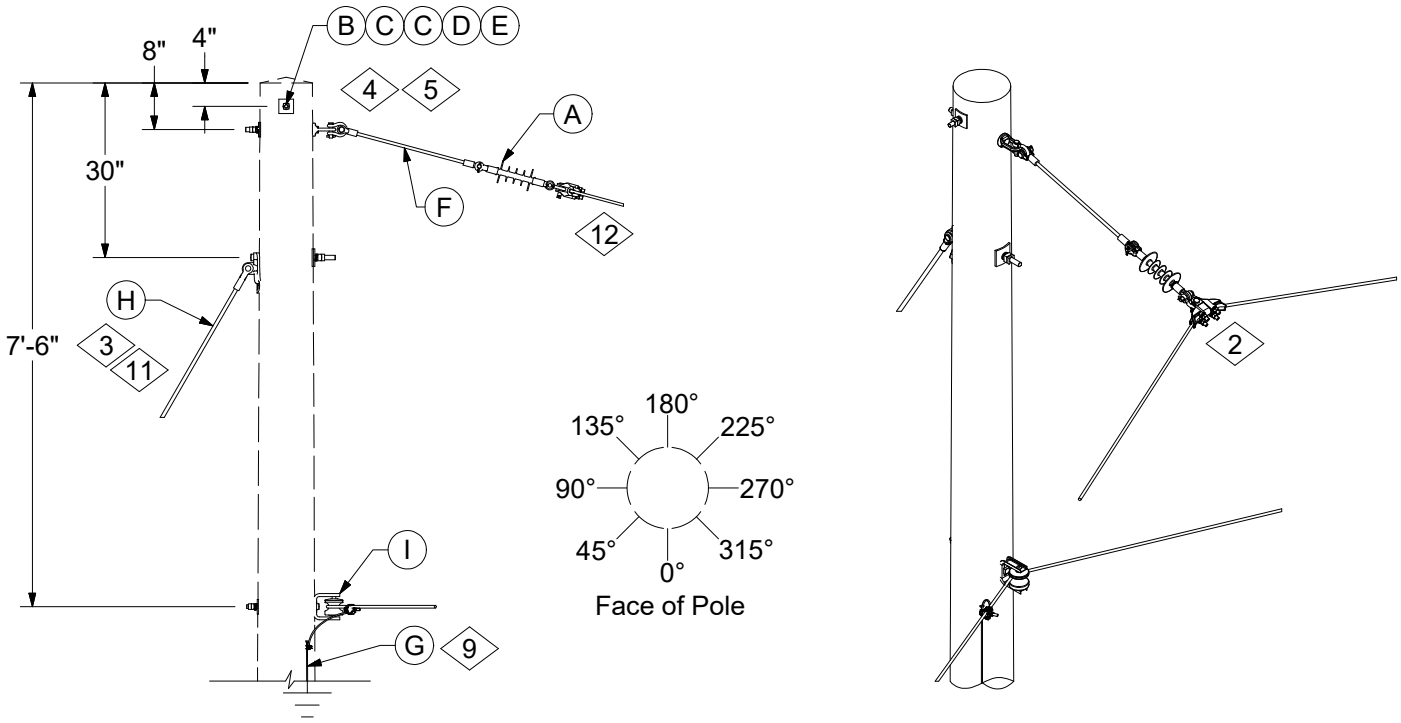
DCS #	DESCRIPTION
03 12 01 01	Single Pole Top Pin - Tangent
03 12 01 02	Single Pole Top Pin - Angle
03 12 01 03	Double Pole Top Pin - Tangent
03 12 01 22	Double Pole Top Pin - Angle

CONSTRUCTION NOTE(s):

1. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 12 01 **	01	02	03	22
	A	**06 12 01 02**	Single Pole Top Pin & Insulator	1	1	-	-
		06 12 01 13	Double Pole Top Pin & Insulator	-	-	1	1
	B	**07 00 41 00 @**	Single Top Tie, TT*W	1	-	-	-
@			Single Side Tie, ST*W	-	1	-	-
			Double Top Tie, DTT*W	-	-	1	-
			Double Side Tie, DST*W	-	-	-	1
9,13,@	C	**12 00 10 ** @**	Grounding Unit	1	1	1	1
1,@	D	**11 00 4* ** @**	Guying Unit	-	#	-	#
@	E	**03 01 01 ** @**	Neutral	1	1	1	1

REV	DATE	ENG	DESCRIPTION
12	10/01/23	AEP	Converted to new format
11	04/01/19	KR	



03 12 01 20 ◇12◇
Floating Angle

CONSTRUCTION NOTE(s):

◇2.◇ For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

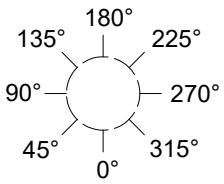
◇3.◇ See DCS **11 00 02 02** for typical guy insulator placement.

◇4.◇ Assemble items in order listed. Square nut provided with bolt is used after double coil washer. Double coil washer not needed on composite poles. Lock nuts must be placed after nut included with bolt stock number.

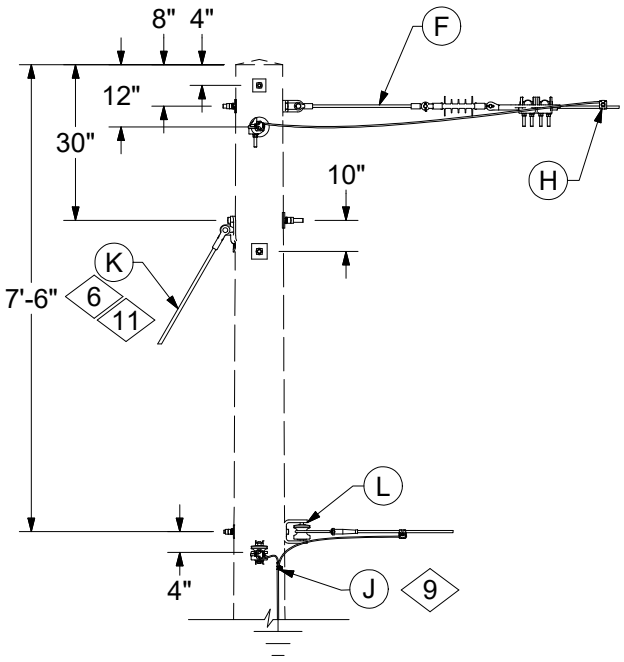
◇5.◇ Use longer machine bolts for larger wood or composite poles if required.

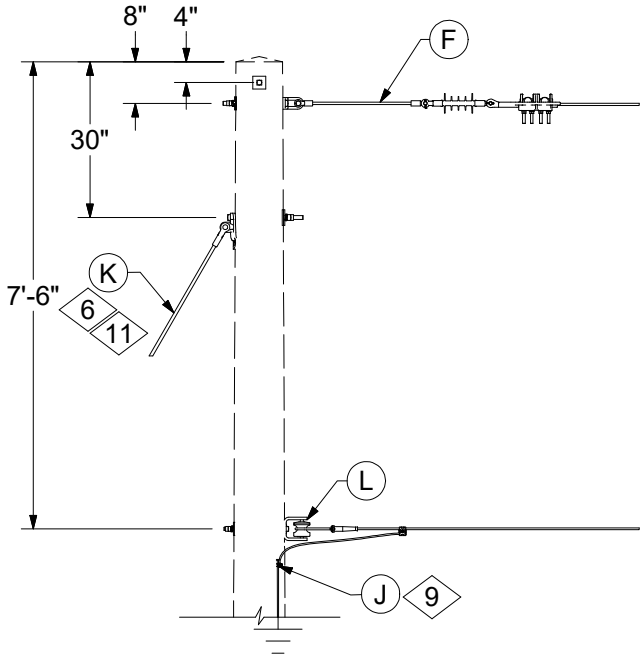
	ITEM	STK / DCS #	DESCRIPTION 03 12 01 **	20
	A	**06 12 30 02** @	Insulator, Floating Angle	1
4,5	B	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1
4,5	C	23 66 207	Washer, Curved, Square, 5/8"	2
4,5	D	23 66 134	Lock Washer - 5/8" Double Coil	1
4,5	E	23 65 043	Lock Nut - 5/8" Square	1
	F	25 56 076	Insulator, Guy Strain, 26"	1
9,13,@	G	**12 00 10** ** @	Grounding Unit	1
3,@	H	**11 00 4*** ** @	Guying Unit	#
@	I	**03 01 01** ** @	Neutral	1

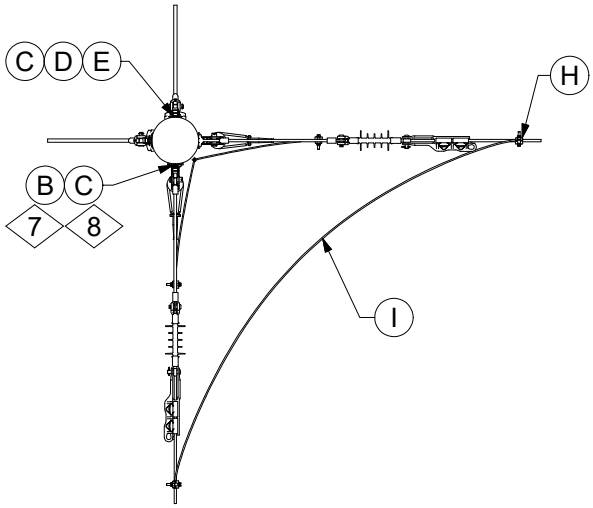
REV	DATE	ENG	DESCRIPTION
12	10/01/23	AEP	Converted to new format
11	04/01/19	KR	



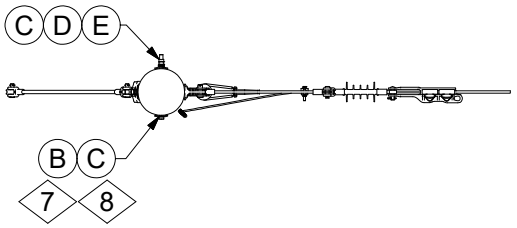
Face of Pole





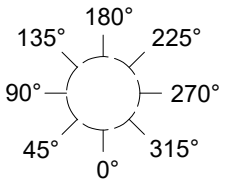


03 12 01 05
90-Degree Angle Double Deadend

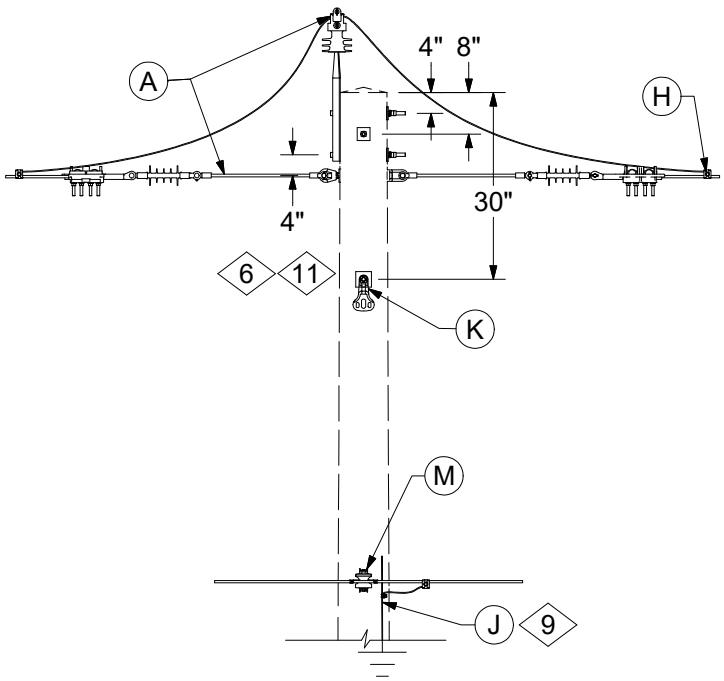


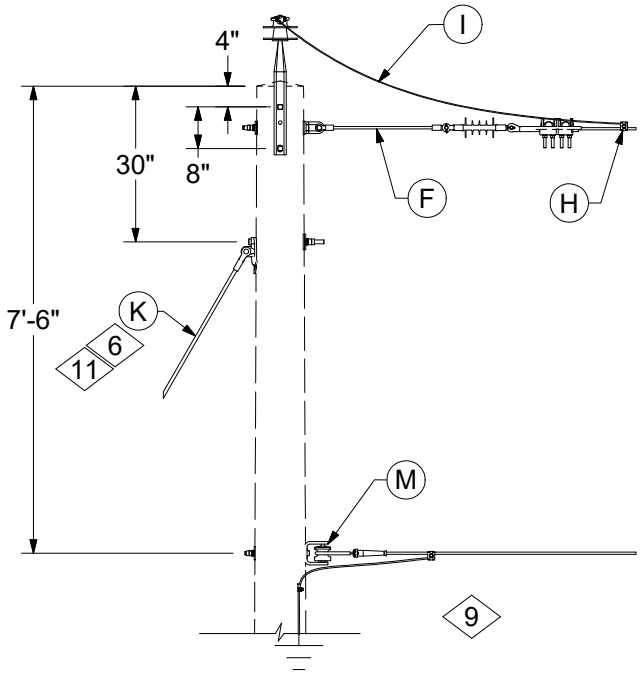
03 12 01 06
Single Deadend

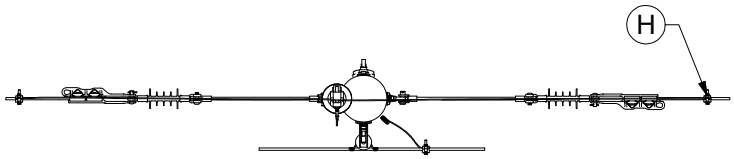
REV	DATE	ENG	DESCRIPTION
12	10/01/23	AEP	Converted to new format
11	04/01/19	KR	



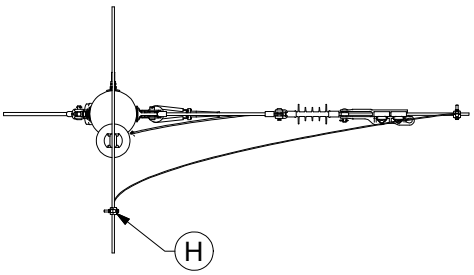
Face of Pole







03 12 01 07
Double Deadend Loopover



03 12 01 08
Single Phase Tap

REV	DATE	ENG	DESCRIPTION
12	10/01/23	AEP	Converted to new format
11	04/01/19	KR	

CONSTRUCTION NOTE(s):

6. See DCS **11 00 02 02** for typical guy insulator placement.

7. Assemble items in order listed. Square nut provided with bolt is used after double coil washer. Double coil washer not needed on composite poles. Lock nuts must be placed after nut included with bolt stock number.

8. Use longer machine bolts for larger wood or composite poles if required.

	ITEM	STK / DCS #	DESCRIPTION 03 12 01 **	05	06	07	08
	A	**06 12 30 04** @	Pole Top, Loopover w/ FG Extension	-	-	1	-
7,8	B	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	-	-
7,8	C	23 66 207	Washer, Curved, Square, 5/8"	2	2	-	-
7,8	D	23 66 134	Lock Washer - 5/8" Double Coil	1	1	-	-
7,8	E	23 65 043	Lock Nut - 5/8" Square	1	1	-	-
@	F	**06 12 30 01** @	Deadend w/ FG Extension	2	1	-	1
@	G	**07 00 41 00** @	Top Tie, TT*W	-	-	-	1
@	H	**07 00 25 00** @	Clamp, Parallel Groove, PG*W	2	-	2	2
@	I	**07 00 80 00** @	Wire, Poly Covered, (Ft.), PLW*W	10	-	10	5
9,13,@	J	**12 00 10 **** @	Grounding Unit	1	1	1	1
6,@	K	**11 00 4* **** @	Guying Unit	#	#	#	#
@	L	**07 00 21 00** @	Hot Line Clamp, HLC*W	#	#	#	#
@	M	**03 01 01 **** @	Neutral	2	1	1	1
	N	252, 255, or 260	Op Code, Install Jumper	1	-	1	1

DESIGN NOTE(s):

9. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

10. See DCS **03 00 03 00** for angle and span length limitations.

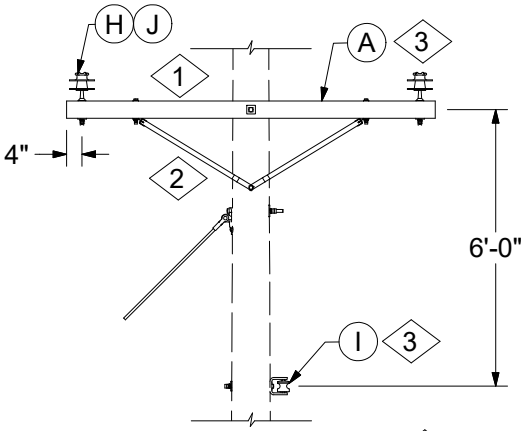
11. See DCS **02 00 04 02** for unguyed composite pole application.

12. See DCS **07 00 16 00** for angle limitations.

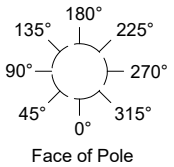
13. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.

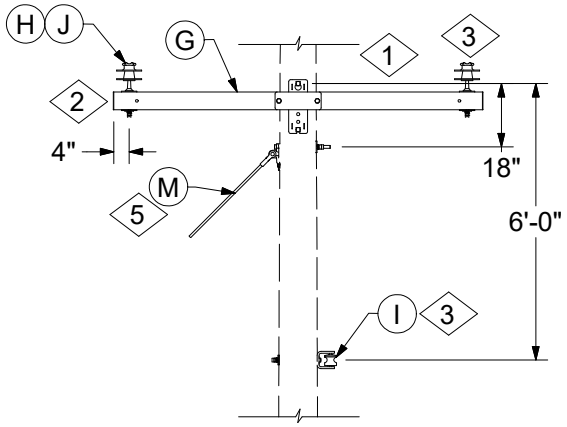
CONFIGURATIONS
Single Phase - Underbuild

03 12 02 **
15kV
1 of 2



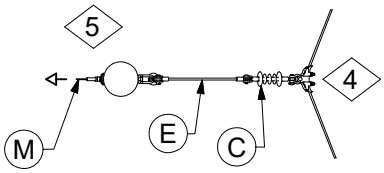
03 12 02 (01 & 11) 6

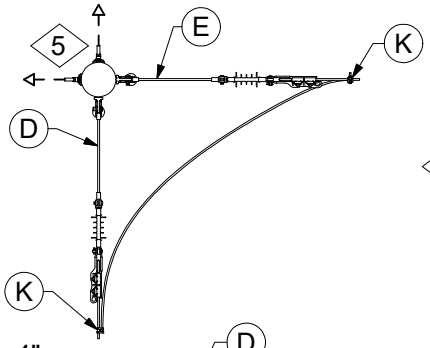


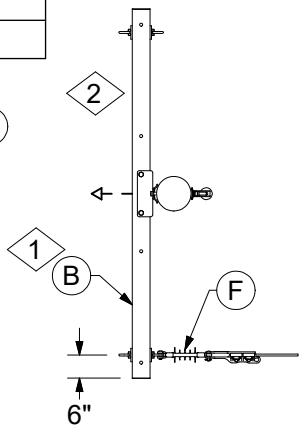


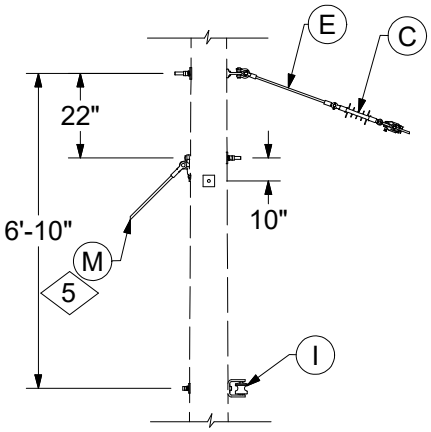
03 12 02 (03, 08, 09, 13, 14, & 15) 6

DCS #	DESCRIPTION
03 12 02 01	Tangent Single Pin - 8' Wood Crossarm
03 12 02 03	Angle Double Pin - 8' FG Crossarm
03 12 02 08	Tangent Single Pin - 8' FG Crossarm
03 12 02 09	Angle Single Pin - 8' FG Crossarm
03 12 02 11	Tangent Single Pin - 10' Wood Crossarm
03 12 02 13	Angle Double Pin - 10' FG Crossarm
03 12 02 14	Tangent Single Pin - 10' FG Crossarm
03 12 02 15	Angle Single Pin - 10' FG Crossarm

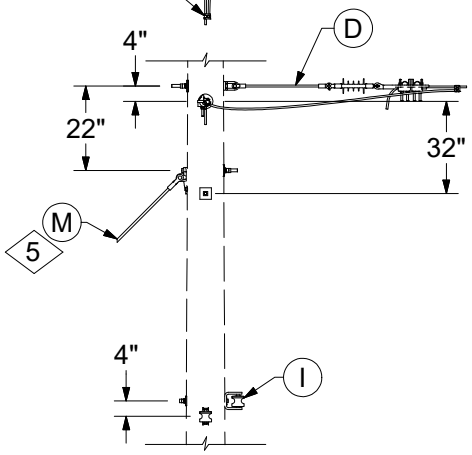




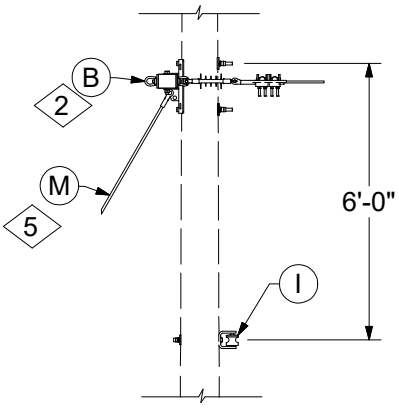




03 12 02 04 6
Floating Angle



03 12 02 05
90-Degree Corner



03 12 02 06
Single Deadend w/ Neutral - 8' FG Crossarm
03 12 02 16
Single Deadend w/ Neutral - 10' FG Crossarm

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	03/27/18	KR	

CONSTRUCTION NOTE(s):

1. 8'-0" crossarm available for use in Ameren Missouri only.

2. See DCS **04 00 01 01** for crossarm selection options and loading requirements.

3. If neutral installed below arm, omit one pin insulator and see DCS **03 01 01 ****** for neutral materials.

4. For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

5. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 12 02 **	01	03	04	05	06	08	09	11	13	14	15	16
1,2	A	**04 00 20 02** @	8' Single Wood Arm	1	-	-	-	-	-	-	-	-	-	-	-
		04 00 20 03 @	10' Single Wood Arm	-	-	-	-	-	-	-	1	-	-	-	-
1,2	B	**04 00 42 02** @	8' Deadend FG Crossarm	-	-	-	-	1	-	-	-	-	-	-	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-		-	-	-	-	-	-	-	-	1
	C	**06 12 30 02** @	Insulator, Floating Angle	-	-	1	-	-	-	-	-	-	-	-	-
	D	**06 12 30 01** @	Straight Deadend w/ FG Extension	-	-	-	2	-	-	-	-	-	-	-	-
	E	25 56 076	Insulator, Guy Strain, 26"	-	-	1	-	-	-	-	-	-	-	-	-
	F	**06 12 35 01** @	Single Deadend	-	-	-	-	1	-	-	-	-	-	-	1
1,2	G	**04 00 41 14** @	Crossarm, Tangent, FG, 8'	-	1	-	-	-	1	1	-	-	-	-	-
		04 00 41 16 @	Crossarm, Tangent, FG, 10'	-	-	-	-	-	-	-	-	1	1	1	-
3,6,@	H	**06 12 01 01** @	Single Pin & Insulator - Wood Arm	#	-	-	-	-	-	-	#	-	-	-	-
		06 12 01 11 @	Double Pin & Insulator - FG Arm	-	#	-	-	-	-	-	-	#	-	-	-
		06 12 01 12 @	Single Pin & Insulator - FG Arm	-	-	-	-	-	#	#	-	-	#	#	-
3,@	I	**03 01 01 ****** @	Neutral	1	1	1	2	1	1	1	1	1	1	1	1
@	J	**07 00 41 00** @	Sgl Top Tie, TT*W	2	-	-	-	-	2	-	2	-	2	-	-
			Sgl Side Tie, ST*W	-	-	-	-	-	-	2	-	-	-	2	-
			Double Top Tie, DTT*W	-	-	-	-	-	-	-	-	-	-	-	-
			Double Side Tie, DST*W	-	2	-	-	-	-	-	-	2	-	-	-
@	K	**07 00 25 00** @	Clamp, PG, PG*W	-	-	-	2	-	-	-	-	-	-	-	-
@	L	**07 00 80 00** @	Wire, Poly Covered, Ft., PLW*W	-	-	-	#	-	-	-	-	-	-	-	-
5,@	M	**11 00 4* ****** @	Guying Unit	-	#	#	#	#	-	#	-	#	-	#	#
	N	252, 255, or 260	Op Code, Install Jumper	-	-	-	1	-	-	-	-	-	-	-	-

DESIGN NOTE(s):

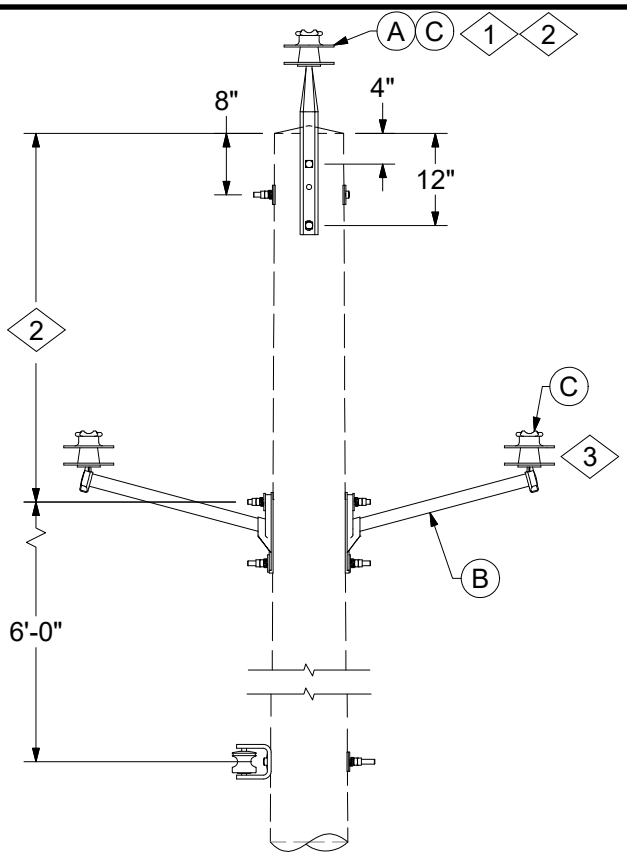
6. See DCS **03 00 03 00** for angle and span length limitations.

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	03/27/18	KR	

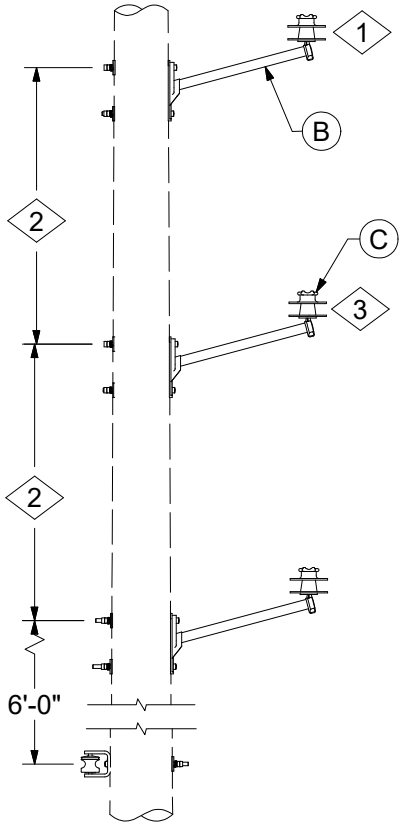
CONFIGURATIONS

Armless - Two or Three Phase

03 12 03 **
15kV
1 of 1



03 12 03 (01, 02, 03, & 04)



03 12 03 (05, 06, 07, & 08)

DCS #	DESCRIPTION
03 12 03 01	Pole Top Tangent, 2-Phase
03 12 03 02	Pole Top Angle, 2-Phase
03 12 03 03	Pole Top Tangent, 3-Phase
03 12 03 04	Pole Top Angle, 3-Phase
03 12 03 05	Vertical & Underbuild Tangent, 2-Phase
03 12 03 06	Vertical & Underbuild Angle, 2-Phase
03 12 03 07	Vertical & Underbuild Tangent, 3-Phase
03 12 03 08	Vertical & Underbuild Angle, 3-Phase

CONSTRUCTION NOTE(s):

1. Pole top 3-phase construction must meet avian protection standards.

2. For new construction use 6'-0" spacing between the phases. Clearance for single pole replacement or maintenance may be reduced as long as avian protection requirements are met.

	ITEM	STK / DCS #	DESCRIPTION 03 12 03 **	01	02	03	04	05	06	07	08
3	A	**06 12 01 02**	Single Pole Top Pin & Insulator - 24" and 30"	1	1	1	1	-	-	-	-
3	B	**06 12 21 04 @**	Single Insulator Only	1	1	2	2	2	2	3	3
@	C	**07 00 41 00 @**	Top Tie, TT*W	2	-	3	-	2	-	3	-
			Side Tie, ST*W	-	2	-	3	-	2	-	3
1,@	D	**05 16 10 01**	Conductor Cover - Single Pin	-	-	1	1	-	-	-	-

DESIGN NOTE(s):

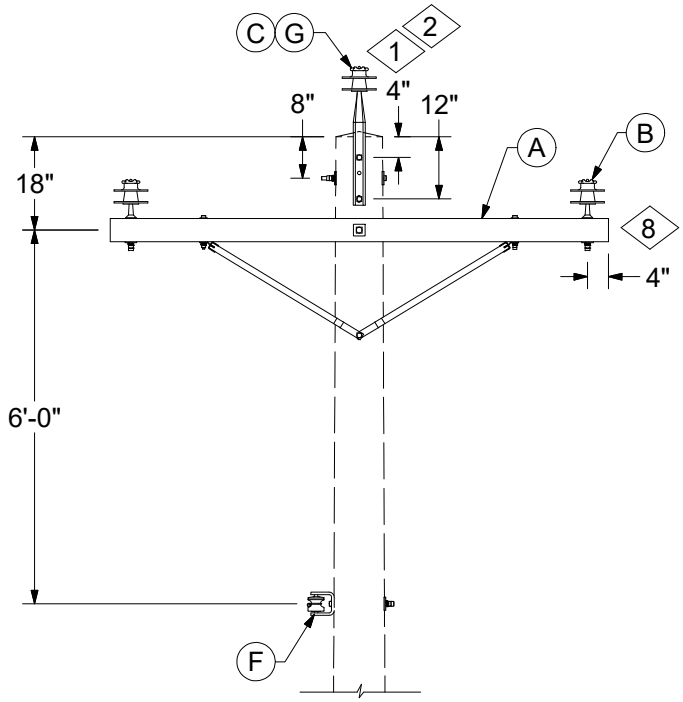
3. See DCS **03 00 03 00** for angle and span length limitations.

REV	DATE	ENG	DESCRIPTION
9	10/01/23	AEP	Converted to new format
8	10/14/11	MJ	

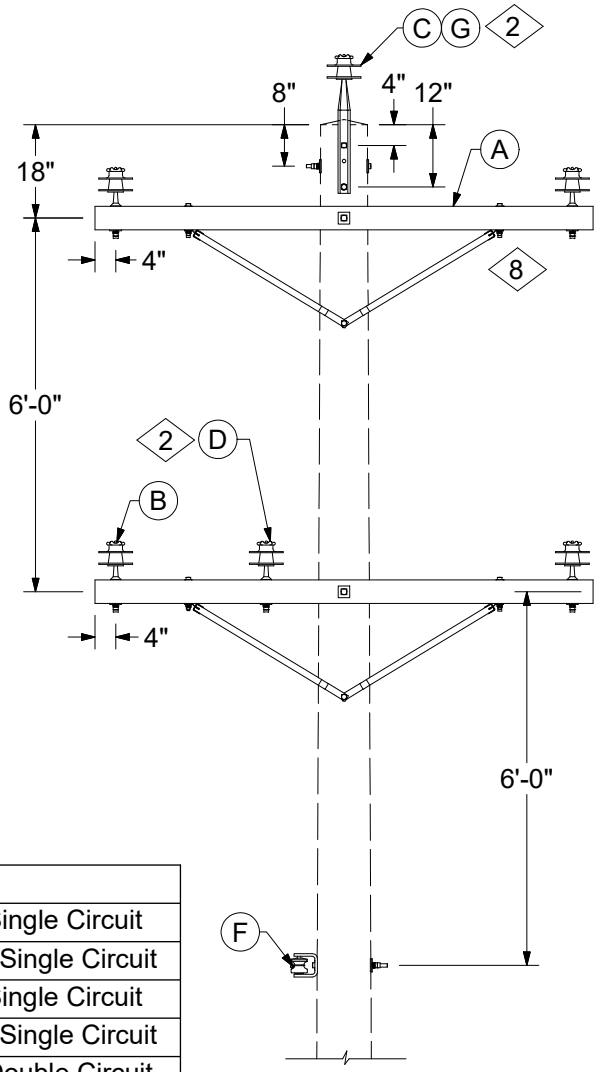
CONFIGURATIONS

Wood Crossarm - Two or Three Phase
Single & Double Circuit

03 12 05 **
15kV
1 of 4



03 12 05 (01, 04, 07, & 10)



03 12 05 (20 & 21)

DCS #	DESCRIPTION
03 12 05 01	Tangent Single Pin, 3-Phase, 8' Wood Crossarm - Single Circuit
03 12 05 04	Tangent Single Pin, 3-Phase, 10' Wood Crossarm - Single Circuit
03 12 05 07	Tangent Single Pin, 2-Phase, 8' Wood Crossarm - Single Circuit
03 12 05 10	Tangent Single Pin, 2-Phase, 10' Wood Crossarm - Single Circuit
03 12 05 20	Tangent Single Pin, 3-Phase, 8' Wood Crossarm - Double Circuit
03 12 05 21	Tangent Single Pin, 3-Phase, 10' Wood Crossarm - Double Circuit

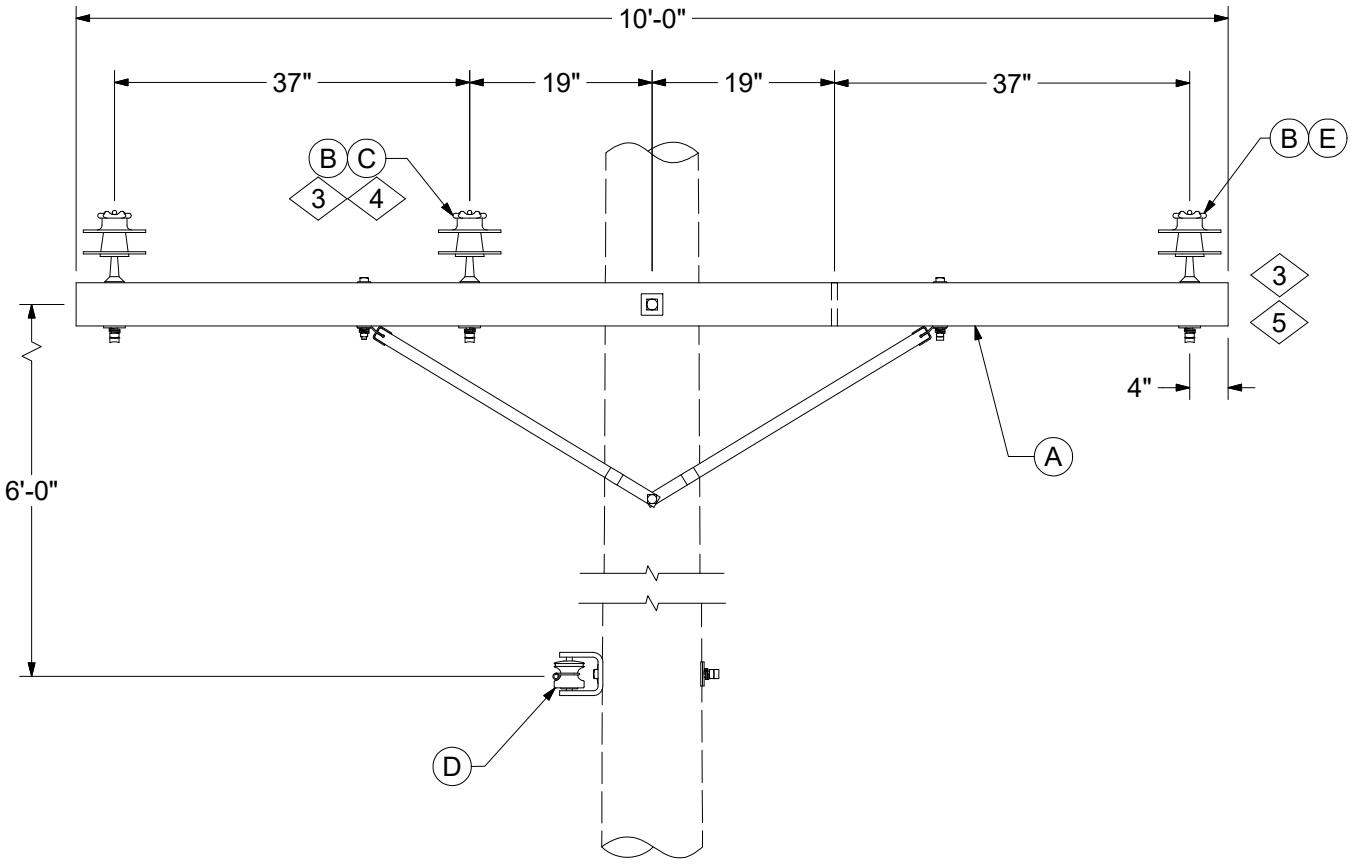
CONSTRUCTION NOTE(s):

1. For a 2-phase configuration, eliminate the center phase position.

2. 8'-0" Crossarm available for use in Ameren Missouri only. On pole top position, middle phase must meet avian protection requirements. Middle phase cover required when in lower arm position on double circuit. See DCS **05 16 10 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 05 **	01	04	07	10	20	21
2,8	A	**04 00 20 02 @**	8' Single Wood Arm	1	-	1	-	2	-
		04 00 20 03 @	10' Single Wood Arm	-	1	-	1	-	2
1	B	**06 12 01 01**	Single Pin & Insulator - Wood Crossarm	2	2	2	2	5	5
1	C	**06 12 01 02**	Single Pole Top Pin & Insulator - 24" and 30"	1	1	-	-	1	1
2	D	**05 16 10 01**	Conductor Cover - Single Pin	1	-	-	-	2	1
10,@	E	**12 00 10 ** @**	Grounding Unit	1	1	1	1	1	1
@	F	**03 01 01 ** @**	Neutral	1	1	1	1	1	1
@	G	**07 00 41 00 @**	Sgl Top Tie, TT*W	3	3	2	2	6	6

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	01/06/12	MJ	



03 12 05 (40, 41, 51, & 60)

DCS #	DESCRIPTION
03 12 05 40	Underbuild Single Pin, 3-Phase, 8' Wood Crossarm - Single Circuit
03 12 05 41	Underbuild Single Pin, 2-Phase, 8' Wood Crossarm - Single Circuit
03 12 05 51	Underbuild Single Pin, 3-Phase, 10' Wood Crossarm - Single Circuit
03 12 05 60	Underbuild Single Pin, 2-Phase, 10' Wood Crossarm - Single Circuit

CONSTRUCTION NOTE(s):

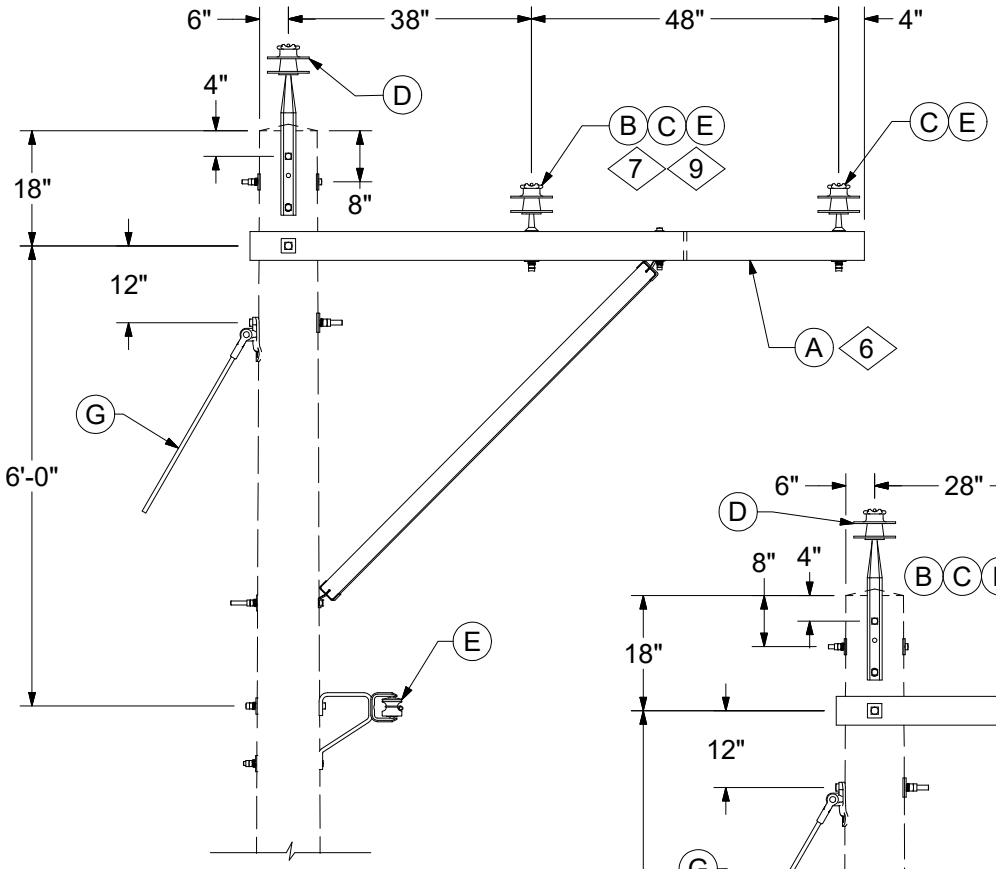
3. For a 2-phase configuration, eliminate the center phase position.

4. 8'-0" Crossarm available for use in Ameren Missouri only. On pole top position, middle phase must meet avian protection requirements. Middle phase cover required when in lower arm position on double circuit. See DCS **05 16 10 01** for more information.

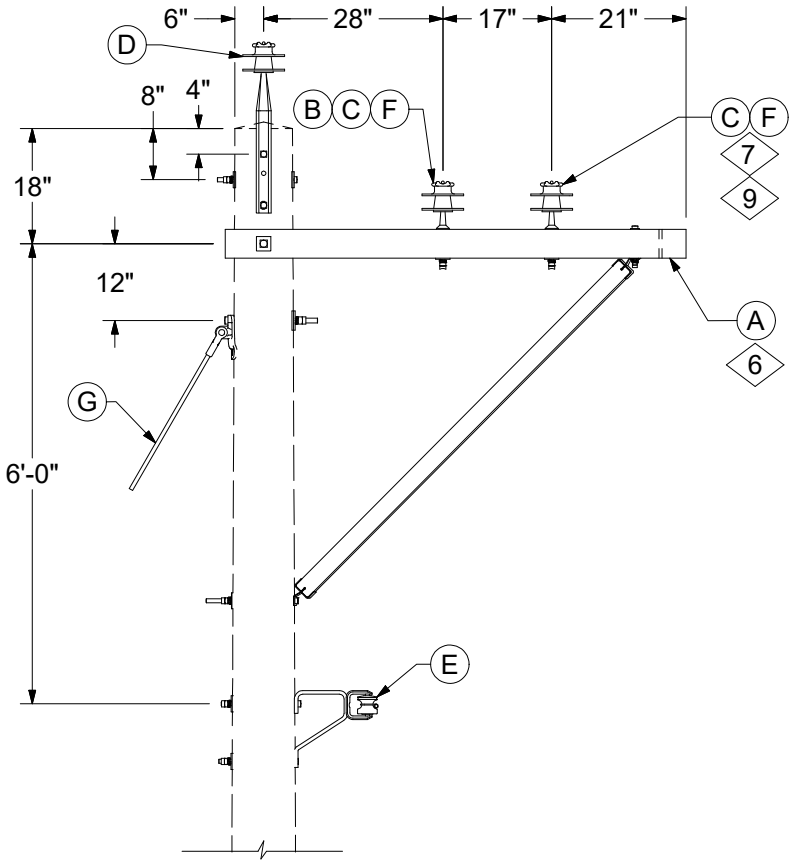
5. Wood crossarm options for underbuild available for Ameren Illinois only.

	ITEM	STK / DCS #	DESCRIPTION 03 12 05 **	40	41	51	60
3,4,5	A	**04 00 20 02 @**	8' Single Wood Arm	1	1	-	-
		04 00 20 03 @	10' Single Wood Arm	-	-	1	1
5	B	**06 12 01 01**	Single Pin & Insulator - Wood Crossarm	3	2	3	2
4	C	**05 16 10 01**	Conductor Cover - Single Pin	1	-	1	-
@	D	**03 01 01 ** @**	Neutral	1	1	1	1
@	E	**07 00 41 00 @**	Sgl Top Tie, TT*W	3	2	3	2

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	01/06/12	MJ	



03 12 05 (54, 56, 63, & 65)



03 12 05 (74, 75, 76, & 77)

DCS #	DESCRIPTION
03 12 05 54	Tangent Single Pin, 3-Phase, 8' Single Side Arm
03 12 05 56	Angle Double Pin, 3-Phase, 8' Double Side Arm
03 12 05 63	Tangent Single Pin, 2-Phase, 8' Single Side Arm
03 12 05 65	Angle Double Pin, 2-Phase, 8' Double Side Arm
03 12 05 74	Tangent Single Pin, 3-Phase, 6' Single Side Arm
03 12 05 75	Angle Double Pin, 3-Phase, 6' Double Side Arm
03 12 05 76	Tangent Single Pin, 2-Phase, 6' Single Side Arm
03 12 05 77	Angle Double Pin, 2-Phase, 6' Double Side Arm

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	01/06/12	MJ	

CONSTRUCTION NOTE(s):

6. 6'-0" and 8'-0" wood alley arm available for use in Ameren Missouri only.

7. On 3-phase construction, middle phase on 6'-0" and 8'-0" crossarms must be covered to meet avian protection requirements.

	ITEM	STK / DCS #	DESCRIPTION 03 12 05 **	54	56	63	65	74	75	76	77
6,7	A	**04 00 24 01 @**	6' Single Alley Arm	-	-	-	-	1	-	1	-
		04 00 24 02 @	8' Single Alley Arm	1	-	1	-	-	-	-	-
		04 00 25 01 @	6' Double Alley Arm	-	-	-	-	-	1	-	1
		04 00 25 02 @	8' Double Alley Arm	-	1	-	1	-	-	-	-
7	B	**05 16 10 01**	Cover - Single Pin	1	-	-	-	1	-	-	-
		05 16 11 01	Cover - Double Pin	-	1	-	-	-	1	-	-
	C	**06 12 01 01 @**	Single Pin & Insulator - Wood Arm	2	4	1	4	2	4	1	2
	D	**06 12 01 02 @**	Single Pole Top Pin & Insulator	1	2	1	-	1	2	1	2
@	E	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1
@	F	**07 00 41 00 @**	Sgl Top Tie, TT*W	3	-	2	-	3	-	2	-
			Double Side Tie, DST*W	-	3	-	2	-	3	-	2
@	G	**11 00 4* ** @**	Guying Unit	-	#	-	#	-	#	-	#
10,@	H	**12 00 10 ** @**	Grounding Unit	1	1	1	1	1	1	1	1

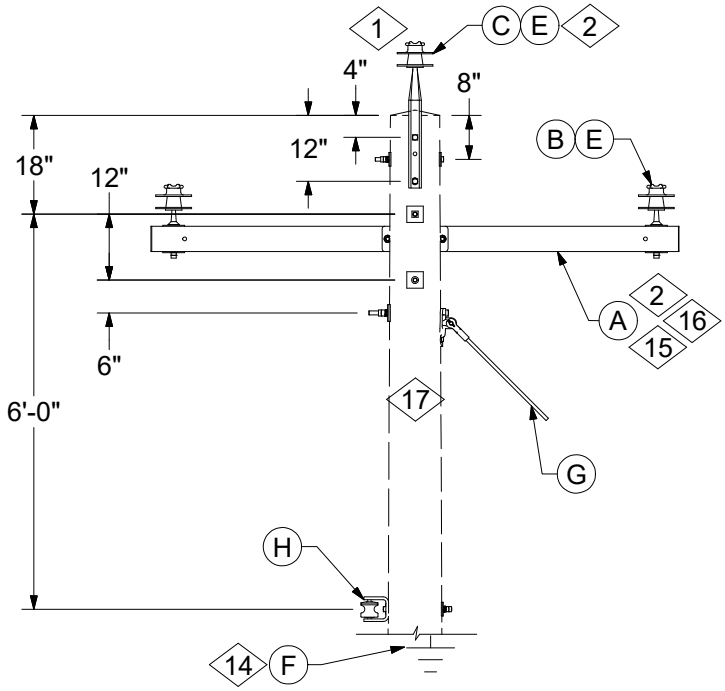
DESIGN NOTE(s):

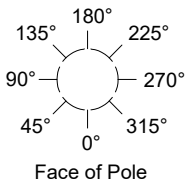
8. See DCS **04 00 20 **** for wood arm detail.

9. See DCS **03 00 03 00** Table 4 for angle and span length limitations.

10. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	01/06/12	MJ	





03 12 06 (02, 04, 05, 07, 10, 13, 14 & 15)

DCS #	DESCRIPTION
03 12 06 02	Tangent Single Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 04	Tangent Single Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 05	Angle Single Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 07	Tangent Single Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 10	Tangent Single Pin, 2-Phase, 10' FG Crossarm - Single Circuit
03 12 06 13	Angle Single Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 14	Angle Single Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 15	Angle Single Pin, 2-Phase, 10' FG Crossarm - Single Circuit

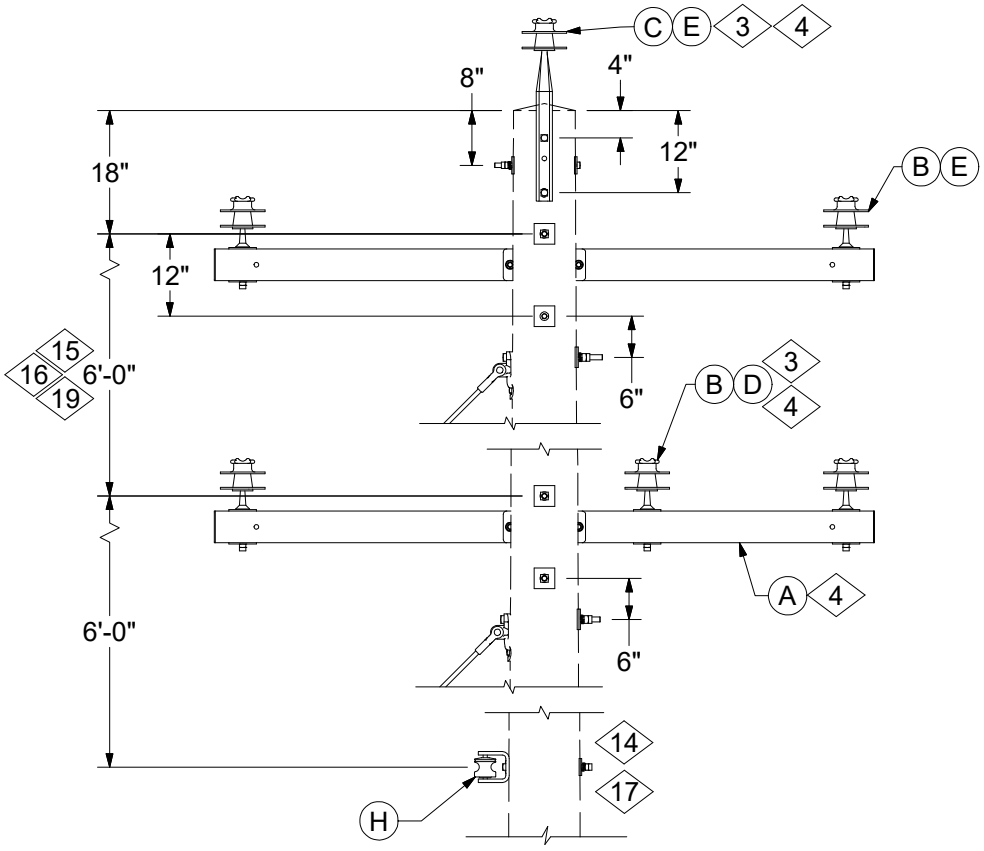
CONSTRUCTION NOTE(s):

1. For 2-phase configuration, eliminate the center phase position.

2. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 10 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	02	04	05	07	10	13	14	15
2,15,16	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	-	-	1	-	1	1	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	1	1	-	1	-	-	1
	B	**06 12 01 01**	Insulator, Arm, Sgl Pin	2	2	2	2	2	2	2	2
	C	**06 12 01 13**	Insulator, Pole Top, Sgl Pin	1	1	1	-	-	1	-	-
2	D	**05 16 10 01**	Conductor Cover - Single Pin	1	-	-	-	-	1	-	-
@	E	**07 00 41 00**	Single Top Tie, STT*W	3	3	-	2	2	-	-	-
			Single Side Tie, SST*W	-	-	3	-	-	3	2	2
20,@	F	**12 00 10 ** **	Grounding Unit	1	1	1	1	1	1	1	1
@	G	**11 00 4* ** ** @**	Guying Unit	-	-	#	-	-	#	#	#
@	H	**03 01 01 ** ** @**	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 06 (30, 31, 32, & 33)

DCS #	DESCRIPTION
03 12 06 30	Tangent Single Pin, 3-Phase, 8' FG Crossarm - Double Circuit
03 12 06 31	Tangent Single Pin, 3-Phase, 10' FG Crossarm - Double Circuit
03 12 06 32	Angle Single Pin, 3-Phase, 10' FG Crossarm - Double Circuit
03 12 06 33	Angle Single Pin, 3-Phase, 8' FG Crossarm - Double Circuit

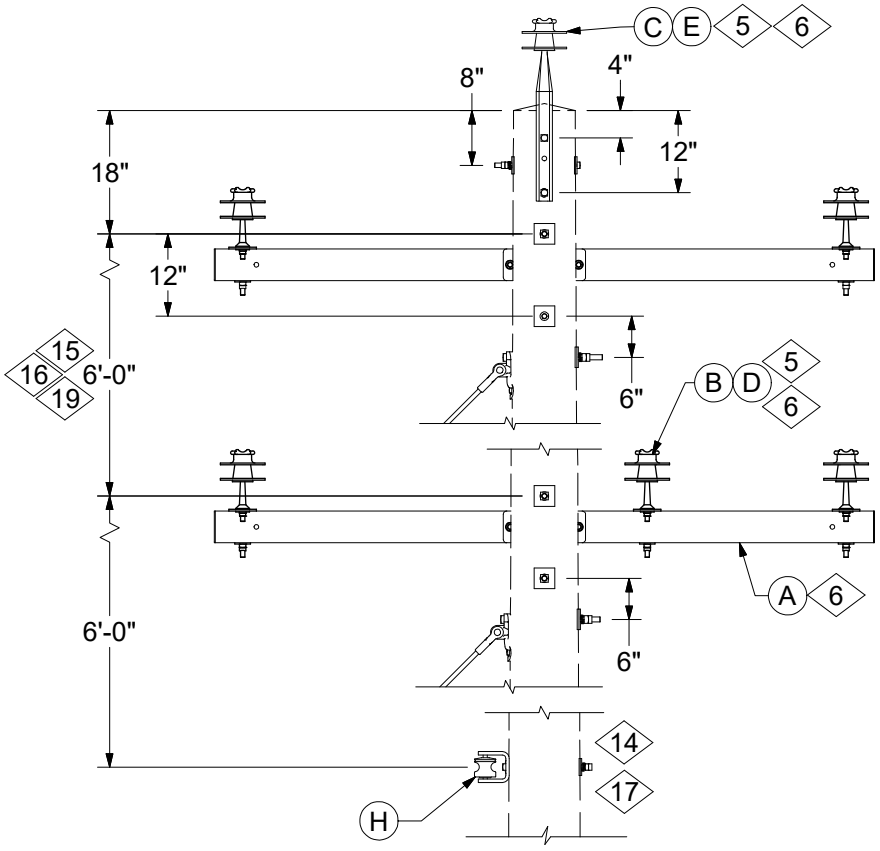
CONSTRUCTION NOTE(s):

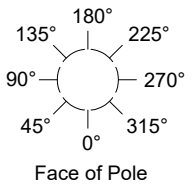
3. For 2-phase configuration, eliminate the center phase position.

4. 8'-0" crossarm available for use in Ameren Missouri only. On pole top position, middle phase must meet avian protection requirements. Middle phase cover required when in lower arm position on double circuit. See DCS **05 16 10 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	30	31	32	33
4,15,16	A	**04 00 41 14 @**	8' Tangent FG Crossarm	2	-	-	2
		04 00 41 16 @	10' Tangent FG Crossarm	-	2	2	-
	B	**06 12 01 01**	Insulator, Arm, Sgl Pin	5	5	5	5
	C	**06 12 01 13**	Insulator, Pole Top, Sgl Pin	1	1	1	1
4	D	**05 16 10 01**	Conductor Cover - Single Pin	2	1	1	2
@	E	**07 00 41 00**	Single Top Tie, STT*W	6	6	-	-
			Single Side Tie, SST*W	-	-	6	6
20,@	F	**12 00 10 ****	Grounding Unit	1	1	1	1
@	G	**11 00 4* ** @**	Guying Unit	-	-	#	#
@	H	**03 01 01 ** @**	Neutral	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format





03 12 06 (34, 35, 36, & 37)

DCS #	DESCRIPTION
03 12 06 34	Tangent Double Pin, 3-Phase, 10' FG Crossarm - Double Circuit
03 12 06 35	Tangent Double Pin, 3-Phase, 8' FG Crossarm - Double Circuit
03 12 06 36	Angle Double Pin, 3-Phase, 10' FG Crossarm - Double Circuit
03 12 06 37	Angle Double Pin, 3-Phase, 8' FG Crossarm - Double Circuit

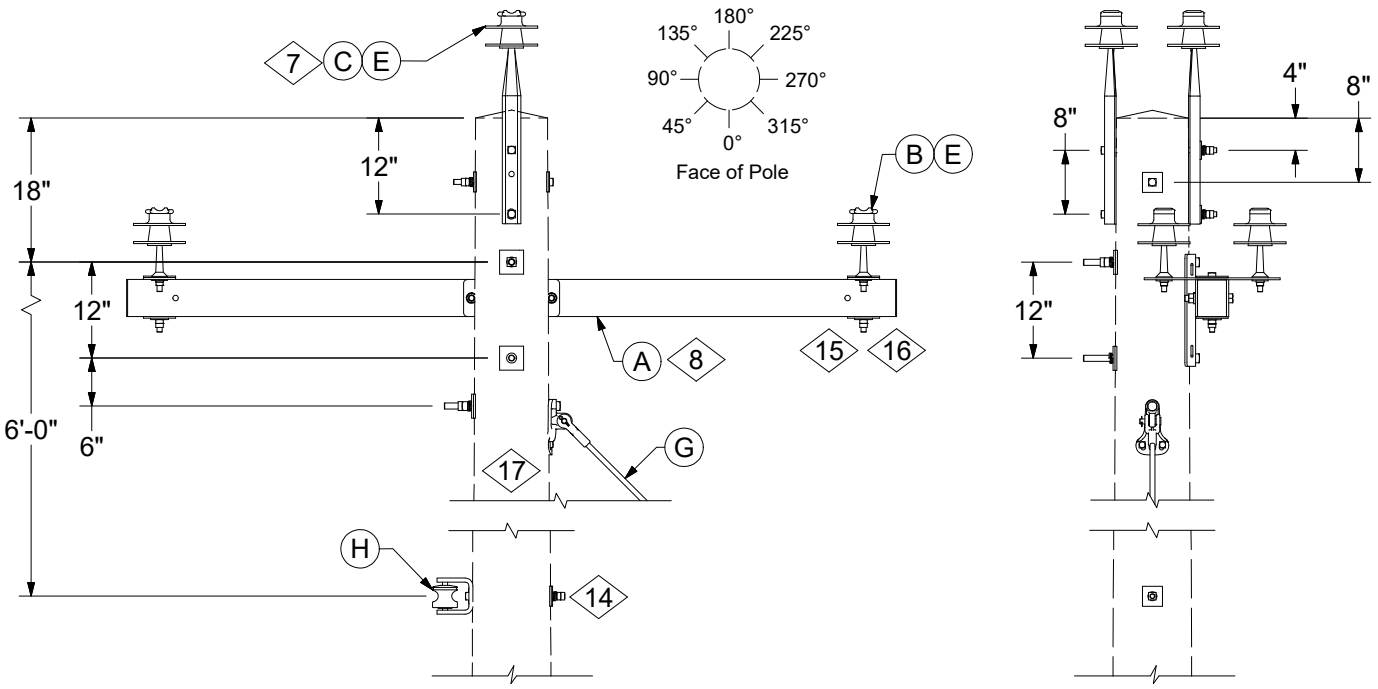
CONSTRUCTION NOTE(s):

5. For 2-phase configuration, eliminate the center phase position.

6. 8'-0" crossarm available for use in Ameren Missouri only. On pole top position, middle phase must meet avian protection requirements. Middle phase cover required when in lower arm position on double circuit. See DCS **05 16 11 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	34	35	36	37
6,15,16	A	**04 00 41 14 @**	8' Tangent FG Crossarm	-	2	-	2
		04 00 41 16 @	10' Tangent FG Crossarm	2	-	2	-
	B	**06 12 01 11**	Insulator, Arm, Dbl Pin	5	5	5	5
	C	**06 12 01 13**	Insulator, Pole Top, Dbl Pin	1	1	1	1
6	D	**05 16 11 01**	Conductor Cover - Double Pin	1	2	1	2
@	E	**07 00 41 00**	Double Top Tie, DTT*W	6	6	-	-
			Double Side Tie, DST*W	-	-	6	6
20,@	F	**12 00 10 ****	Grounding Unit	1	1	1	1
@	G	**11 00 4* ** @**	Guying Unit	-	-	#	#
@	H	**03 01 01 ** @**	Neutral	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 06 (01, 03, 08, 11, 52, 54, 68, & 70)

DCS #	DESCRIPTION
03 12 06 01	Tangent Double Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 03	Tangent Double Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 08	Tangent Double Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 11	Tangent Double Pin, 2-Phase, 10' FG Crossarm - Single Circuit
03 12 06 52	Angle Double Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 54	Angle Double Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 68	Angle Double Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 70	Angle Double Pin, 2-Phase, 10' FG Crossarm - Single Circuit

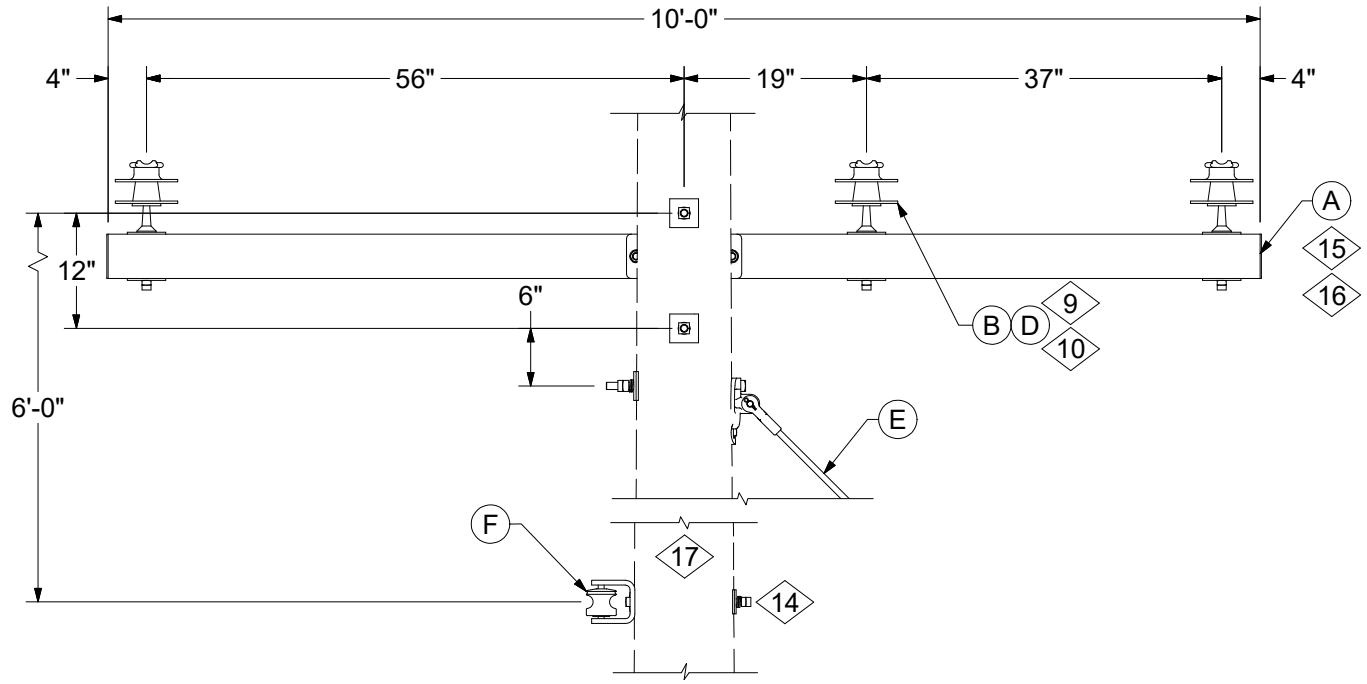
CONSTRUCTION NOTE(s):

7. For 2-phase configuration, eliminate the center phase position.

8. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 11 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	01	03	08	11	52	54	68	70
8,15,16,19	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	-	1	-	1	-	1	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	1	-	1	-	1	-	1
	B	**06 12 01 11**	Insulator, Arm, Dbl Pin	2	2	2	2	2	2	2	2
	C	**06 12 01 13**	Insulator, Pole Top, Dbl Pin	1	1	-	-	1	1	-	-
8	D	**05 16 11 01**	Conductor Cover - Double Pin	1	-	-	-	1	-	-	-
@	E	**07 00 41 00**	Double Top Tie, DTT*W	3	3	2	2	-	-	-	-
			Double Side Tie, DST*W	-	-	-	-	3	3	2	2
20,@	F	**12 00 10 ** **	Grounding Unit	1	1	1	1	1	1	1	1
@	G	**11 00 4* ** @**	Guying Unit	-	-	-	-	#	#	#	#
@	H	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 06 (40, 41, 42, 43, 44, 45, 46, & 47)

DCS #	DESCRIPTION
03 12 06 40	Underbuild Tangent Single Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 41	Underbuild Tangent Single Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 42	Underbuild Tangent Single Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 43	Underbuild Tangent Single Pin, 2-Phase, 10' FG Crossarm - Single Circuit
03 12 06 44	Underbuild Angle Single Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 45	Underbuild Angle Single Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 46	Underbuild Angle Single Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 47	Underbuild Angle Single Pin, 2-Phase, 10' FG Crossarm - Single Circuit

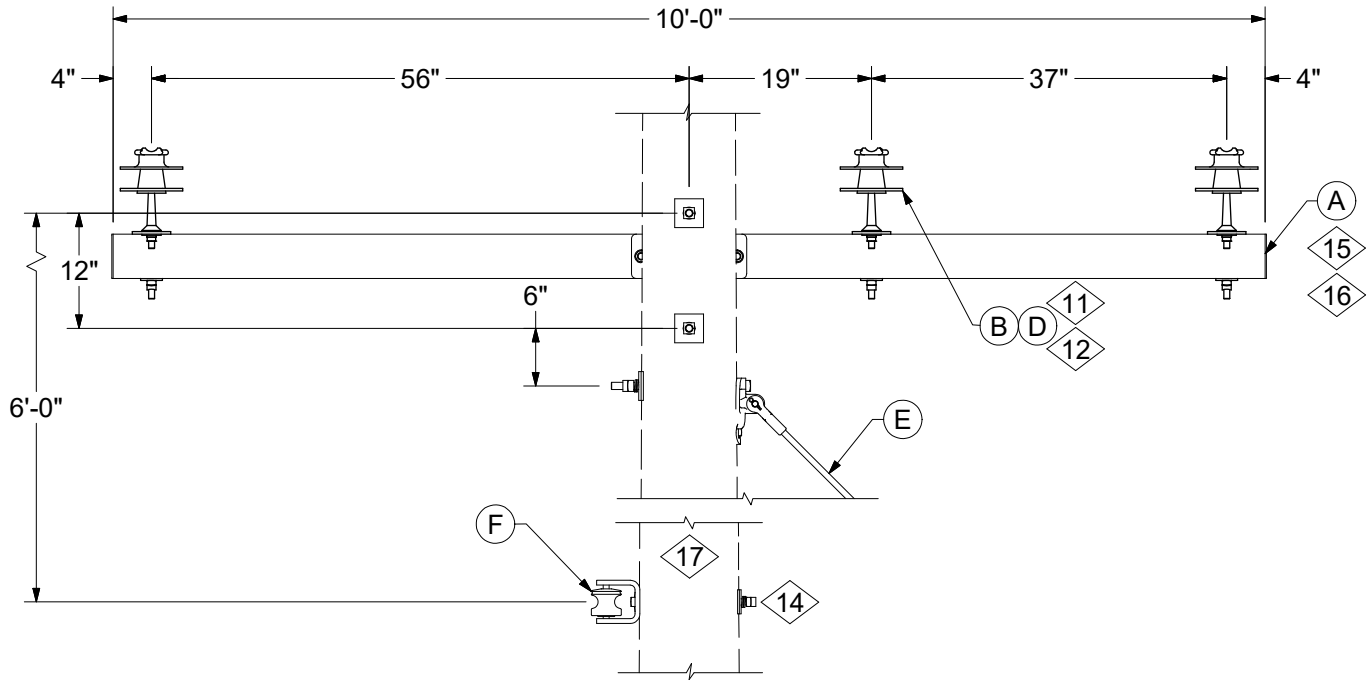
CONSTRUCTION NOTE(s):

◇9◇ For 2-phase configuration, eliminate the center phase position.

◇10◇ On 3-phase underbuild construction, middle phase on 8'-0" and 10'-0" crossarms must be covered to meet avian protection requirements.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	40	41	42	43	44	45	46	47
9,15,16	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	1	-	-	1	1	-	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	-	1	1	-	-	1	1
	B	**06 12 01 01**	Insulator, Arm, Sgl Pin	3	2	3	2	3	2	3	2
10,16	C	**05 16 10 01**	Conductor Cover - Single Pin	1	-	1	-	1	-	1	-
@	D	**07 00 41 00**	Single Top Tie, STT*W	3	2	3	2	-	-	-	-
			Single Side Tie, SST*W	-	-	-	-	3	2	3	2
@	E	**11 00 4* ** @**	Guying Unit	-	-	-	-	#	#	#	#
@	F	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 06 (48, 49, 50, 51, 80, 81, 82, & 83)

DCS #	DESCRIPTION
03 12 06 48	Underbuild Tangent Double Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 49	Underbuild Tangent Double Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 50	Underbuild Tangent Double Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 51	Underbuild Tangent Double Pin, 2-Phase, 10' FG Crossarm - Single Circuit
03 12 06 80	Underbuild Angle Double Pin, 3-Phase, 8' FG Crossarm - Single Circuit
03 12 06 81	Underbuild Angle Double Pin, 2-Phase, 8' FG Crossarm - Single Circuit
03 12 06 82	Underbuild Angle Double Pin, 3-Phase, 10' FG Crossarm - Single Circuit
03 12 06 83	Underbuild Angle Double Pin, 2-Phase, 10' FG Crossarm - Single Circuit

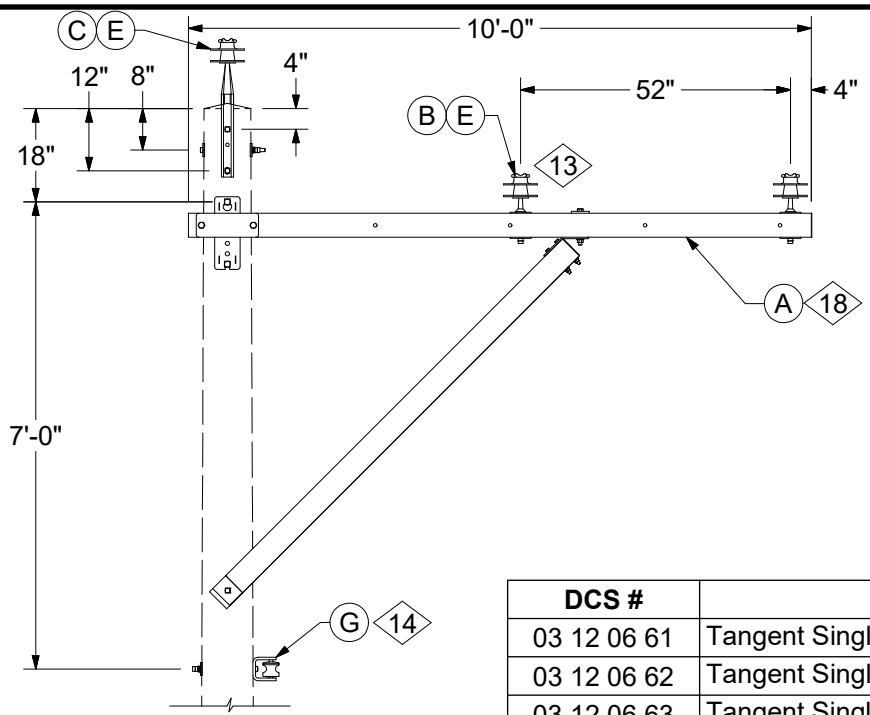
CONSTRUCTION NOTE(s):

<11> For 2-phase configuration, eliminate the center phase position.

<12> On 3-phase underbuild construction, middle phase on 8'-0" and 10'-0" crossarms must be covered to meet avian protection requirements.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	48	49	50	51	80	81	82	83
11,15,16	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	1	-	-	1	1	-	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	-	1	1	-	-	1	1
	B	**06 12 01 11**	Insulator, Arm, Dbl Pin	3	2	3	2	3	2	3	2
12	C	**05 16 11 01**	Conductor Cover - Double Pin	1	-	1	-	1	-	1	-
@	D	**07 00 41 00**	Double Top Tie, DTT*W	3	2	3	2	-	-	-	-
			Double Side Tie, DST*W	-	-	-	-	3	2	3	2
@	E	**11 00 4* ** @**	Guying Unit	-	-	-	-	#	#	#	#
@	F	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 06 (61, 62, 63, & 64)

DCS #	DESCRIPTION
03 12 06 61	Tangent Single Pin, 3-Phase, 8' Single Side Arm
03 12 06 62	Tangent Single Pin, 2-Phase, 8' Single Side Arm
03 12 06 63	Tangent Single Pin, 3-Phase, 10' Single Side Arm
03 12 06 64	Tangent Single Pin, 2-Phase, 10' Single Side Arm

CONSTRUCTION NOTE(s):

13. On 3-phase construction, middle phase must be covered to meet avian protection requirements.

	ITEM	STK / DCS #	DESCRIPTION 03 12 06 **	61	62	63	64
18	A	**04 00 43 01** @	8' FG Alley Arm	1	1	-	-
		04 00 43 02 @	10' FG Alley Arm	-	-	1	1
	B	**06 12 01 01**	Insulator, Arm, Sgl Pin	2	1	2	1
	C	**06 12 01 13**	Insulator, Pole Top, Sgl Pin	1	1	1	1
13	D	**05 16 10 01**	Conductor Cover - Single Pin	1	-	1	-
@	E	**07 00 41 00**	Single Top Tie, DTT*W	3	2	3	2
20,@	F	**12 00 10 ******	Grounding Unit	1	1	1	1
@	G	**03 01 01 ****** @	Neutral	1	1	1	1

DESIGN NOTE(s):

14. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

15. See DCS **03 00 03 00** for angle and span length limitations.

16. See DCS **04 00 41 ****** for arm detail.

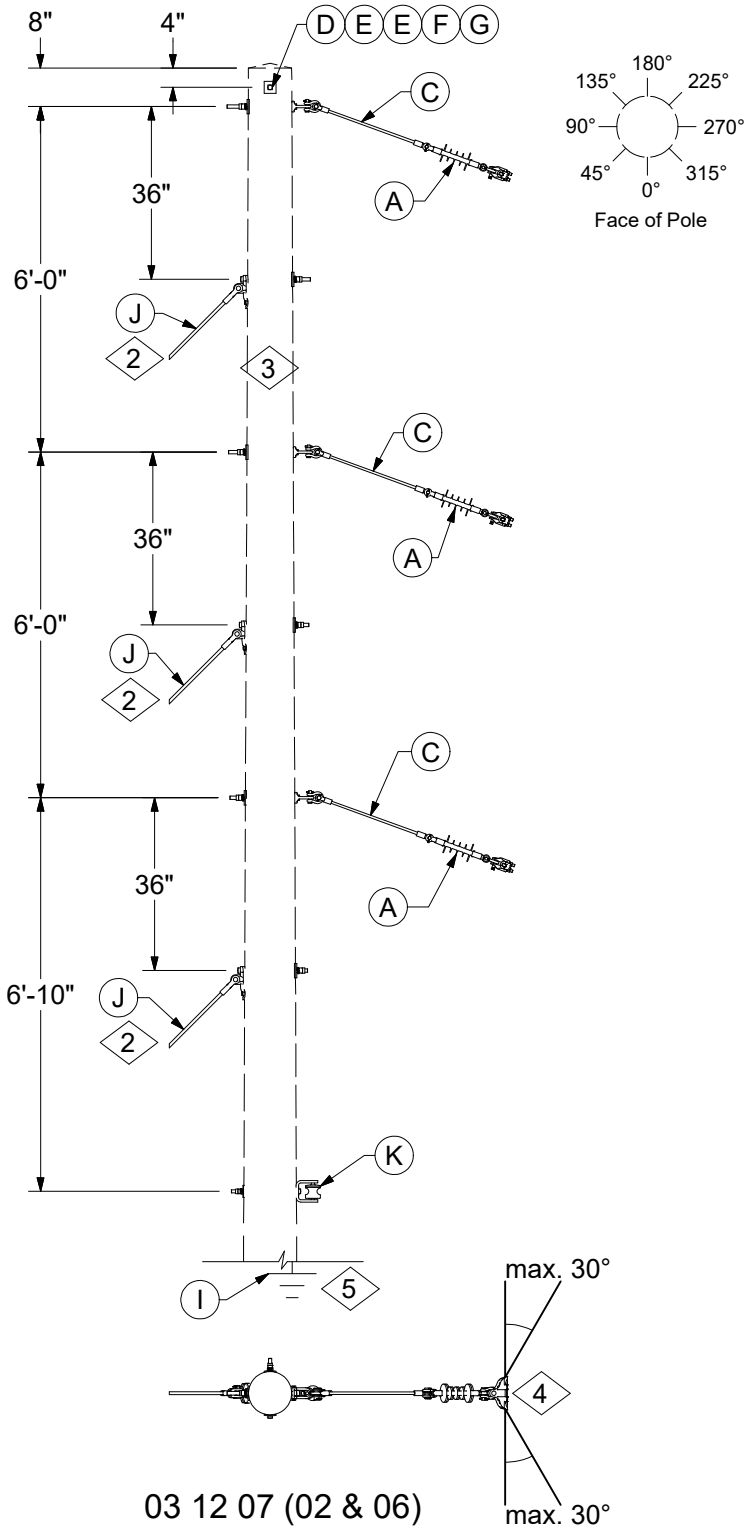
17. See DCS **02 00 04 02** for unguyed composite pole application.

18. See DCS **04 00 01 01** for side arm loading criteria.

19. The distance between the two crossarms shall maintain a minimum of 6'-0" separation. Greater distance may be needed if galloping is a concern.

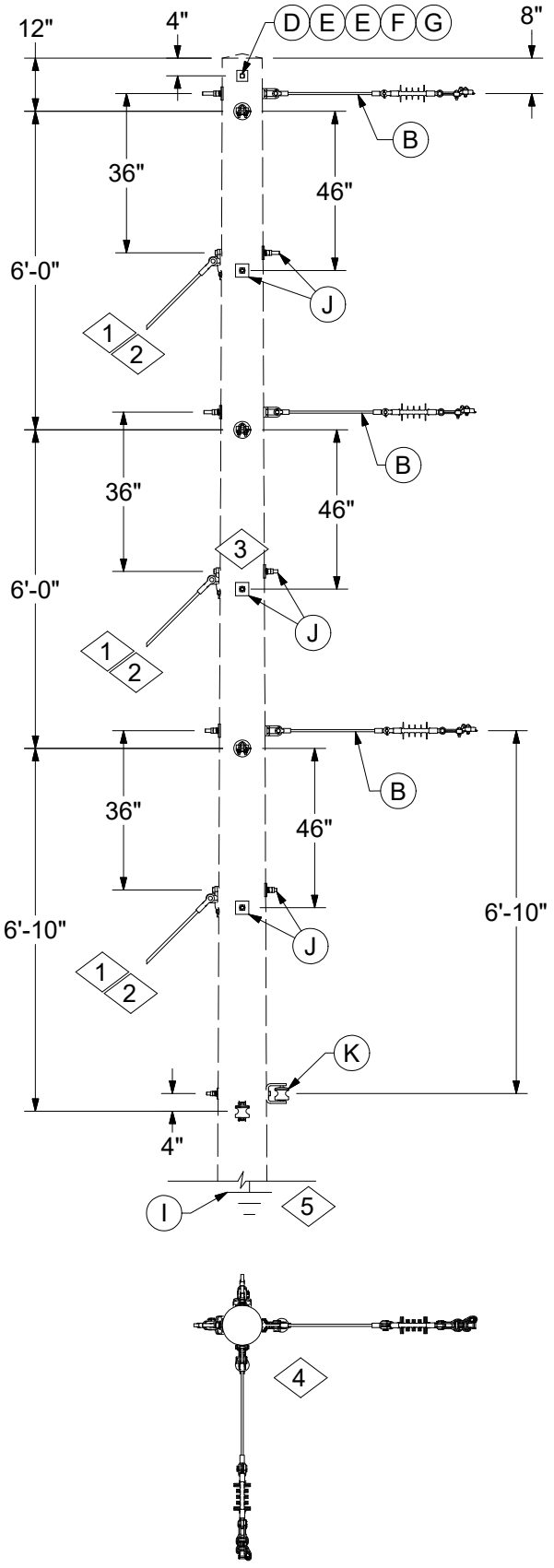
20. A pole grounding standard is included with each equipment standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see DCS **12 00 01 01**).

REV	DATE	ENG	DESCRIPTION
4	07/01/25	AEP	Added Standards 34-37, 48-51, & 80-83 & Revised Notes
3	10/01/23	AEP	Converted to new format



03 12 07 (02 & 06)

DCS #	DESCRIPTION
03 12 07 02	Floating Angle, 3-Phase
03 12 07 04	Deadend Corner, 3-Phase
03 12 07 06	Floating Angle, 2-Phase
03 12 07 08	Deadend Corner, 2-Phase



03 12 07 (04 & 08)

REV	DATE	ENG	DESCRIPTION
9	10/01/23	AEP	Converted to new format
8	04/01/19	KR	

CONSTRUCTION NOTE(s):

1. If a span guy or guys are required or two through bolts are used to attach the guy hook(s), the location of one or both of the guy hooks will need to be adjusted up or down 2" to ensure bolts are at least 4" apart.

2. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 12 07 **	02	04	06	08
	A	**06 12 30 02** @	Insulator, Floating Angle	3	-	2	-
	B	**06 12 30 01** @	Deadend w/ FG Extension	-	6	-	4
	C	25 56 076	Insulator, Guy Strain, 26"	3	-	2	-
	D	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	1	1
	E	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
	F	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
	G	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
@	H	**07 00 80 00** @	Wire, Poly Covered, PLW*W	-	30	-	20
5,6,@	I	**12 00 10 **** @	Grounding Unit	1	1	1	1
1,2,@	J	**11 00 4* **** @	Guying Unit	#	#	#	#
@	K	**03 01 01 **** @	Neutral	1	1	1	1
	L	252, 255, or 260	Op Code, Install Jumper	-	3	-	2

DESIGN NOTE(s):

3. See DCS **02 00 04 02** for unguyed composite pole application.

4. For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

5. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

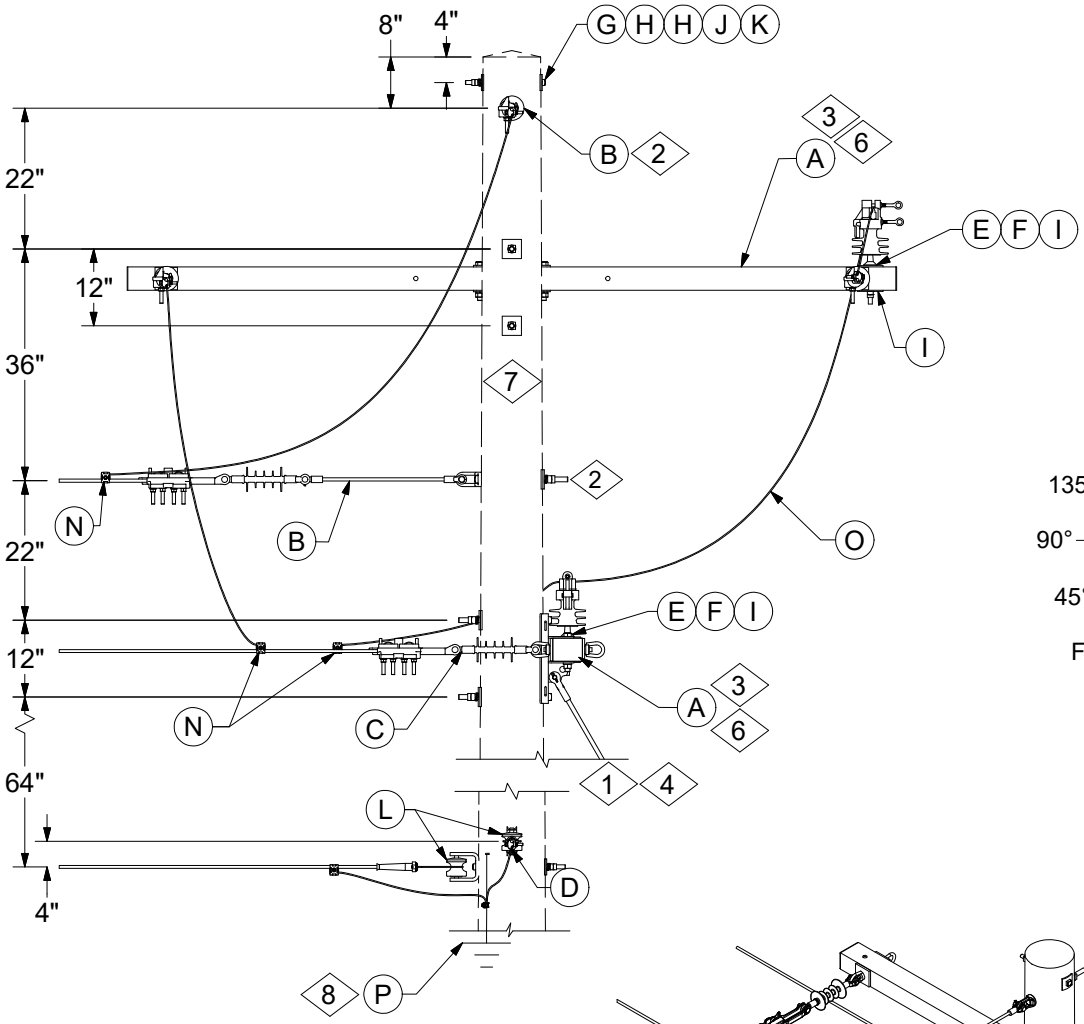
6. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.

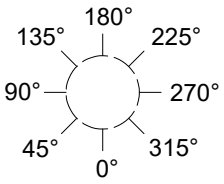
REV	DATE	ENG	DESCRIPTION
9	10/01/23	AEP	Converted to new format
8	04/01/19	KR	

CONFIGURATIONS

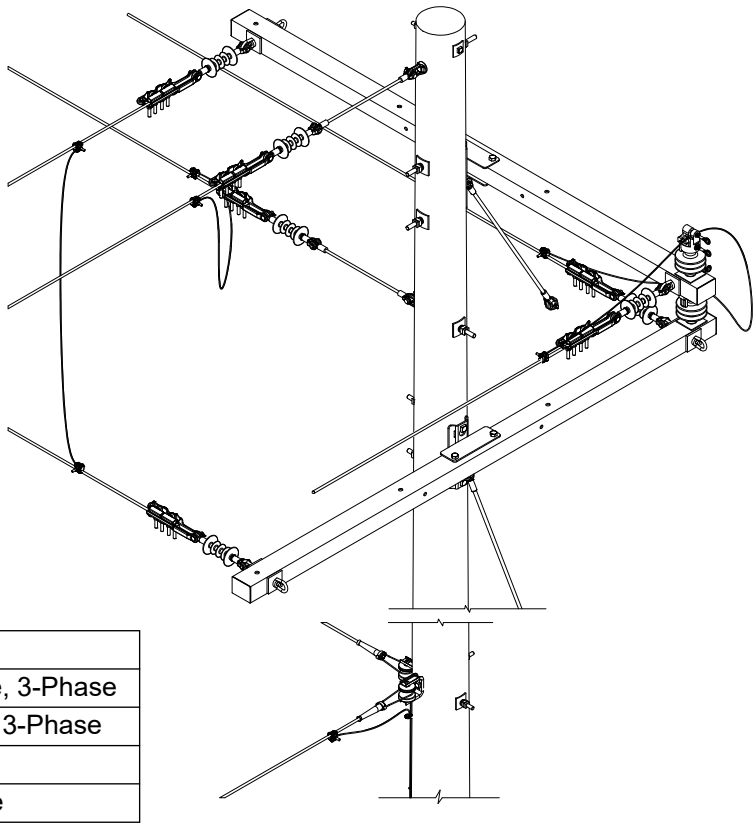
Buck Arm Corner - Two or Three Phase

03 12 09 **
15kV
1 of 2





Face of Pole



DCS#	DESCRIPTION
03 12 09 02	Deadend, 10' FG Crossarm and Pole, 3-Phase
03 12 09 03	Deadend, 8' FG Crossarm and Pole, 3-Phase
03 12 09 04	Deadend, 8' FG Crossarm, 2-Phase
03 12 09 08	Deadend, 10' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format
9	04/20/18	KR	

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-phase configuration, eliminate the center phase position.

3. 8'-0" Crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

4. See DCS **11 00 02 02** for typical guy insulator placement.

5. The 2" square washer received with the pin should be used after the 4" square washer.

	ITEM	STK / DCS #	DESCRIPTION 03 12 09 **	02	03	04	08
3,6	A	**04 00 42 02** @	8' Deadend FG Crossarm	-	2	2	-
		04 00 42 03 @	10' Deadend FG Crossarm	2	-	-	2
2	B	**06 12 30 01** @	Straight Deadend w/ FG Extension	2	2	-	-
	C	**06 12 35 01** @	Single Deadend on FG Arm	4	4	4	4
	D	17 51 032	Neutral PG Clamp	2	2	2	2
	E	23 62 028	Pin, Insulator, Long Shank	2	2	2	2
5	F	25 05 143	Insulator, Vice Top, 15kV	2	2	2	2
	G	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	1	1
	H	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
	I	23 66 132	Washer, Flat, Sq., 4" x 4", w/ 13/16" Hole	4	4	4	4
	J	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
	K	23 65 043	Lock Nut - 5/8" Square	3	3	3	3
@	L	**03 01 01 ** @**	Neutral	#	#	#	#
1,4,7,@	M	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	N	**07 00 25 00** @	Clamp, PG, PG*W	6	6	4	4
@	O	**07 00 80 00** @	Lead Wire, Poly Covered, PLW*W	30	30	20	20
8,9,@	P	**12 00 10 ** @**	Grounding Unit	1	1	1	1

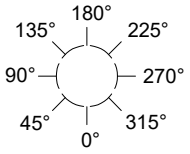
DESIGN NOTE(s):

6. DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

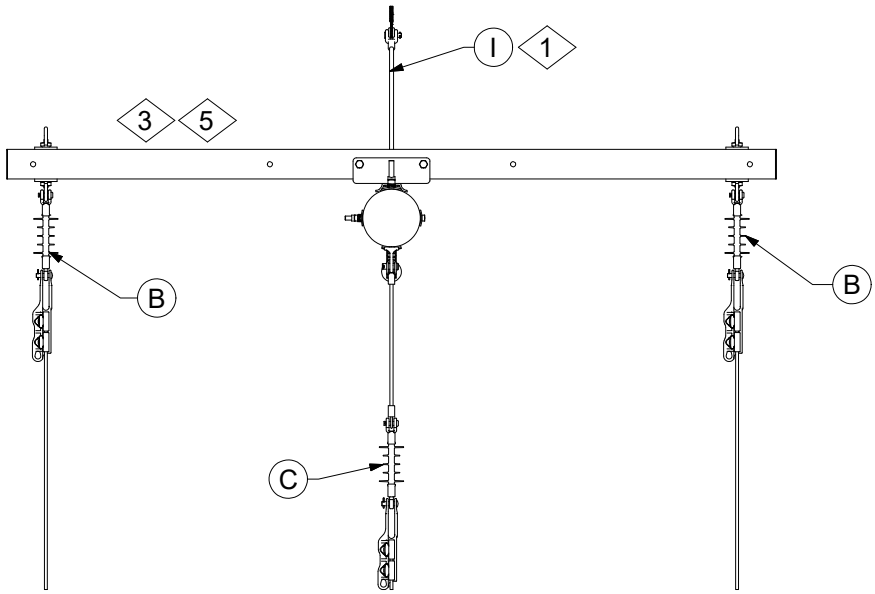
7. See DCS **02 00 04 02** for unguyed composite pole application.

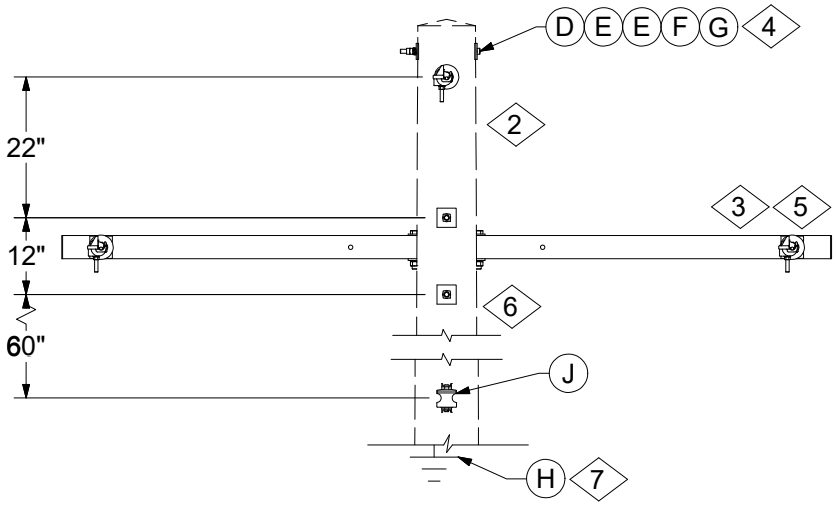
8. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

9. Pole grounds for distribution are required on each equipment pole and should be included every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.



Face of Pole





DCS #	DESCRIPTION
03 12 11 31	Deadend, 8' FG Crossarm, 2-Phase
03 12 11 51	Deadend, 8' FG Crossarm, 3-Phase
03 12 11 52	Deadend, 10' FG Crossarm, 3-Phase
03 12 11 54	Deadend, 10' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
9	10/01/23	AEP	Converted to new format
8	11/10/11	MJ	

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-phase configuration, eliminate the center phase position.

3. 8'-0" crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

4. For pole top applications, install anti-split bolt.

	ITEM	STK / DCS #	DESCRIPTION 03 12 11 **	31	51	52	54
2,3,5	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	1	-	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-	1	1
	B	**06 12 35 01 @**	Single Deadend on FG Arm	2	2	2	2
	C	**06 12 30 01 @**	Straight Deadend w/ FG Extension	-	1	1	-
4	D	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	1	1
4	E	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
4	F	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
4	G	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
7,8,@	H	**12 00 10 ** @**	Grounding Unit	1	1	1	1
1,6,@	I	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	J	**03 01 01 ** @**	Neutral, Deadend	1	1	1	1

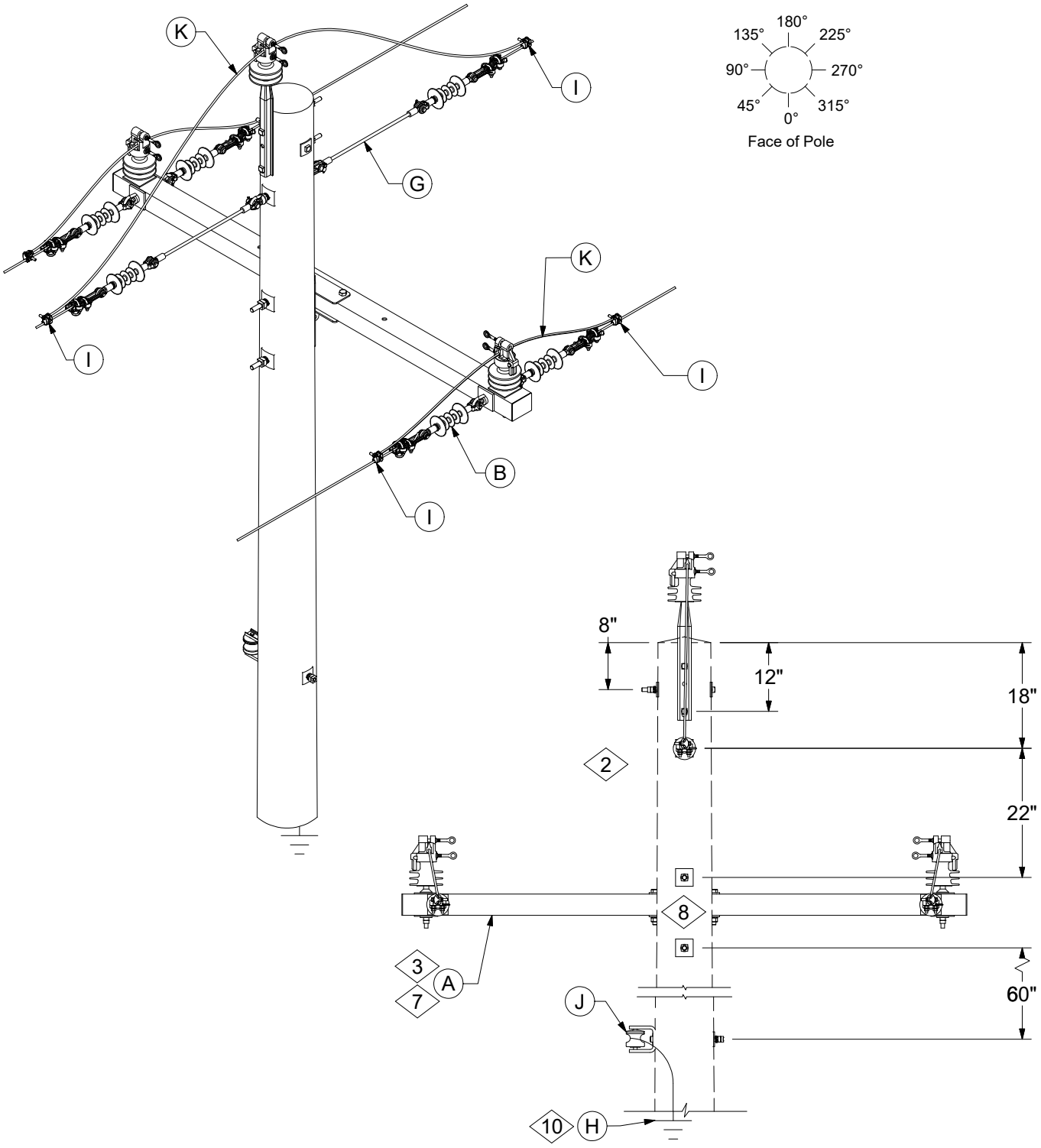
DESIGN NOTE(s):

5. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

6. See DCS **02 00 04 02** for unguyed composite pole application.

7. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

8. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.



03 12 14 (64, 65, 68, & 69)

DCS #	DESCRIPTION
03 12 14 64	Deadend Loopover, 8' FG Crossarm, 3-Phase
03 12 14 65	Deadend Loopover, 10' FG Crossarm, 3-Phase
03 12 14 68	Deadend Loopover, 10' FG Crossarm, 2-Phase
03 12 14 69	Deadend Loopover, 8' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format, "Removed W/O FG Extension" Standards
9	02/17/12	MJ	

CONSTRUCTION NOTE(s):

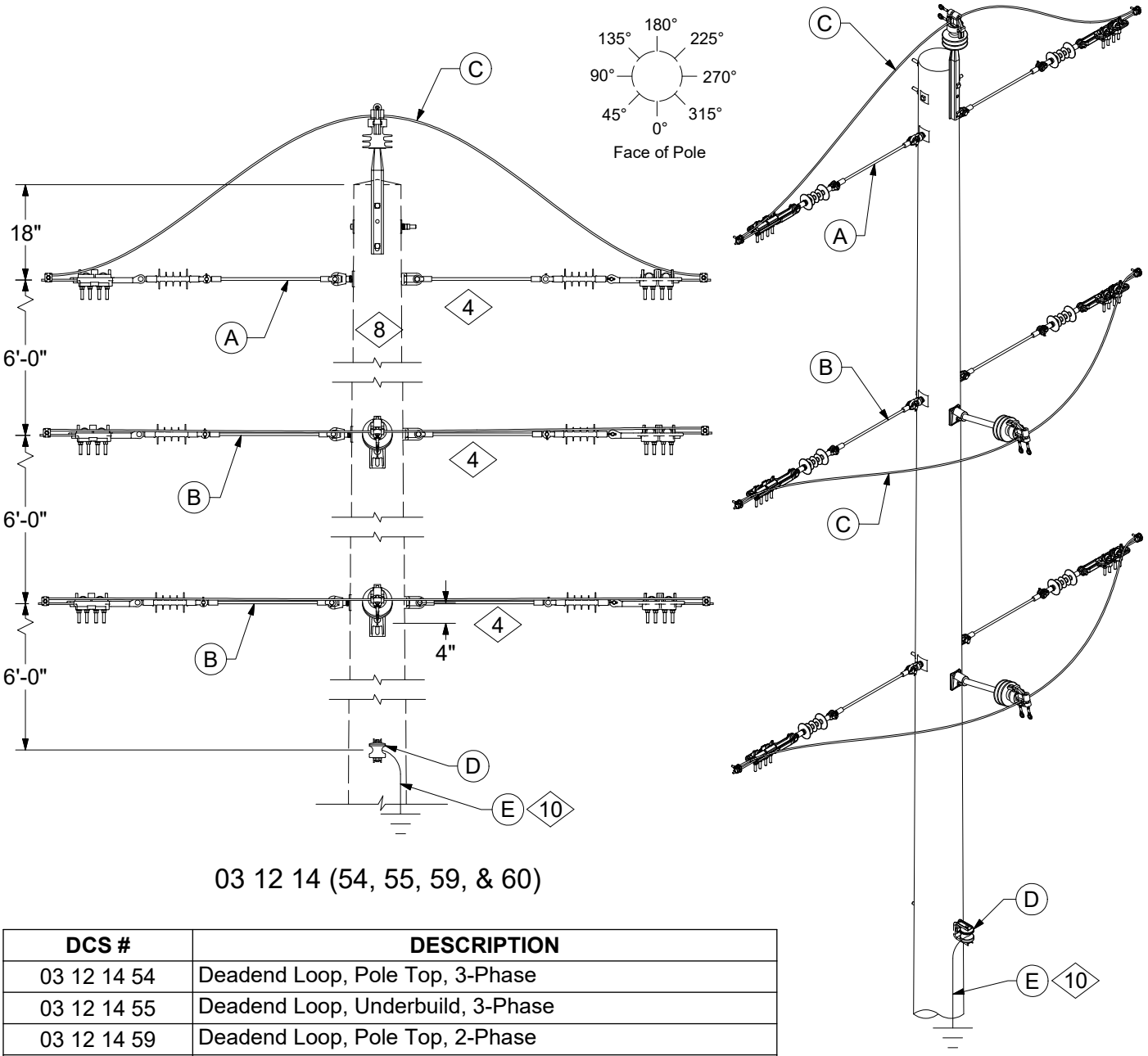
1. If guying is needed to account for difference in tension, see DCS **11 00 4* ****.

2. For 2-phase configuration, eliminate the center phase position.

3. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 10 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 14 **	64	65	68	69
2,3,7	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	-	-	1
		04 00 42 03 @	10' FG Deadend FG Crossarm	-	1	1	-
	B	**06 12 35 05 @**	Double Deadend w/ Loopover of FG Crossarm	2	2	2	2
	C	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	-	-	1	1
	D	23 66 207	Washer, Curved, Square, 5/8"	-	-	2	2
	E	23 66 134	Lock Washer - 5/8" Double Coil	-	-	1	1
	F	23 65 043	Lock Nut - 5/8" Square	-	-	1	1
2,@	G	**06 12 30 04 @**	Loopover w/ FG Extension, Pole Top	1	1	-	-
10,11,@	H	**12 00 10 ** @**	Grounding Unit	1	1	1	1
@	I	**07 00 25 00 @**	Clamp, PG, PG*W	6	6	4	4
@	J	**03 01 01 ** @**	Neutral	1	1	1	1
@	K	**07 00 80 00 @**	Lead Wire, Poly Covered, Ft., PLW*W	24	24	24	24
1,@	L	**11 00 4* ** @**	Guying Unit	#	#	#	#
	M	252 or 260	Op Code, Install Jumper	3	3	2	2

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format, "Removed W/O FG Extension" Standards
9	02/17/12	MJ	



03 12 14 (54, 55, 59, & 60)

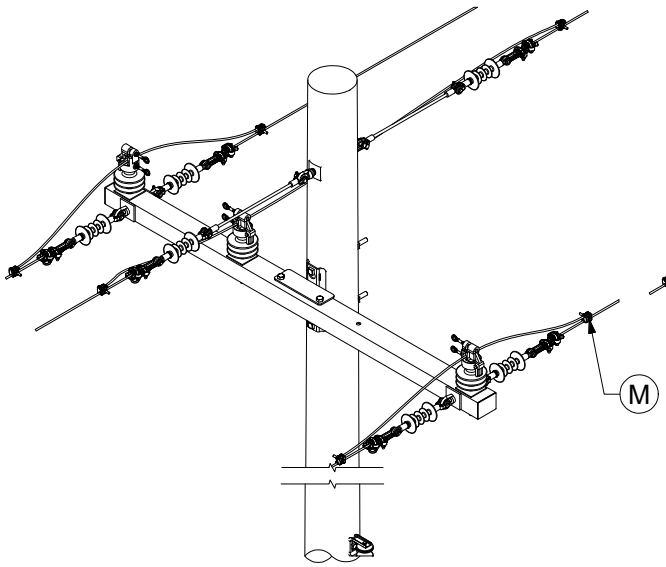
DCS #	DESCRIPTION
03 12 14 54	Deadend Loop, Pole Top, 3-Phase
03 12 14 55	Deadend Loop, Underbuild, 3-Phase
03 12 14 59	Deadend Loop, Pole Top, 2-Phase
03 12 14 60	Deadend Loop, Underbuild, 2-Phase

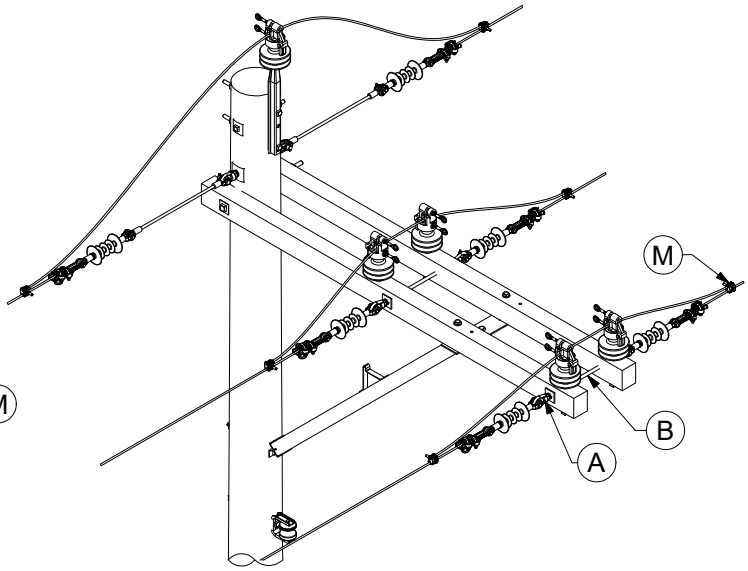
CONSTRUCTION NOTE(s):

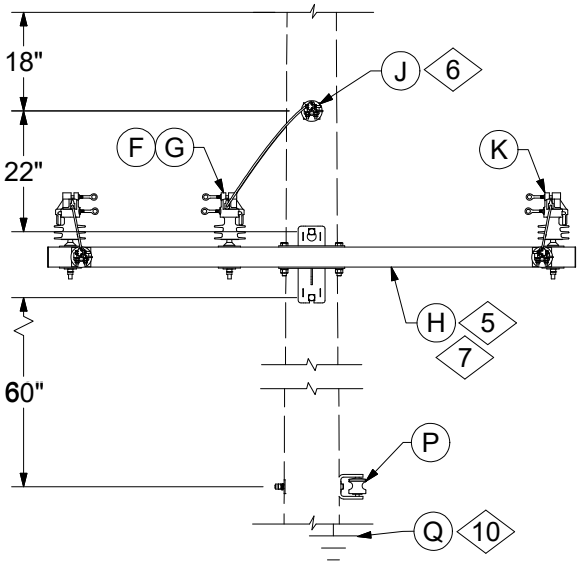
4. If deadending on angle greater than 5° offset deadend insulators by 4".

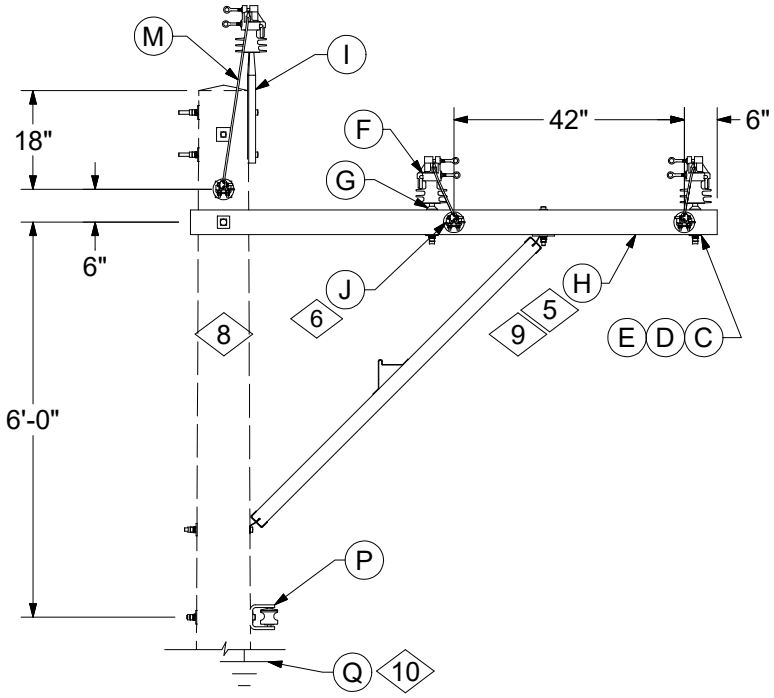
	ITEM	STK / DCS #	DESCRIPTION 03 12 14 **	54	55	59	60
	A	**06 12 30 04 @**	Pole Top Loopover w/ FG Extension	1	-	1	-
	B	**06 12 30 05 @**	Looparound w/FG Extension	2	3	1	2
@	C	**07 00 80 00 @**	Lead Wire, Poly Covered, Ft., PLW*W	30	30	30	30
@	D	**03 01 01 ** @**	Neutral	1	1	1	1
10,11,@	E	**12 00 10 ** @**	Grounding Unit	1	1	1	1
	F	252 or 260	Op Code, Install Jumper	3	3	2	2

REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format, "Removed W/O FG Extension" Standards
9	02/17/12	MJ	









DCS #	DESCRIPTION
03 12 14 40	Deadend Loop, 6' Double Wood Side Arm, 3-Phase
03 12 14 41	Deadend Loop, 6' Double Wood Side Arm, 2-Phase
03 12 14 42	Deadend Loop, 10' Single FG Side Arm, 3-Phase
03 12 14 43	Deadend Loop, 10' Single FG Side Arm, 2-Phase
03 12 14 44	Deadend Loop Underbuild, 8' FG Crossarm, 3-Phase
03 12 14 45	Deadend Loop Underbuild, 10' FG Crossarm, 3-Phase
03 12 14 58	Deadend Loop, 8' Double Wood Side Arm, 3-Phase
03 12 14 66	Deadend Loop, 8' Double Wood Side Arm, 2-Phase

CONSTRUCTION NOTE(s):

5. 8'-0" crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

6. For 2-Phase configuration, eliminate the center phase position.

	ITEM	STK / DCS #	DESCRIPTION 03 12 14 **	40	41	42	43	44	45	58	66
	A	23 65 012	Eyenut, 5/8"	4	2	-	-	-	-	4	2
	B	23 53 002	Bolt, DA, 5/8" Dia x 16" w/ 4 nuts	2	1	-	-	-	-	2	1
	C	23 66 027	Washer, Flat, Square 5/8"	4	2	-	-	-	-	4	2
	D	23 66 134	Lock Washer - 5/8" Double Coil	8	4	-	-	-	-	8	4
	E	23 65 043	Lock Nut - 5/8" Square	4	2	-	-	-	-	4	2
	F	25 05 143	Insulator, Vice Top, 15kV	4	2	-	-	-	-	4	2
	G	23 62 028	Pin, Insulator, Long Shank	4	2	-	-	-	-	4	2
	H	**04 00 25 01 @**	6' Double Alley Arm - Wood	1	1	-	-	-	-	-	-
		04 00 25 02 @	8' Double Alley Arm - Wood	-	-	-	-	-	-	1	1
5,6,7,9		**04 00 42 02 @**	8' Deadend FG Crossarm	-	-	-	-	1	-	-	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-	-	-	-	1	-	-
		04 00 43 02 @	10' Single FG Alley Arm	-	-	1	1	-	-	-	-
6,@	I	**06 12 30 04 @**	Pole Top Loopover w/ FG Extensions	1	1	1	1	-	-	1	1
@	J	**06 12 35 02 @**	Double Deadend	2	1	-	-	-	-	2	1
@	K	**06 12 35 05 @**	Dbl DE w/ Loopover on FG Crossarm	-	-	2	1	2	2	-	-
@	L	**06 12 30 05 @**	Looparound w/ FG Extensions	-	-	-	-	1	1	-	-
@	M	**07 00 25 00 @**	Clamp, PG, PG*W	-	-	-	-	-	-	-	-
@	N	**07 00 80 00 @**	Lead Wire, Poly Covered, Ft., PLW*W	24	24	24	24	24	24	24	24
5,@	O	**05 16 12 01**	Wildlife Cover - DE	2	-	2	-	2	2	2	-
@	P	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1
10,11,@	Q	**12 00 10 ** @**	Grounding Unit	1	1	1	1	1	1	1	1
	R	252 or 260	Op Code, Install Jumper	3	2	3	2	3	3	3	2

DESIGN NOTE(s):

7. DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

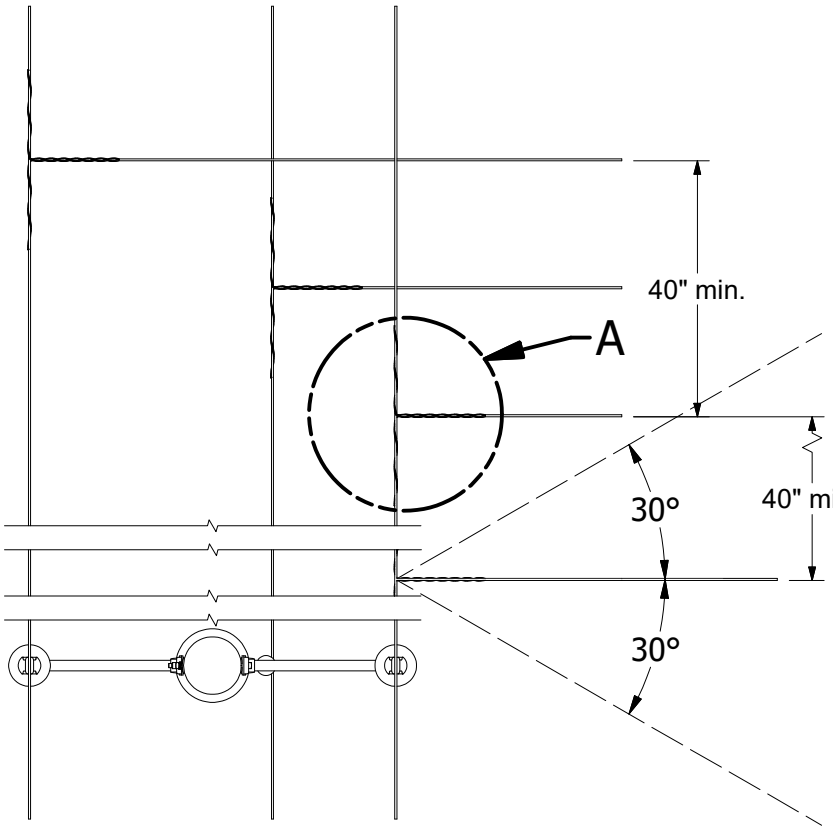
8. See DCS **02 00 04 02** for unguyed composite pole application.

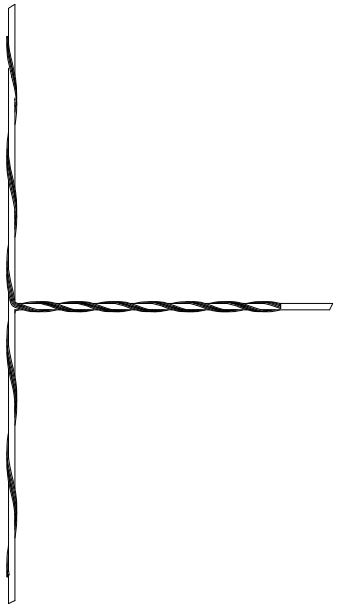
9. Equal deadend tension is required on both sides of the FG side arm.

10. Composite pole has factory installed (internal) ground in the 45° quadrant. Wood pole may require pole ground depending on application.

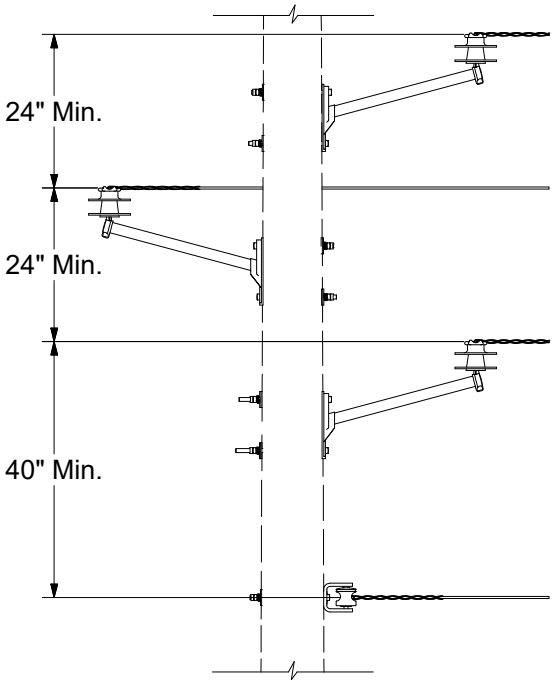
11. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.

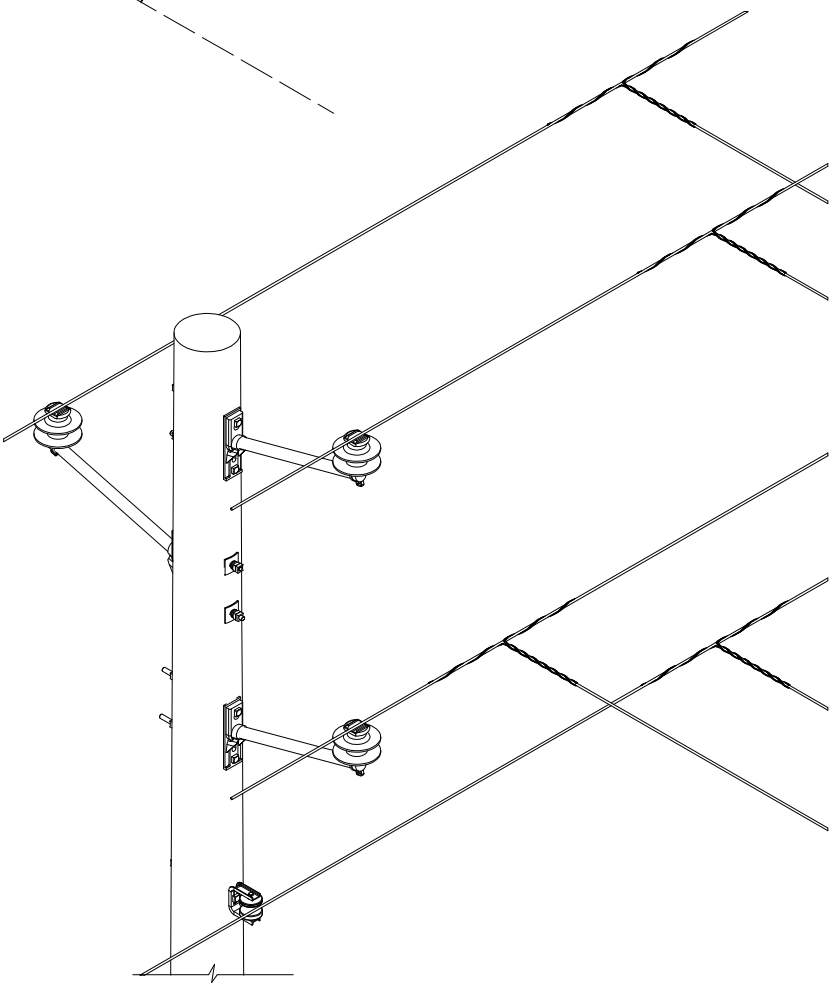
REV	DATE	ENG	DESCRIPTION
10	10/01/23	AEP	Converted to new format, "Removed W/O FG Extension" Standards
9	02/17/12	MJ	





DETAIL A





REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/21/12	MJ	

Table 1 - Sag & Tension Data						
Line Size		Tap Span in Feet				Tap Tension Per Conductor in Pounds
		40	60	80	100	
Main	Tap	Tap Span in Inches				
#4 ACSR	#4 ACSR	6	13	24	37	27
1/0 AAAC	#4 ACSR	4	9	20	25	40
	1/0 AAAC	5	12	22	34	51
556 AAC	1/0 AAAC	5	11	19	30	58
	556 AAC	15	34	-	-	85

CONSTRUCTION NOTE(s):

1. Mid-span taps are permitted only if all of the following conditions are met:

   A. The location is easily accessible to a bucket truck, and
   B. The main conductor(s) is full tension, and
   C. The tap will be made on the nearest phase in horizontal configuration, or any phase in the vertical configuration, and
   D. The tap can be made in accordance with the above sag and tension table, and
   E. The mid-span tap will eliminate setting an additional pole.

2. Clearance shall be based on the main conductor's attachment height minus 3'-0" and minus the sag from Table 1. Tap spans shall be as level as possible.

3. Switches shall be installed on the first pole in the tap circuit.

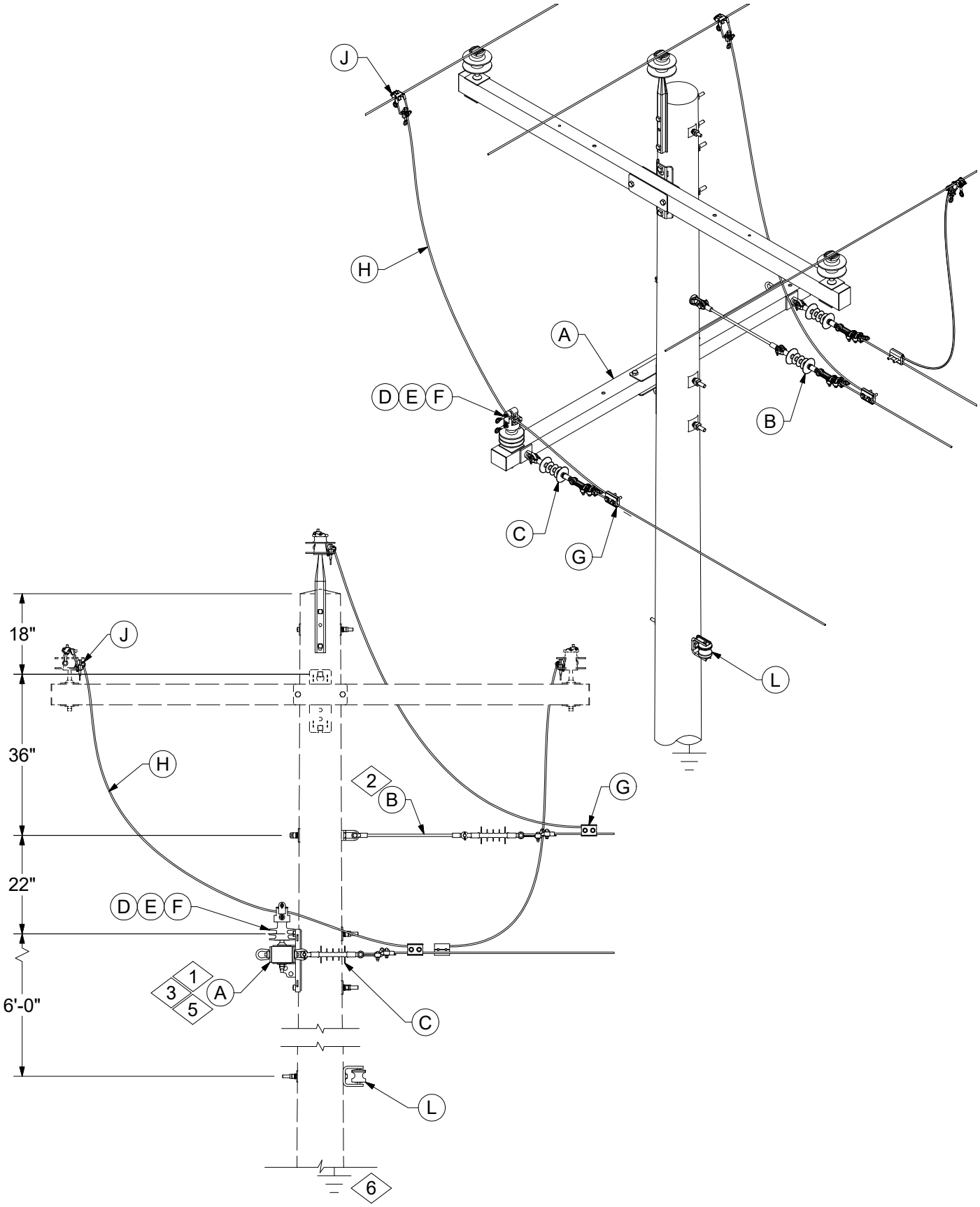
4. Taps shall be limited to one per conductor span run.

5. Quantity specified in the material list is for tapping one conductor.

6. This Standard applies to tangent construction. In case of angle construction, the tap shall be within 10'-0" of the insulator, and the angles must comply with DCS **03 00 03 00**. Taps that are located 10'-0" to 30'-0" from the insulator shall meet insulator transverse loading limitations.

Table 2									
STK #	Line Size		Color Code		01	02	03	04	05
	Main	Tap	Main	Tap					
17 54 284	#4 ACSR	#4 ACSR	Orange	Orange	1	-	-	-	-
17 54 285	1/0 AAAC	#4 ACSR	Black	Orange	-	1	-	-	-
17 64 248	1/0 AAAC	1/0 AAAC	Yellow	Yellow	-	1	-	-	-
17 64 249	556 AAC	1/0 AAAC	Orange	Black	-	-	-	1	-
17 64 288	556 AAC	556 AAC	Orange	Orange	-	-	-	1	
295	Operations Code				1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/21/12	MJ	



REV	DATE	ENG	DESCRIPTION
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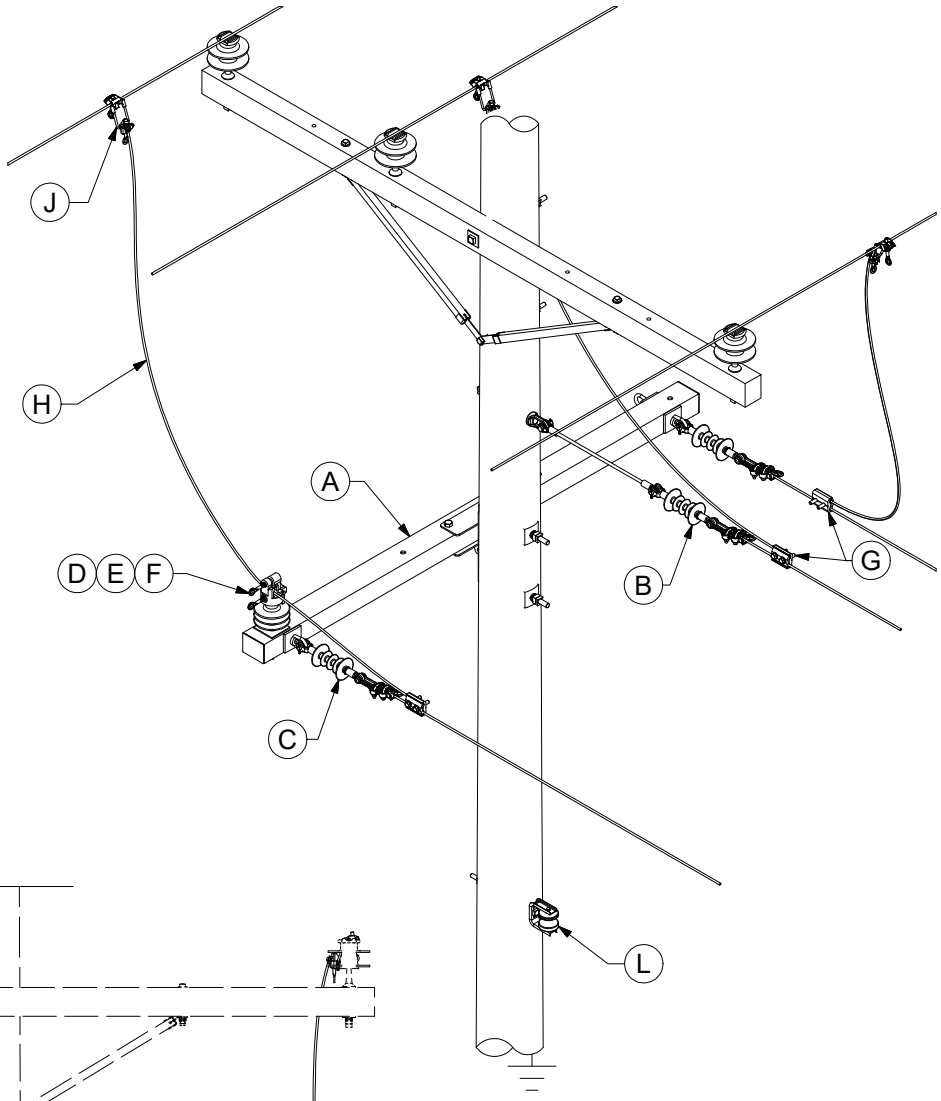
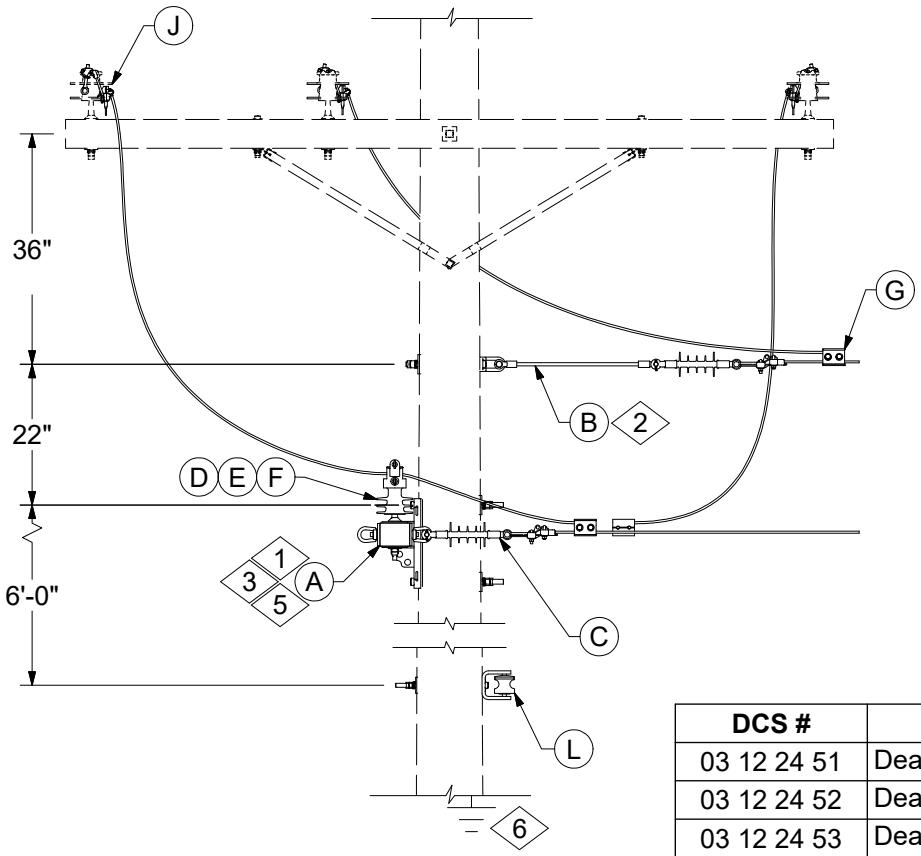
7	01/12/12	MJ	





DCS #	DESCRIPTION
03 12 24 51	Deadend Tap, 8' FG Crossarm, 3-Phase
03 12 24 52	Deadend Tap, 10' FG Crossarm, 3-Phase
03 12 24 53	Deadend Tap, 8' Fg Crossarm, 2-Phase
03 12 24 54	Deadend Tap, 10' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format
7	01/12/12	MJ	

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-Phase configuration, eliminate the center phase position.

3. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 12 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 12 24 **	51	52	53	54
3,5	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	-	1	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	1	-	1
	B	**06 12 30 01 @**	Straight Deadend w/ FG Extension	1	1	-	-
	C	**06 12 35 01 @**	Straight Deadend on FG Crossarm	2	2	2	2
	D	25 05 143	Insulator, Vice Top, 15kV	1	1	1	1
	E	23 62 028	Pin, Insulator, Long Shank	1	1	1	1
	F	23 66 132	Washer, Flat, Sq., 4" x 4", w/ 13/16" Hole	2	2	2	2
@	G	**07 00 25 00 @**	Clamp, Parallel Groove, PG*W	3	3	2	2
@	H	**07 00 80 00 @**	Wire, Poly Covered (Ft.), PLW*W	24	24	16	16
6,7,@	I	**12 00 10 ** @**	Grounding Unit	1	1	1	1
@	J	**07 00 21 00 @**	Clamp, Hotline w/Stirrup, STC*W	3	3	2	2
1,4,@	K	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	L	**03 01 01 ** @**	Neutral	1	1	1	1
	M	252 or 260	Op Code, Install jumper	3	3	2	2

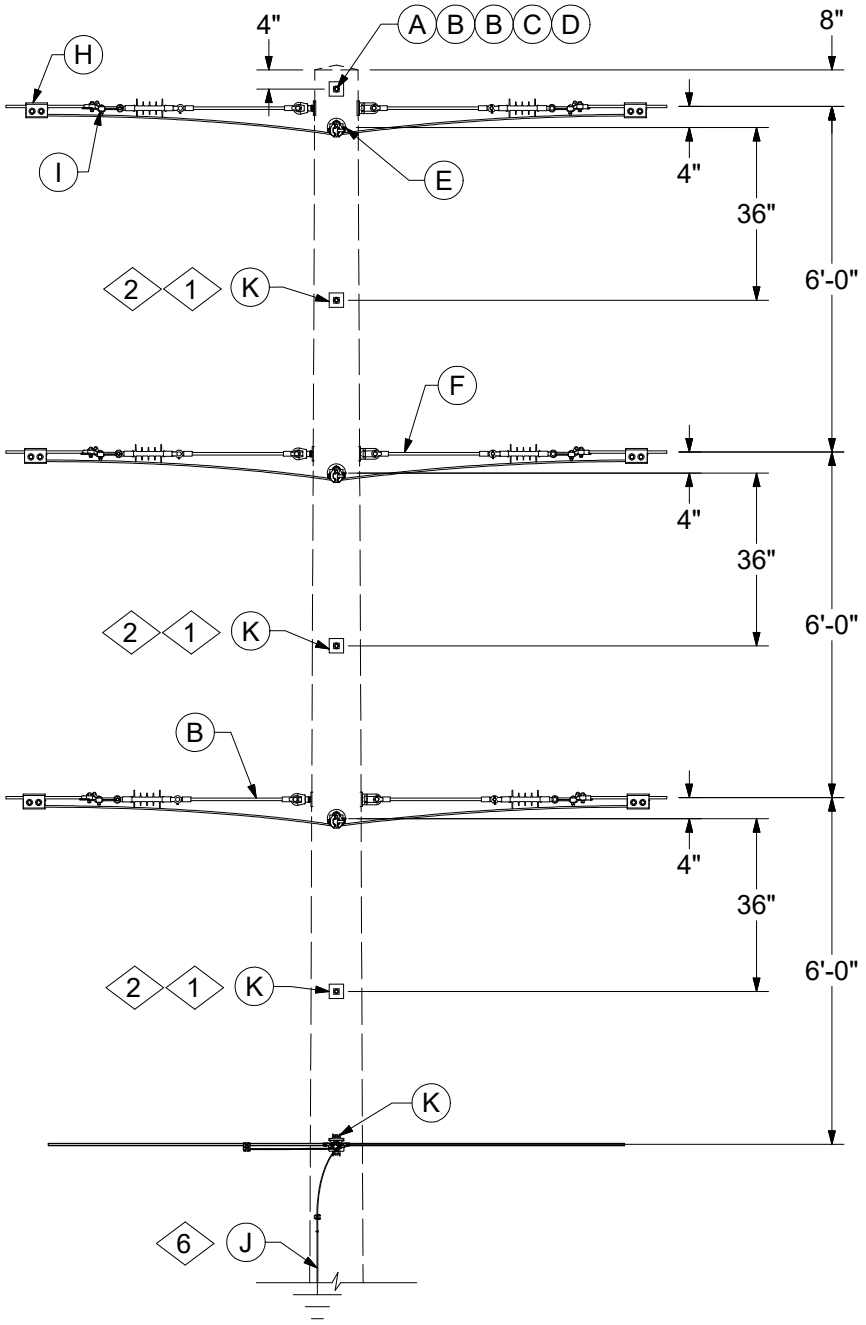
DESIGN NOTE(s):

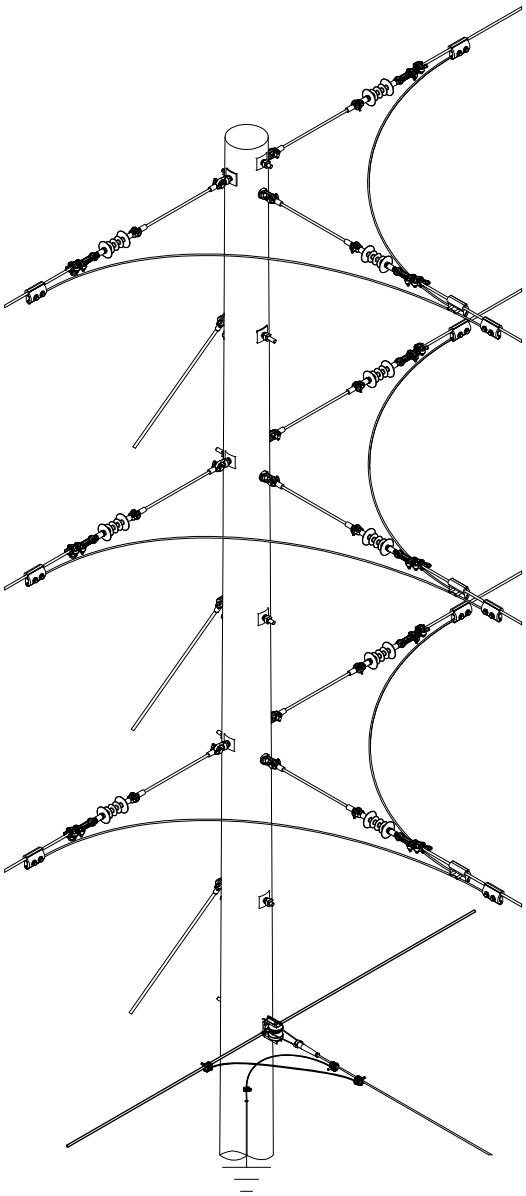
4. See DCS **02 00 04 02** for unguyed composite pole application.

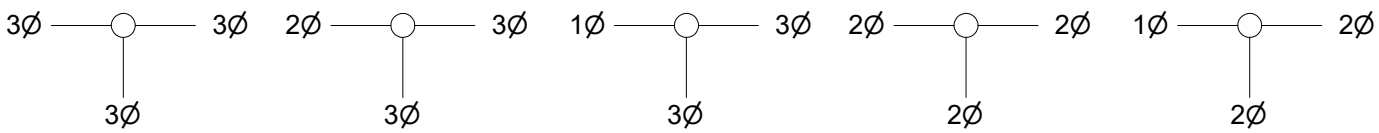
5. See DCS **04 00 01 01** for crossarm loading. In some applications a larger crossarm may be needed for heavier loadings.

6. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

7. Pole grounds for distribution are required on each equipment pole and should be included on every 4th pole per mile for adequate grounding. See Section 12 for grounding applications.







03 12 30 11 | 03 12 30 12 | 03 12 30 13 | 03 12 30 14 | 03 12 30 15

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format
7	04/23/18	KR	

DCS #	DESCRIPTION
03 12 30 11	3-Phase Double Deadend on Pole w/ 3-Phase Tap
03 12 30 12	3- and 2-Phase Double Deadend on Pole w/ 3-Phase Tap
03 12 30 13	3- and 1-Phase Double Deadend on Pole w/ 3-Phase Tap
03 12 30 14	2-Phase Double Deadend on Pole w/ 2-Phase Tap
03 12 30 15	2- and 1-Phase Double Deadend on Pole w/ 2-Phase Tap

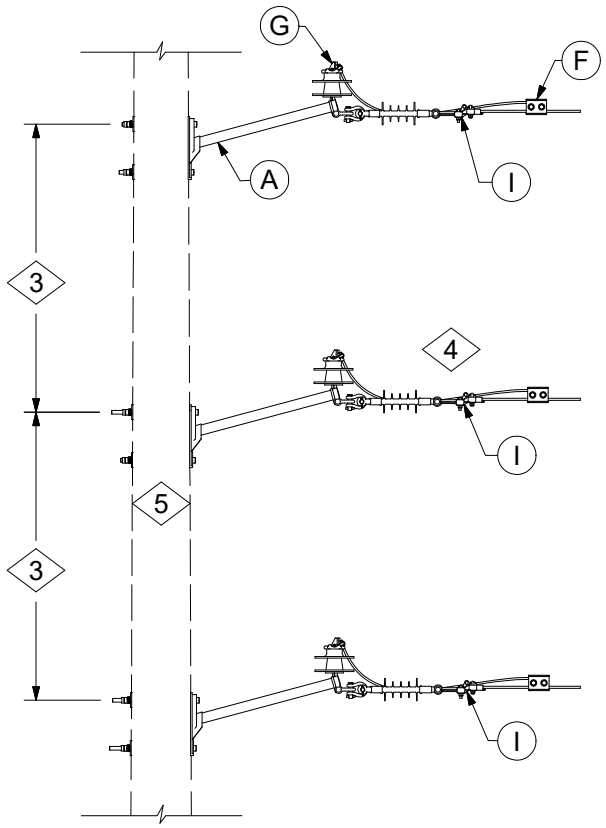
CONSTRUCTION NOTE(s):

1. If a span guy or guys are required or two through bolts are used to attach the guy hook(s), the location of one or both guy hooks will need to be adjusted up or down 2" to ensure bolts are at least 4" apart.

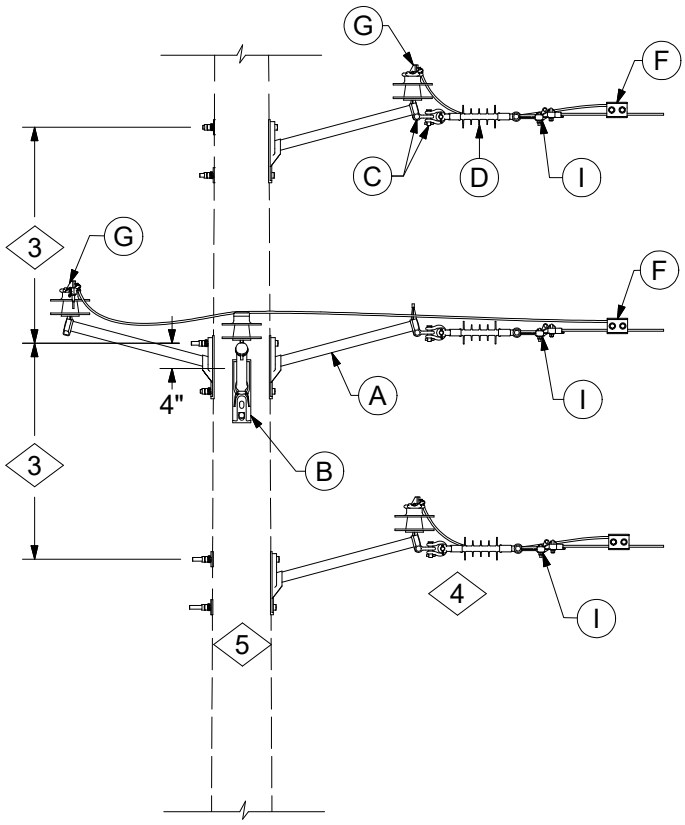
2. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 12 30 **	11	12	13	14	15
	A	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (Anti-Split)	1	1	1	1	1
	B	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2	2
	C	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1	1
	D	23 65 043	Lock Nut - 5/8" Square	1	1	1	1	1
	E	**06 12 30 01 @**	Straight Deadend w/ FG Extension	3	4	5	2	3
	F	**06 12 30 03 @**	Double Deadend w/ FG Extensions	3	2	1	2	1
@	G	**07 00 80 00 @**	Wire, Poly Covered (Ft.), PLW*W	30	25	20	20	15
@	H	**07 00 25 00 @**	Clamp, Parallel Groove, PG*W	12	10	8	8	6
6,7,@	I	**12 00 10 ** @**	Grounding Unit	1	1	1	1	1
1,2,5,@	J	**11 00 4* ** @**	Guying Unit	#	#	#	#	#
@	K	**03 01 01 ** @**	Neutral	1	1	1	1	1
	L	252, 255, or 260	Op Code, Install Jumper	6	5	4	4	3

REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format
7	04/23/18	KR	



New Construction
03 12 30 (20 & 21)



Existing Construction
03 12 30 (22, 23, 24 & 25)

DCS #	DESCRIPTION
03 12 30 20	Underbuild, Vertical, 3-Phase Tap, New Construction
03 12 30 21	Underbuild, Vertical, 2-Phase Tap, New Construction
03 12 30 22	Underbuild, Staggered Vertical, 3-Phase Tap, Existing Construction
03 12 30 23	Underbuild, Staggered Vertical, Opposite 3-Phase Tap, Existing Construction
03 12 30 24	Underbuild, Staggered Vertical, 2-Phase Tap, Existing Construction
03 12 30 25	Underbuild, Staggered Vertical, Opposite 2-Phase Tap, Existing Construction

CONSTRUCTION NOTE(s):

3. For new construction use 6'-0" spacing between the phases. Clearance for single pole replacement or maintenance may be reduced as long as avian protection requirements are met.

	ITEM	STK / DCS #	DESCRIPTION 03 12 30 **	20	21	22	23	24	25
3,4,@	A	**06 12 21 05 @**	Single Insulator & Deadend - FG Standoff	3	2	-	-	-	-
		06 12 21 06 @	Single Deadend - FG Standoff	-	-	1	2	-	1
	B	**06 12 20 04**	Wire Training Assembly	-	-	1	2	-	1
	C	23 68 181	Shackle - Deadend	-	-	2	1	2	1
	D	25 06 052	Insulator, Deadend, 12kV	-	-	2	1	2	1
@	E	**07 00 80 00 @**	Wire, Poly Covered (Ft.) PLW*W	9	6	15	21	6	12
@	F	**07 00 25 00 @**	Clamp, Parallel Groove, PG*W	3	2	3	3	2	2
@	G	**07 00 21 00 @**	Clamp, Hotline w/ Stirrup, STC*W	3	2	3	3	2	2
@	H	**07 00 41 00 @**	Top Tie, TT*W	3	2	-	-	-	-
@	I	**07 00 11 00 @**	Clamp, Deadend, DEC*W	3	2	3	3	2	2
@	J	252 or 260	Op Code, Install jumper	1	1	1	1	1	1

DESIGN NOTE(s):

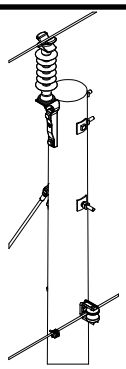
4. See DCS **03 00 03 00** for angle and span length limitations. See DCS **06 12 21 **** for standoff bracket and deadend insulator loading limitations.

5. See DCS **02 00 04 02** for unguyed composite pole application.

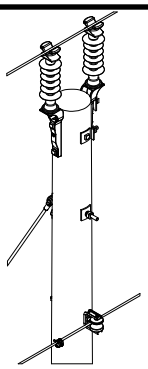
6. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

7. Pole grounds for distribution only are required on each equipment pole and should be placed every 4th pole to allow for adequate grounding. See DCS Section 12 for grounding applications.

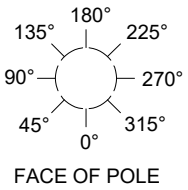
REV	DATE	ENG	DESCRIPTION
8	10/01/23	AEP	Converted to new format
7	04/23/18	KR	

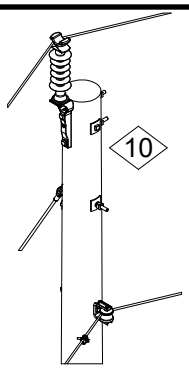


03 25 01 02

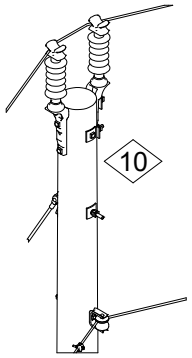


03 25 01 03

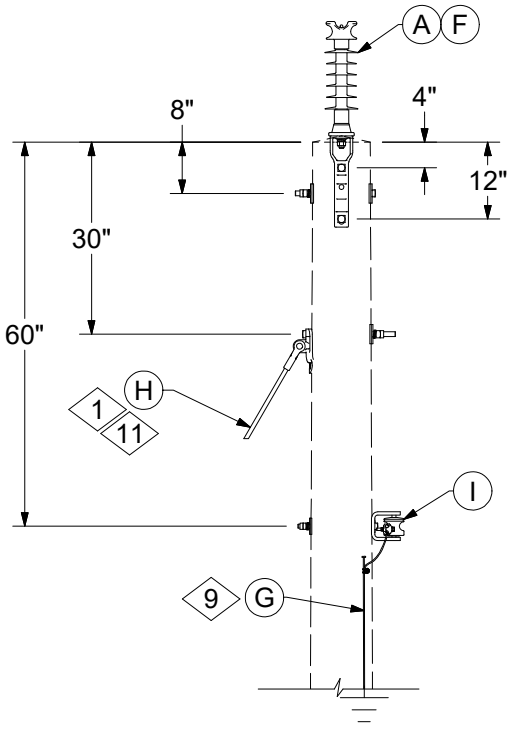




03 25 01 04



03 25 01 05



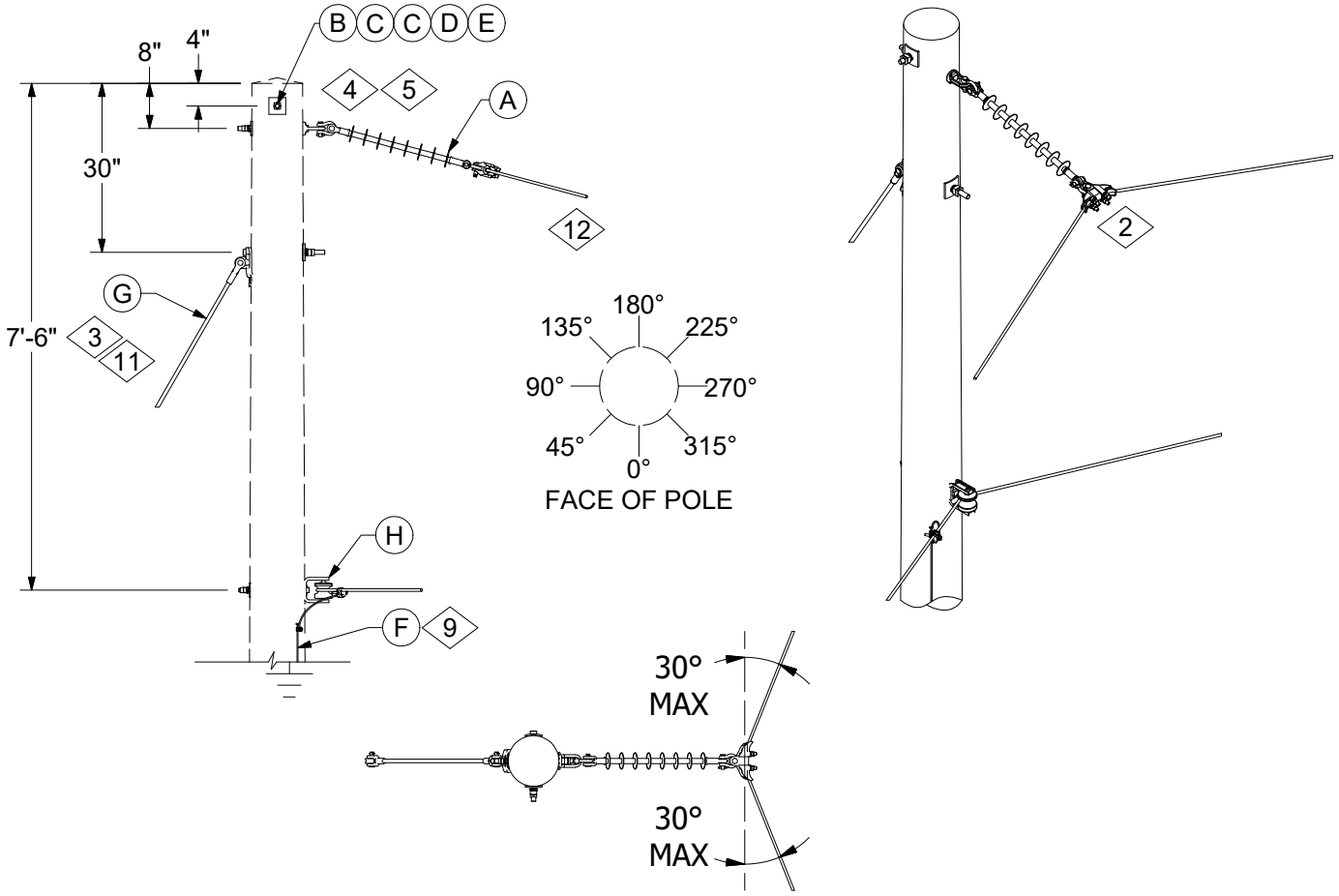
DCS #	DESCRIPTION
03 25 01 02	Single Pole Top Pin - Tangent - Tie Top
03 25 01 03	Double Pole Top Pin - Tangent - Tie Top
03 25 01 04	Single Pole Top Pin - Angle - Tie Top
03 25 01 05	Double Pole Top Pin - Angle - Tie Top
03 25 01 11	Single Pole Top Pin - Clamptop
03 25 01 12	Double Pole Top Pin - Clamptop

CONSTRUCTION NOTE(s):

1. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 25 01 **	02	03	04	05	11	12
	A	**06 34 01 05**	Pole Top Mounting - 34kV, F-Neck	1	1	1	1	-	-
	B	**06 34 01 08 @**	Pole Top Mounting - 34kV, Clamptop	-	-	-	-	1	1
	C	25 05 144	Insulator, Vertical L.P., 34kV, Clamptop	-	-	-	-	-	1
	D	25 05 203	Insulator, Vertical L.P., 34kV, F-Neck	-	1	-	1	-	1
	E	23 06 021	Bracket, Pole Top	-	1	-	1	-	1
	F	**07 00 41 00**	Single Top Tie, TT*W	1	-	-	-	-	-
@	F	**07 00 41 00**	Double Top Tie, DTT*W	-	1	-	-	-	-
	F	**07 00 41 00**	Single Side Tie, ST*W	-	-	1	-	-	-
	F	**07 00 41 00**	Double Side Tie, DST*W	-	-	-	1	-	-
9,13,@	G	**12 00 10 ****	Grounding Unit	1	1	1	1	1	1
1,@	H	**11 00 4* ** @**	Guying Unit	#	#	#	#	#	#
@	I	**03 01 01 ** @**	Neutral	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



03 25 01 20 ◇12◇
Floating Angle

CONSTRUCTION NOTE(s):

◇2.◇ For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

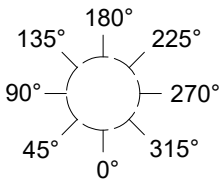
◇3.◇ See DCS **11 00 02 02** for typical guy insulator placement.

◇4.◇ Assemble items in order listed. Square nut provided with bolt is used after double coil washer. Double coil washer not needed on composite poles. Lock nuts must be placed after nut included with bolt stock number.

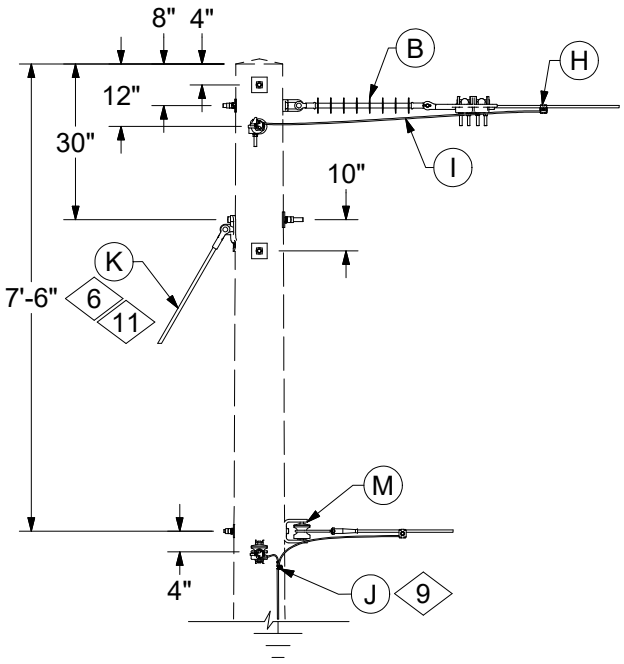
◇5.◇ Use longer machine bolts for larger wood or composite poles if required.

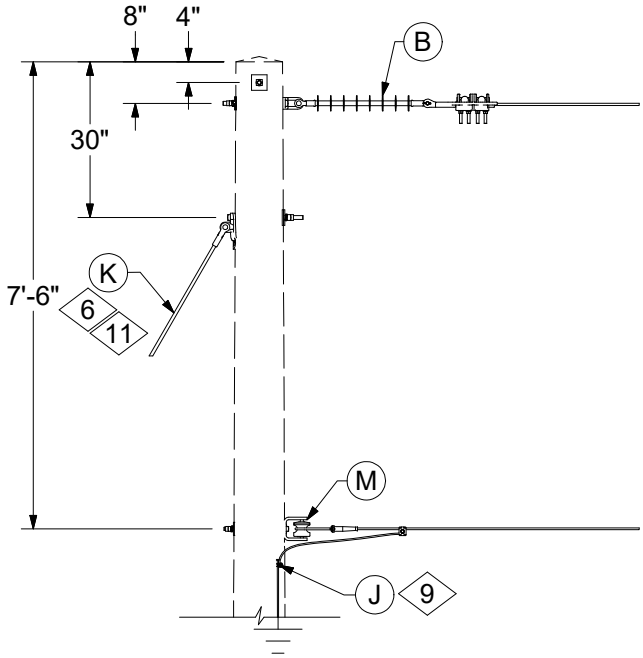
	ITEM	STK / DCS #	DESCRIPTION 03 25 01 **	20
10	A	**06 34 60 08 @**	34kV Single Floating Angle	1
4,5	B	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1
4,5	C	23 66 207	Washer, Curved, Square, 5/8"	2
4,5	D	23 66 134	Lock Washer - 5/8" Double Coil	1
4,5	E	23 65 043	Lock Nut - 5/8" Square	1
9,13,@	F	**12 00 10 ** @**	Grounding Unit	1
3,@	G	**11 00 4* ** @**	Guying Unit	#
@	H	**03 01 01 ** @**	Neutral	1

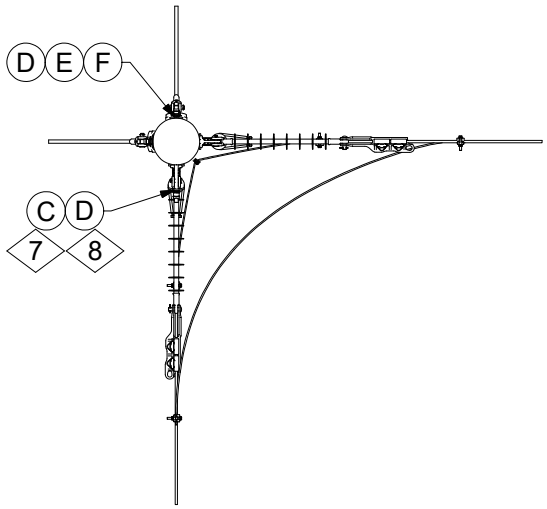
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



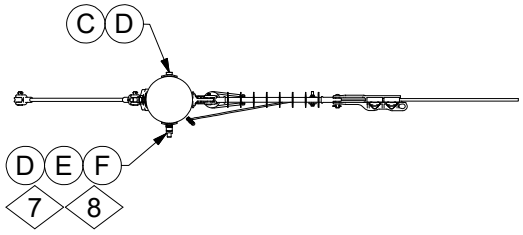
FACE OF POLE





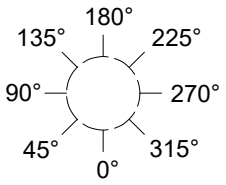


03 25 01 10
90-Degree Angle Double Deadend

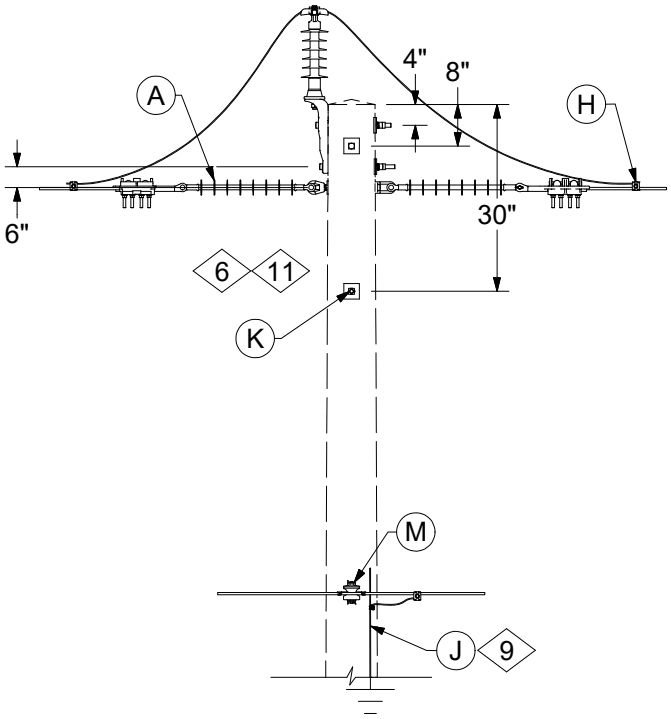


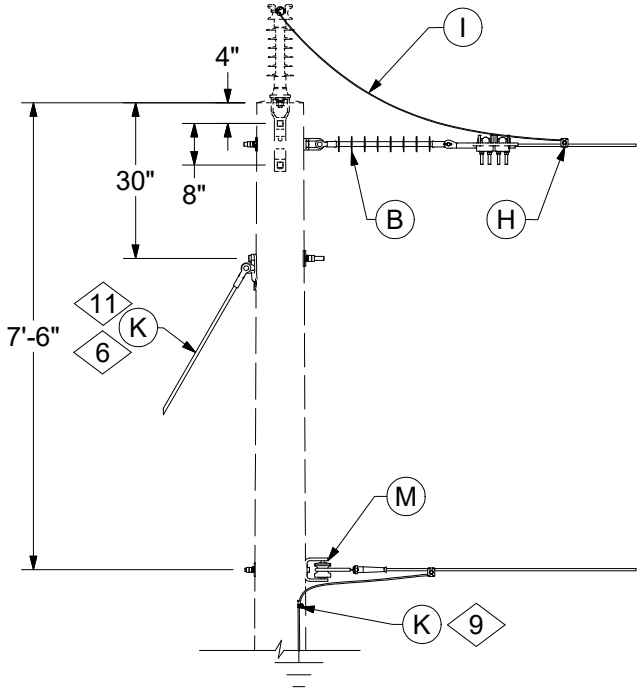
03 25 01 06
Single Deadend

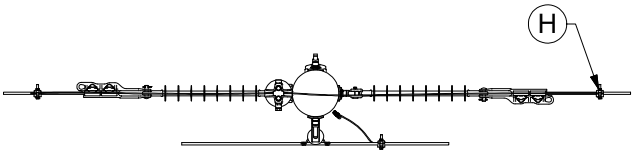
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



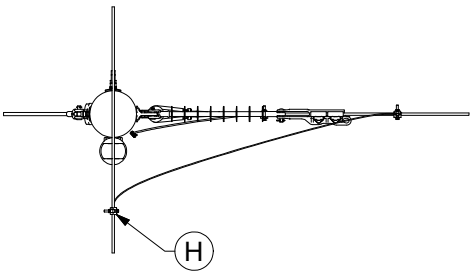
FACE OF POLE







03 25 01 07
Double Deadend Loopover



03 25 01 08
Single Phase Tap

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

6. See DCS **11 00 02 02** for typical guy insulator placement.

7. Assemble items in order listed. Square nut provided with bolt is used after double coil washer. Double coil washer not needed on composite poles. Lock nuts must be placed after nut included with bolt stock number.

8. Use longer machine bolts for larger wood or composite poles if required.

	ITEM	STK / DCS #	DESCRIPTION 03 25 01 **	06	07	08	10
	A	**06 34 60 22** @	34kV Double Deadend w/ Loopover	-	1	-	-
	B	**06 34 60 02** @	34kV Single Deadend	1	-	1	2
7,8	C	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	-	-	1
7,8	D	23 66 207	Washer, Curved, Square, 5/8"	2	-	-	2
7,8	E	23 66 134	Lock Washer - 5/8" Double Coil	1	-	-	1
7,8	F	23 65 043	Lock Nut - 5/8" Square	1	-	-	1
@	G	**07 00 41 00**	Top Tie, TT*W	-	-	1	-
@	H	**07 00 25 00**	Clamp, Parallel Groove, PG*W	-	2	2	2
@	I	**07 00 80 00**	Wire, Poly Covered, (Ft.), PLW*W	#	#	#	#
9,13,@	J	**12 00 10 ****	Grounding Unit	1	1	1	1
6,@	K	**11 00 4* **** @	Guying Unit	#	#	#	#
@	L	**07 00 21 00**	Hot Line Clamp, HLC*W	#	#	#	#
@	M	**03 01 01 **** @	Neutral	1	1	1	1
	N	252, 255, or 260	Op Code, Install Jumper	-	1	1	1

DESIGN NOTE(s):

9. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

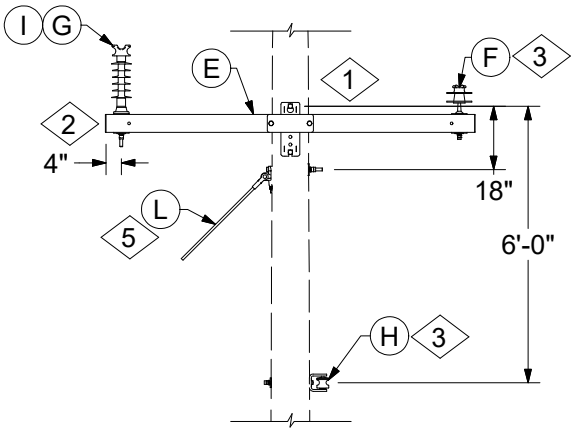
10. See DCS **03 00 03 00** for angle and span length limitations.

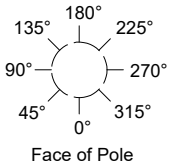
11. See DCS **02 00 04 02** for unguyed composite pole application.

12. See DCS **07 00 16 00** for angle limitations.

13. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

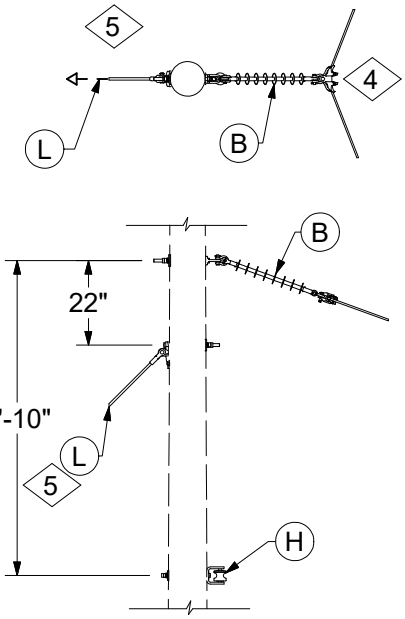
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



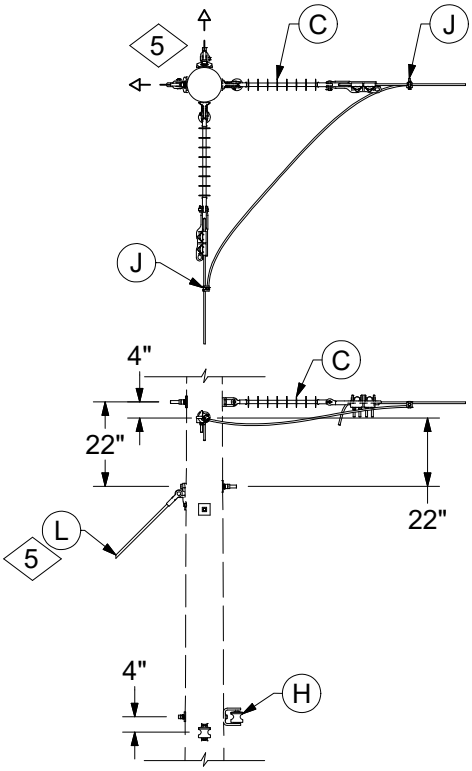


03 25 02 (02, 04, 05, & 06) ◇6

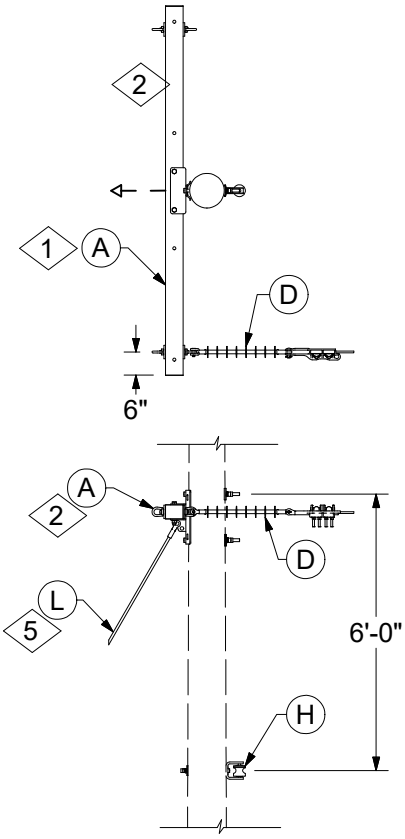
DCS #	DESCRIPTION
03 25 02 02	Tangent Single Pin - 8' FG Crossarm
03 25 02 04	Angle Single Pin - 8' FG Crossarm
03 25 02 05	Tangent Single Pin - 10' FG Crossarm
03 25 02 06	Angle Single Pin - 10' FG Crossarm



03 25 02 10
Floating Angle ◇6



03 25 02 11
90-Degree Corner



03 25 02 12
Single Deadend w/ Neutral - 8' FG Crossarm
03 25 02 13
Single Deadend w/ Neutral - 10' FG Crossarm

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. 8'-0" crossarm available for use in Ameren Missouri only.

2. See DCS **04 00 01 01** for crossarm selection options and loading requirements.

3. If neutral installed below arm, omit one pin insulator and see DCS **03 01 01 ****** for neutral materials.

4. For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

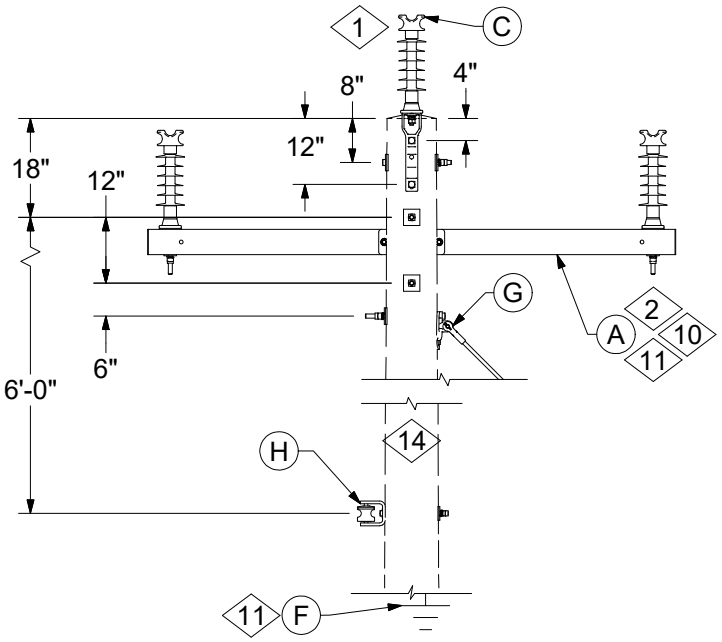
5. See DCS **11 00 02 02** for typical guy insulator placement.

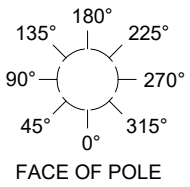
	ITEM	STK / DCS #	DESCRIPTION 03 25 02 **	02	04	05	06	10	11	12	13
1,2	A	**04 00 42 02** @	8' Deadend FG Crossarm	-	-	-	-	-	-	1	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-	-	-	-	-	-	1
	B	**06 34 60 08** @	Insulator, Floating Angle	-	-	-	-	1	-	-	-
	C	**06 34 60 02** @	34kV Single Deadend	-	-	-	-	-	2	-	-
	D	**06 34 68 11** @	34kV Single Deadend on Arm	-	-	-	-	-	-	1	1
1,2	E	**04 00 41 14** @	Crossarm, Tangent, FG, 8'	1	1	-	-	-	-	-	-
		04 00 41 16 @	Crossarm, Tangent, FG, 10'	-	-	1	1	-	-	-	-
3,6	F	**06 12 01 12** @	Single Pin & Insulator - FG Crossarm	1	1	1	1	-	-	-	-
3,6,@	G	**06 34 01 02** @	Single Pin & Insulator - Tie Top	1	1	1	1	-	-	-	-
		06 34 01 03 @	Single Pin & Insulator - Pin Type	1	1	1	-	-	-	-	-
		06 34 01 06	Single Pin & Insulator - Clamp Top	1	1	1	-	-	-	-	-
3,@	H	**03 01 01 ****** @	Neutral	1	1	1	1	1	1	1	1
@	I	**07 00 41 00**	Sgl Side Tie, ST*W	-	-	1	-	-	-	-	-
			Sgl Top Tie, TT*W	1	1	-	1	-	-	-	-
	J	**07 00 25 00**	Clamp, PG, PG*W	-	-	-	-	-	2	-	-
@	K	**07 00 80 00**	Wire, Poly Covered, Ft., PLW*W	-	-	-	-	-	#	-	-
@	L	**11 00 4* ****** @	Guying Unit	-	#	#	-	#	#	#	#
5,@	M	252, 255, or 260	Op Code, Install Jumper	-	-	-	-	-	1	-	-

DESIGN NOTE(s):

6. See DCS **03 00 03 00** for angle and span length limitations.

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard





03 25 06 (01, 02, 03, 04, 05, 06, 07, 08)

DCS #	DESCRIPTION
03 25 06 01	Single Pin Tie Top, 3-Phase, 8' FG Crossarm - Single Circuit
03 25 06 02	Single Pin Tie Top, 3-Phase, 10' FG Crossarm - Single Circuit
03 25 06 03	Single Pin Clamptop, 3-Phase, 10' FG Crossarm - Single Circuit
03 25 06 04	Single Pin Tie Top, 2-Phase, 8' FG Crossarm - Single Circuit
03 25 06 05	Single Pin Tie Top, 2-Phase, 10' FG Crossarm - Single Circuit
03 25 06 06	Single Pin Clamptop, 3-Phase, 8' FG Crossarm - Single Circuit
03 25 06 07	Single Pin Clamptop, 2-Phase, 8' FG Crossarm - Single Circuit
03 25 06 08	Single Pin Clamptop, 2-Phase, 10' FG Crossarm - Single Circuit

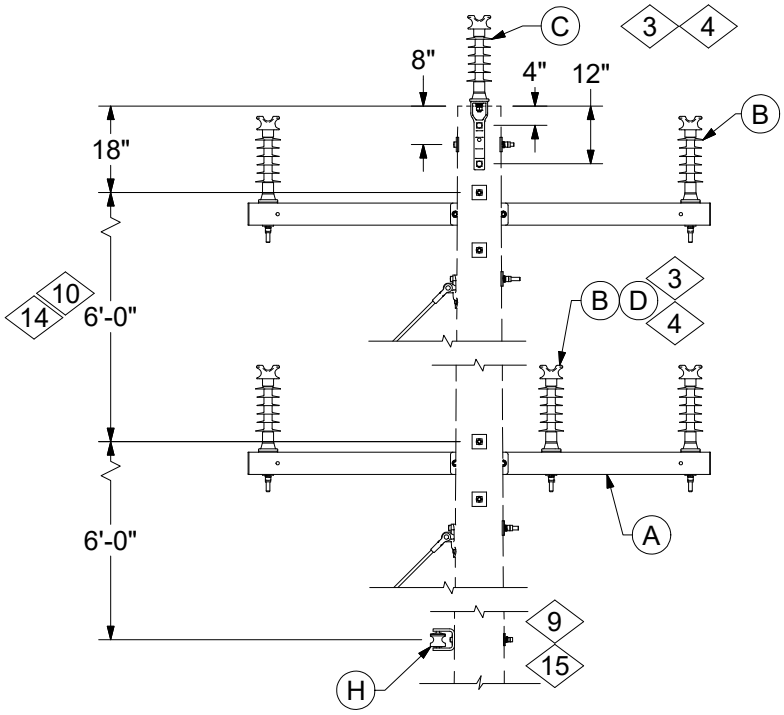
CONSTRUCTION NOTE(s):

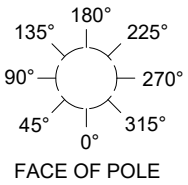
1. For 2-phase configuration, eliminate the center phase position.

2. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 17 01 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 25 06 **	01	02	03	04	05	06	07	08
2,10,11	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	-	-	1	-	1	1	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	1	1	-	1	-	-	1
	B	**06 34 01 02**	Insulator, Arm, Sgl Pin - Tie Top	2	2	-	2	2	-	-	-
		06 34 01 06 @	Insulator, Arm, Sgl Pin - Clamptop	-	-	2	-	-	2	2	2
	C	**06 34 01 05**	Insulator, Pole Top, Sgl Pin - Tie Top	1	1	-	-	-	-	-	-
		06 34 01 08 @	Insulator, Pole Top, Sgl Pin - Clamptop	-	-	1	-	-	1	-	-
2	D	**05 17 01 01**	Conductor Cover - Single Pin	1	-	-	-	-	-	-	-
@	E	**07 00 41 00**	Top Tie TT*W, Side Tie ST*W	3	3	-	2	2	-	-	-
15,@	F	**12 00 10 ****	Grounding Unit	1	1	1	1	1	1	1	1
@	G	**11 00 4* ** @**	Guying Unit	#	#	#	#	#	#	#	#
@	H	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard





03 25 06 (09, 10, 11, 12)

DCS #	DESCRIPTION
03 25 06 09	Single Pin Tie Top, 3-Phase, 8' FG Crossarm - Double Circuit
03 25 06 10	Single Pin Tie Top, 3-Phase, 10' FG Crossarm - Double Circuit
03 25 06 11	Single Pin Clamptop, 3-Phase, 10' FG Crossarm - Double Circuit
03 25 06 12	Single Pin Clamptop, 3-Phase, 8' FG Crossarm - Double Circuit

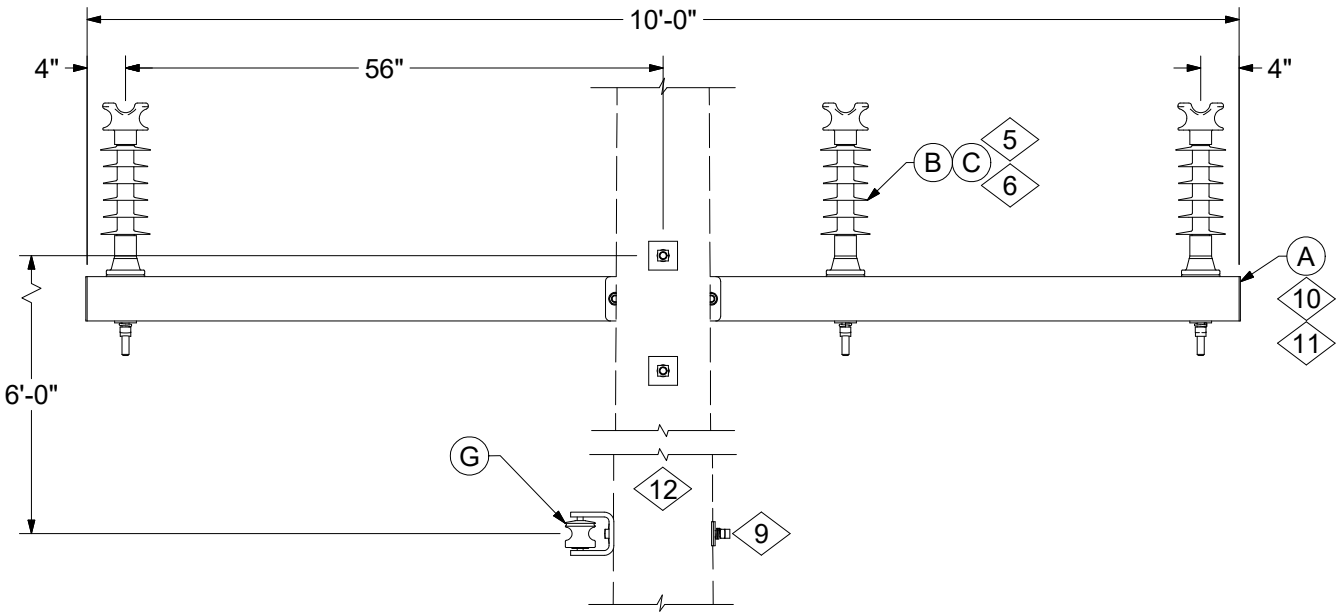
CONSTRUCTION NOTE(s):

3. For 2-phase configuration, eliminate the center phase position. If neutral is installed on crossarm then use DCS **06 12 01 01** for the pin insulator.

4. 8'-0" crossarm available for use in Ameren Missouri only. On pole top position, middle phase must meet avian protection requirements. Middle phase cover required when in lower arm position on double circuit. See DCS **05 17 01 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 25 06 **	09	10	11	12
4,11	A	**04 00 41 14 @**	8' Tangent FG Crossarm	2	-	-	2
		04 00 41 16 @	10' Tangent FG Crossarm	-	2	2	-
	B	**06 34 01 02**	Insulator, Arm, Sgl Pin - Tie Top	5	5	-	-
		06 34 01 06 @	Insulator, Arm, Sgl Pin - Clamptop	-	-	5	5
	C	**06 34 01 05**	Insulator, Pole Top, Sgl Pin - Tie Top	1	1	-	-
		06 34 01 08 @	Insulator, Pole Top, Sgl Pin - Clamptop	-	-	1	1
4	D	**05 17 01 01**	Conductor Cover - Single Pin	2	1	-	-
@	E	**07 00 41 00**	Top Tie TT*W, Side Tie ST*W	6	6	-	-
15,@	F	**12 00 10 ****	Grounding Unit	1	1	1	1
@	G	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	H	**03 01 01 ** @**	Neutral	1	1	1	1

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



03 25 06 (21, 22, 23, 24, 25, 26, 27, 28)

DCS #	DESCRIPTION
03 25 06 21	Underbuild Single Pin Tie Top, 3-Phase, 8' FG Crossarm - Single Circuit
03 25 06 22	Underbuild Single Pin Tie Top, 2-Phase, 8' FG Crossarm - Single Circuit
03 25 06 23	Underbuild Single Pin Tie Top, 3-Phase, 10' FG Crossarm - Single Circuit
03 25 06 24	Underbuild Single Pin Tie Top, 2-Phase, 10' FG Crossarm - Single Circuit
03 25 06 25	Underbuild Single Pin Clamptop, 3-Phase, 8' FG Crossarm - Single Circuit
03 25 06 26	Underbuild Single Pin Clamptop, 2-Phase, 8' FG Crossarm - Single Circuit
03 25 06 27	Underbuild Single Pin Clamptop, 3-Phase, 10' FG Crossarm - Single Circuit
03 25 06 28	Underbuild Single Pin Clamptop, 2-Phase, 10' FG Crossarm - Single Circuit

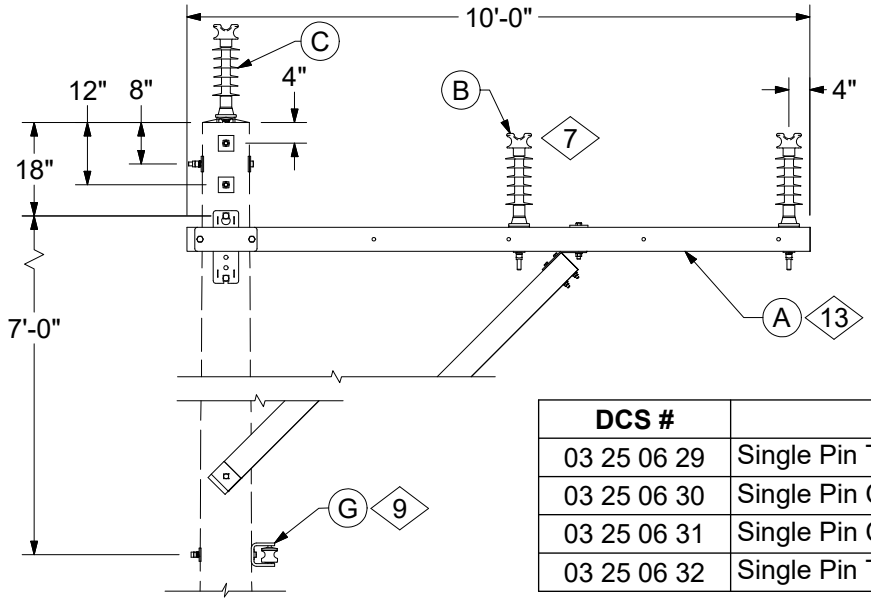
CONSTRUCTION NOTE(s):

5. For 2-phase configuration, eliminate the center phase position. If neutral is installed on crossarm then use DCS **06 12 01 01** for the pin insulator.

6. On 3-phase underbuild construction, middle phase on 8'-0" and 10'-0" crossarms must be covered to meet avian protection requirements.

	ITEM	STK / DCS #	DESCRIPTION 03 25 06 **	21	22	23	24	25	26	27	28
5,10,11	A	**04 00 41 14 @**	8' Tangent FG Crossarm	1	1	-	-	1	1	-	-
		04 00 41 16 @	10' Tangent FG Crossarm	-	-	1	1	-	-	1	1
	B	**06 34 01 06**	Insulator, Arm, Sgl Pin - Clamptop	-	-	-	-	3	2	3	2
		06 34 01 02	Insulator, Arm, Sgl Pin - Tie Top	3	2	3	2	-	-	-	-
6,11	C	**05 17 01 01**	Conductor Cover - Single Pin	1	-	1	-	1	-	1	-
@	D	**07 00 41 00**	Top Tie TT*W, Side Tie ST*W	#	#	#	#	-	-	-	-
@	E	**12 00 10 ****	Grounding Unit	1	1	1	1	1	1	1	1
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#	#	#	#	#
	G	**03 01 01 ****	Neutral	1	1	1	1	1	1	1	1

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



DCS #	DESCRIPTION
03 25 06 29	Single Pin Tie Top, 3-Phase, 8' Single Side Arm
03 25 06 30	Single Pin Clamptop, 3-Phase, 8' Single Side Arm
03 25 06 31	Single Pin Clamptop, 3-Phase, 10' Single Side Arm
03 25 06 32	Single Pin Tie Top, 3-Phase, 10' Single Side Arm

03 25 06 (29, 30, 31, 32)

CONSTRUCTION NOTE(s):

7. On 3-phase construction, middle phase must be covered to meet avian protection requirements.

8. For 2-phase configuration, eliminate the center phase position. If neutral is installed on crossarm then use DCS **06 12 01 01** for the pin insulator.

	ITEM	STK / DCS #	DESCRIPTION 03 25 06 **	29	30	31	32
13	A	**04 00 43 01** @	8' FG Alley Arm	1	1	-	-
		04 00 43 02 @	10' FG Alley Arm	-	-	1	1
	B	**06 34 01 06** @	Insulator, Arm, Sgl Pin - Clamptop	-	2	2	-
		06 34 01 02	Insulator, Arm, Sgl Pin - Tie Top	2	-	-	2
	C	**06 34 01 08** @	Insulator, Pole Top, Sgl Pin - Clamptop	-	1	1	-
		06 34 01 05	Insulator, Pole Top, Sgl Pin - Tie Top	1	1	-	1
7	D	**05 17 01 01**	Conductor Cover - Single Pin	1	-	1	-
@	E	**07 00 41 00**	Top Tie, TT*W	3	-	-	3
15,@	F	**12 00 10 ******	Grounding Unit	1	1	1	1
@	G	**03 01 01 ******	Neutral	1	1	1	1

DESIGN NOTE(s):

9. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

10. See DCS **03 00 03 00** for angle and span length limitations.

11. See DCS **04 00 41 ****** for arm detail.

12. See DCS **02 00 04 02** for unguyed composite pole application.

13. See DCS **04 00 01 01** for side arm loading criteria.

14. The distance between the two crossarms shall maintain a minimum of 6'-0" separation. Greater distance may be needed if galloping is a concern.

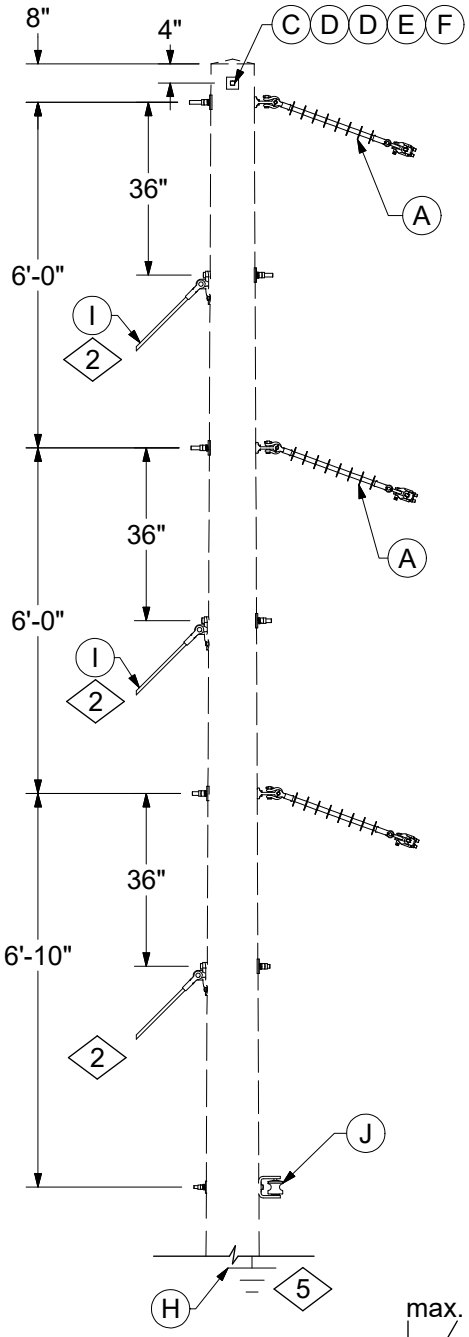
15. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

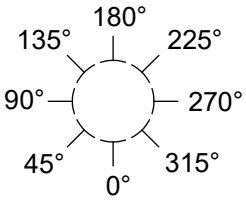
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

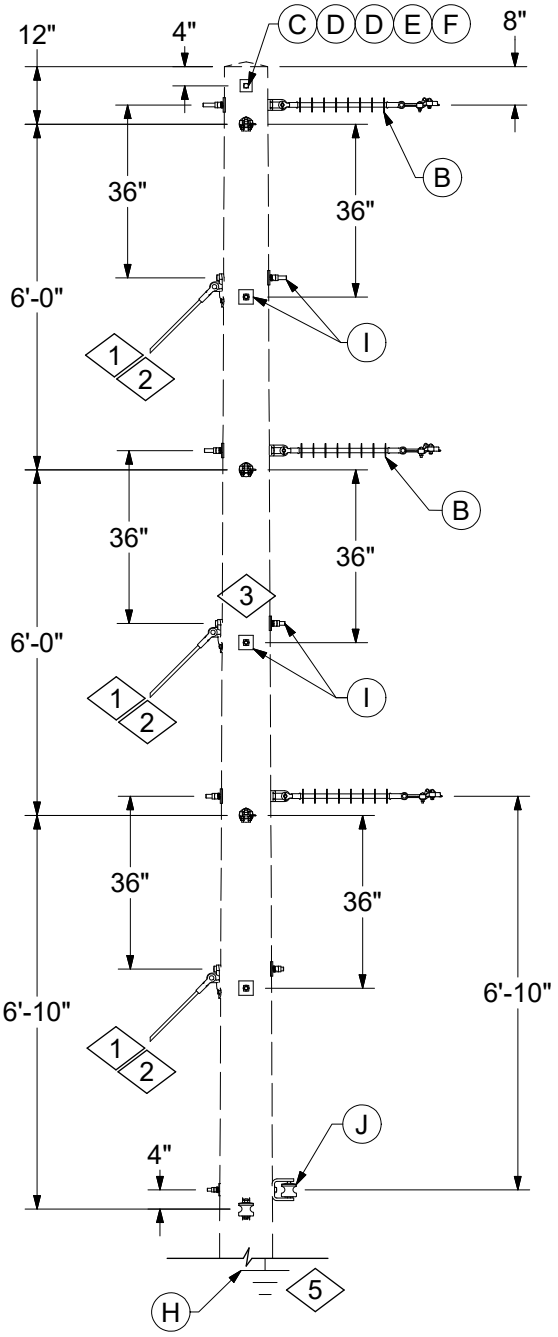
CONFIGURATIONS

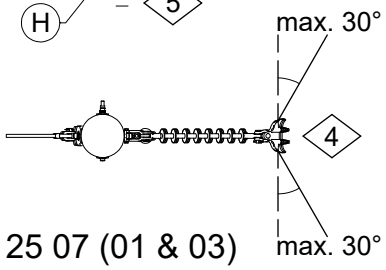
Deadend Corners & Floating Angles - Two or Three Phase

03 25 07 **
25kV
1 of 2

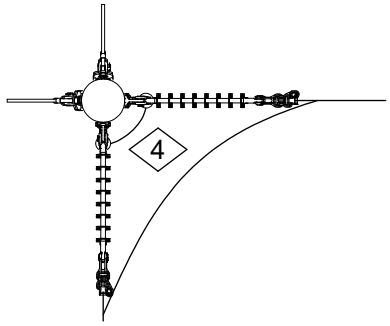








03 25 07 (01 & 03)



03 25 07 (02 & 04)

DCS #	DESCRIPTION
03 25 07 01	Floating Angle, 3-Phase
03 25 07 02	Deadend Corner, 3-Phase
03 25 07 03	Floating Angle, 2-Phase
03 25 07 04	Deadend Corner, 2-Phase

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. If a span guy or guys are required or two through hooks are used to attach the guy hook(s), the location of one or both of the guy hooks will need to be adjusted up or down 2" to ensure bolts are at least 4" apart.

2. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 25 07 **	01	02	03	04
	A	**06 34 60 08 @**	34kV Floating Angle	3	-	2	-
	B	**06 34 60 03 @**	34kV Deadend	-	6	-	4
	C	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut, anti split bolt	1	1	1	1
	D	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
	E	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
	F	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
@	G	**07 00 80 00**	Wire, Poly Covered, PLW*W	-	30	-	20
5,6,@	H	**12 00 10 ****	Grounding Unit	1	1	1	1
1,2,@	I	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	J	**03 01 01 ** @**	Neutral	1	1	1	1
	K	252, 255, or 260	Op Code, Install Jumper	-	3	-	2

DESIGN NOTE(s):

3. See DCS **02 00 04 02** for unguyed composite pole appplication.

4. For ACSR, AAAC, and AAC conductors where spans exceed 300 feet, see DCS **07 00 08 01** for application of armor rods.

5. Composite poles have factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

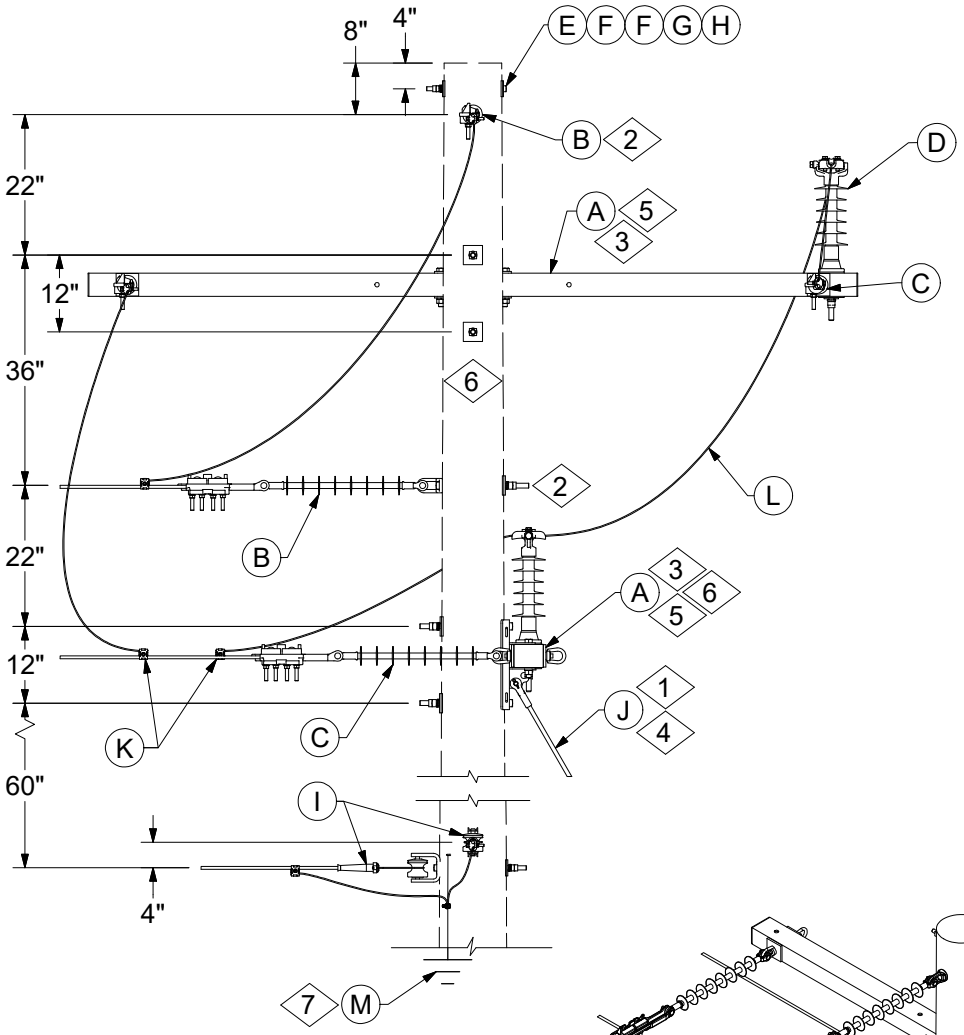
6. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

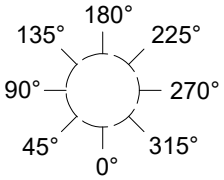
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONFIGURATIONS

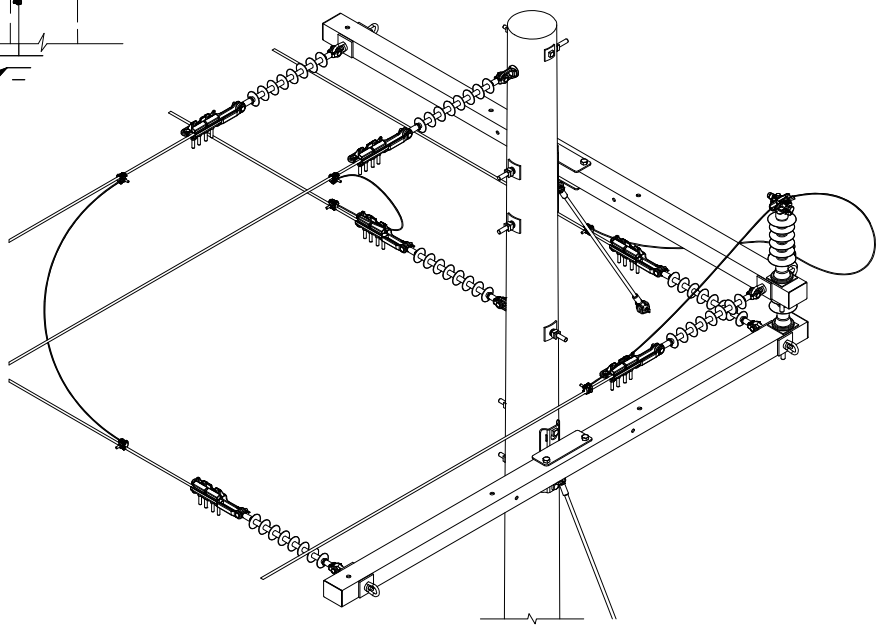
Buck Arm Corner - Two or Three Phase

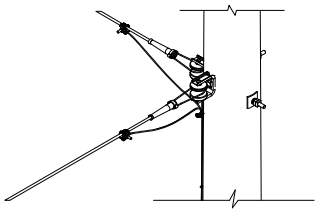
03 25 09 **
25kV
1 of 2





FACE OF POLE





DCS#	DESCRIPTION
03 25 09 01	Deadend, 10' FG Crossarm and Pole, 3-Phase
03 25 09 02	Deadend, 8' FG Crossarm and Pole, 3-Phase
03 25 09 03	Deadend, 8' FG Crossarm, 2-Phase
03 25 09 04	Deadend, 10' FG Crossarm, 2-Phase

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-phase configuration, eliminate the center phase position.

3. 8'-0" Crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

4. See DCS **11 00 02 02** for typical guy insulator placement.

	ITEM	STK / DCS #	DESCRIPTION 03 25 09 **	01	02	03	04
3,5	A	**04 00 42 02** @	8' Deadend FG Crossarm	-	1	-	1
		04 00 42 03 @	10' Deadend FG Crossarm	1	-	1	-
2	B	**06 34 60 02** @	Single Deadend on Pole	2	2	-	-
	C	**06 34 68 11** @	Single Deadend on FG Arm	4	4	4	4
	D	**06 34 01 06** @	Insulator, Vertical, L.P., 34kV, Clamptop	2	2	2	2
	E	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut	1	1	1	1
	F	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
	G	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
	H	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
@	I	**03 01 01 **** @	Neutral	1	1	1	1
1,4,6,@	J	**11 00 4* **** @	Guying Unit	#	#	#	#
@	K	**07 00 25 00**	Clamp, PG, PG*W	12	12	8	8
@	L	**07 00 80 00**	Lead Wire, Poly Covered, PLW*W	30	30	20	20
7,8,@	M	**12 00 10 ****	Grounding Unit	1	1	1	1

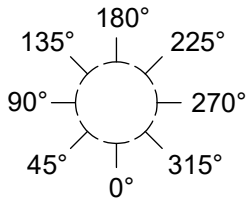
DESIGN NOTE(s):

5. DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

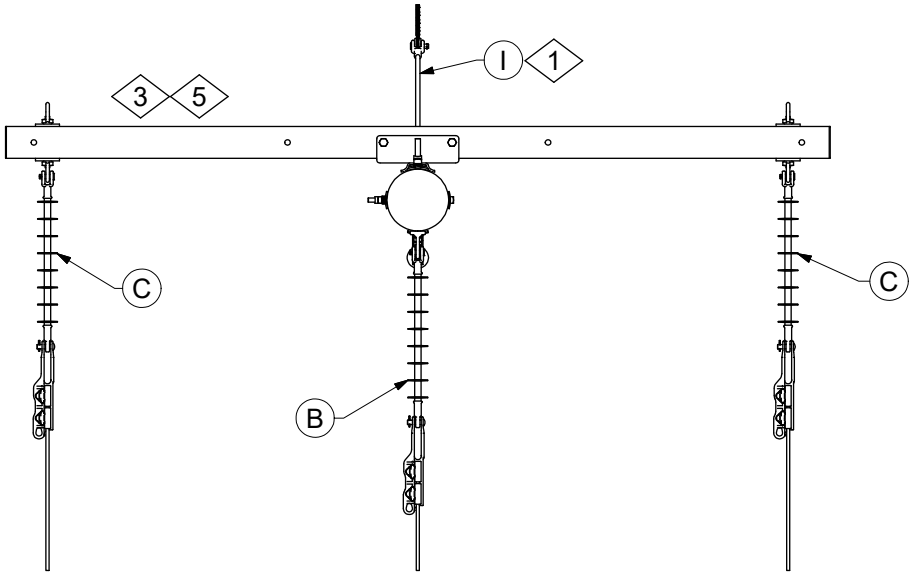
6. See DCS **02 00 04 02** for unguyed composite pole application.

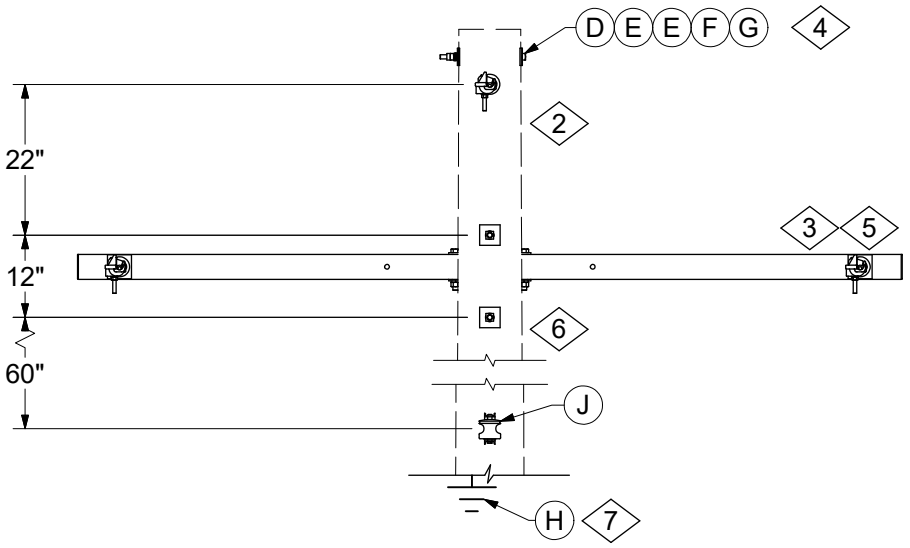
7. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

8. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).



FACE OF POLE





DCS #	DESCRIPTION
03 25 11 02	Deadend, 8' FG Crossarm, 2-Phase
03 25 11 03	Deadend, 8' FG Crossarm, 3-Phase
03 25 11 04	Deadend, 10' FG Crossarm, 3-Phase
03 25 11 05	Deadend, 10' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-phase configuration, eliminate the center phase position.

3. 8'-0" crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

4. For pole top applications, install anti-split bolt.

	ITEM	STK / DCS #	DESCRIPTION 03 25 11 **	02	03	04	05
2,3,5	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	1	-	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-	1	1
	B	**06 34 60 02 @**	34kV Single Deadend on Pole	-	1	1	-
	C	**06 34 68 11 @**	34kV Single Deadend on FG Arm	2	2	2	2
4	D	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	1	1
4	E	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
4	F	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
4	G	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
7,8,@	H	**12 00 10 ****	Grounding Unit	1	1	1	1
1,6,@	I	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	J	**03 01 01 ** @**	Neutral, Deadend	1	1	1	1

DESIGN NOTE(s):

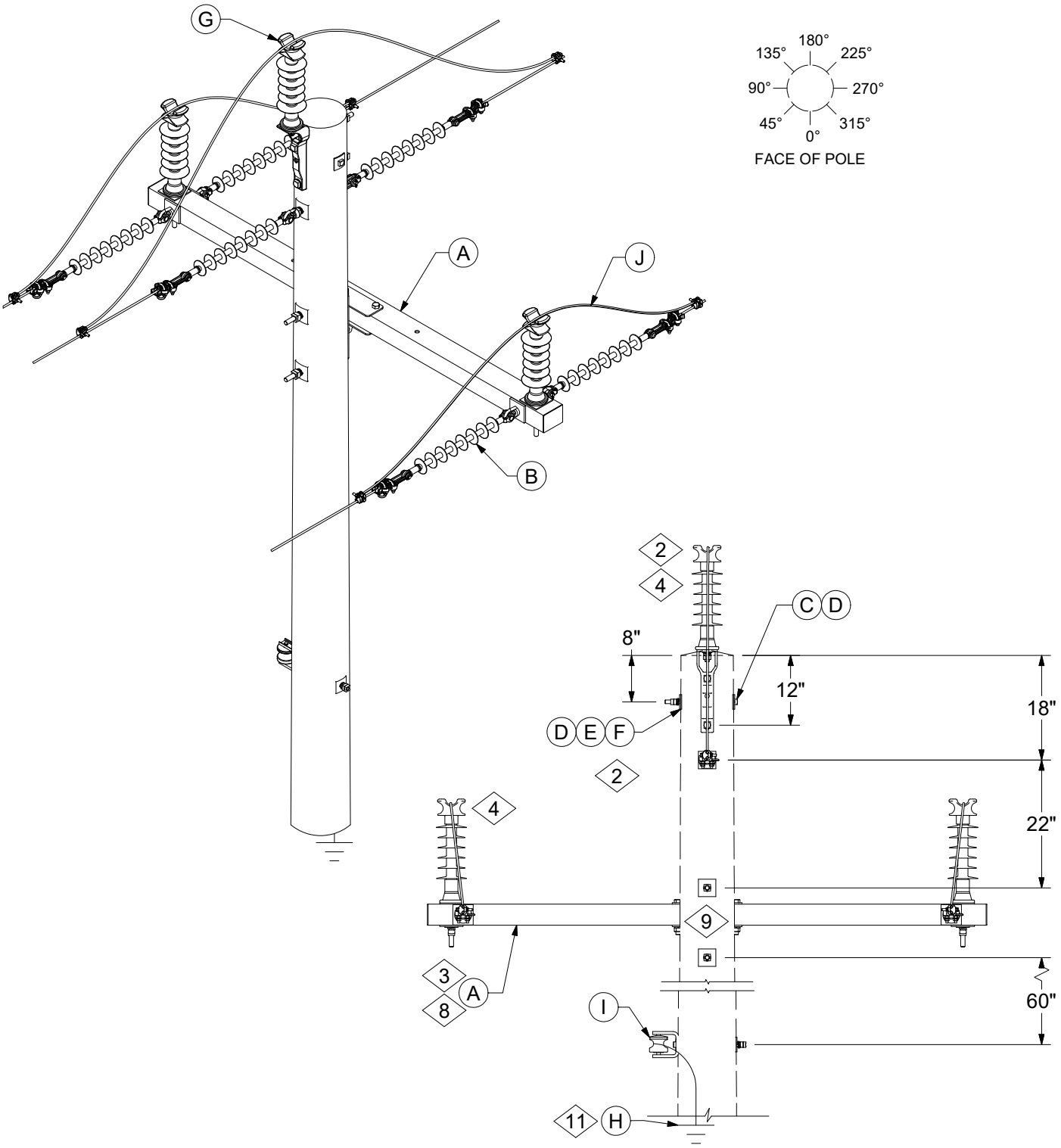
5. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

6. See DCS **02 00 04 02** for unguyed composite pole applications.

7. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

8. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard



03 25 14 (02, 03, 04, & 05)

DCS #	DESCRIPTION
03 25 14 02	Deadend Loopover, 8' FG Crossarm, 3-Phase
03 25 14 03	Deadend Loopover, 10' FG Crossarm, 3-Phase
03 25 14 04	Deadend Loopover, 10' FG Crossarm, 2-Phase
03 25 14 05	Deadend Loopover, 8' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. If guying is needed to account for difference in tension, see DCS **11 00 4* ****.

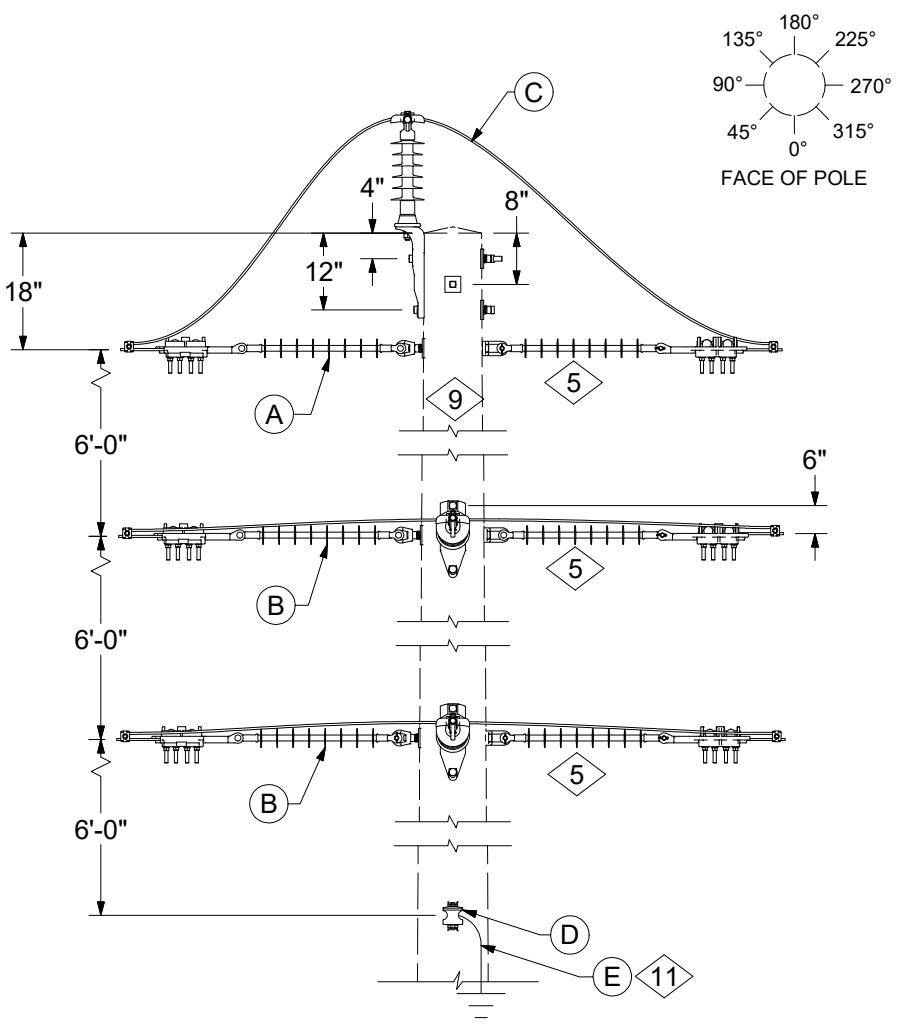
2. For 2-phase configuration, eliminate the center phase position.

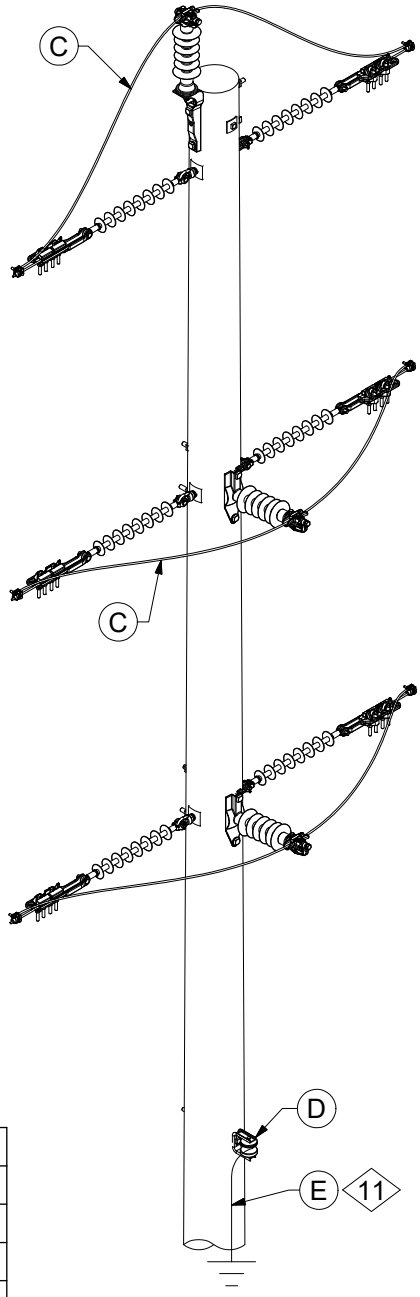
3. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 10 01** for more information.

4. Clamp top 34kV insulators may be substituted for tie top insulators shown. Clamp top 34kV insulator stock #25 05 114, reference DCS **07 00 41 00** for trunnion clamp options.

	ITEM	STK / DCS #	DESCRIPTION 03 25 14 **	02	03	04	05
2,3,8	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	-	-	1
		04 00 42 03 @	10' FG Deadend FG Crossarm	-	1	1	-
4	B	**06 34 68 05**	Double Deadend w/ Loopover on FG Crossarm	2	2	2	2
	C	23 52 065	Bolt, Mach., 5/8" x 12" w/ square nut (anti-split bolt)	1	1	1	1
	D	23 66 207	Washer, Curved, Square, 5/8"	2	2	2	2
	E	23 66 134	Lock Washer - 5/8" Double Coil	1	1	1	1
	F	23 65 043	Lock Nut - 5/8" Square	1	1	1	1
2,@	G	**06 34 60 22**	34kV Double Deadend w/ Loopover	1	1	-	-
11,12,@	H	**12 00 10 ** **	Grounding Unit	1	1	1	1
@	I	**03 01 01 ** @**	Neutral	1	1	1	1
@	J	**07 00 80 00**	Lead Wire, Poly Covered, Ft., PLW*W	30	30	20	20
1,@	K	**11 00 4* ** @**	Guying Unit	#	#	#	#
	L	252 or 260	Op Code, Install Jumper	3	3	2	2

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard





03 25 14 (06, 07, 08, & 09)

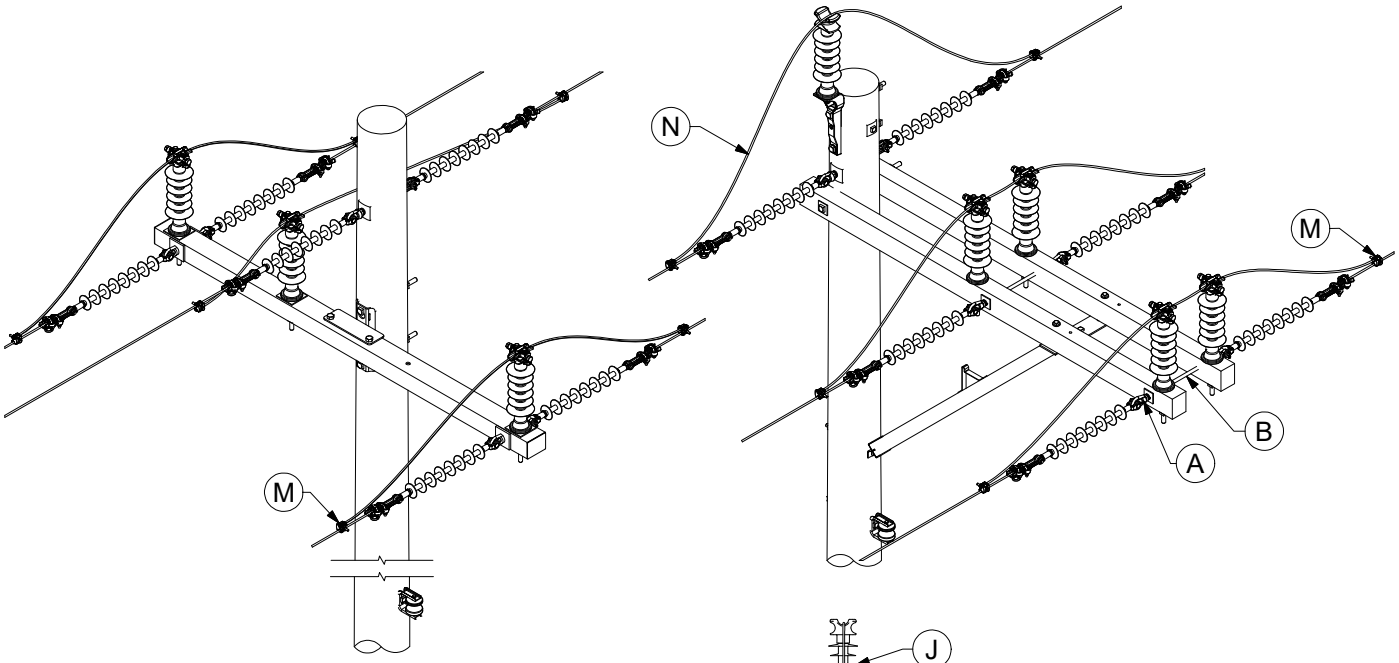
DCS #	DESCRIPTION
03 25 14 06	Deadend Loop, Pole Top, 3-Phase
03 25 14 07	Deadend Loop, Underbuild, 3-Phase
03 25 14 08	Deadend Loop, Pole Top, 2-Phase
03 25 14 09	Deadend Loop, Underbuild, 2-Phase

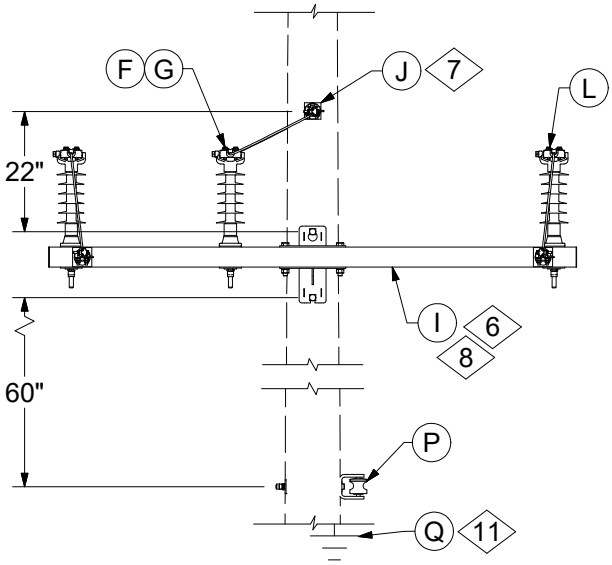
CONSTRUCTION NOTE(s):

5. If deadending on angle greater than 5° offset deadend insulators by 4", refer to DCS **06 34 60 03**. Down guys should be installed 6" below bottom deadend insulator if required. Refer to DCS Section 11 for guying requirements.

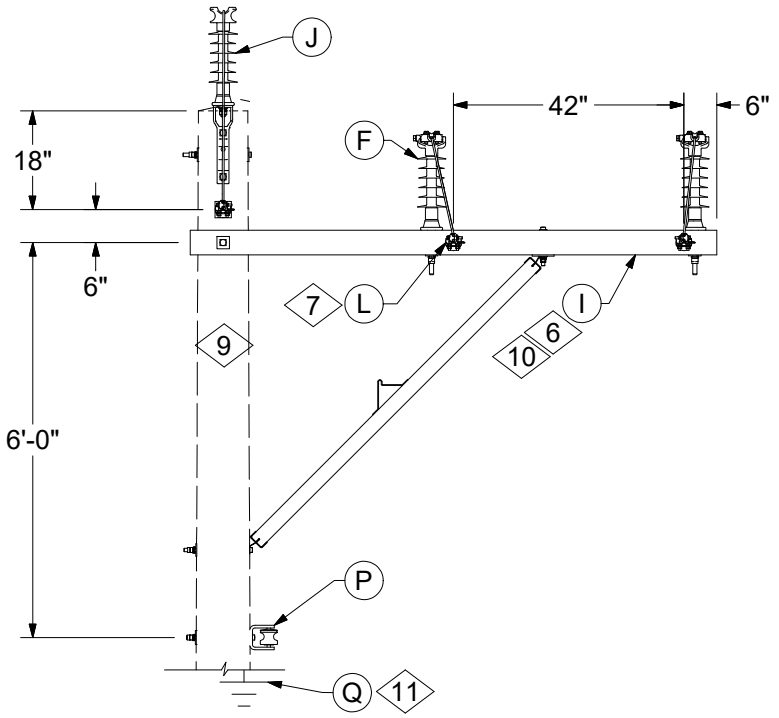
	ITEM	STK / DCS #	DESCRIPTION 03 25 14 **	06	07	08	09
	A	**06 34 60 22 @**	Pole Top Double Deadend w/ Loopover	1	-	1	-
	B	**06 34 60 25 @**	Looparound - Straight	2	3	1	2
@	C	**07 00 80 00**	Lead Wire, Poly Covered, Ft., PLW*W	30	30	20	20
@	D	**03 01 01 ** @**	Neutral	1	1	1	1
11,12,@	E	**12 00 10 ****	Grounding Unit	1	1	1	1
	F	252 or 260	Op Code, Install Jumper	3	3	2	2

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard





03 25 14 (44, 45)



03 25 14 (40, 41, 42, 43, 58, 66)

DCS #	DESCRIPTION
03 25 14 40	Deadend Loop, 6' Double Wood Side Arm, 3-Phase
03 25 14 41	Deadend Loop, 6' Double Wood Side Arm, 2-Phase
03 25 14 42	Deadend Loop, 10' Single FG Side Arm, 3-Phase
03 25 14 43	Deadend Loop, 10' Single FG Side Arm, 2-Phase
03 25 14 44	Deadend Loop Underbuild, 8' FG Crossarm, 3-Phase
03 25 14 45	Deadend Loop Underbuild, 10' FG Crossarm, 3-Phase
03 25 14 58	Deadend Loop, 8' Double Wood Side Arm, 3-Phase
03 25 14 66	Deadend Loop, 8' Double Wood Side Arm, 2-Phase

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

6. 8'-0" crossarm available for use in Ameren Missouri only. If middle phase is installed on inside crossarm position, see DCS **05 16 12 01** for avian protection.

7. For 2-Phase configuration, eliminate the center phase position.

	ITEM	STK / DCS #	DESCRIPTION 03 25 14 **	40	41	42	43	44	45	58	66
	A	23 65 012	Eyenut, 5/8"	4	2	-	-	-	-	4	2
	B	23 53 002	Bolt, DA, 5/8" Dia x 16" w/ 4 nuts	2	1	-	-	-	-	2	1
	C	23 66 027	Washer, Flat, Square 5/8"	4	2	-	-	-	-	4	2
	D	23 66 134	Lock Washer - 5/8" Double Coil	8	4	-	-	-	-	8	4
	E	23 65 043	Lock Nut - 5/8" Square	4	2	-	-	-	-	4	2
	F	25 05 144	Insulator, Clamp Top, 34kV	4	2	-	-	1	1	4	2
	G	23 64 023	Stud, 3/4" x 7" w/ hardware	4	2	-	-	1	1	4	2
	H	23 66 132	Washer, Flat, Sp. 4" x 4", w/ 13/16" Hole	4	2	-	-	1	1	4	2
	I	**04 00 25 01 @**	6' Double Alley Arm - Wood	1	1	-	-	-	-	-	-
		04 00 25 02 @	8' Double Alley Arm - Wood	-	-	-	-	-	-	1	1
6,7,8,10		**04 00 42 02 @**	8' Deadend FG Crossarm	-	-	-	-	1	-	-	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	-	-	-	-	1	-	-
		04 00 43 02 @	10' Single FG Alley Arm	-	-	1	1	-	-	-	-
7	J	**06 34 60 22 @**	34kV Double Deadend w/ Pole Top Loopover	1	1	1	1	-	-	1	1
	K	**06 34 60 02 @**	34kV Single Deadend	4	2	-	-	2	2	4	2
	L	**06 34 68 05 @**	34kV Dbl DE w/ Loopover on FG Crossarm	-	-	2	1	2	2	-	-
@	M	**07 00 25 00**	Clamp, PG, PG*W	6	4	6	4	6	6	6	4
@	N	**07 00 80 00**	Lead Wire, Poly Covered, Ft., PLW*W	48	36	48	36	48	48	48	36
6,@	O	**05 16 12 01**	Wildlife Cover - DE	1	1	1	1	-	-	1	1
@	P	**03 01 01 ** @**	Neutral	1	1	1	1	1	1	1	1
11,12,@	Q	**12 00 10 ****	Grounding Unit	1	1	1	1	1	1	1	1
	R	252 or 260	Op Code, Install Jumper	3	2	3	2	3	3	3	2

DESIGN NOTE(s):

8. DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

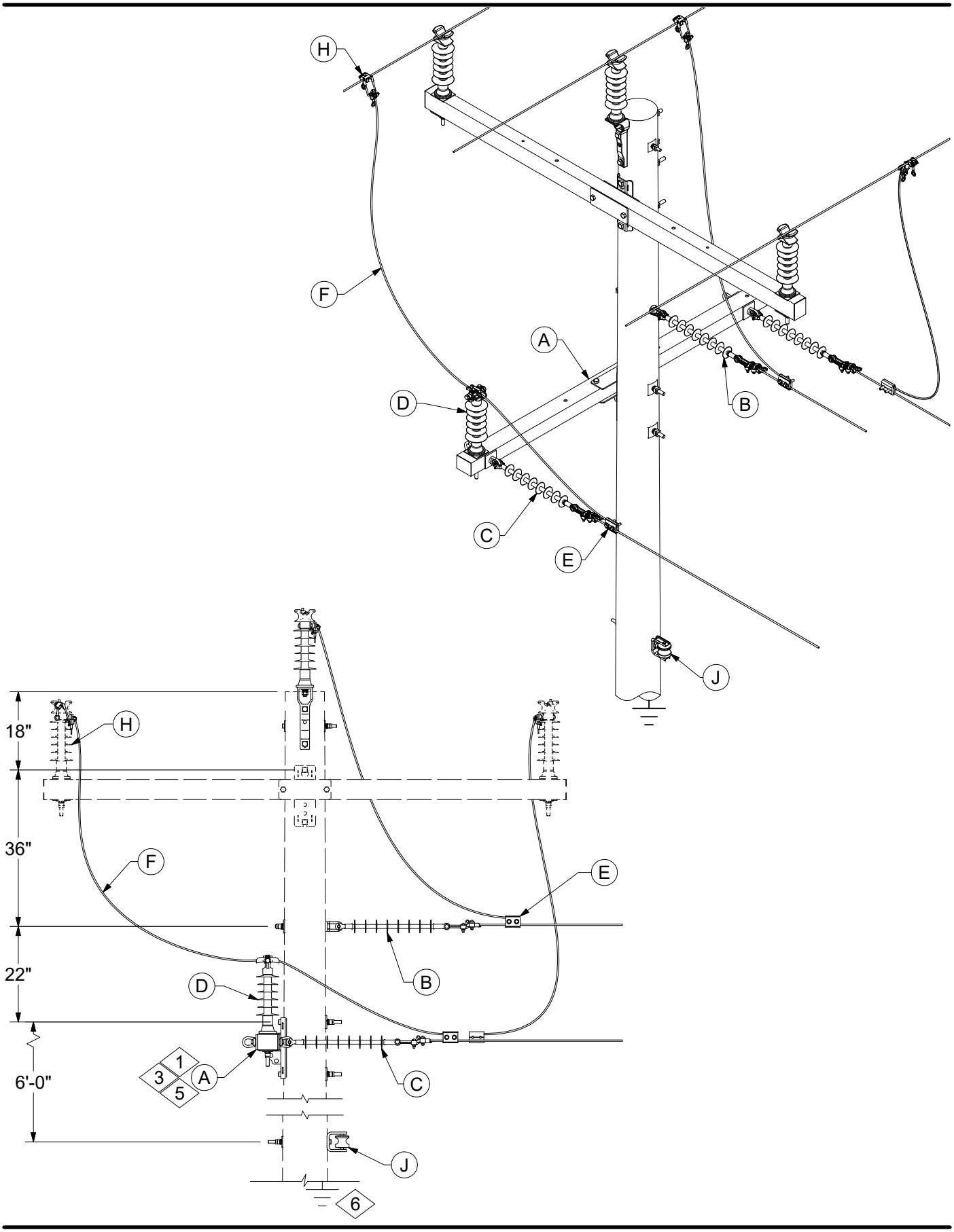
9. See DCS **02 00 04 02** for unguyed composite pole application.

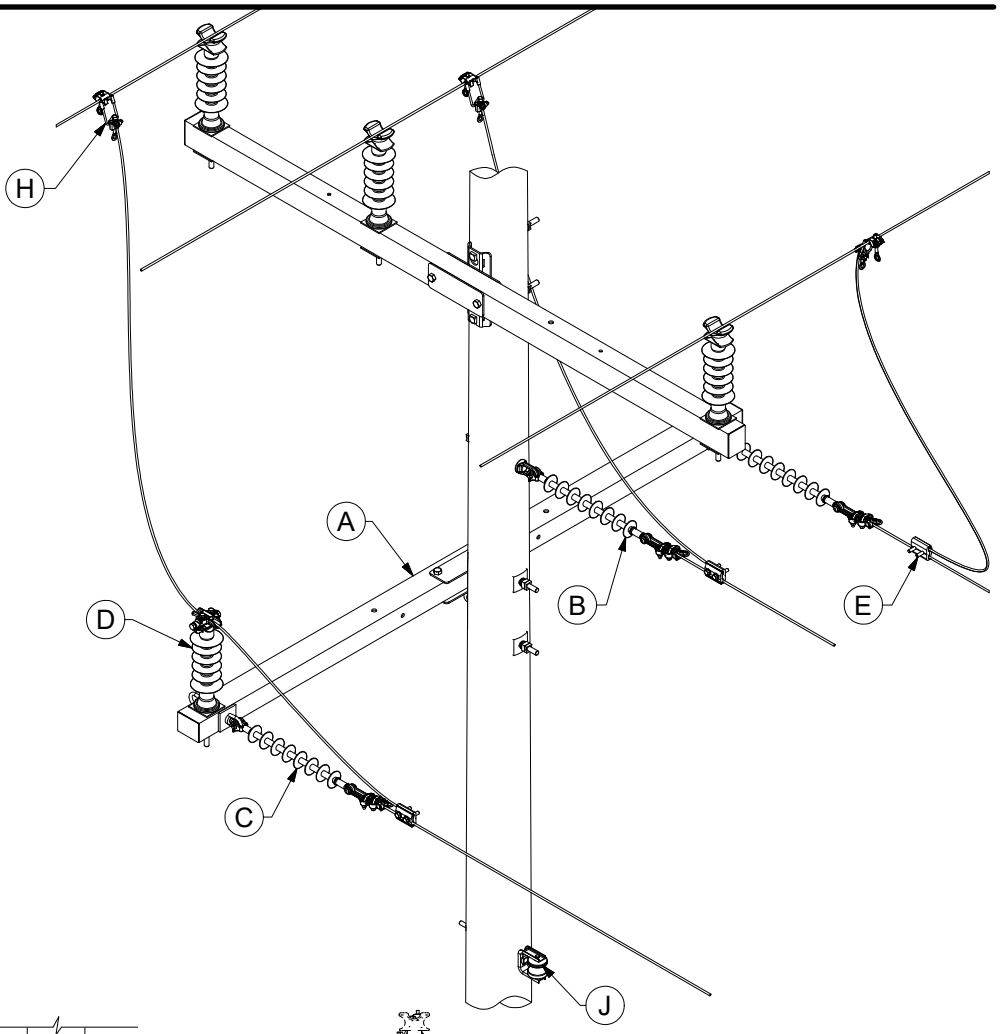
10. Equal deadend tension is required on both sides of the FG side arm.

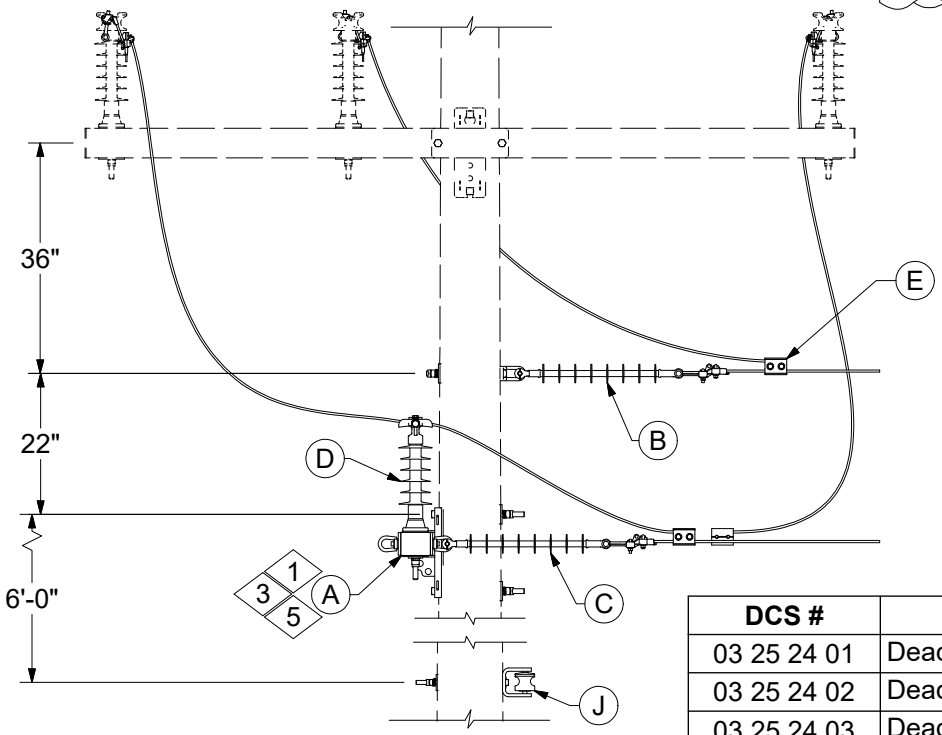
11. Composite pole has factory installed (internal) ground in the 45° quadrant. Wood pole may require pole ground depending on application.

12. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard


H
F
A
D
B
C
E
J
18"
36"
22"
6'-0"
1
3
5
6





DCS #	DESCRIPTION
03 25 24 01	Deadend Tap, 8' FG Crossarm, 3-Phase
03 25 24 02	Deadend Tap, 10' FG Crossarm, 3-Phase
03 25 24 03	Deadend Tap, 8' FG Crossarm, 2-Phase
03 25 24 04	Deadend Tap, 10' FG Crossarm, 2-Phase

REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

CONSTRUCTION NOTE(s):

1. Attach guy to fiberglass arm guy hook.

2. For 2-Phase configuration, eliminate the center phase position.

3. 8'-0" crossarm available for use in Ameren Missouri only. Middle phase must meet avian protection requirements. See DCS **05 16 12 01** for more information.

	ITEM	STK / DCS #	DESCRIPTION 03 25 24 **	01	02	03	04
3,5	A	**04 00 42 02 @**	8' Deadend FG Crossarm	1	-	1	-
		04 00 42 03 @	10' Deadend FG Crossarm	-	1	-	1
	B	**06 34 60 02 @**	34kV Straight Deadend on Pole	1	1	-	-
	C	**06 34 68 11 @**	34kV Straight Deadend on FG Crossarm	2	2	2	2
	D	**06 34 01 06**	Insulator, Vertical L.P., 34kV, Clamptop	1	1	1	1
@	E	**07 00 25 00**	Clamp, Parallel Groove, PG*W	6	6	4	4
@	F	**07 00 80 00**	Wire, Poly Covered (Ft.), PLW*W	30	30	20	20
@	G	**12 00 10 ****	Grounding Unit	1	1	1	1
6,7,@	H	**07 00 21 00**	Clamp, Hotline w/ Stirrup, STC*W	3	3	2	2
@	I	**11 00 4* ** @**	Guying Unit	#	#	#	#
1,4,@	J	**03 01 01 ** @**	Neutral	1	1	1	1
@	K	252 or 260	Op Code, Install Jumper	3	3	2	2

DESIGN NOTE(s):

4. See DCS **02 00 04 02** for unguyed composite pole application.

5. See DCS **04 00 01 01** for crossarm loading. In some applications a larger crossarm may be needed for heavier loadings.

6. Composite pole has factory installed (internal) pole ground in the 45° quadrant. Wood pole may require pole ground depending on application.

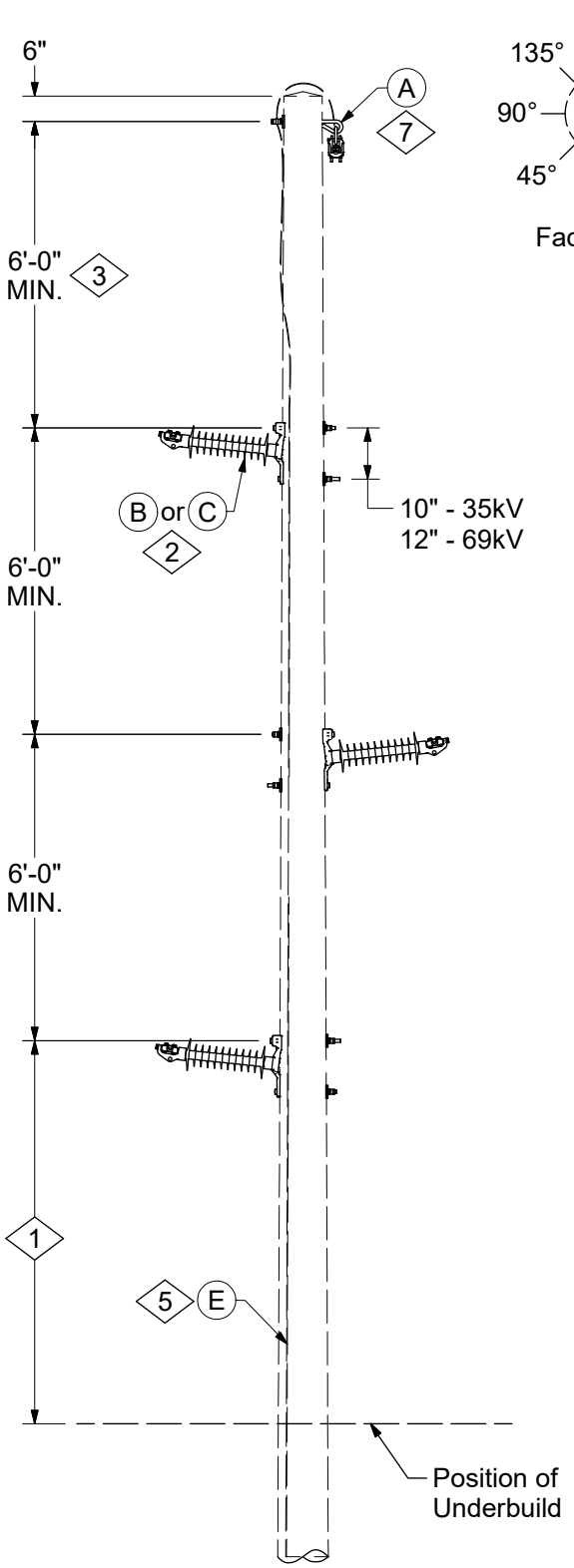
7. A pole grounding Standard is included with each equipment Standard (transformers, capacitors, reclosers, regulators, etc.) However, a pole ground Standard must be added when the neutral conductor is deadended without an insulator, and in cases where a ground is needed to meet the 4 grounds per mile NESC requirement (see **12 00 01 01**).

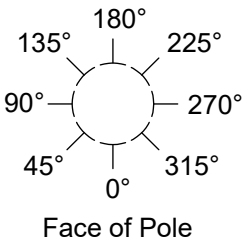
REV	DATE	ENG	DESCRIPTION
0	01/01/25	AEP	New Standard

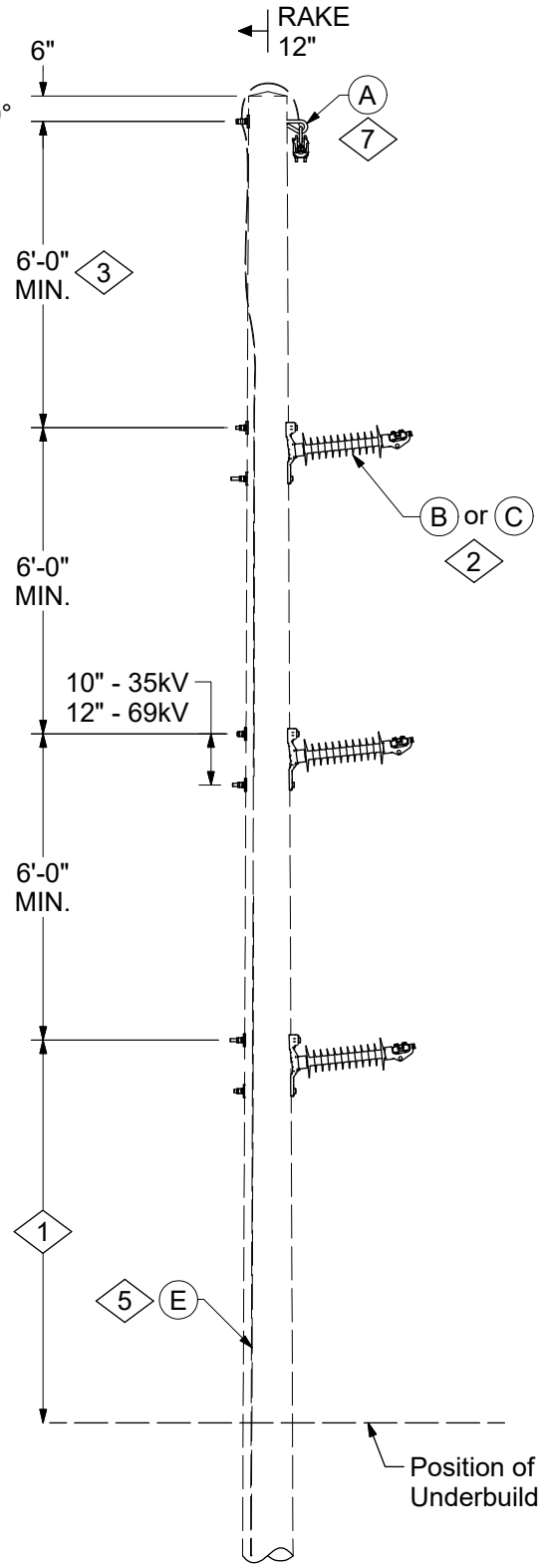
CONFIGURATIONS

Tangent Structure - Shielded
Line Angle ≤ 1°

03 69 01 **
35kV, 69kV
1 of 3





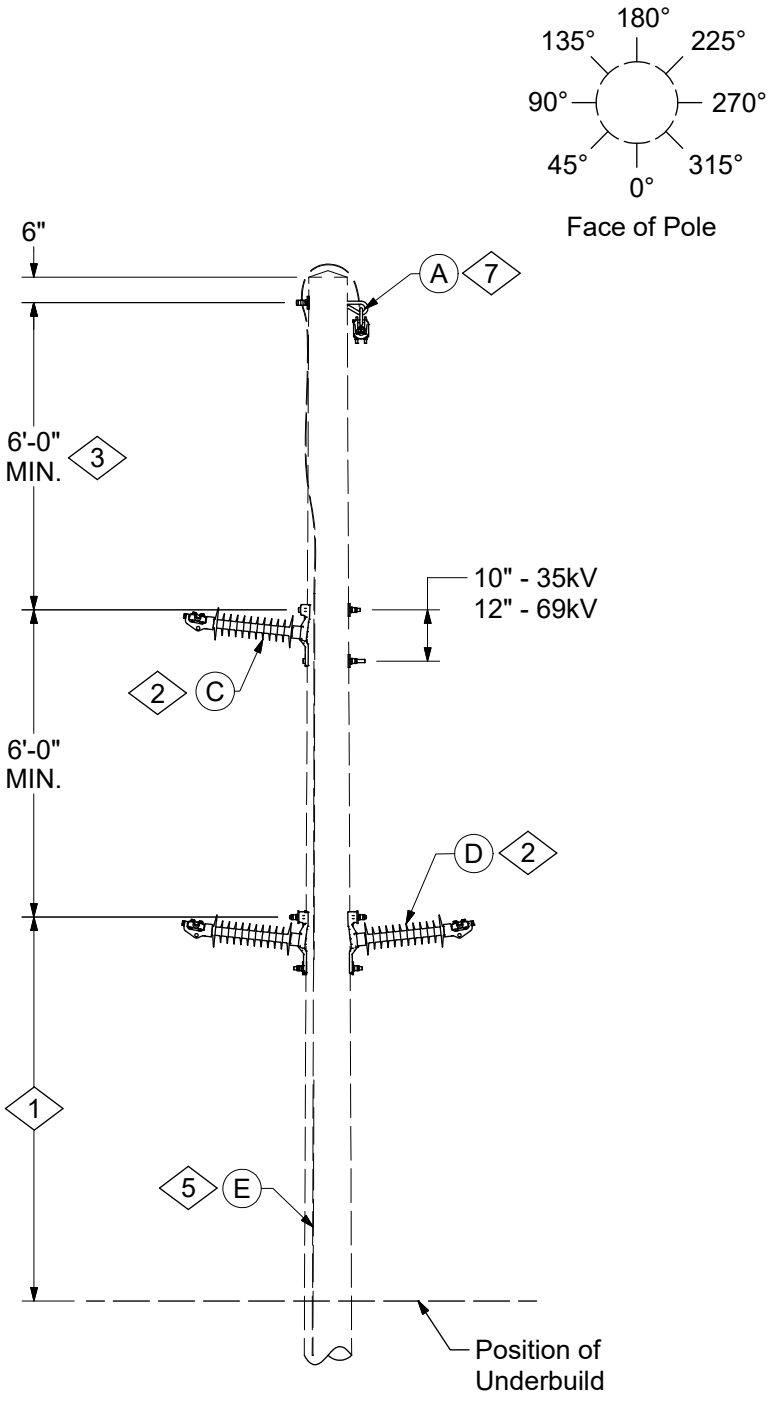


03 69 01 01 - Offset, 69kV ◇4
03 69 01 05 - Offset, 35kV

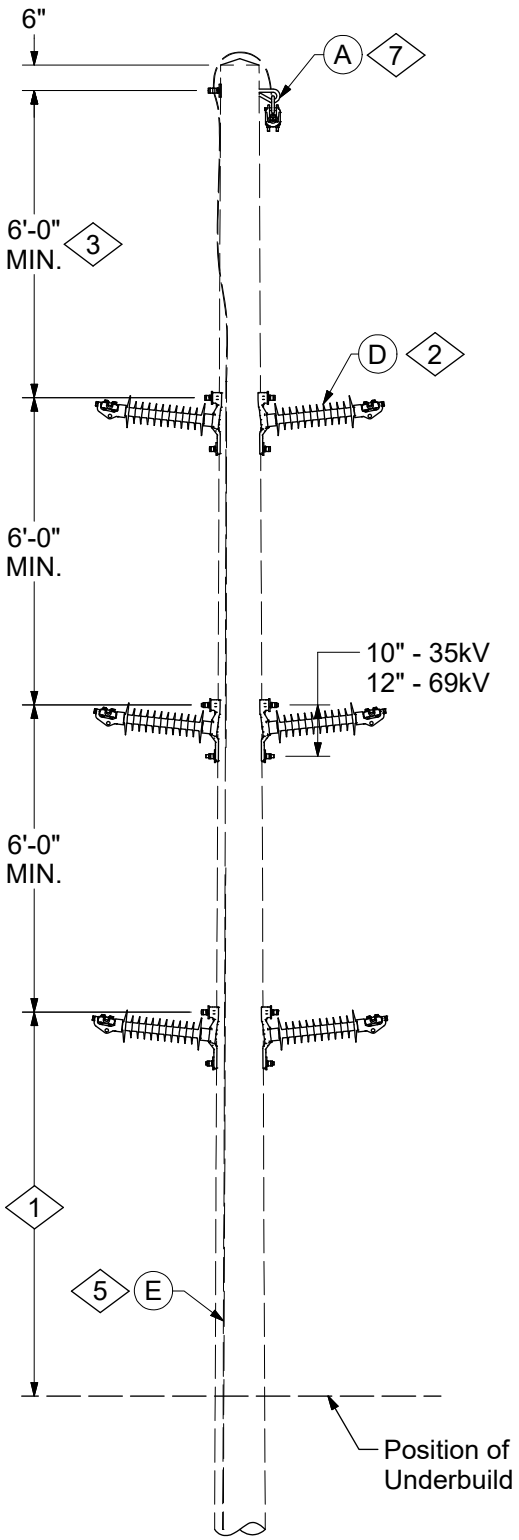
03 69 01 02 - In-line, 69kV ◇4
03 69 01 06 - In-line, 35kV

DISTRIBUTION
CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/22/16	KR	



03 69 01 03 - Back-to-Back Single Circuit, 69kV



03 69 01 04 - In-line Double Circuit, 69kV

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/22/16	KR	

DCS #	DESCRIPTION
03 69 01 01	Offset, 69kV
03 69 01 02	In-line, 69kV
03 69 01 03	Back to Back Single Circuit, 69kV
03 69 01 04	In-line Double Circuit, 69kV
03 69 01 05	Offset, 35kV
03 69 01 06	In-line, 35kV

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 01 **	01	02	03	04	05	06
7,@	A	**06 00 11 04 @**	Static Wire Attachment - Tangent & Angle	1	1	1	1	1	1
		18 05 10 01 @	OPGW Static Support w/ Suspension Clamp	1	1	1	1	1	1
2,@	B	**06 34 03 03 @**	34kV Single Horizontal Line Post Insulator, Clamptop	-	-	-	-	3	3
2,6,@	C	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator, Clamptop	3	3	1	-	-	-
		06 69 03 01 @	69kV Single Horizontal Line Post Insulator, Suspension	3	3	1	-	-	-
2,6,@	D	**06 69 03 04 @**	69kV Double Horizontal Line Post Insulator, Clamptop	-	-	1	3	-	-
		06 69 03 02 @	69kV Double Horizontal Line Post Insulator, Suspension	-	-	1	3	-	-
5,@	E	**12 00 10 ** @**	Grounding Unit	1	1	1	1	1	1

DESIGN NOTE(s):

2. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

3. New Line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

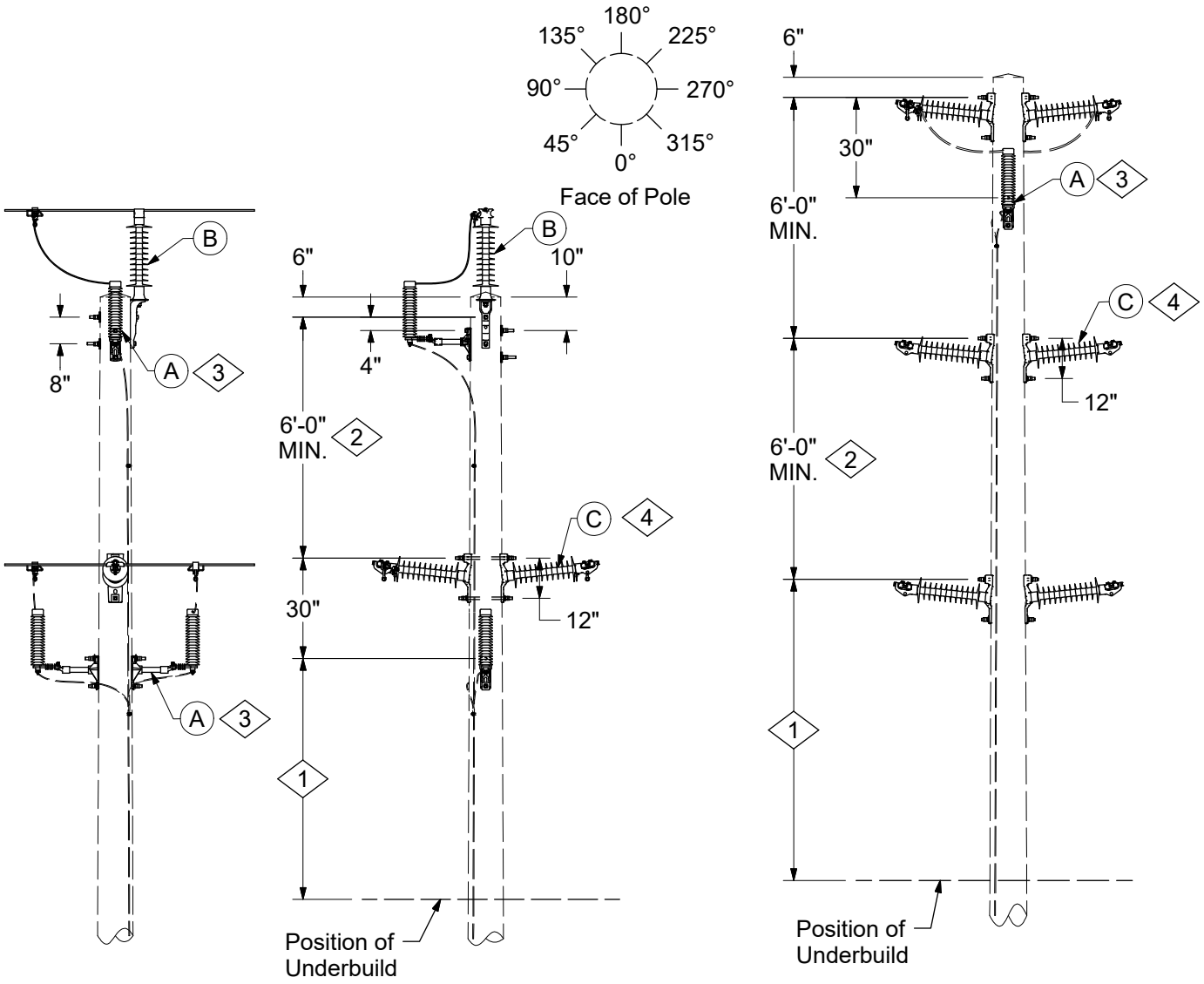
4. DCS **03 69 01 02** is to be used where a future second circuit is anticipated or where constrained by horizontal clearance requirements or right-of-way issues.

5. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding detail.

6. Clamptop style insulators may be used in both compression and tension applications, and the suspension style insulators should be used in tension applications within allowable line angles.

7. Refer to DCS Section 18 for OPGW applications.

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/22/16	KR	



03 69 02 51 - Single Circuit, 69kV
03 69 02 56 - Single Circuit, 35kV

03 69 02 52 - Double Circuit, 69kV

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 02 **	51	52	56
3,@	A	**12 34 ** ** @**	Arrester Assemblies	1	1	1
@	B	**06 34 01 05 @**	34kV Vertical Line Post Insulator, F-Neck	-	-	1
		06 69 01 04 @	69kV Vertical Line Post Insulator, F-Neck	1	-	-
2,4,@	C	**06 69 03 04 @**	69kV Double Horizontal Line Post Insulator, Clamptop	1	3	1
		06 69 03 02 @	69kV Double Horizontal Line Post Insulator, Suspension	1	3	1

REV	DATE	ENG	DESCRIPTION
6	10/01/23	AEP	Converted to new format
5	01/14/16	KR	

DESIGN NOTE(s):

2. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

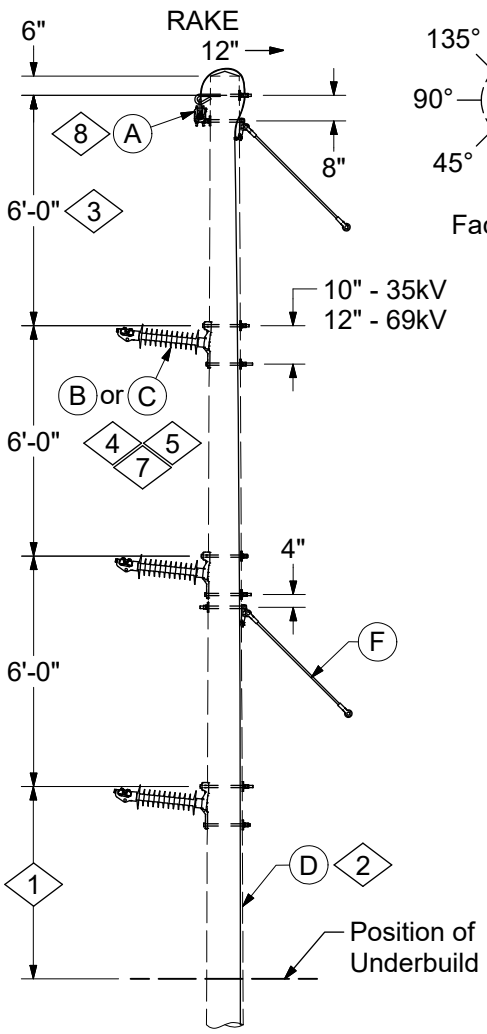
3. See DCS **12 34 ** **** for lightning arresters application and installation methods.

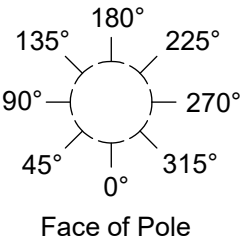
4. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

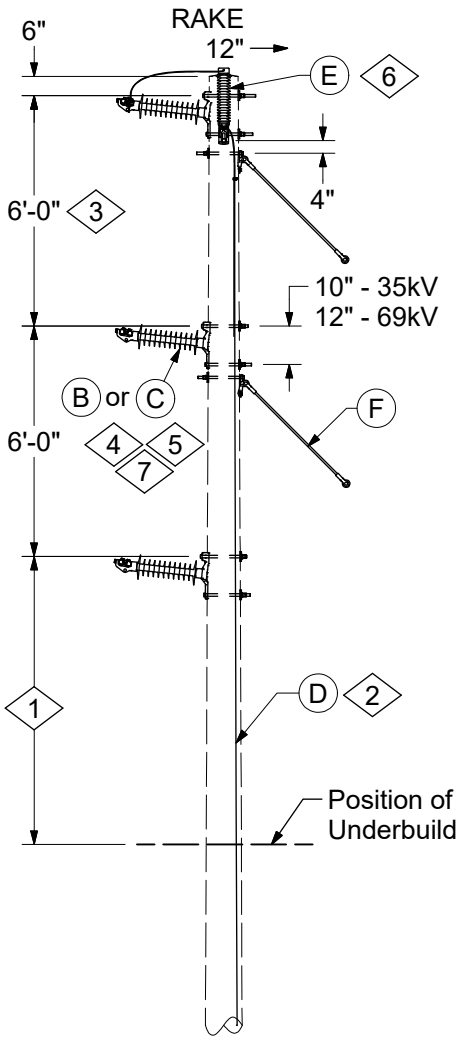
5. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding detail.

CONFIGURATIONS

Fixed Angle Structure
Single Circuit for > 1° and ≤ 20°







03 69 05 01 - Shielded, 69kV
03 69 05 02 - Shielded, 35kV

03 69 05 51 - Unshielded, 69kV
03 69 05 52 - Unshielded, 35kV

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 05 **	01	02	51	52
8,@	A	**06 00 11 04 @**	Static Wire Attachment - Tangent & Angle	1	1	-	-
		18 05 10 01 @	OPGW Static Support w/ Suspension Clamp	1	1	-	-
5,7,@	B	**06 34 03 03 @**	34kV Single Horizontal Line Post Insulator, Clamptop	3	3	-	3
5,7,@	C	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator, Clamptop	3	3	3	3
		06 69 03 01 @	69kV Single Horizontal Line Post Insulator, Suspension	3	3	3	3
2,@	D	**12 00 10 ** @**	Grounding Unit	1	1	-	-
6,@	E	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	MJ	

DESIGN NOTE(s):

2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ****** for grounding detail.

3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

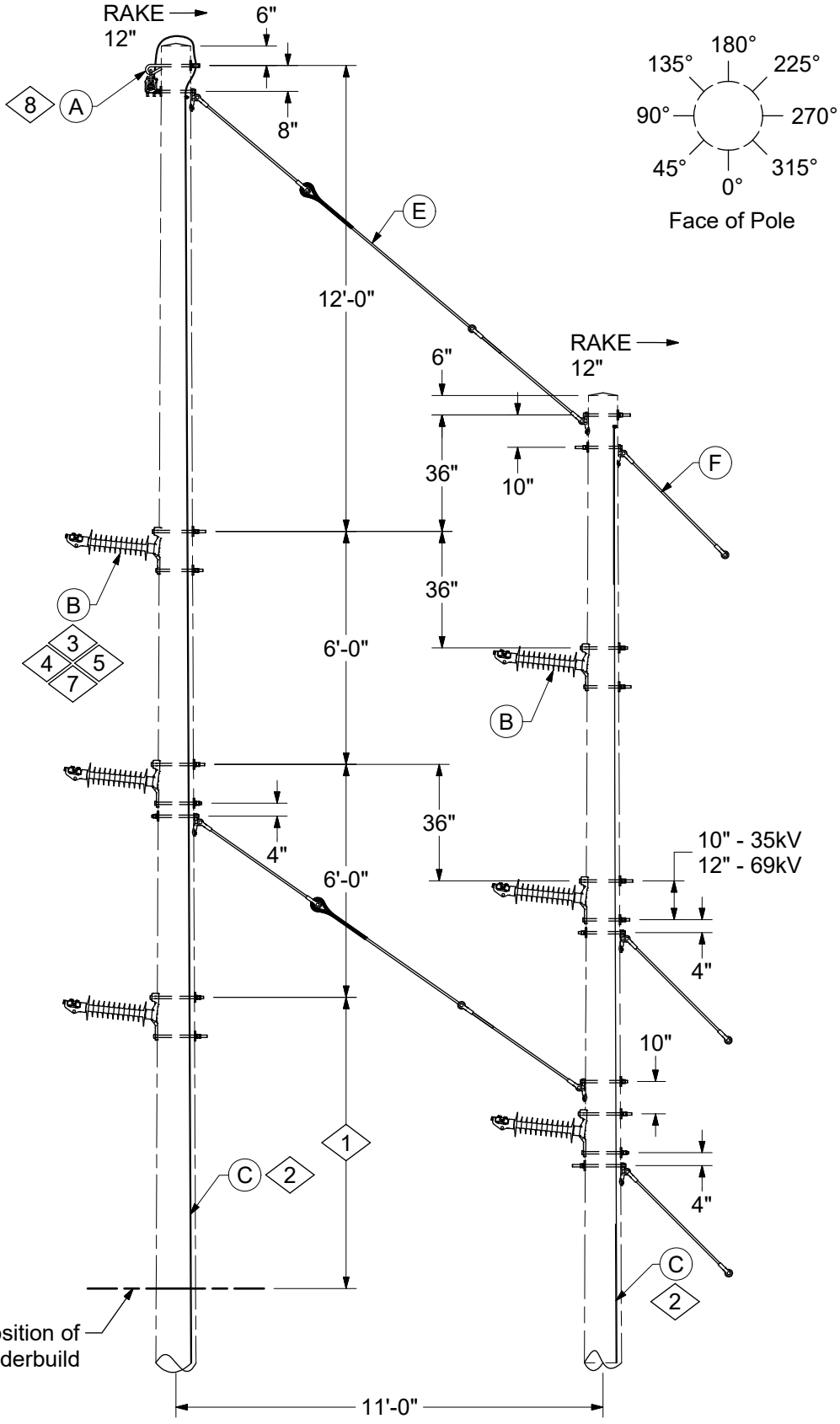
4. See DCS **03 00 03 00** for angle and span length limitations.

5. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

6. See DCS **12 34 ** ****** for lightning arresters application and installation method.

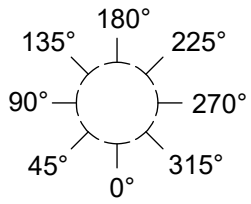
7. Clamptop style insulators may be used in both compression and tension applications, and the suspension style insulators should be used in tension applications within allowable line angles.

8. Refer to DCS Section 18 for OPGW applications.

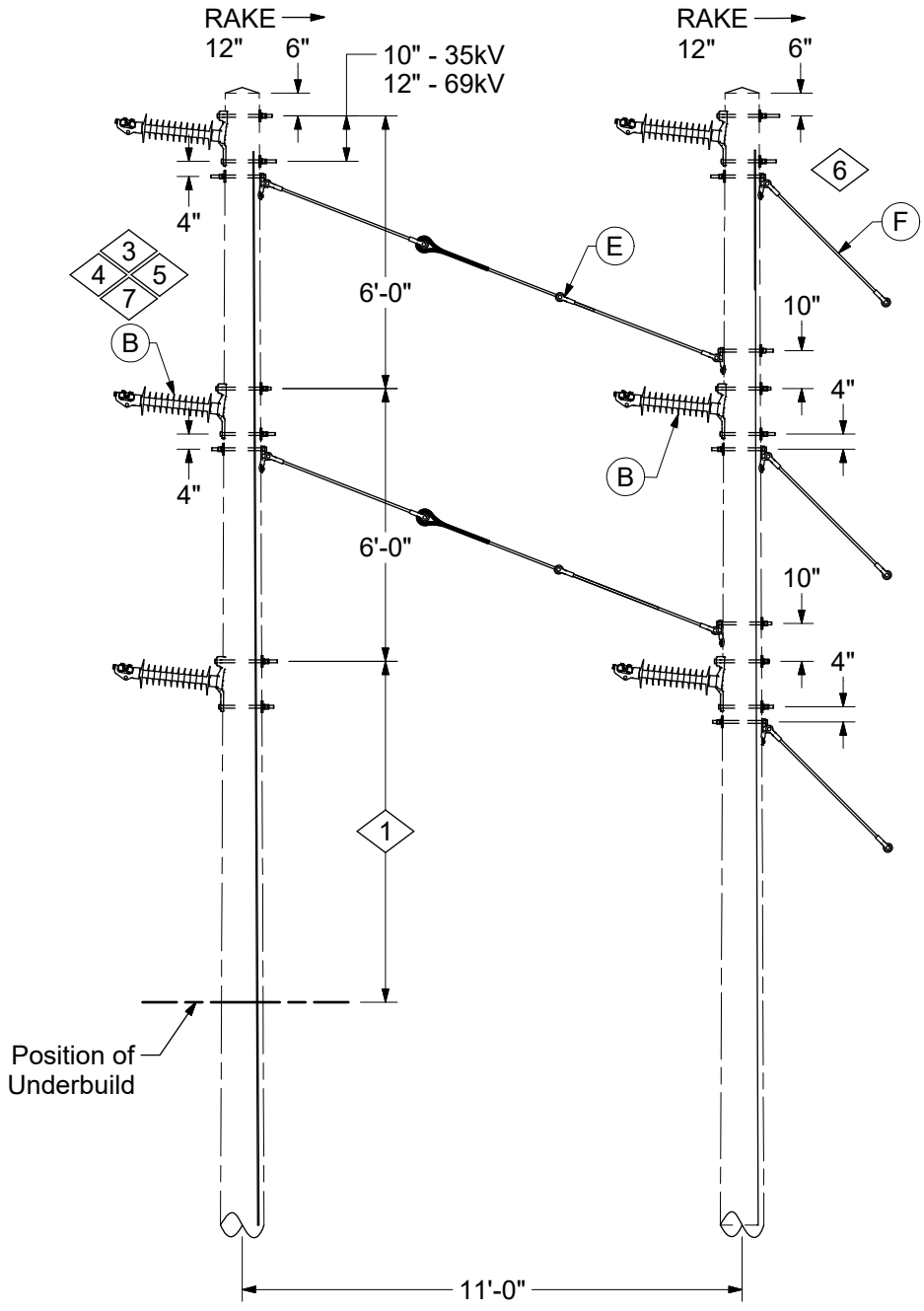


03 69 06 01 - Shielded Double Pole, 69kV
03 69 06 03 - Shielded Double Pole, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	MJ	

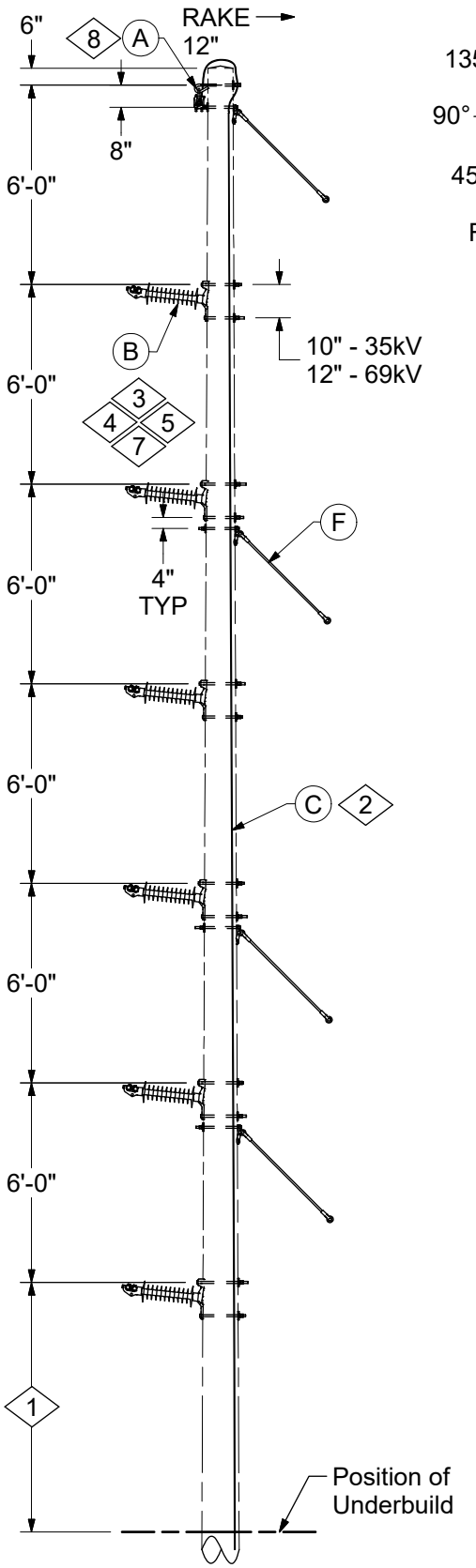


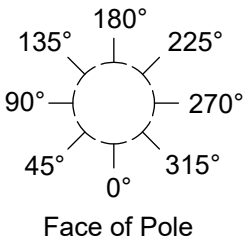
Face of Pole

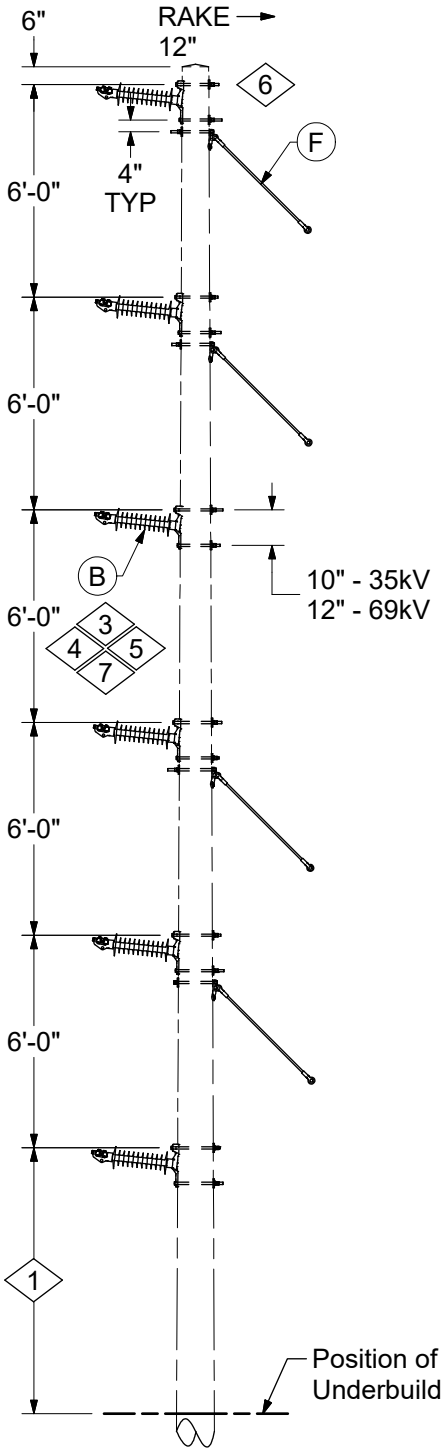


03 69 06 51 - Unshielded Double Pole, 69kV
03 69 06 53 - Unshielded Double Pole, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	MJ	







03 69 06 02 - Shielded Single Pole, 69kV
03 69 06 04 - Shielded Single Pole, 35kV

03 69 06 52 - Unshielded Single Pole, 69kV
03 69 06 54 - Unshielded Single Pole, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	MJ	

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 06 **	01	02	03	04	51	52	53	54
8,@	A	**06 00 11 04 @**	Static Wire Attachment - Tangent & Angle	1	1	1	1	-	-	-	-
		18 05 10 01 @	OPGW Static Support w/ Suspension Clamp	1	1	1	1	-	-	-	-
3,4,5, 7,@	B	**06 34 03 03 @**	34kV Single Horizontal Line Post Insulator, Clamptop	-	-	6	6	-	-	6	6
		06 69 03 01 @	69kV Single Horizontal Line Post Insulator, Suspension	6	6	-	-	6	6	-	-
		06 69 03 03 @	69kV Single Horizontal Line Post Insulator, Clamptop	6	6	-	-	6	6	-	-
2,@	C	**12 00 10 ** @**	Grounding unit	2	1	2	1	-	-	-	-
6,@	D	**12 34 ** ** @**	Arrester Assemblies	-	-	-	-	1	1	1	1
@	E	**11 00 46 ** @**	Span Guy Unit	2	-	2	-	2	-	2	-
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#	#	#	#	#

DESIGN NOTE(s):

2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding detail.

3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

4. See DCS **03 00 03 00** for angle and span length limitations.

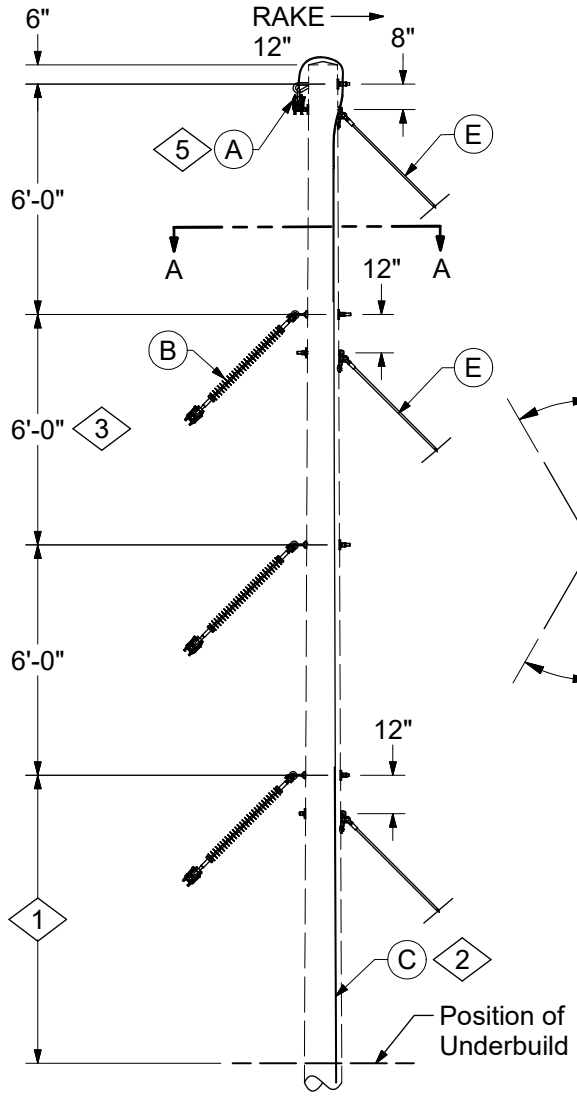
5. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

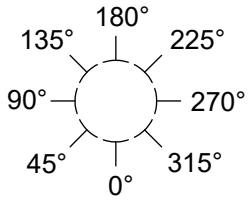
6. See DCS **12 34 ** **** for lightning arresters application and installation methods.

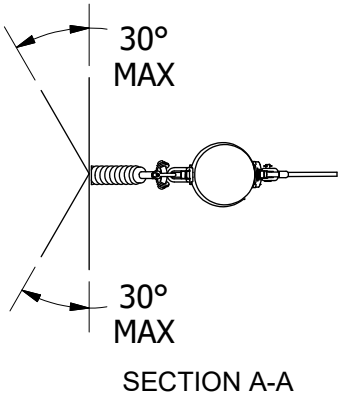
7. Clamptop style insulators may be used in both compression and tension applications, and the suspension style insulators should be used in tension applications within allowable line angles.

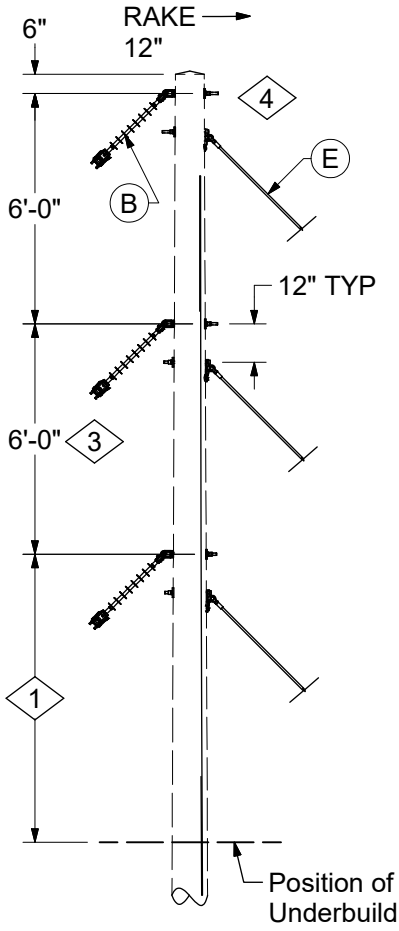
8. Refer to DCS Section 18 for OPGW applications.

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	MJ	









03 69 10 51 - Unshielded, 69kV
03 69 10 53 - Unshielded, 35kV

03 69 10 01 - Shielded, 69kV
03 69 10 03 - Shielded, 35kV

CONSTRUCTION NOTE(s):

1. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm.

	ITEM	STK / DCS #	DESCRIPTION 03 69 10 **	01	03	51	53
5,@	A	**06 00 11 04 @**	Static Wire Attachment - Tangent & Angle	1	1	-	-
		18 05 1* ** @	OPGW Static Support	1	1	-	-
@	B	**06 34 60 08 @**	34kV Single Floating Angle Assembly	-	3	-	3
		06 34 60 28 @	69kV Single Floating Angle Assembly	3	-	3	-
2,@	C	**12 00 10 ** @**	Grounding Unit	1	1	-	-
4,@	D	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
@	E	**11 00 4* ** @**	Guying Unit	#	#	#	#

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Updated to new format
1	02/17/12	MJ	

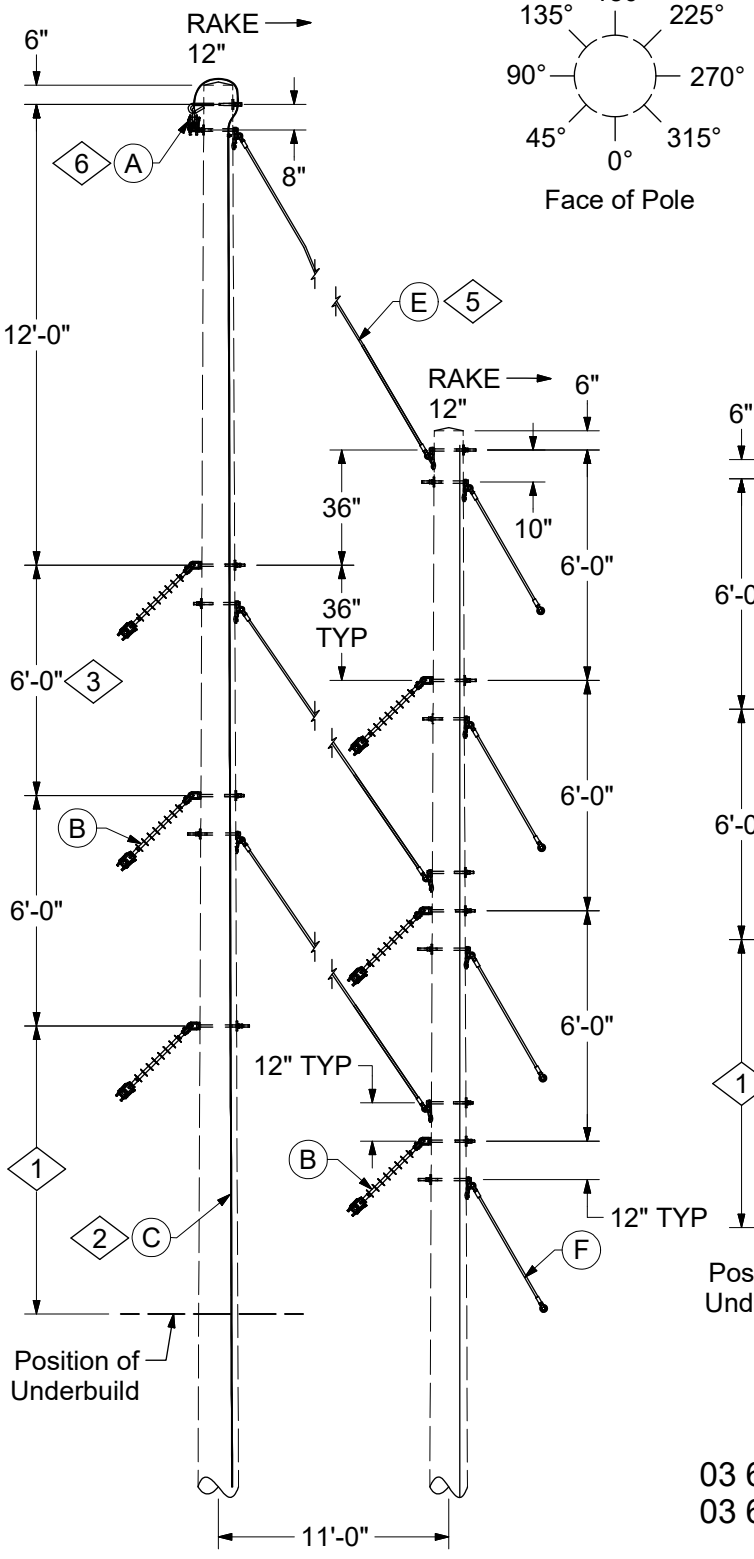
DESIGN NOTE(s):

2. Composite Pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

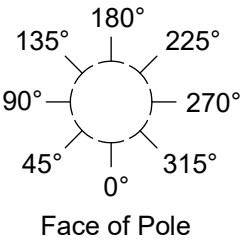
3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

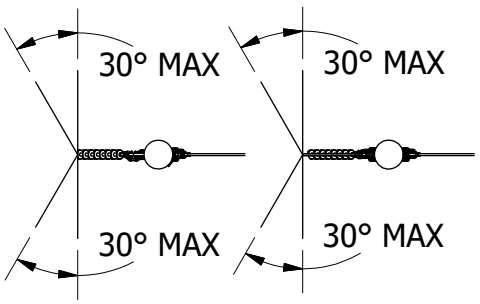
4. See DCS **12 34 ** ** ** for lightning arrester application and installation methods.

5. Refer to DCS Section 18 for OPGW applications.

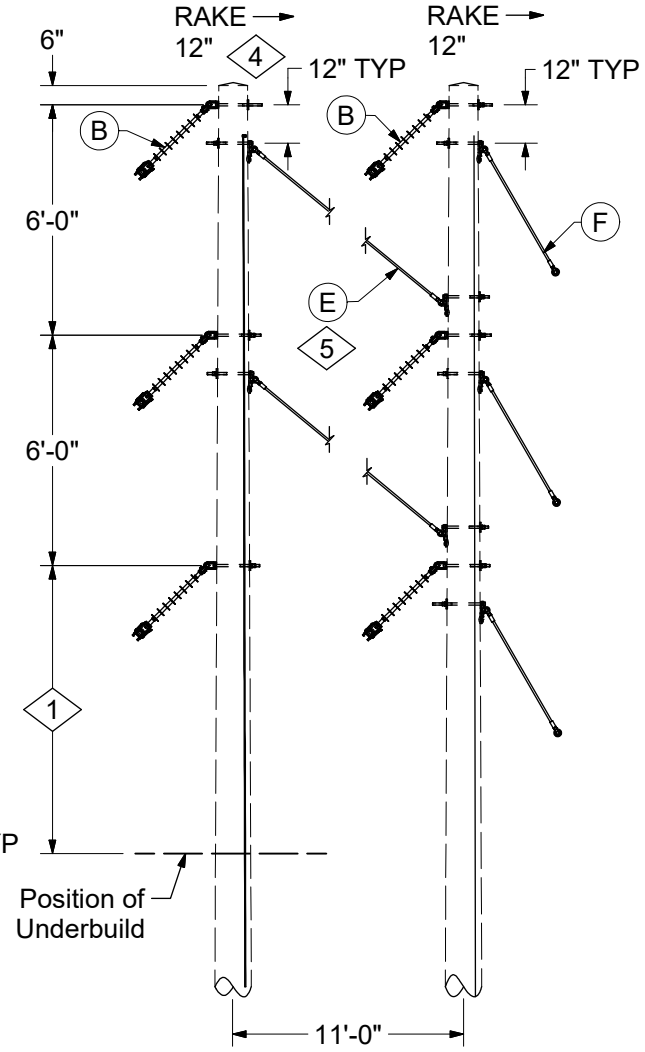


03 69 11 01 - Shielded Double Pole, 69kV
03 69 11 03 - Shielded Double Pole, 35kV



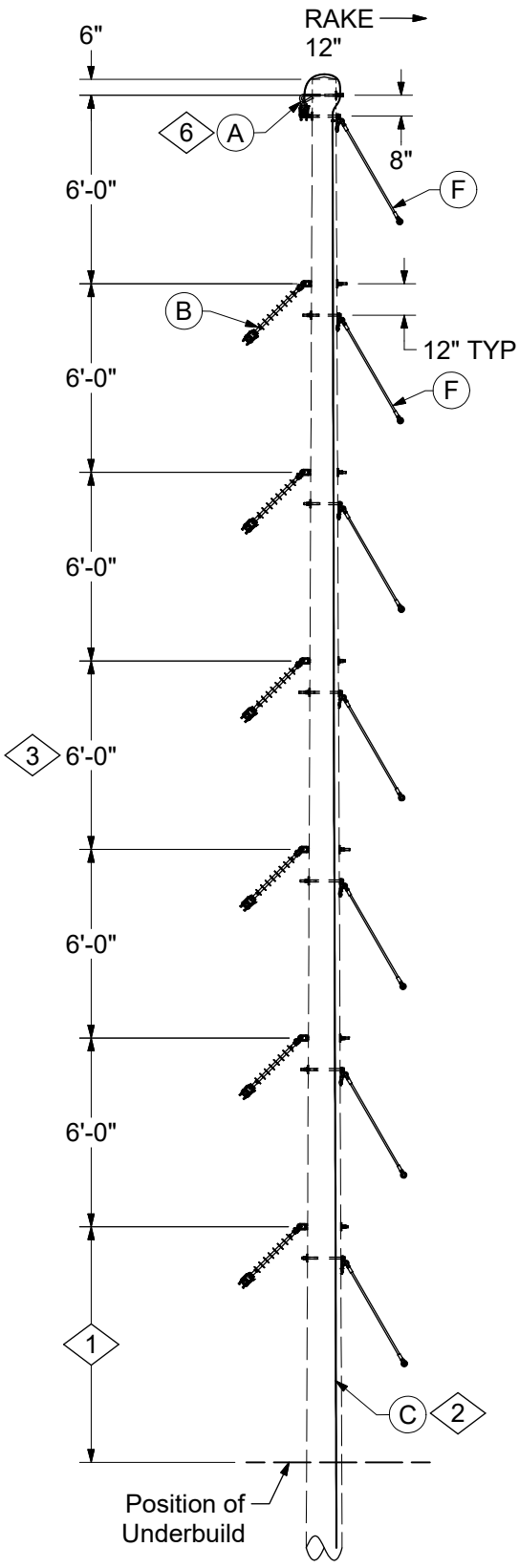


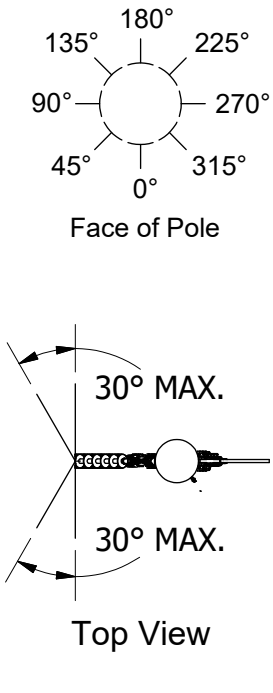
Top View

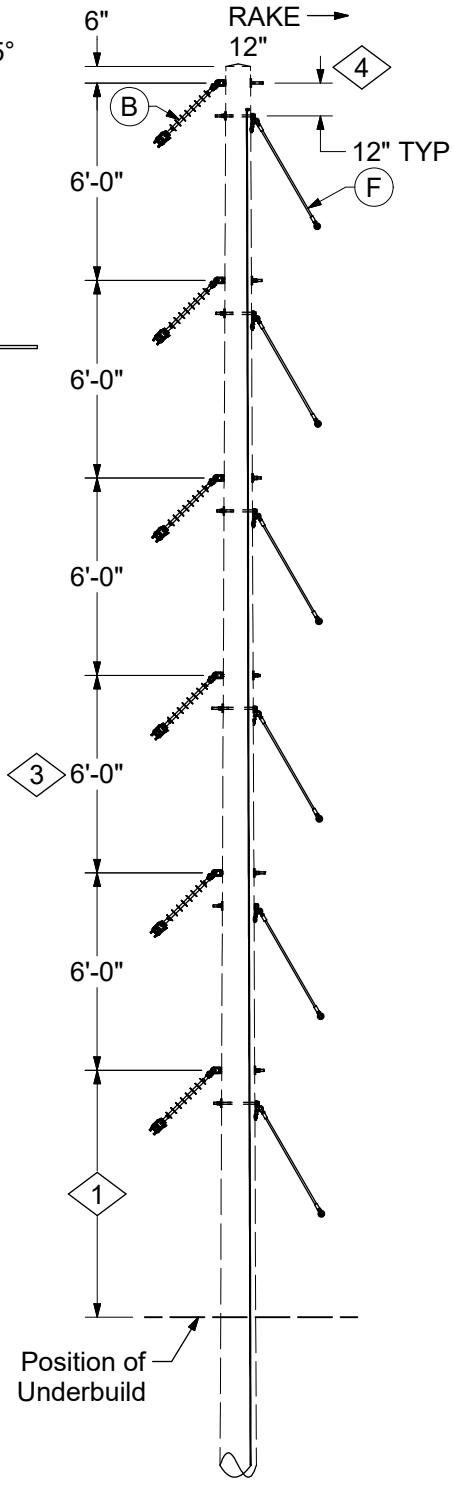


03 69 11 51 - Unshielded Double Pole, 69kV
03 69 11 53 - Unshielded Double Pole, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	12/19/11	DCG	







03 69 11 02 - Shielded, 69kV
03 69 11 04 - Shielded, 35kV

03 69 11 52 - Unshielded, 69kV
03 69 11 54 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	12/19/11	DCG	

CONSTRUCTION NOTE(s):

1. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing measured from top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 11 **	01	02	03	04	51	52	53	54
6,@	A	**06 00 11 04** @	Static Wire Attachment - Tangent & Angle	1	1	1	1	-	-	-	-
		18 05 1* ** ** @	OPGW Static Support	1	1	1	1	-	-	-	-
3,@	B	**06 34 60 08** @	34kV Single Floating Angle Assembly	-	-	6	6	-	-	6	6
		06 34 60 28 @	69kV Single Floating Angle Assembly	6	6	-	-	6	6	-	-
2,@	C	**12 00 10 ** @**	Grounding Unit	2	1	2	1	-	-	-	-
4,@	D	**12 34 ** ** @**	Arrester Assemblies	-	-	-	-	1	1	1	1
5,@	E	**11 00 46 ** @**	Span Guy Unit	3	-	3	-	2	-	2	-
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#	#	#	#	#

DESIGN NOTE(s):

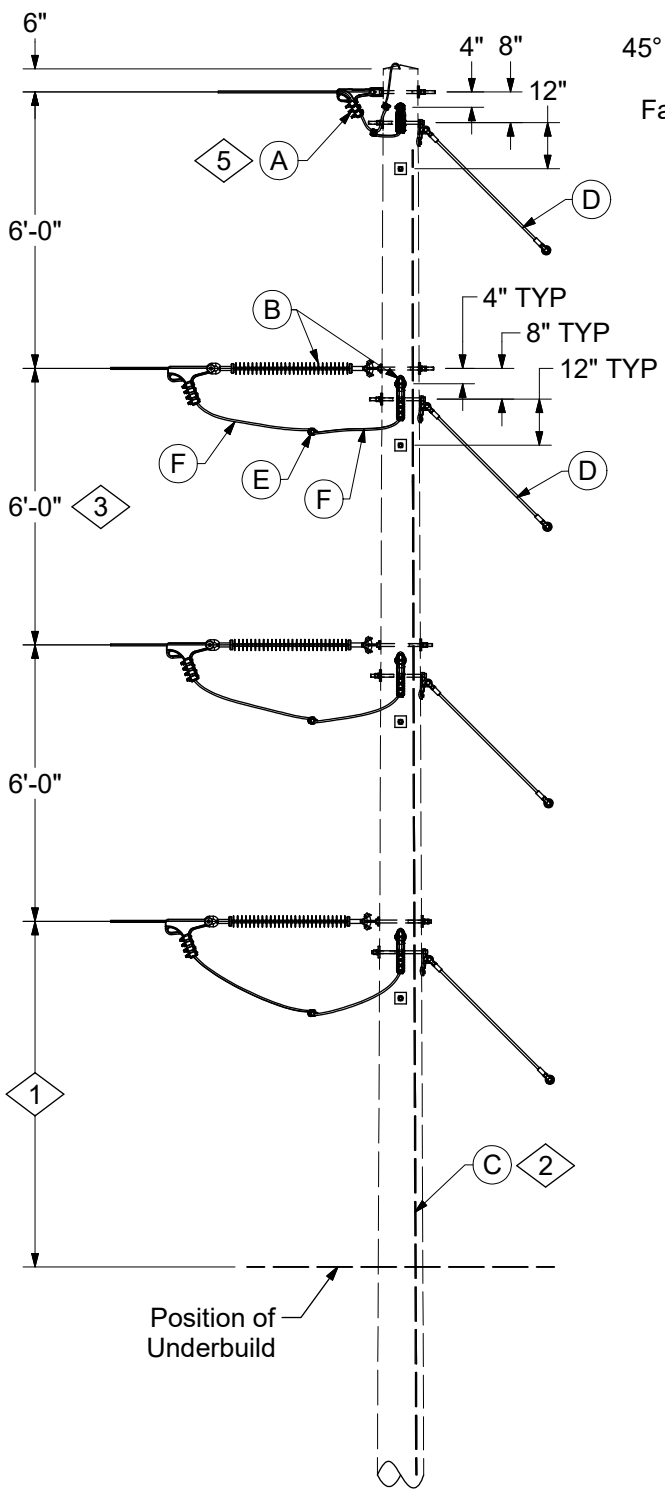
2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

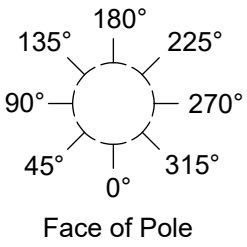
4. See DCS **12 34 ** ** ** for lighting arresters application and installation methods.

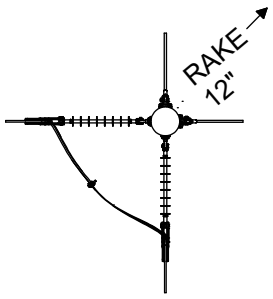
5. Lower span guy 24" on pole, or 12", if electrical clearance is an issue on pole 2 with line angle closer to 20°.

6. Refer to DCS Section 18 for OPGW applications.

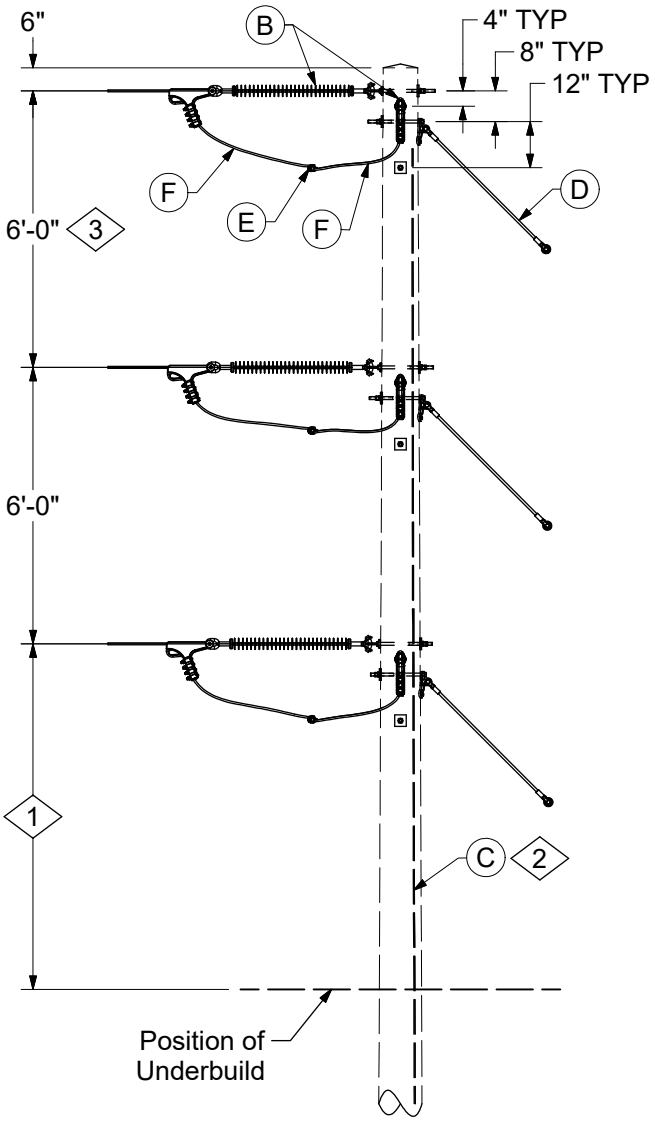


03 69 15 01 - Shielded, 69kV
03 69 15 02 - Shielded, 35kV



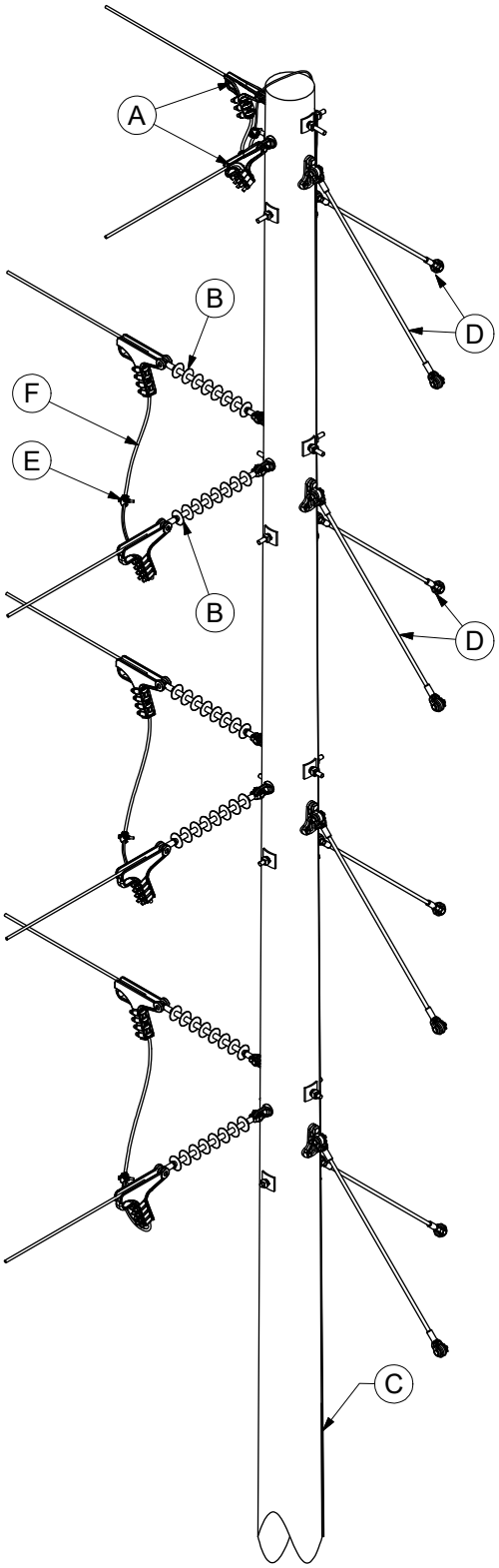


Top View

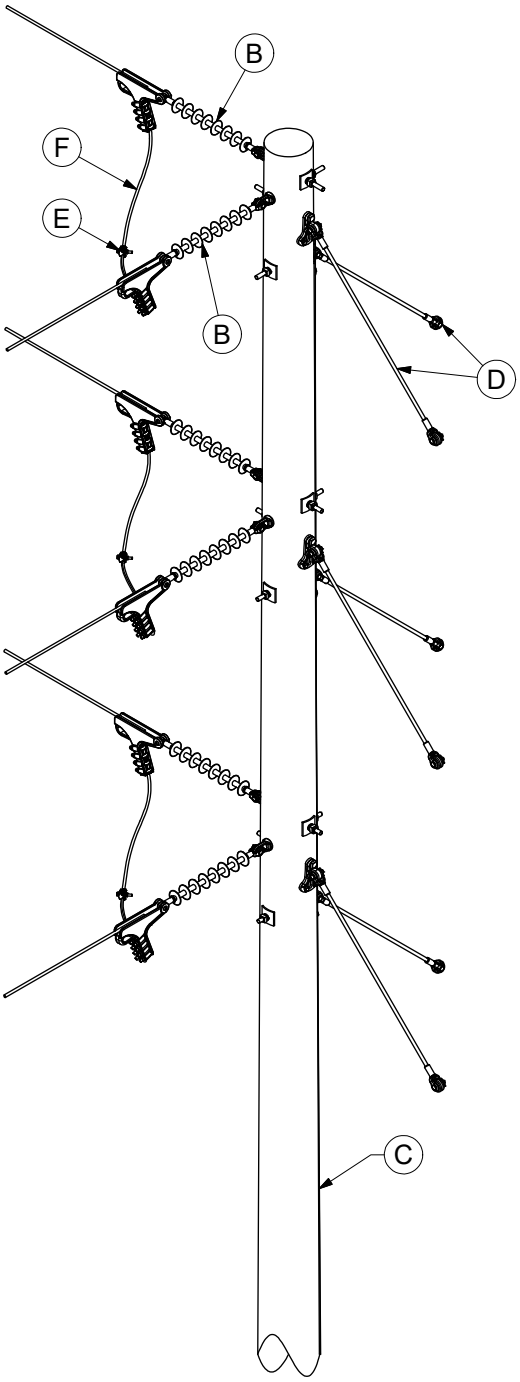


03 69 15 51 - Unshielded, 69kV
03 69 15 52 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	06/04/12	DCG	



Isometric View
03 69 15 01 - Shielded, 69kV
03 69 15 02 - Shielded, 35kV



Isometric View
03 69 15 51 - Unshielded, 69kV
03 69 15 52 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	06/04/12	DCG	

CONSTRUCTION NOTE(s):

1. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 15 **	01	02	51	52
5,@	A	**06 00 11 05 @**	Deadend Static w/Clamp	1	1	-	-
		18 05 12 01 @	OPGW Corner Without Splice	1	1	-	-
		18 05 13 01 @	OPGW Corner With Splice	1	1	-	-
@	B	**06 34 60 02 @**	34kV Single Deadend	-	6	-	6
		06 34 60 06 @	69kV Single Deadend	6	-	6	-
2,@	C	**12 00 10 ** @**	Grounding Unit	1	1	1	1
@	D	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	E	**07 00 25 00 @**	Clamp, PG, PG*W	6	6	6	6
@	F	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
	G	252, 255, or 260	Op Code, Install Jumper	3	3	3	3

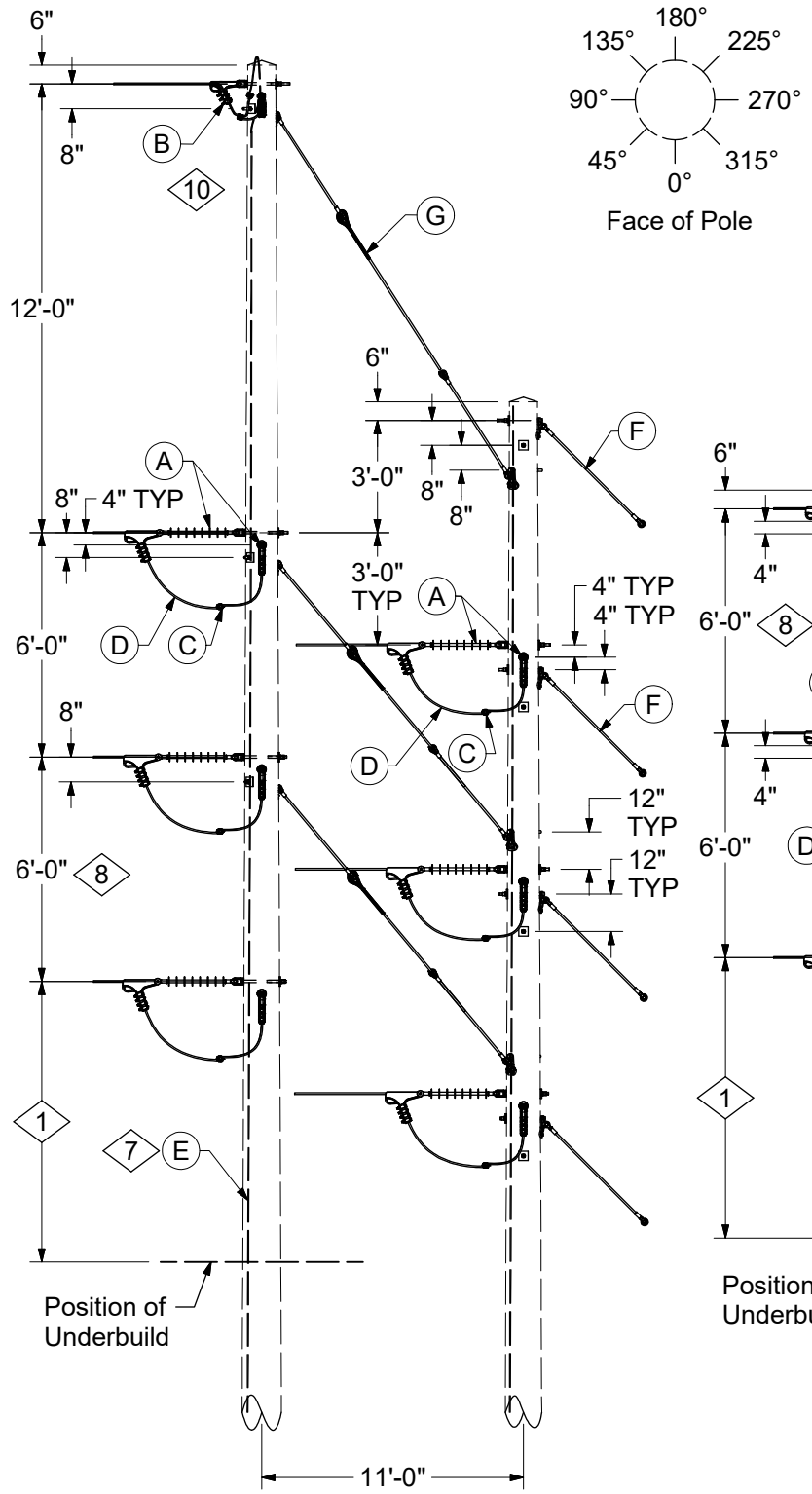
DESIGN NOTE(s):

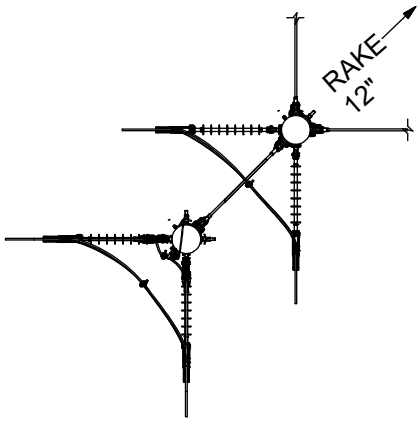
2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding detail.

3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

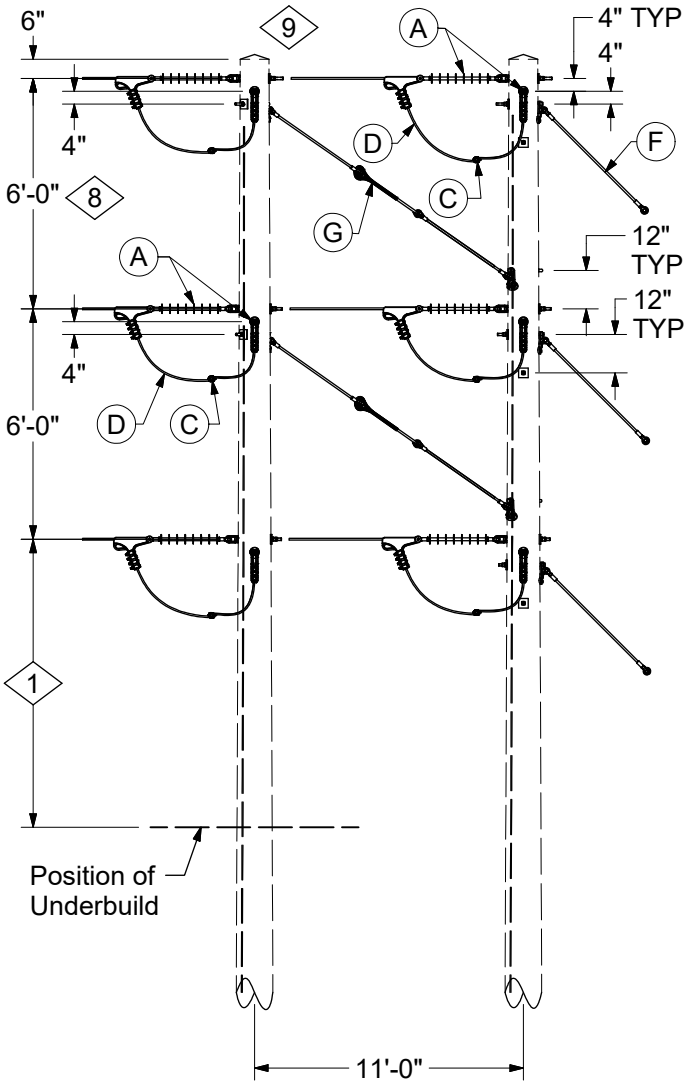
4. Avoid arrester assembly installations on corner poles and utilize adjacent poles. Refer to DCS Section 12 for additional arrester information.

5. Refer to DCS Section 18 for OPGW applications.





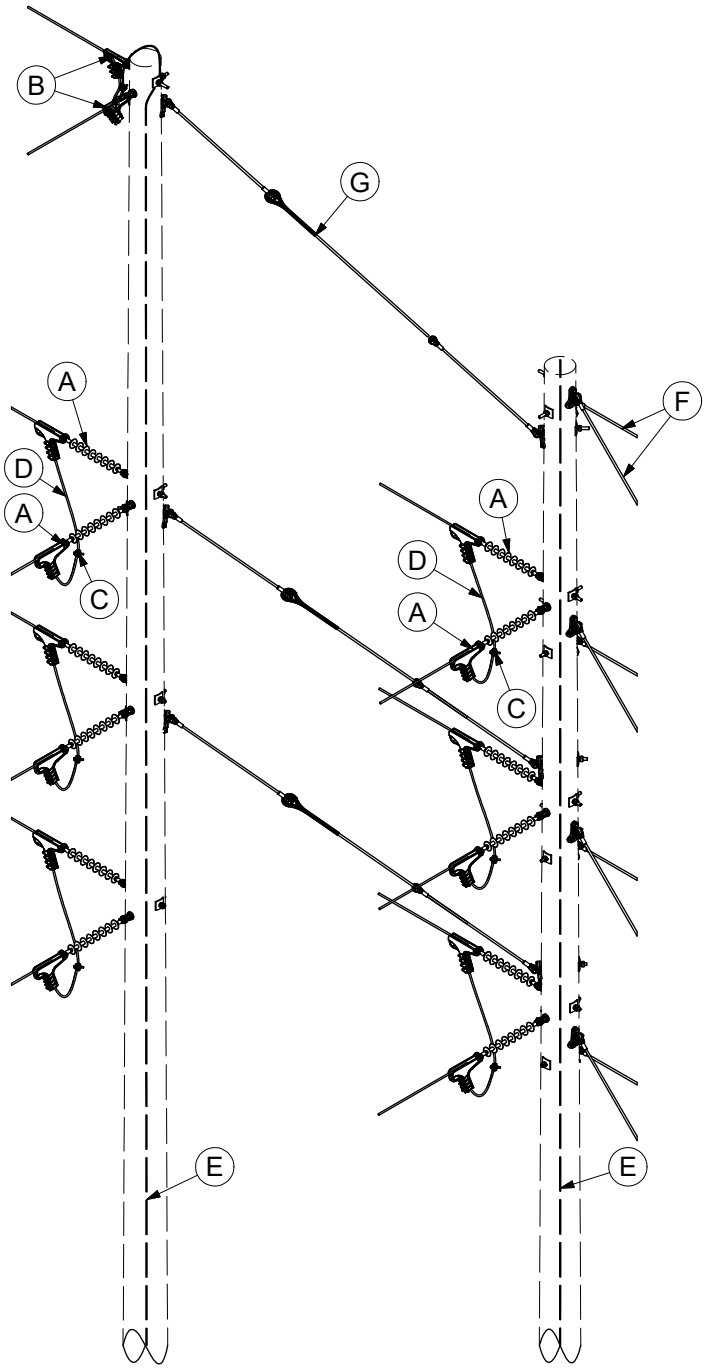
Top View



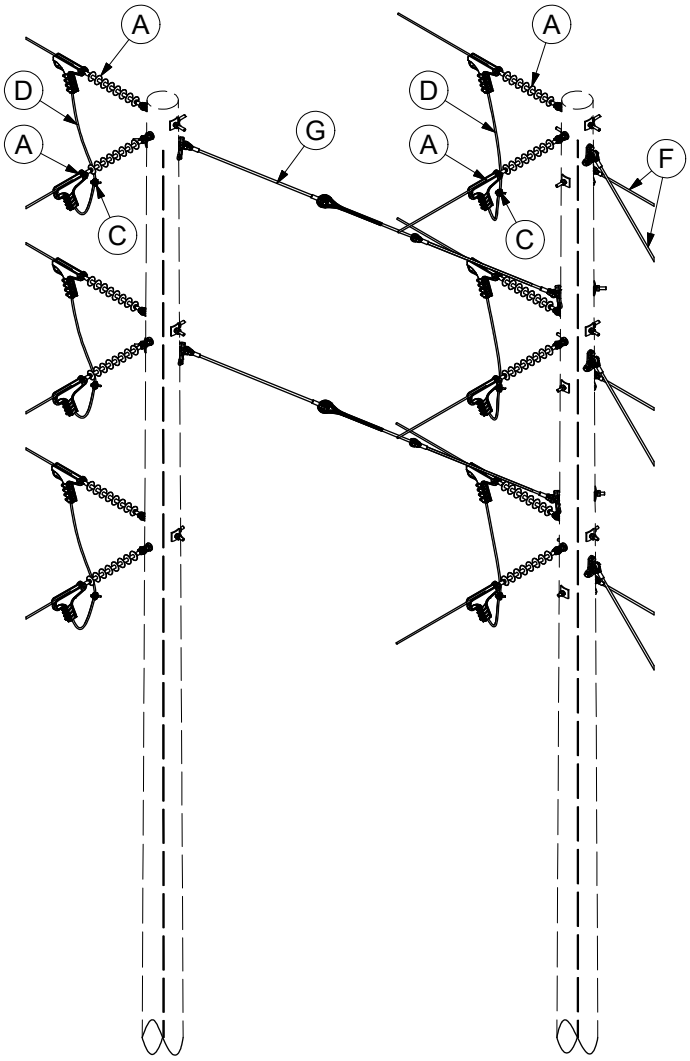
03 69 16 01 - Double Pole Shielded, 69kV
03 69 16 02 - Double Pole Shielded, 35kV

03 69 16 51 - Double Pole Unshielded, 69kV
03 69 16 52 - Double Pole Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	



Isometric View
03 69 16 01 - Double Pole Shielded, 69kV
03 69 16 02 - Double Pole Shielded, 35kV



Isometric View
03 69 16 51 - Double Pole Unshielded, 69kV
03 69 16 52 - Double Pole Unshielded, 35kV

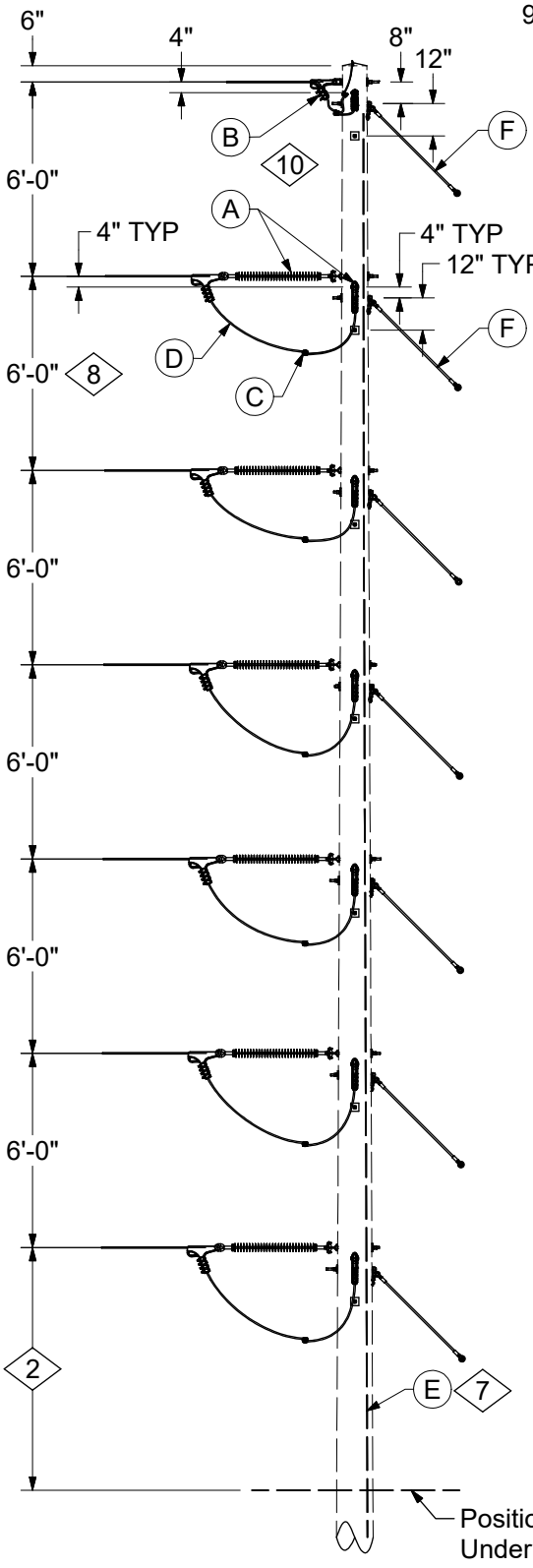
REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	

CONSTRUCTION NOTE(s):

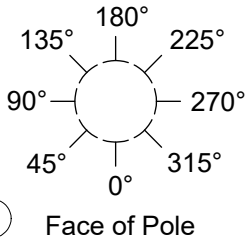
1. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

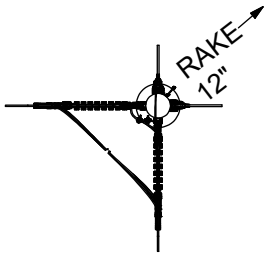
	ITEM	STK / DCS #	DESCRIPTION 03 69 16 **	01	02	51	52
	A	**06 34 60 02 @**	34kV Single Deadend on Pole	-	12	-	12
		06 34 60 06 @	69kV Single Deadend on Pole	12	-	12	-
	B	**06 00 11 05 @**	Static Wire Attachment - Corner w/ Pole Ground	1	1	-	-
10,@		**18 05 12 01 @**	OPGW Corner Without Splice	1	1	-	-
		18 05 13 01 @	OPGW Corner With Splice	1	1	-	-
@	C	**07 00 25 00 @**	Clamp, PG, PG*W	12	12	12	12
@	D	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
7,@	E	**12 00 10 ** @**	Grounding Unit	2	2	2	2
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	G	**11 00 46 ** @**	Span Guy Unit	3	3	2	2
	H	252, 255, or 260	Op Code, Install Jumper	6	6	6	6

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	

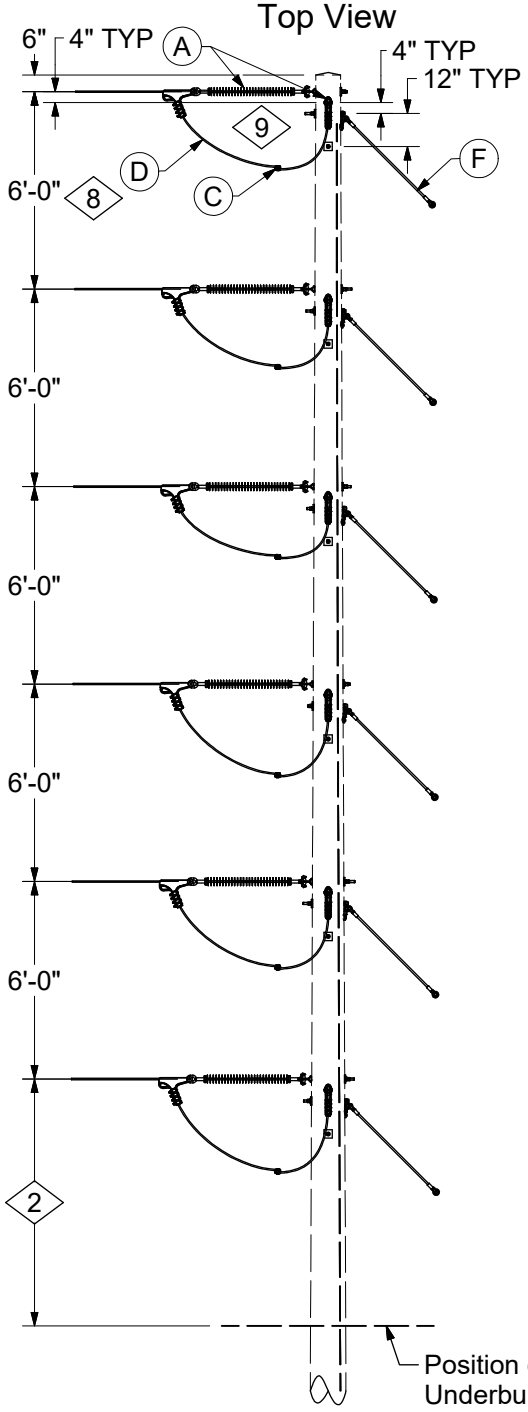


03 69 16 03 - Shielded, 69kV
03 69 16 04 - Shielded, 35kV



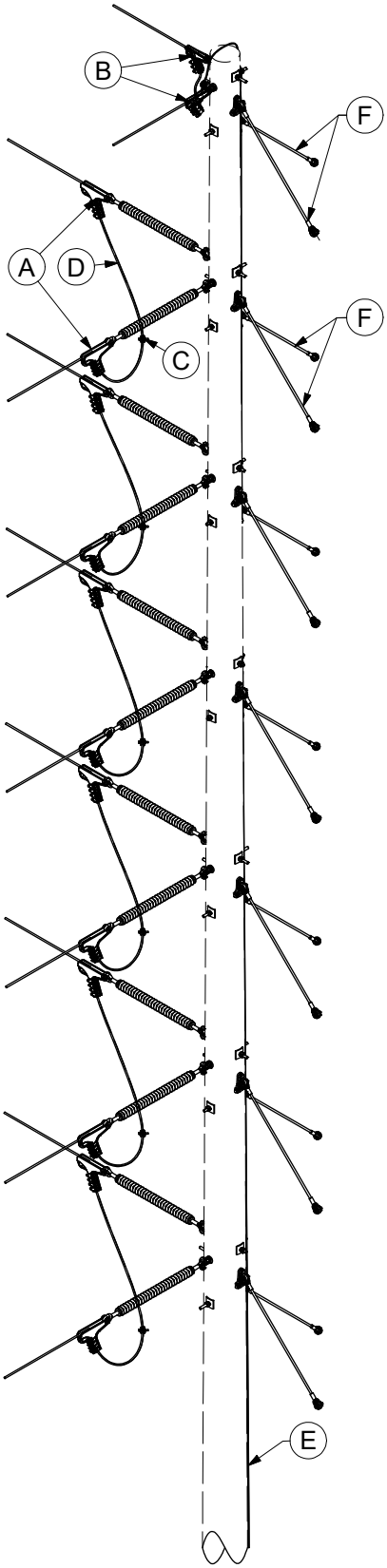


Top View

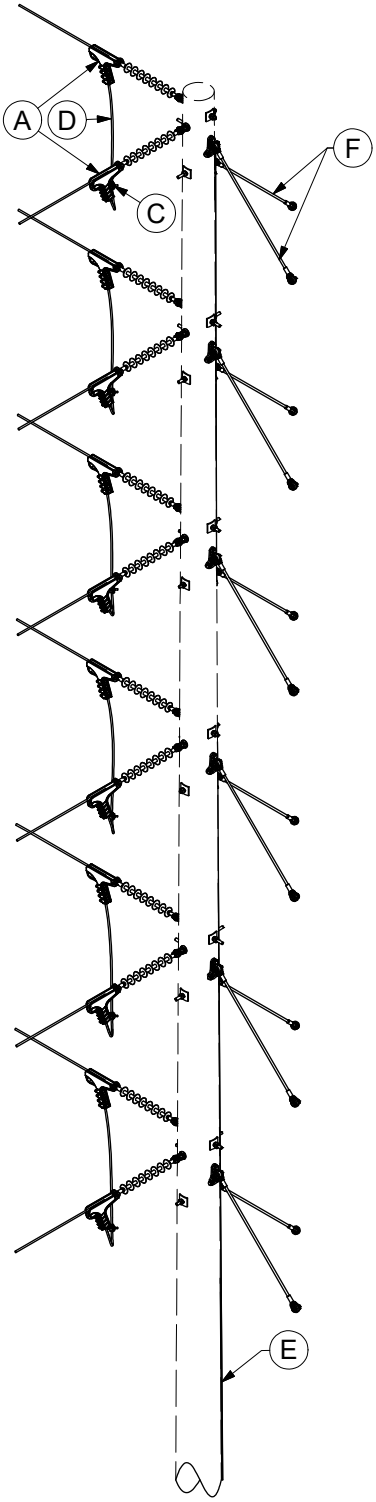


03 69 16 53 - Unshielded, 69kV
03 69 16 54 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	



Isometric View
03 69 16 03 - Shielded, 69kV
03 69 16 04 - Shielded, 35kV



Isometric View
03 69 16 53 - Unshielded, 69kV
03 69 16 54 - Unshielded, 35kV

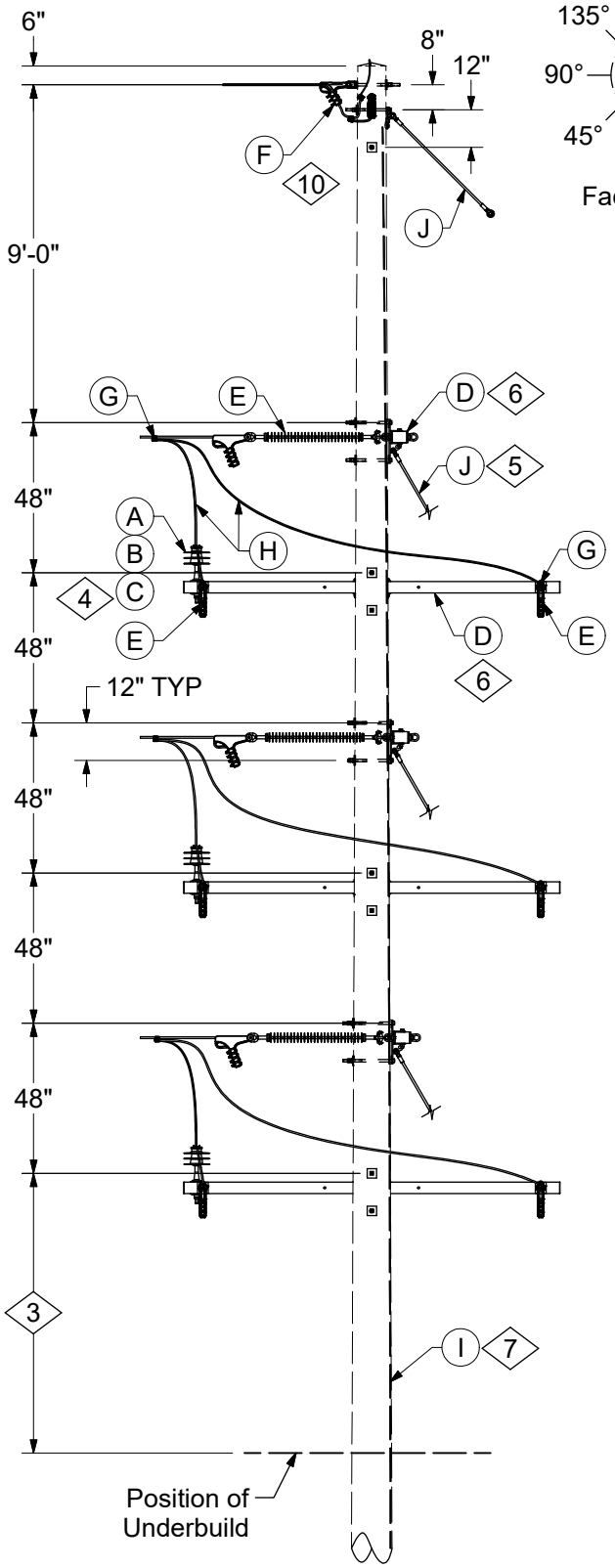
REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	

CONSTRUCTION NOTE(s):

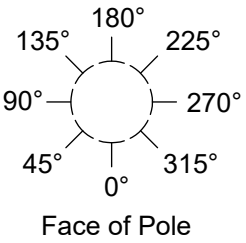
2. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

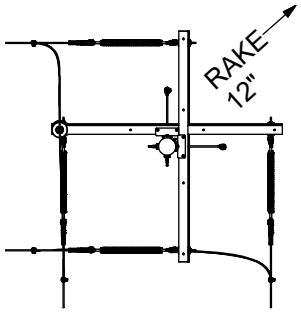
	ITEM	STK / DCS #	DESCRIPTION 03 69 16 **	03	04	53	54
	A	**06 34 60 02 @**	34kV Single Deadend on Pole	-	12	-	12
		06 34 60 06 @	69kV Single Deadend on Pole	12	-	12	-
	B	**06 00 11 05 @**	Static Wire Attachment - Corner w/ Pole Ground	1	1	-	-
10,@		**18 05 12 01 @**	OPGW Corner Without Splice	1	1	-	-
		18 05 13 01 @	OPGW Corner With Splice	1	1	-	-
@	C	**07 00 25 00 @**	Clamp, PG, PG*W	12	12	12	12
@	D	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
7,@	E	**12 00 10 ** @**	Grounding Unit	1	1	1	1
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
@	G	252, 255, or 260	Op Code, Install Jumper	6	6	6	6

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	

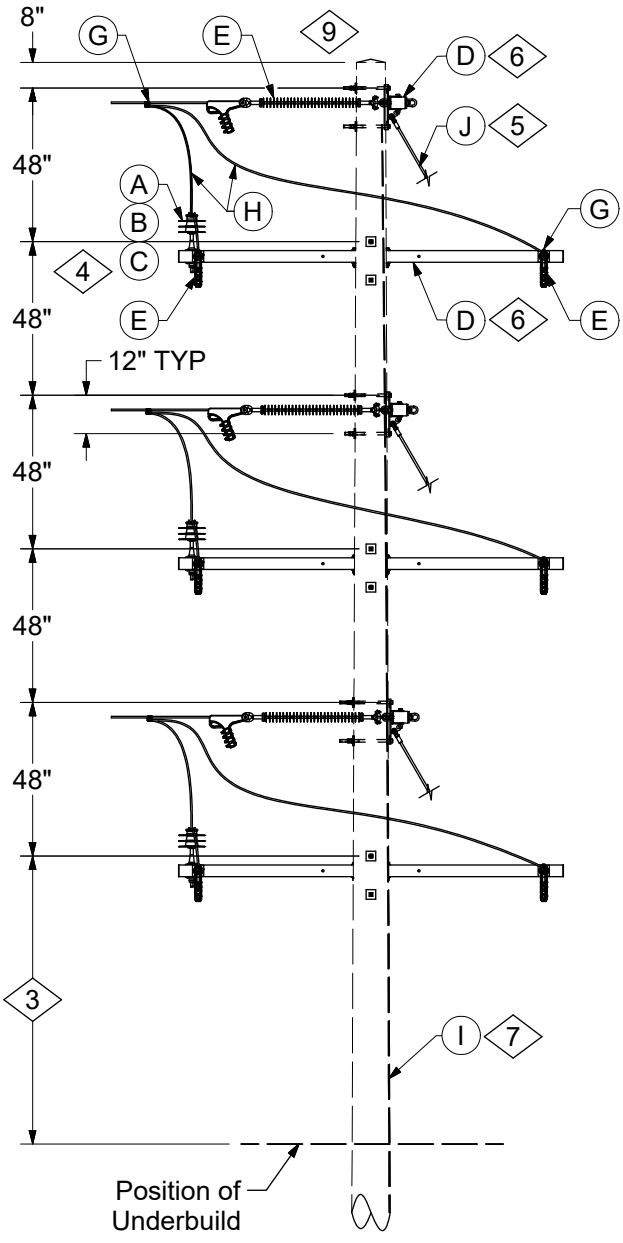


03 69 16 05 - Shielded, 69kV
03 69 16 06 - Shielded, 35kV



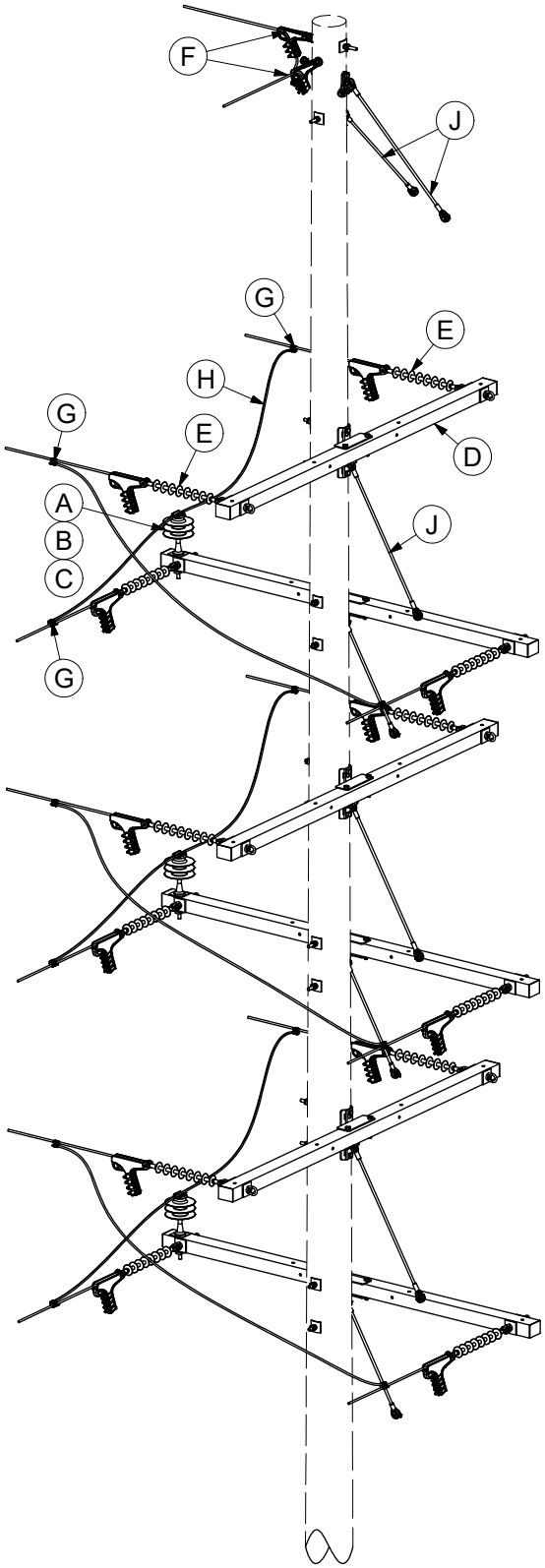


Top View

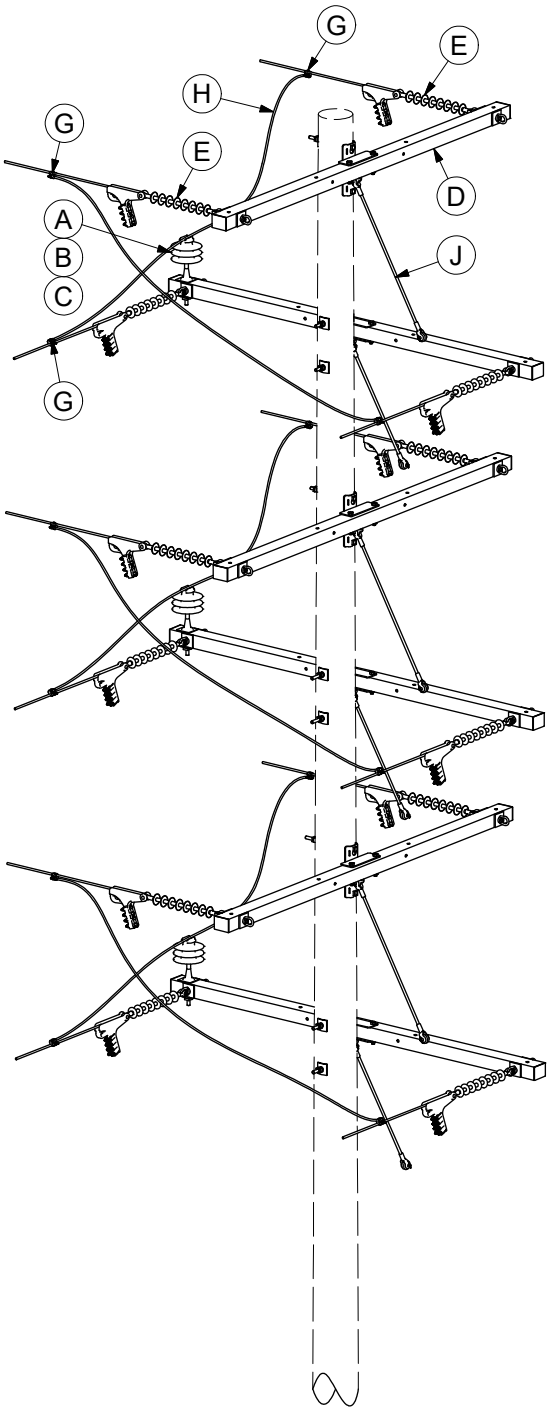


03 69 16 55 - Unshielded, 69kV
03 69 16 56 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format, added new standard
2	02/17/12	DCG	



Isometric View
03 69 16 05 - Shielded, 69kV
03 69 16 06 - Shielded, 35kV



Isometric View
03 69 16 55 - Unshielded, 69kV
03 69 16 56 - Unshielded, 35kV

CONSTRUCTION NOTE(s):

3. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

4. The 2" square washer received with the pin should be used after the 4" square washer.

5. Attach guy to fiberglass arm guy hook.

	ITEM	STK / DCS #	DESCRIPTION 03 69 16 **	05	06	55	56
	A	25 05 080	Insulator, Pin Type, 34kV, F-Neck	-	3	-	3
		25 05 098	Insulator, Vertical L.P., 69kV, F-Neck	3	-	3	-
	B	23 12 126	Pin, 3/4" x 7"	-	3	-	3
		23 64 023	Stud, 3/4" x 7" w/ Hardware	3	-	3	-
6	C	23 66 132	Washer, Flat, Sq., 4" x 4", w/ 13/16" Hole	6	6	6	6
	D	**04 00 42 03 @**	10' Deadend FG Crossarm	6	6	6	6
	E	**06 34 68 11 @**	34kV Single Deadend on FG Arm	-	12	-	12
		06 34 68 12 @	69kV Single Deadend of FG Arm	12	-	12	-
	F	**06 00 11 05 @**	Static Wire Attachment - Corner w/ Pole Ground	1	1	-	-
10,@		**18 05 12 01 @**	OPGW Corner Without Splice	1	1	-	-
		18 05 13 01 @	OPGW Corner With Splice	1	1	-	-
@	G	**07 00 25 00 @**	Clamp, PG, PG*W	12	12	12	12
7,@	H	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
5,@	I	**12 00 10 ** @**	Grounding Unit	1	1	-	-
@	J	**11 00 4* ** @**	Guying Unit	#	#	#	#
	K	252, 255, or 260	Op Code, Install Jumper	6	6	6	6

DESIGN NOTE(s):

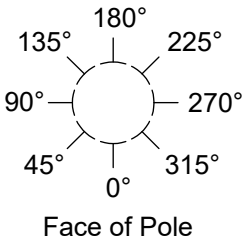
6. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

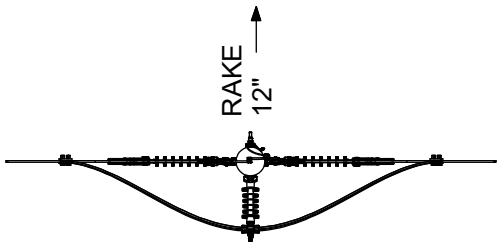
7. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

8. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

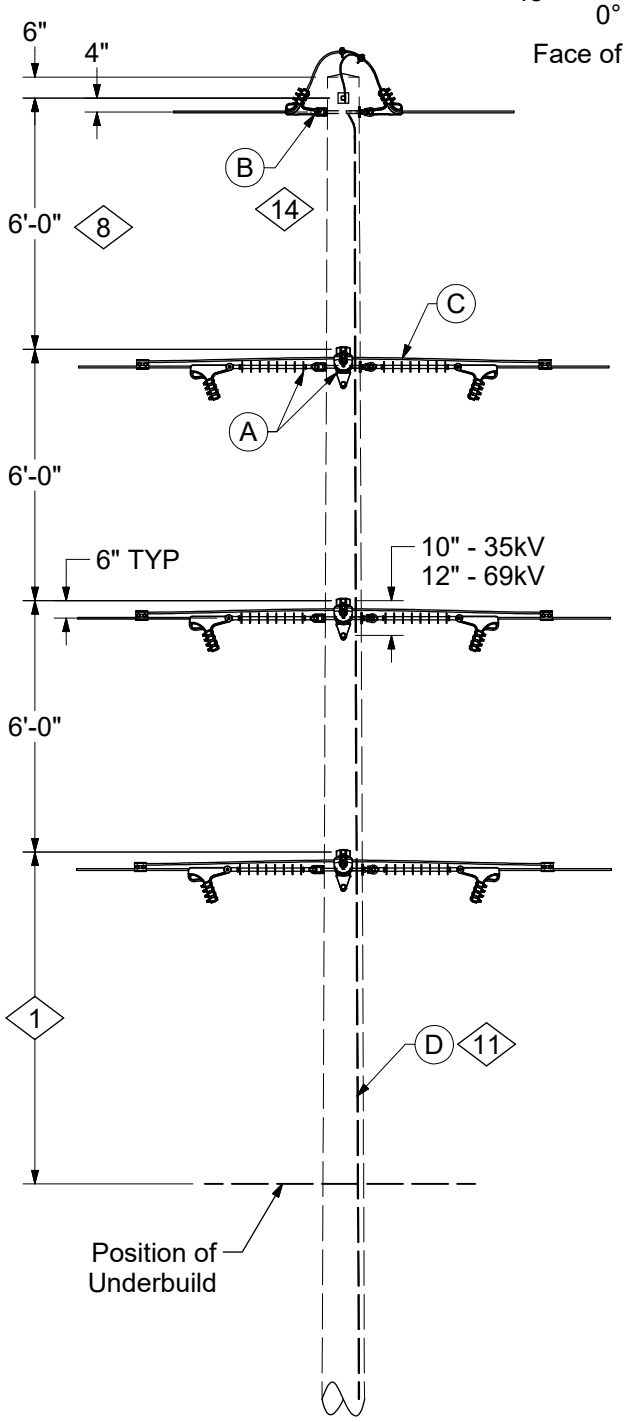
9. Avoid arrester assembly installation on corner poles and utilize adjacent poles.

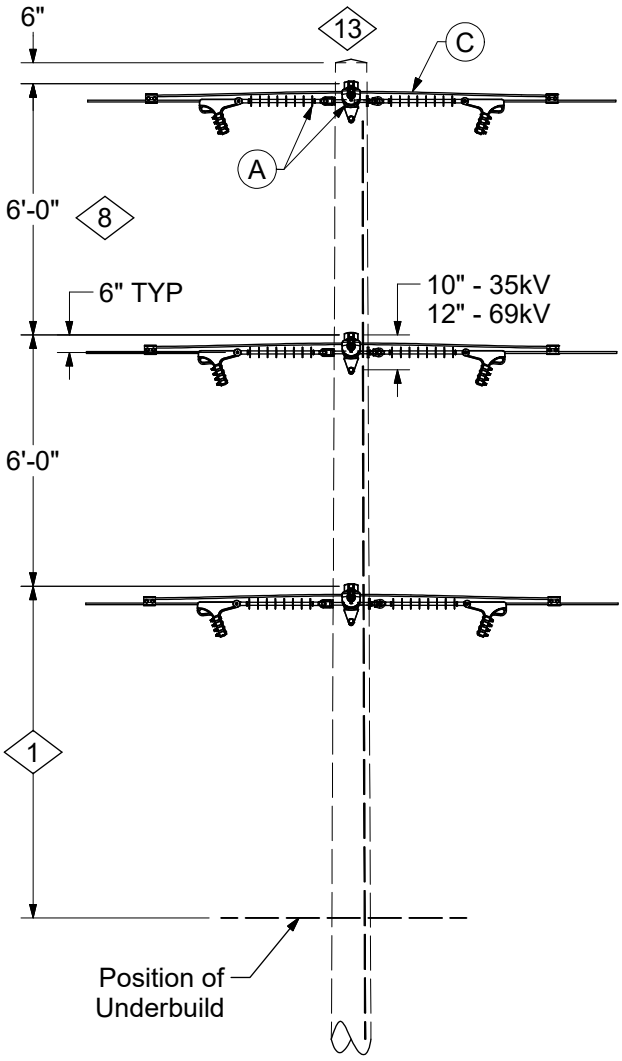
10. Refer to DCS Section 18 for OPGW appplications.





Top View

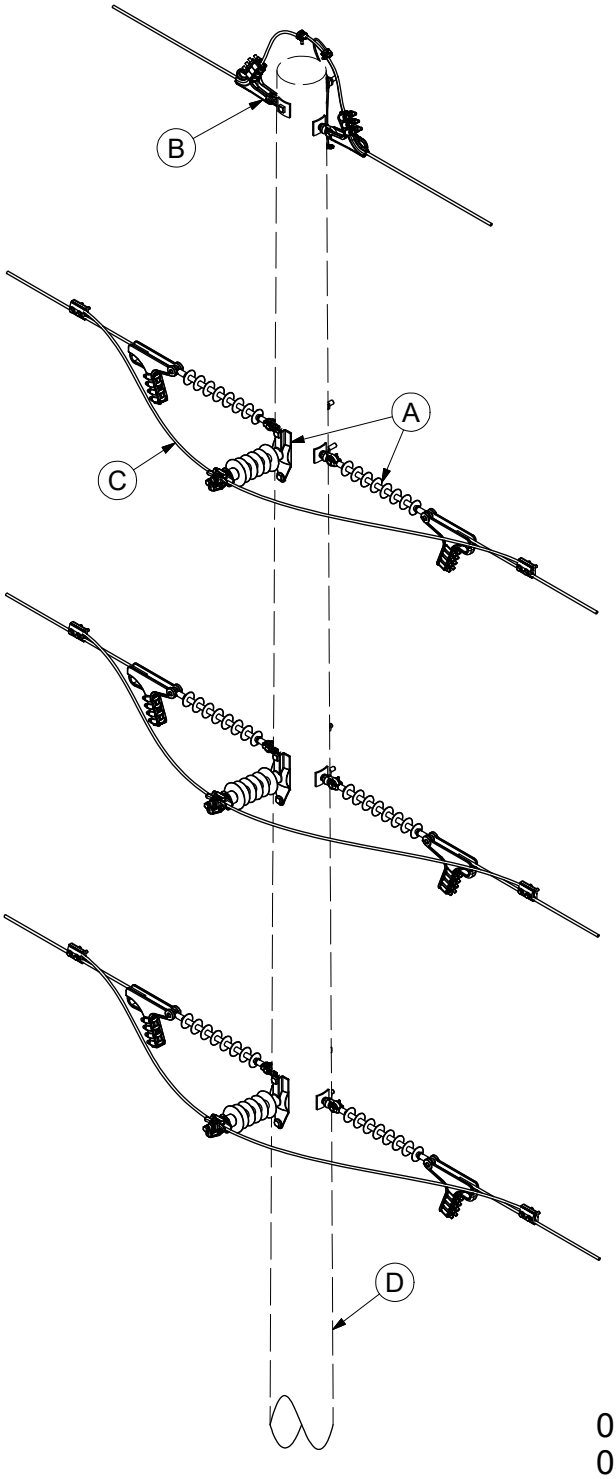




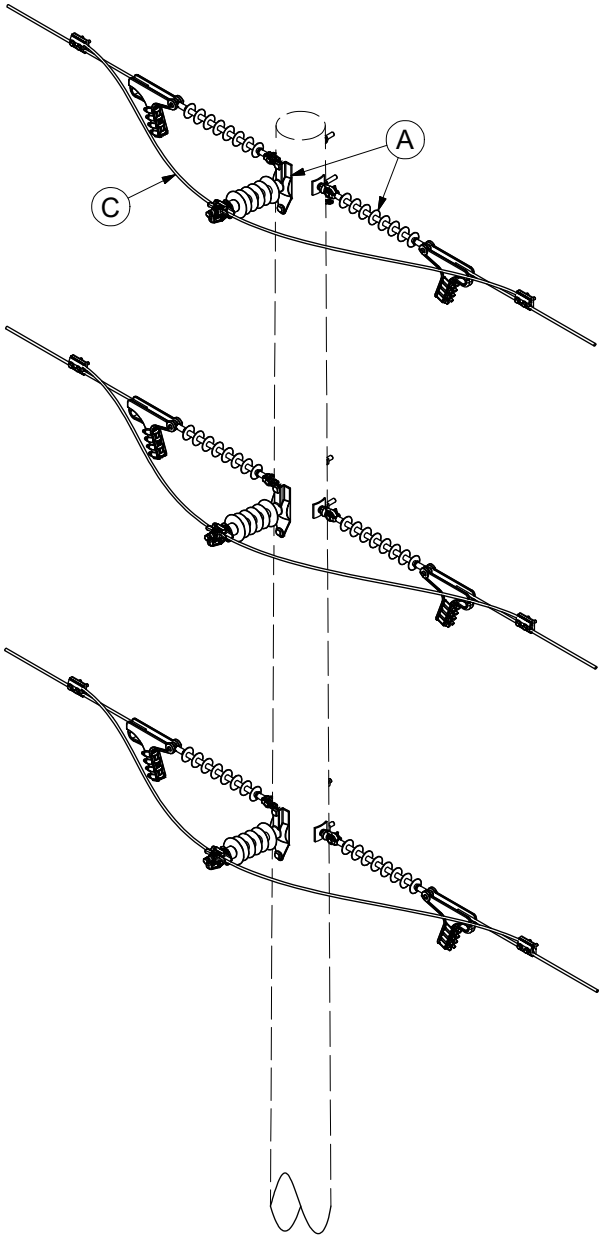
03 69 17 51 - Equal Tension Unshielded, 69kV
03 69 17 54 - Equal Tension Unshielded, 35kV

03 69 17 01 - Equal Tension Shielded, 69kV
03 69 17 04 - Equal Tension Shielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	



Isometric View
03 69 17 01 - Equal Tension Shielded, 69kV
03 69 17 04 - Equal Tension Shielded, 35kV



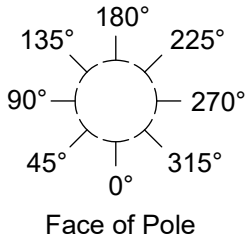
Isometric View
03 69 17 51 - Equal Tension Unshielded, 69kV
03 69 17 54 - Equal Tension Unshileded, 35kV

CONSTRUCTION NOTE(s):

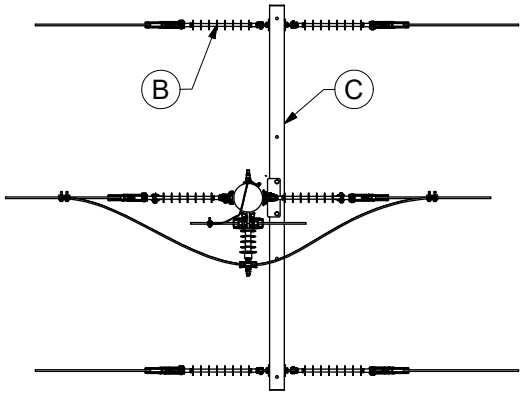
1. If underbuild is in vertical configuration, 6'-0" spacing is adequate. For underbuild on crossarms, use 7'-6" spacing for tangent and 7'-0" spacing for deadends. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 17 **	01	04	51	54
	A	**06 34 60 01 @**	69kV Looparound - Straight	3	-	3	-
		06 34 60 25 @	34kV Looparound - Straight	-	3	-	3
@	B	**06 00 11 06 @**	Static Wire Attachment - Deadend Tangent	1	1	-	-
		18 05 1* ** @	OPGW Static Support	1	1	-	-
@	C	**07 00 80 00 @**	Lead Wire, LW*W PLW*W	#	#	#	#
2,@	D	**12 00 10 ** @**	Grounding Unit	1	1	-	-
4,@	E	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	F	252 or 260	Op Code, Install Connectors	6	6	6	6

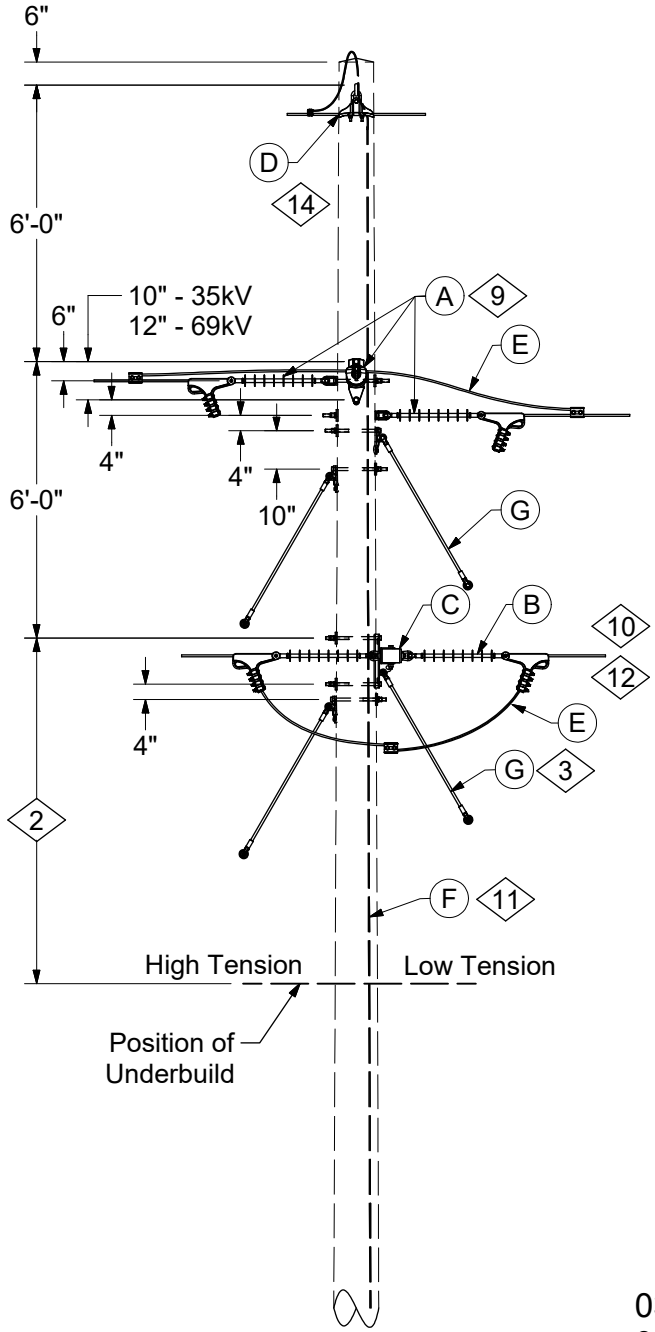
REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	

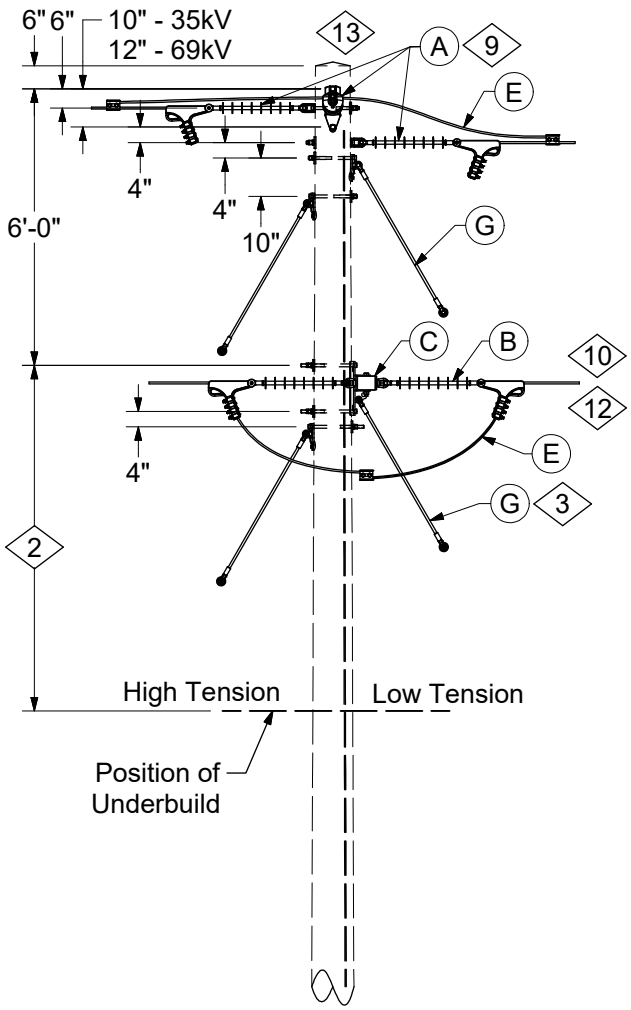


Face of Pole



Top View

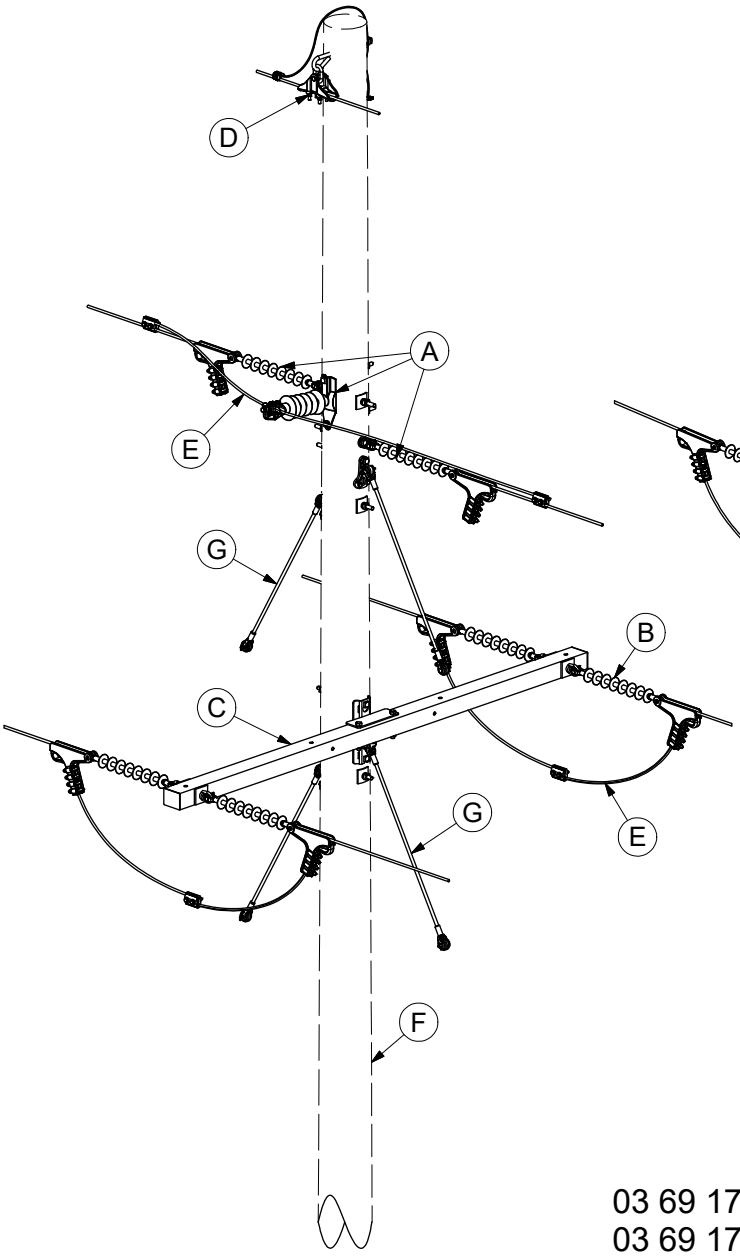




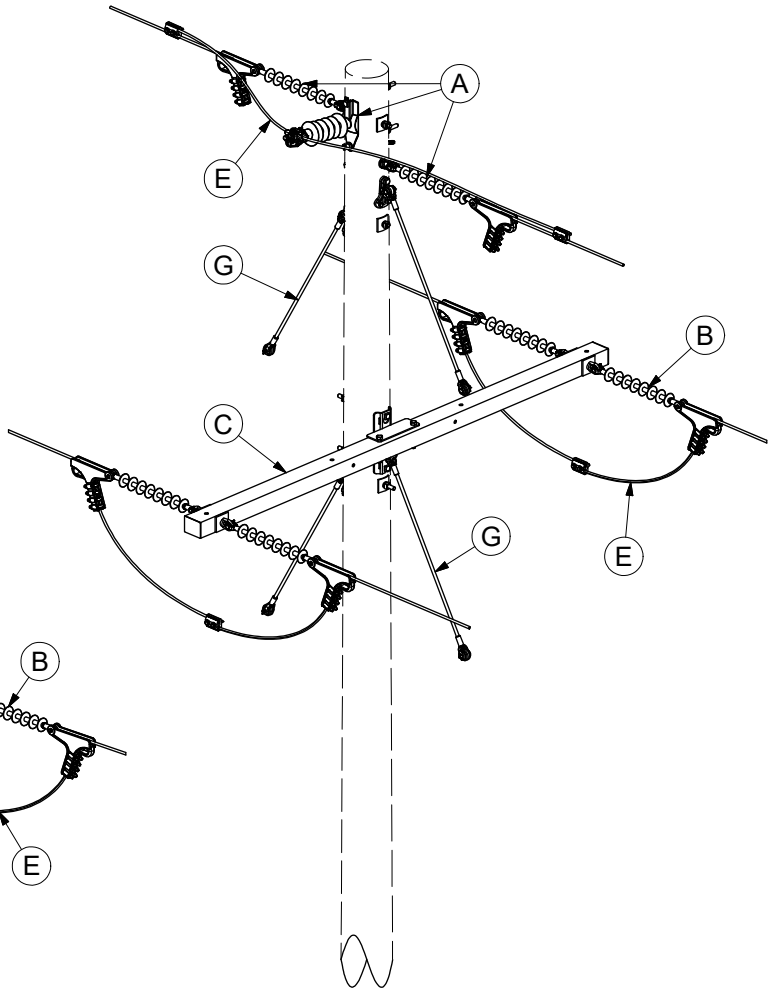
03 69 17 52 - Unequal Tension Unshielded, 69kV
03 69 17 55 - Unequal Tension Unshielded, 35kV

03 69 17 02 - Unequal Tension Shielded, 69kV
03 69 17 05 - Unequal Tension Shielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	



Isometric View
03 69 17 02 - Unequal Tension Shielded, 69kV
03 69 17 05 - Unequal Tension Shielded, 35kV



Isometric View
03 69 17 52 - Unequal Tension Unshielded, 69kV
03 69 17 55 - Unequal Tension Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	

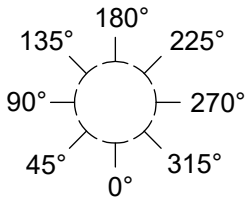
CONSTRUCTION NOTE(s):

2. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured from top bolt.

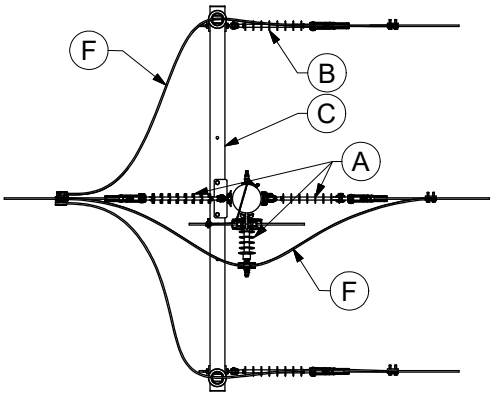
3. Attach guy to fiberglass arm guy hook.

	ITEM	STK / DCS #	DESCRIPTION 03 69 17 **	02	05	52	55
	A	**06 34 60 03 @**	69kV Looparound - Offset	1	-	1	-
		06 34 60 26 @	34kV Looparound - Offset	-	1	-	1
	B	**06 34 68 14 @**	69kV Double Deadend Loopunder	2	-	2	-
		06 34 68 13 @	34kV Double Deadend Loopunder	-	2	-	2
9,10,12,@	C	**04 00 42 03 @**	10' Deadend FG Crossarm	1	1	1	1
	D	**06 00 11 ** @**	Static Wire Attachment	1	1	-	-
14,@		**18 05 1* ** @**	OPGW Static Support	1	1	-	-
@	E	**07 00 80 00 @**	Lead Wire, LW*W PLW*W	#	#	#	#
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
11,@	G	**12 00 10 ** @**	Grounding Unit	1	1	-	-
13,@	H	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	I	252 or 260	Op Code, Install Connectors	4	4	4	4

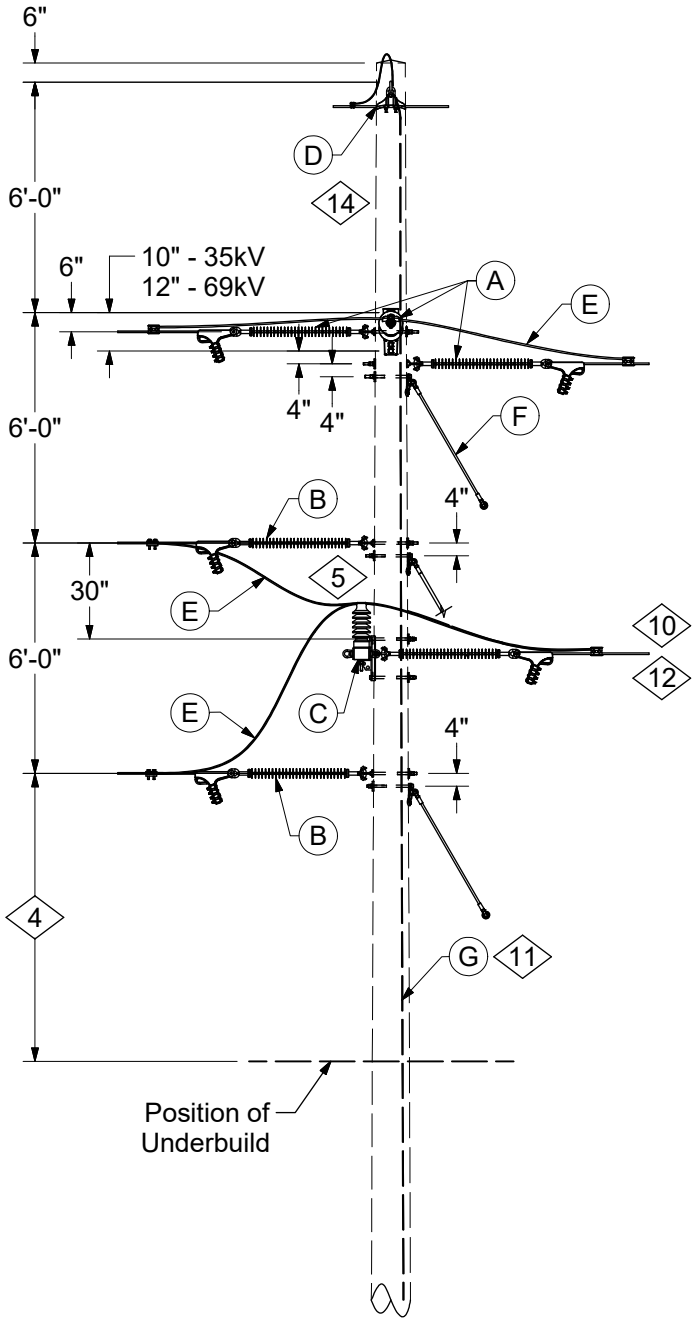
REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	



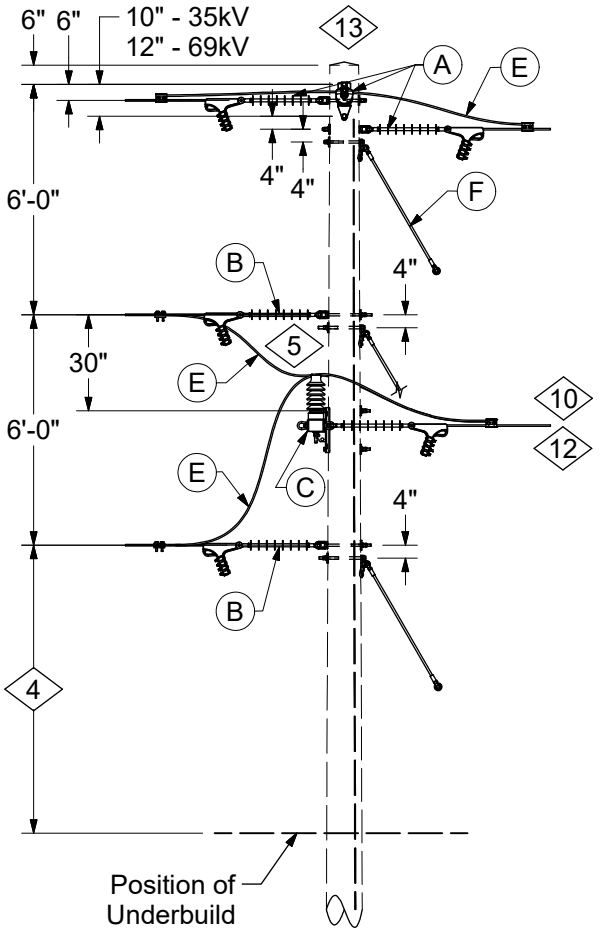
Face of Pole



Top View

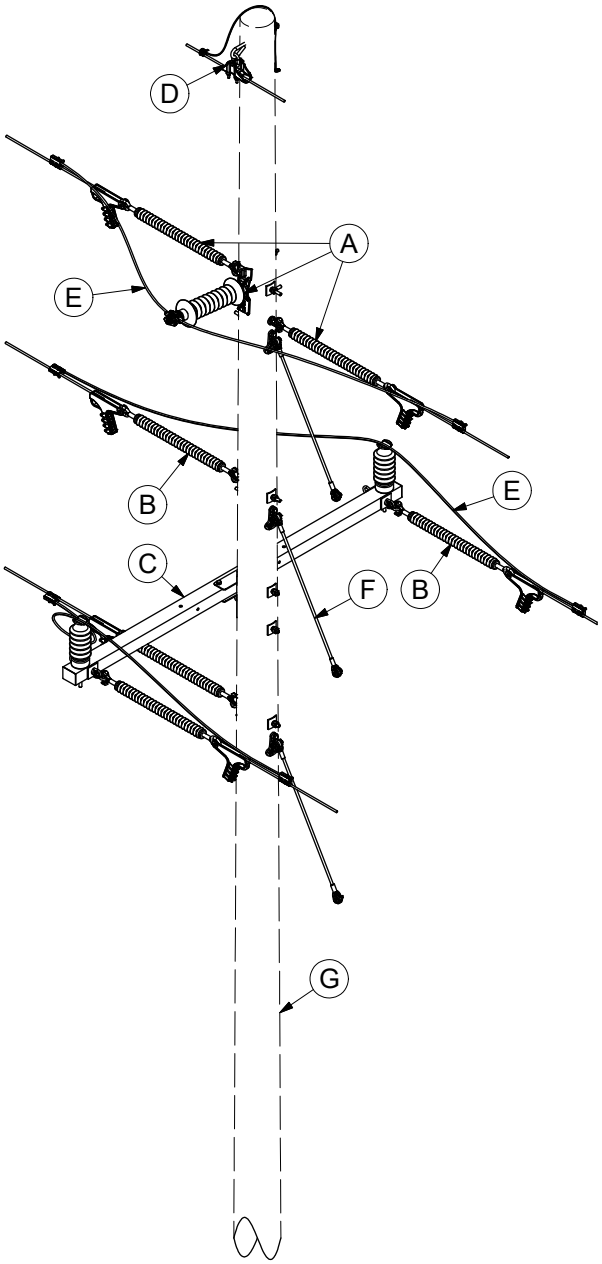


03 69 17 03 - Unequal Tension
Shielded, Offset, 69kV
03 69 17 06 - Unequal Tension
Shielded, Offset, 35kV

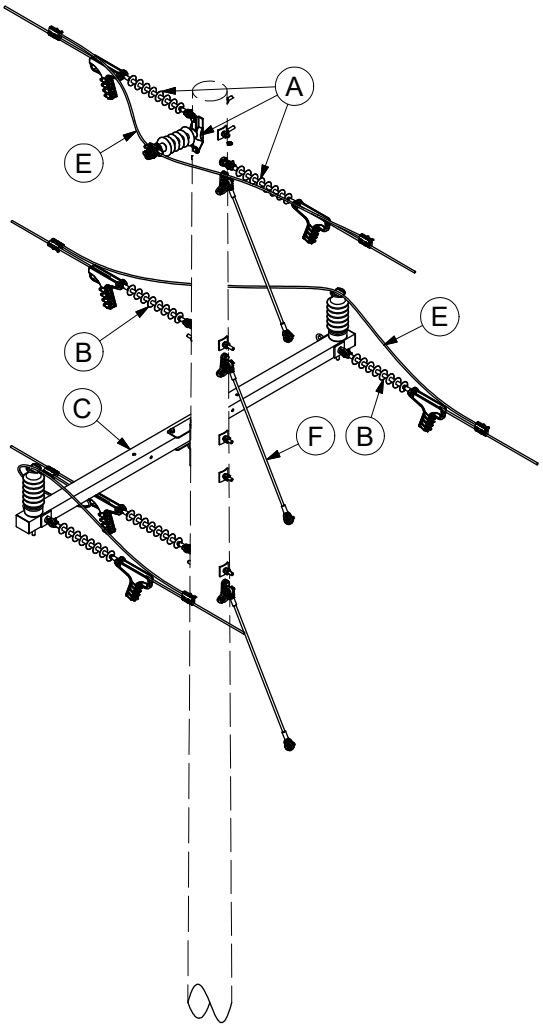


03 69 17 53 - Unequal Tension
Unshielded, Offset, 69kV
03 69 17 56 - Unequal Tension
Unshielded, Offset, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	



Isometric View
03 69 17 03 - Unequal Tension
Shielded, Offset, 69kV
03 69 17 06 - Unequal Tension
Shielded, Offset, 35kV



Isometric View
03 69 17 53 - Unequal Tension
Unshielded, Offset, 69kV
03 69 17 56 - Unequal Tension
Unshielded, Offset, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	

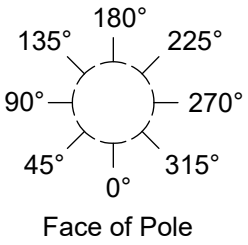
CONSTRUCTION NOTE(s):

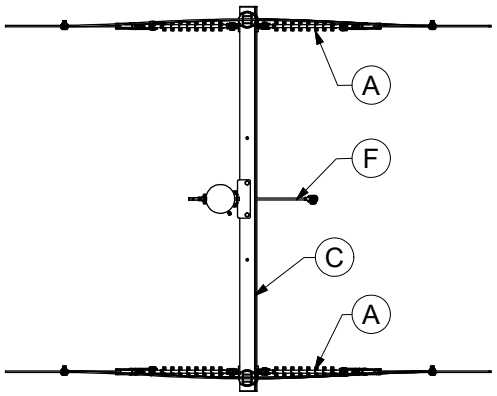
4. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured from top bolt.

5. The 2" square washer recieved with the pin should be used after the 4" square washer.

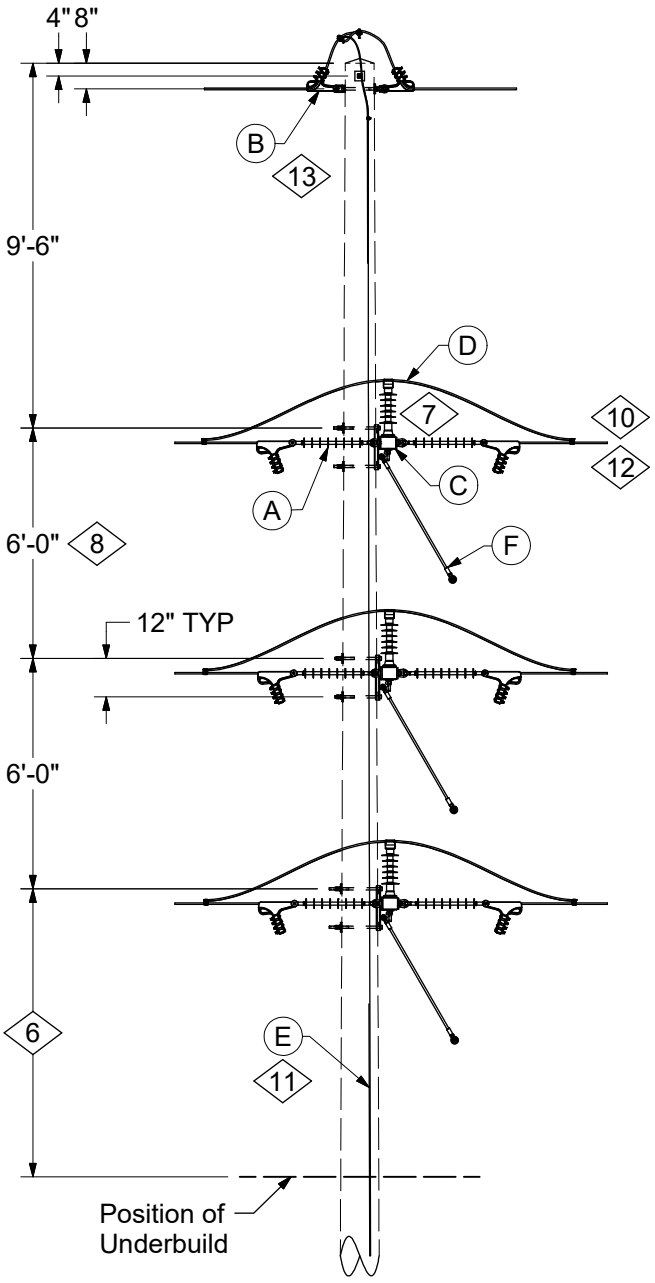
	ITEM	STK / DCS #	DESCRIPTION 03 69 17 **	03	06	53	56
	A	**06 34 60 03 @**	69kV Looparound - Offset	1	-	1	-
		06 34 60 26 @	34kV Looparound - Offset	-	1	-	1
5	B	**06 34 60 27 @**	69kV Loopover - Offset	2	-	2	-
		06 34 60 29 @	34kV Loopover - Offset	-	2	-	2
10,13,@	C	**04 00 42 03 @**	10' Deadend FG Crossarm	1	1	1	1
	D	**06 00 11 ** @**	Static Wire Attachment	1	1	-	-
15,@		**18 05 1* ** @**	OPGW Static Support w/ Suspension Clamp	1	1	-	-
@	E	**07 00 80 00 @**	Lead Wire, LW*W PLW*W	#	#	#	#
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
11,@	G	**12 00 10 ** @**	Grounding Unit	1	1	-	-
14,@	H	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	I	252 or 260	Op Code, Install Connectors	6	6	6	6

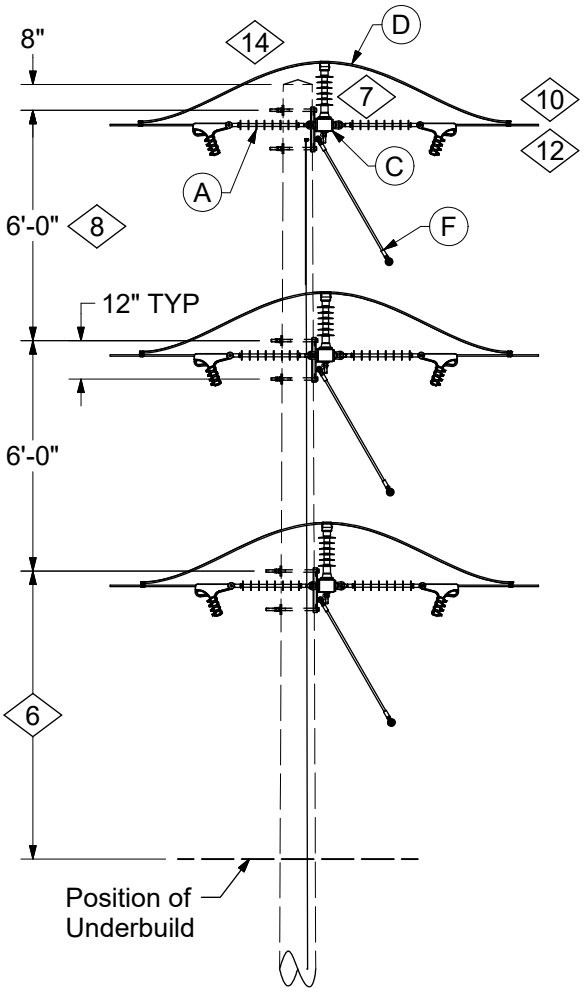
REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	





Top View

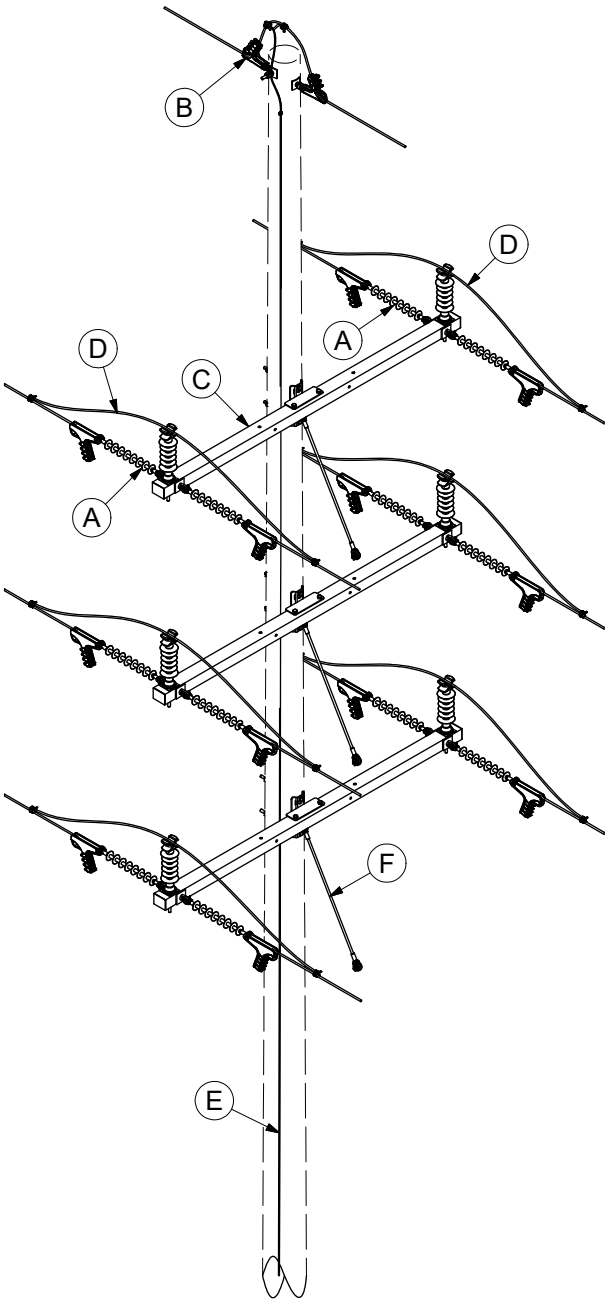




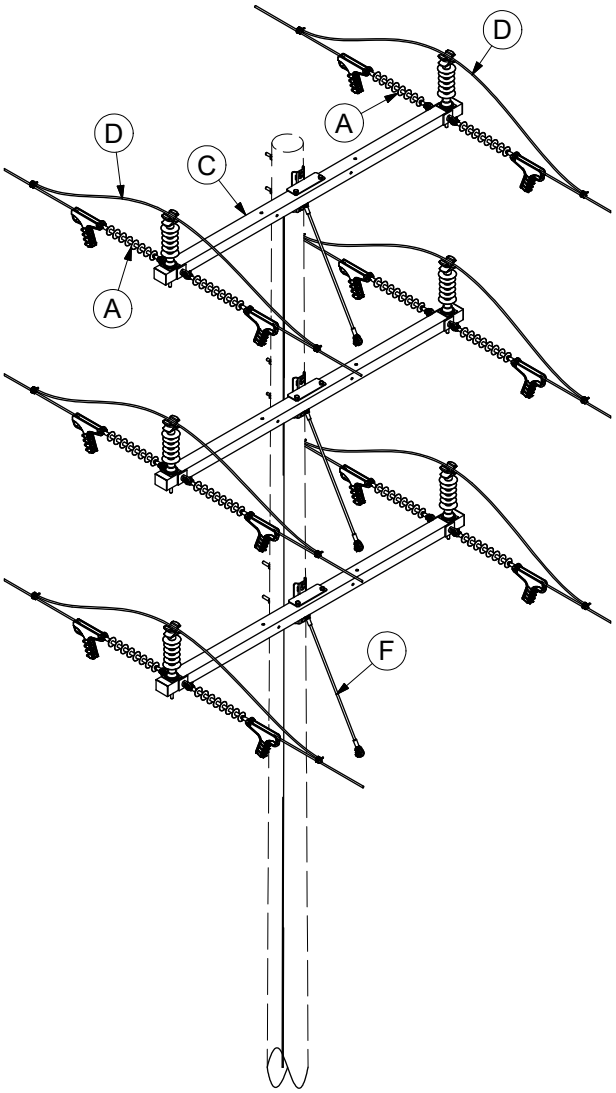
03 69 17 07 - Shielded Double Circuit
In-Line Deadend, 35kV
03 69 17 08 - Shielded Double Circuit
In-Line Deadend, 69kV

03 69 17 57 - Unshielded Double Circuit
In-Line Deadend, 35kV
03 69 17 58 - Unshielded Double Circuit
In-Line Deadend, 69kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	



Isometric View
03 69 17 07 - Shielded Double Circuit
In-Line Deadend, 35kV
03 69 17 08 - Shielded Double Circuit
In-Line Deadend, 69kV



Isometric View
03 69 17 57 - Unshielded Double Circuit
In-Line Deadend, 35kV
03 69 17 58 - Unshielded Double Circuit
In-Line Deadend, 69kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format, added new standard
1	12/19/11	MJ	

CONSTRUCTION NOTE(s):

6. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

7. The 2" square washer recieved with the pin should be used after the 4" square washer.

	ITEM	STK / DCS #	DESCRIPTION 03 69 17 **	07	08	57	58
7,@	A	**06 34 68 05 @**	34kV Double Deadend Loopover	3	-	3	-
		06 34 68 07 @	69kV Double Deadend Loopover	-	3	-	3
		06 34 68 13 @	34kV Double Deadend Loopunder	3	-	3	-
		06 34 68 14 @	69kV Double Deadend Loopunder	-	3	-	3
14,@	B	**06 00 11 04 @**	Static Wire Attachement - Tangent and Angle	1	1	-	-
		06 00 11 06 @	Static Wire Attachment - Deadend Tangent and Angle	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
		18 05 16 02 @	OPGW Siingle Deadend w/o Splice	1	1	-	-
9,10,12,@	C	**04 00 42 03 @**	10' Deadend Crossarm	3	3	3	3
@	D	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
11,@	E	**12 00 10 ** @**	Grounding Unit	1	1	1	1
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
13,@	G	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
@	H	252, 255, or 260	Op Code, Install jumper	6	6	6	6

DESIGN NOTE(s):

8. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing pole can be reduced to no less that 4'-0".

9. In underbuild applications, middle phase is deadended on the pole per DCS **03 12 14 ****.

10. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarms may be needed for heavier loadings.

11. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

12. 8'-0" crossarm available for Ameren Missouri only.

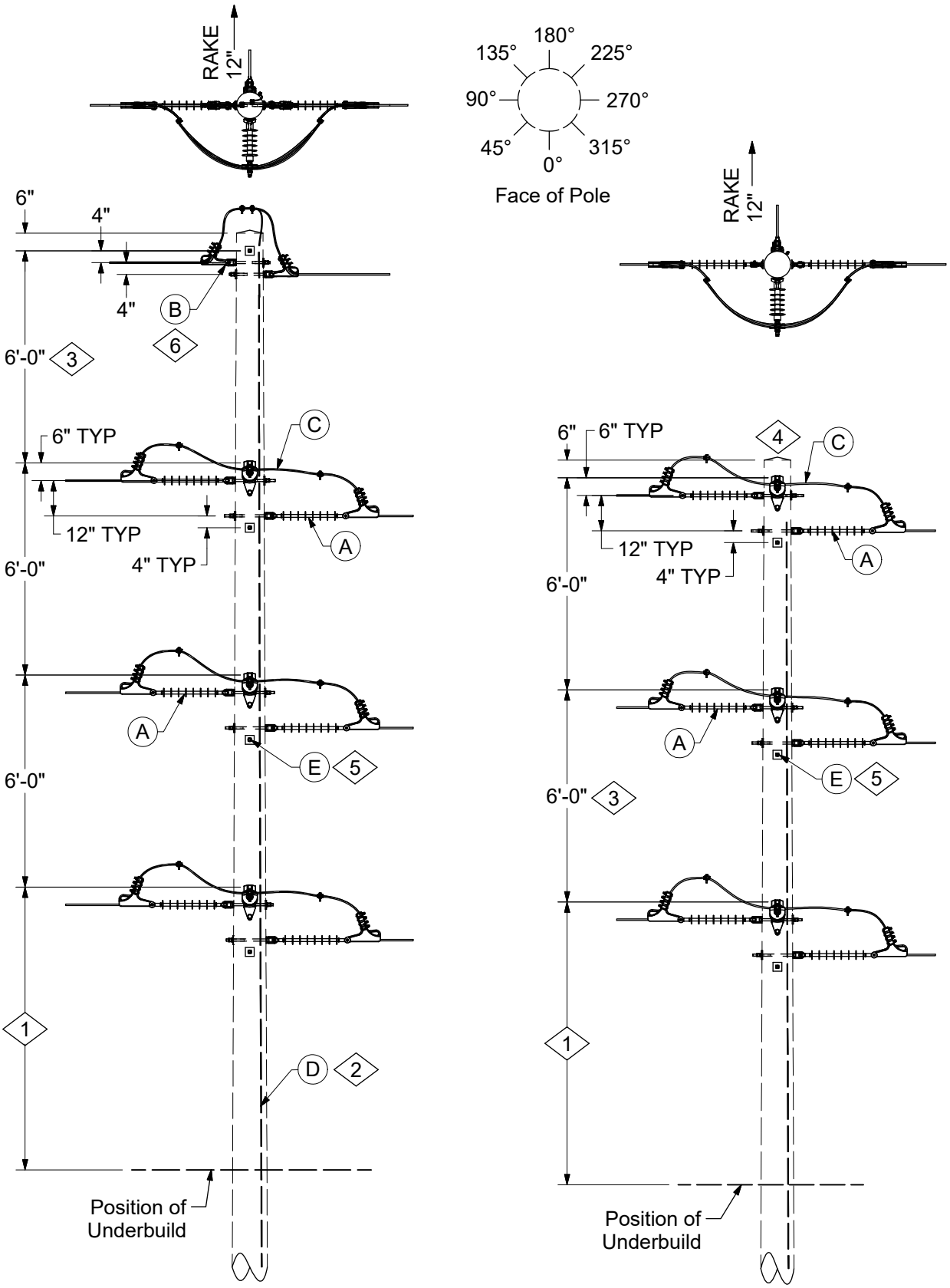
13. See DCS **12 34 ** ** ** for lightning arrester application and installation methods.

14. Refer to DCS Section 18 for OPGW applications.

CONFIGURATIONS

Deadend Angle Structure
Single Circuit for > 1° and ≤ 60°

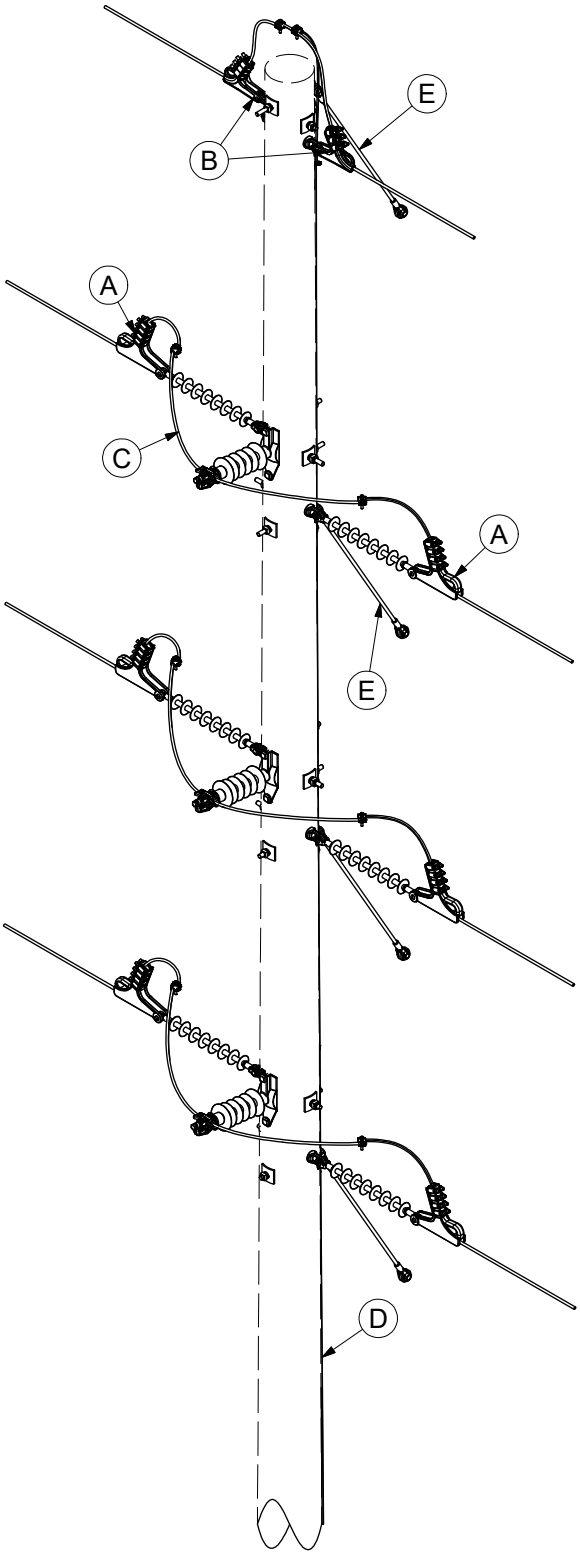
03 69 18 **
35kV, 69kV
1 of 3



03 69 18 01 - Eqaul Tension Shielded, 69kV
03 69 18 02 - Equal Tension Shielded, 35kV
03 69 18 51 - Equal Tension Unshielded, 69kV
03 69 18 52 - Equal Tension Unshielded, 35kV

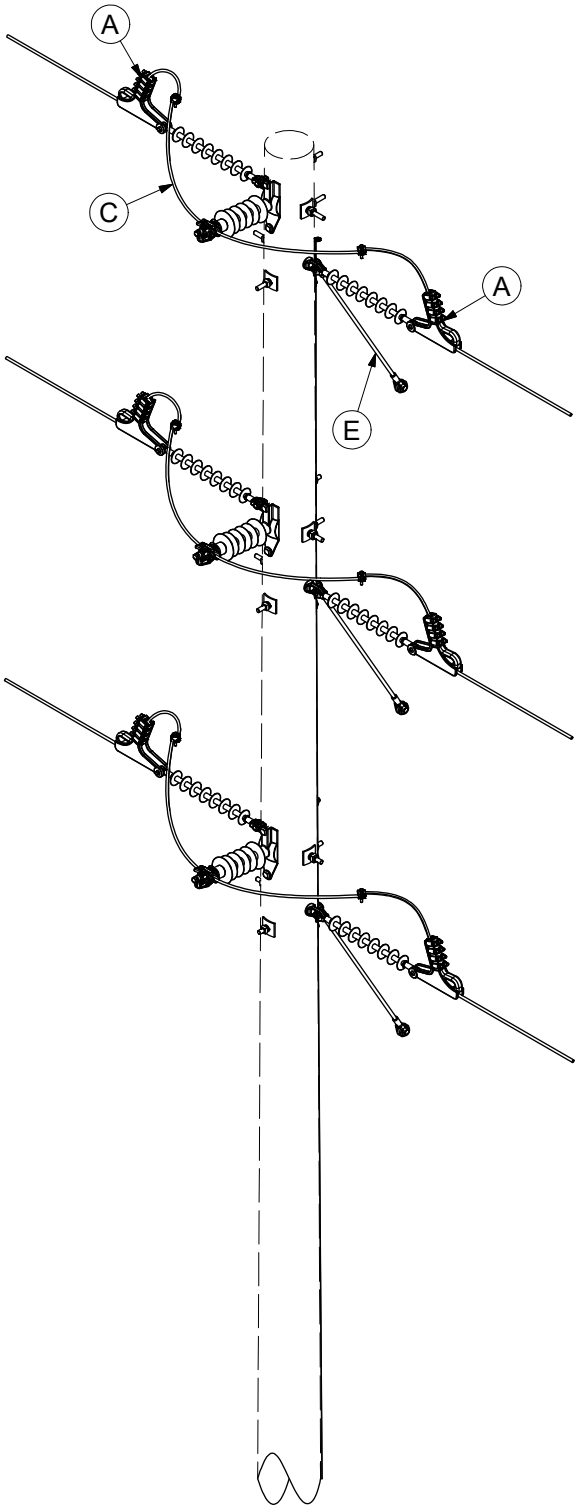
DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	DCG	



Isometric View

03 69 18 01 - Eqaul Tension Shielded, 69kV
03 69 18 02 - Equal Tension Shielded, 35kV



Isometric View

03 69 18 51 - Equal Tension Unshielded, 69kV
03 69 18 52 - Equal Tension Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	DCG	

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 18 **	01	02	51	52
	A	**06 34 60 03 @**	69kV Looparound - Offset	3	-	3	-
		06 34 60 26 @	34kV Looparound - Offset	-	3	-	3
	B	**06 00 11 04 @**	Static Wire Attachment - Tangent and Angle	1	1	-	-
		06 00 11 07 @	Deadend Angle w/ Pole Ground	1	1	-	-
6,@		**18 05 10 01 @**	OPGW Tangent or Corner ≤ 30°	1	1	-	-
		18 05 11 01 @	OPGW Tangent or Corner ≥ 30° ≤ 60°	1	1	-	-
		18 05 16 ** @	OPGW Deadend w/ Splice	1	1	-	-
@	C	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
2,@	D	**12 00 10 ** @**	Grounding Unit	1	1	-	-
5,@	E	**11 00 4* ** @**	Guying Unit	#	#	#	#
4,@	F	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	G	252 or 260	Op Code, Install Jumper	6	6	6	6

DESIGN NOTE(s):

2. Composite Pole has Factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

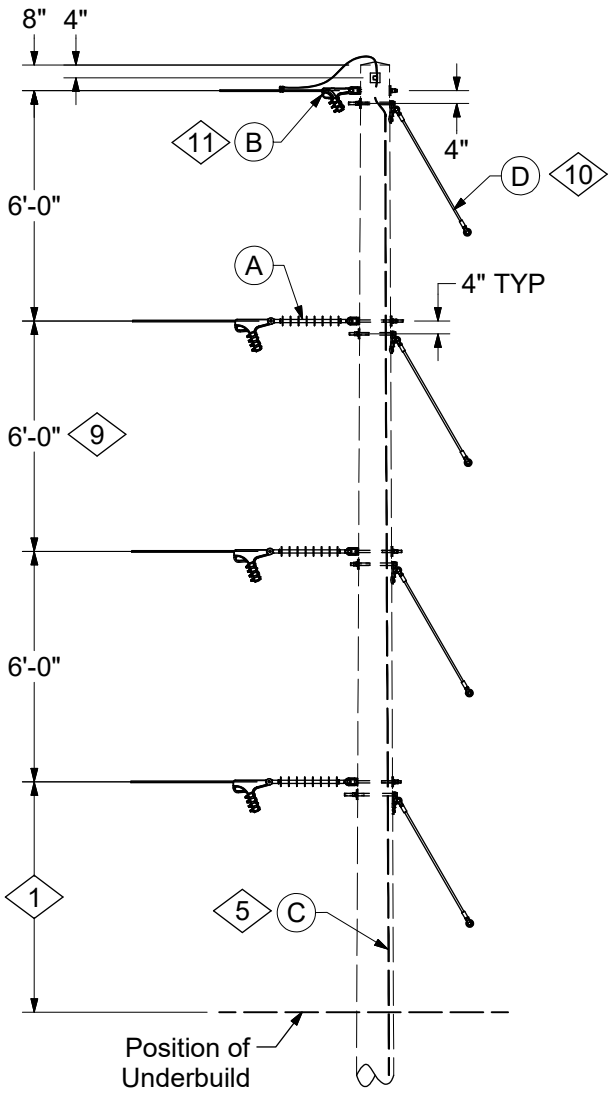
3. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

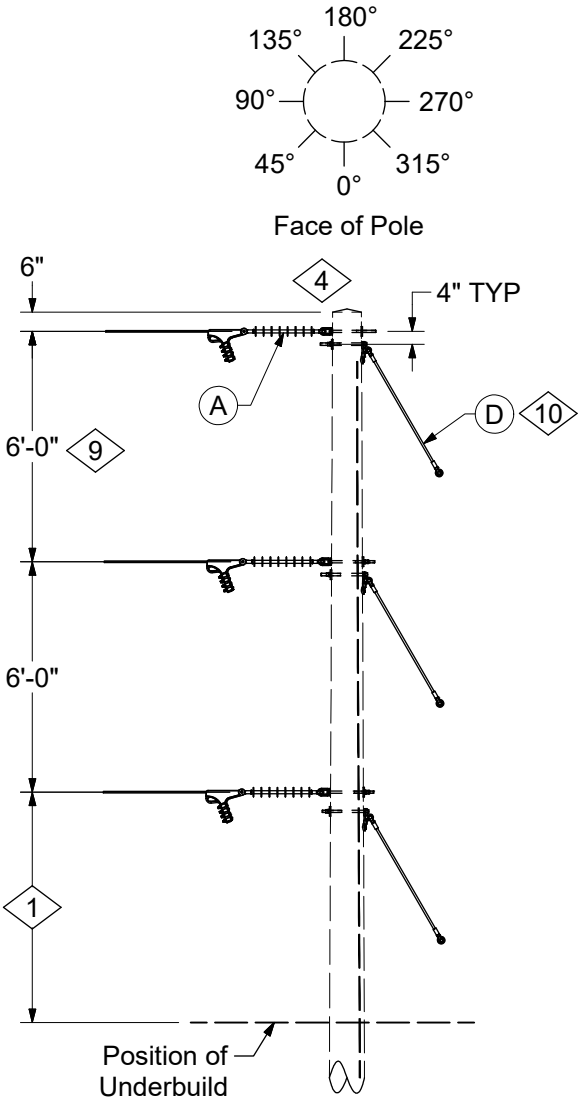
4. See DCS **12 34 ** ** ** for lighting arresters application and installation methods.

5. Additional guys may be required depending on line tension and line angle.

6. Refer to DCS Section 18 for OPGW applications.

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	02/17/12	DCG	





03 69 19 01 - Vertical Shielded, 69kV
03 69 19 02 - Vertical Shielded, 35kV

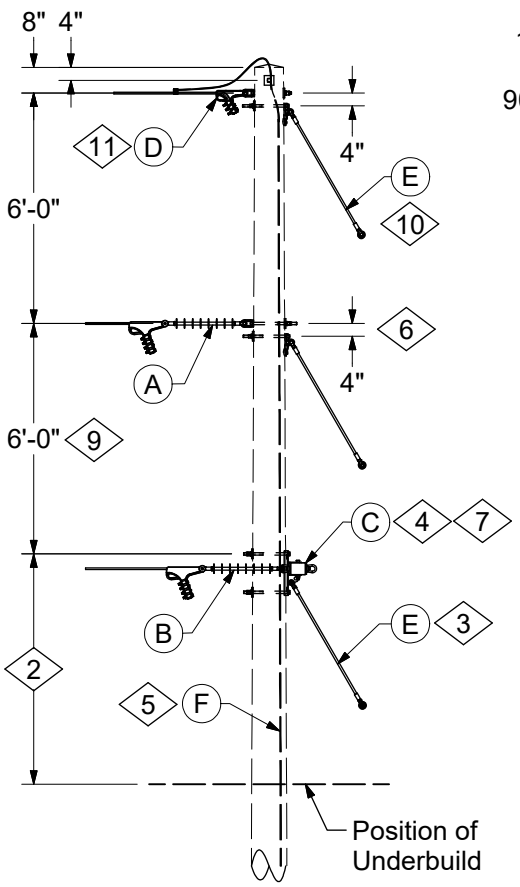
03 69 19 51 - Vertical Unshielded, 69kV
03 69 19 52 - Vertical Unshileded, 35kV

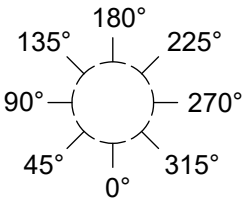
CONSTRUCTION NOTE(s):

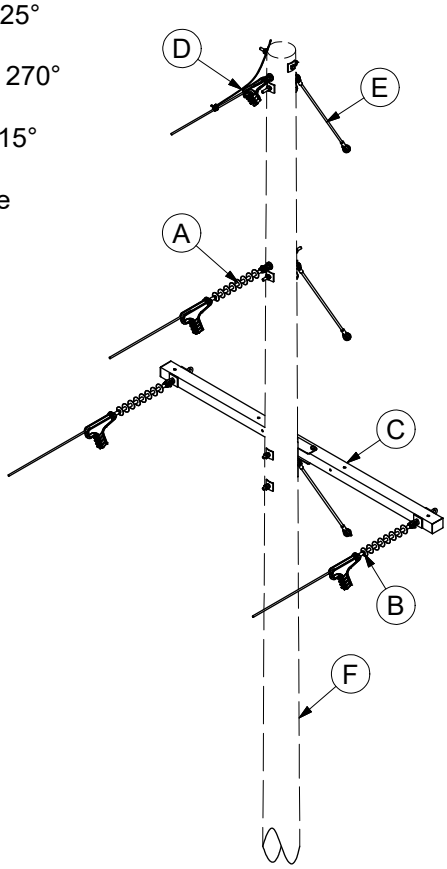
1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 19 **	01	02	51	52
	A	**06 34 60 06 @**	69kV Single Deadend	3	-	3	-
		06 34 60 02 @	34kV Single Deadend	-	3	-	3
11,@	B	**06 00 11 08 @**	Static Wire Attachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
5,@	C	**12 00 10 ** @**	Grounding Unit	1	1	-	-
10,@	D	**11 00 4* ** @**	Guying Unit	#	#	#	#
8,@	E	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	F	252 or 260	Op Code, Install Jumper	6	6	6	6

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to ne format
1	02/17/12	DCG	

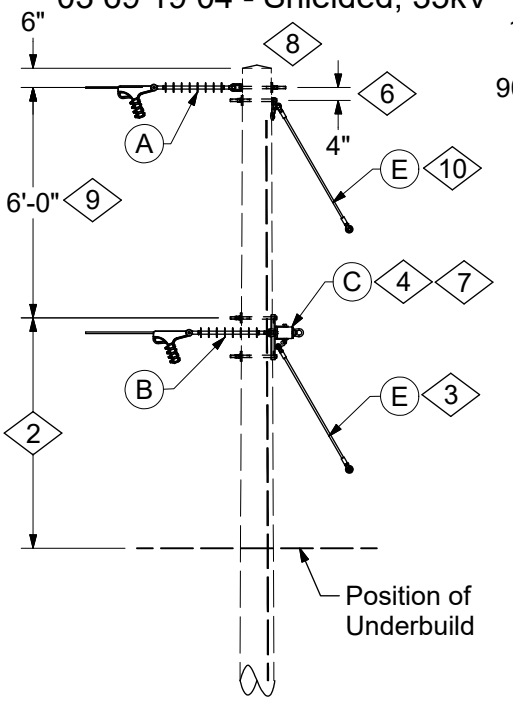


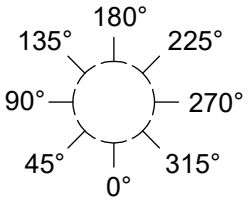


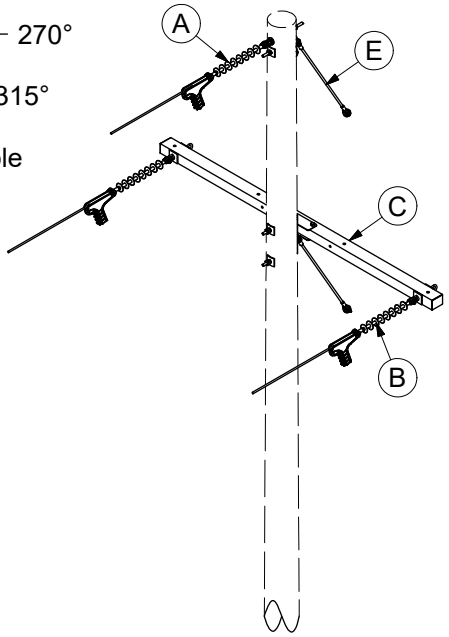


03 69 19 03 - Shielded, 69kV
03 69 19 04 - Shielded, 35kV

ISOMETRIC VIEW







03 69 19 53 - Unshielded, 69kV
03 69 19 54 - Unshielded, 35kV

ISOMETRIC VIEW

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to ne format
1	02/17/12	DCG	

CONSTRUCTION NOTE(s):

2. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

3. Attach guy to fiberglass arm guy hook.

	ITEM	STK / DCS #	DESCRIPTION 03 69 19 **	03	04	53	54
	A	**06 34 60 06 @**	69kV Single Deadend	1	-	1	-
		06 34 60 02 @	34kV Single Deadend	-	1	-	1
	B	**06 34 68 12 @**	69kV Single Deadend on Arm	2	-	2	-
		06 34 68 11 @	34kV Single Deadend on Arm	-	2	-	2
4,7	C	**04 00 42 03 @**	10' Deadend FG Crossarm	1	1	1	1
11,@	D	**06 00 11 08 @**	Static Wire Attachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
3,10,@	E	**11 00 4* ** @**	Guying Unit	#	#	#	#
5,@	F	**12 00 10 ** @**	Grounding Unit	1	1	-	-
8,@	G	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	H	252 or 260	Op Code, Install Jumper	#	#	#	#

DESIGN NOTE(s):

4. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

5. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding detail.

6. In underbuild applications middle phase is deadended on the pole per DCS **03 12 14 **.

7. 8'-0" crossarm available for Ameren Missouri only.

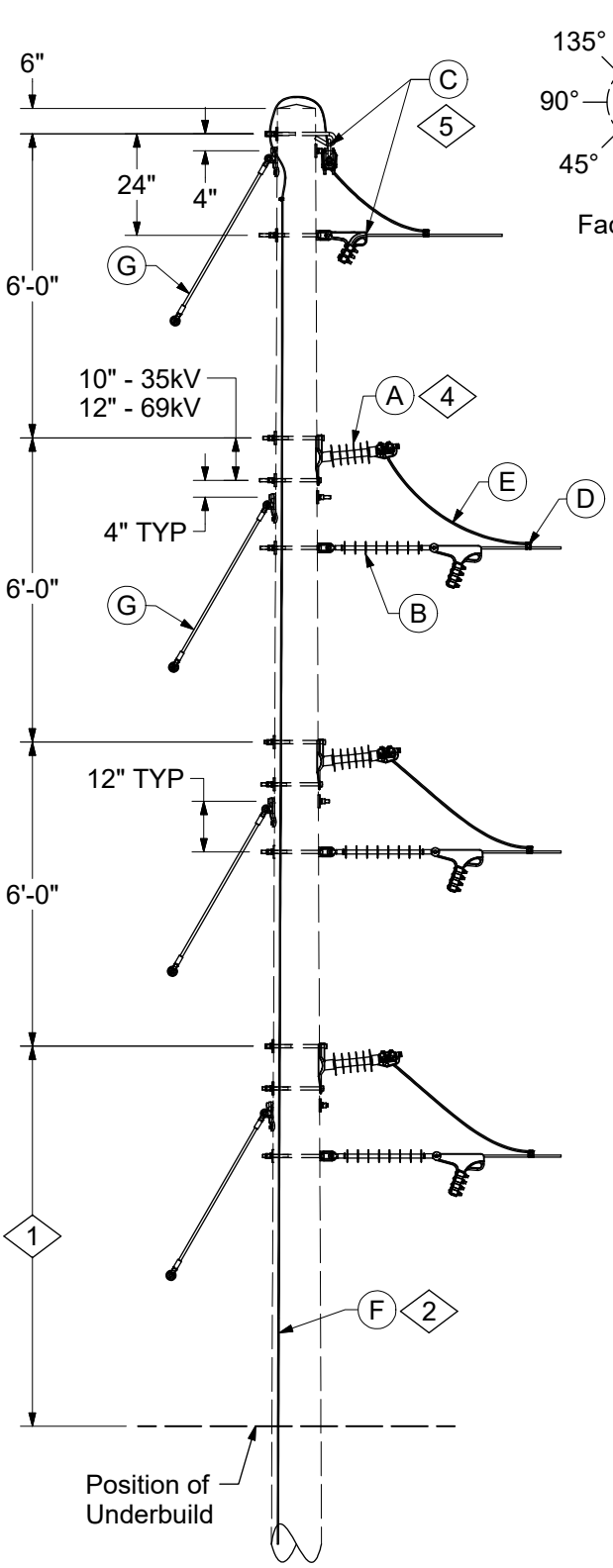
8. See DCS **12 34 ** **** for lightning arrester application and installation methods.

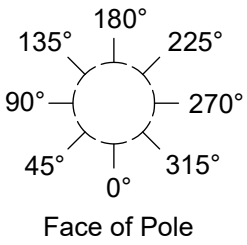
9. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

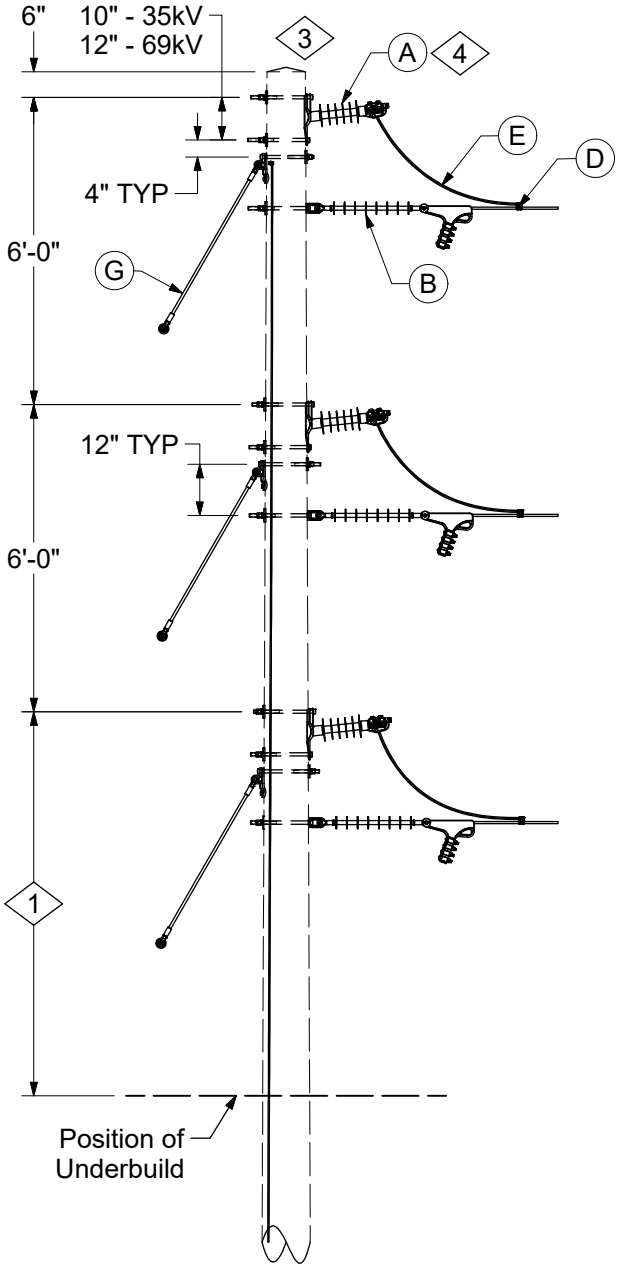
10. Additional guys may be required depending on line tension.

11. Refer to DCS Section 18 for OPGW applications.

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to ne format
1	02/17/12	DCG	



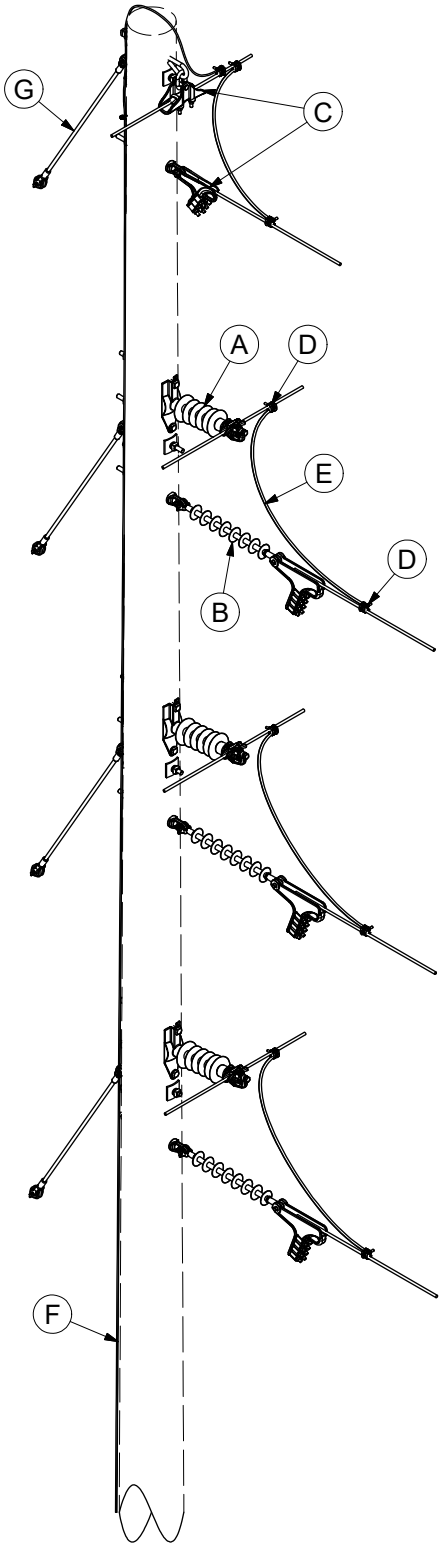




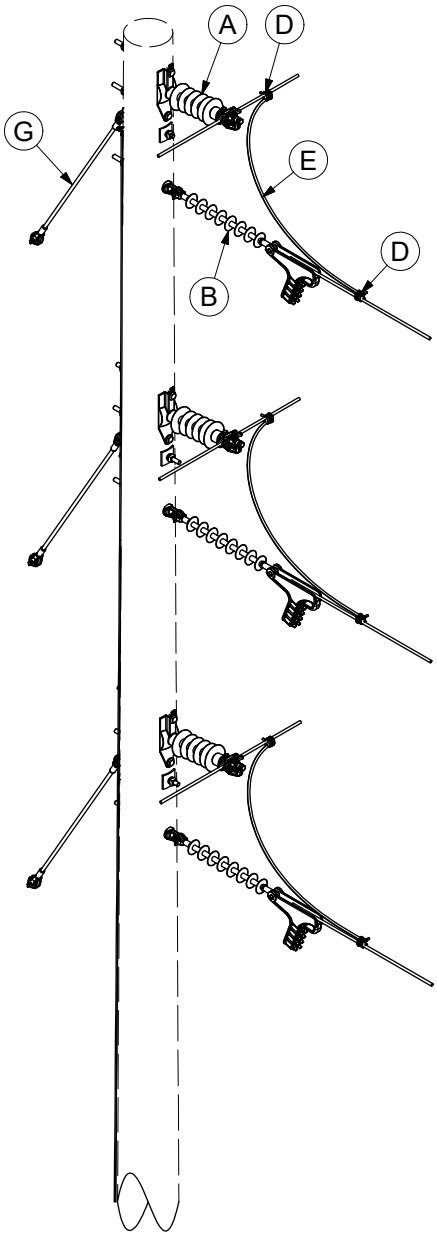
03 69 20 01 - Shielded, 69kV
03 69 20 02 - Shielded, 35kV

03 69 20 51 - Unshielded, 69kV
03 69 20 52 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	



Isometric View
03 69 20 01 - Shielded, 69kV
03 69 20 02 - Shielded, 35kV



Isometric View
03 69 20 51 - Unshielded, 69kV
03 69 20 52 - Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	

CONSTRUCTION NOTE(s):

1. Use 7-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 20 **	01	02	51	52
4	A	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator - Clamptop	3	-	3	-
		06 34 03 03 @	34kV Single Horizontal Line Post Insulator - Clamptop	-	3	-	3
	B	**06 34 60 06 @**	69kV Single Deadend	3	-	3	-
		06 34 60 02 @	34kV Single Deadend	-	3	-	3
5,@	C	**06 00 11 04 @**	Static Wire Attachment - Tangent and Angle	1	1	-	-
		06 00 11 08 @	Static Wire Attachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
		18 05 16 02 @	OPGW Double Deadend w/o Splice	1	1	-	-
@	D	**07 00 11 00 @**	Clamp, PG, PG*W	6	6	6	6
@	E	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
2,@	F	**12 00 10 ** @**	Grounding Unit	1	1	-	-
@	G	**11 00 4* ** @**	Guying Unit	#	#	#	#
3,@	H	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	I	252 or 260	Op Code, Install Jumper	6	6	6	6

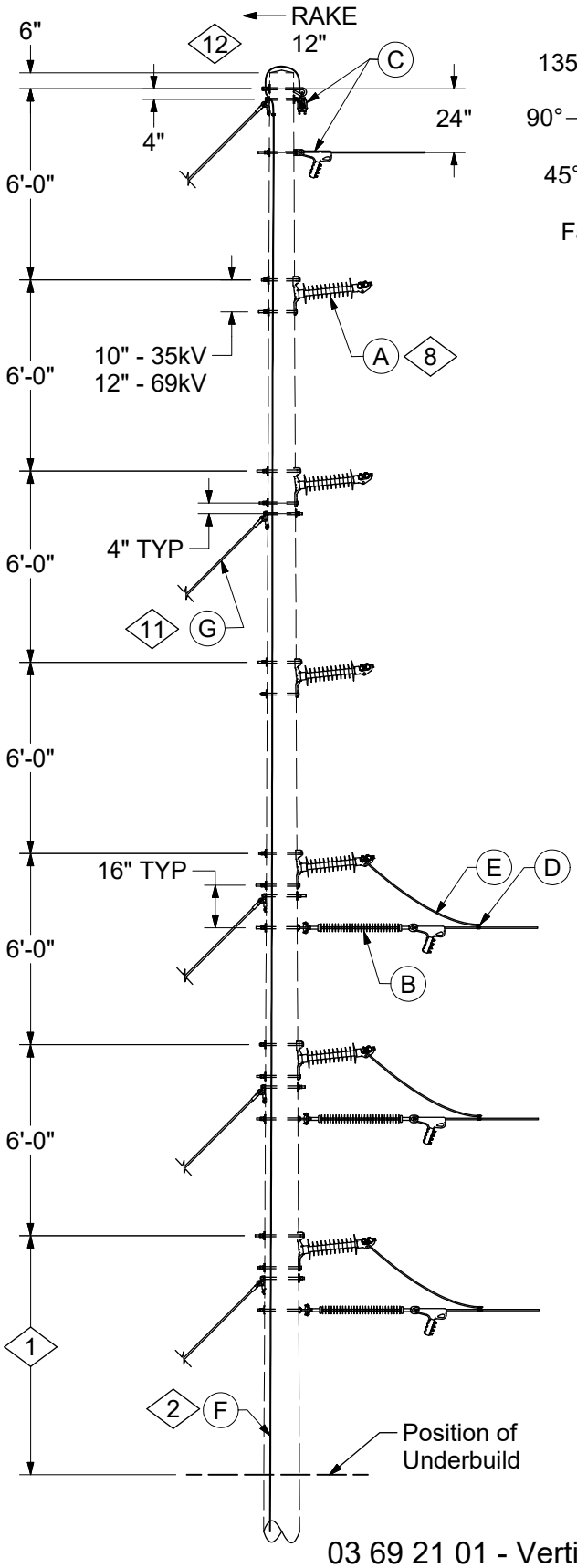
DESIGN NOTE(s):

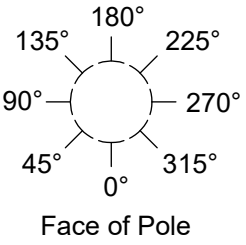
2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

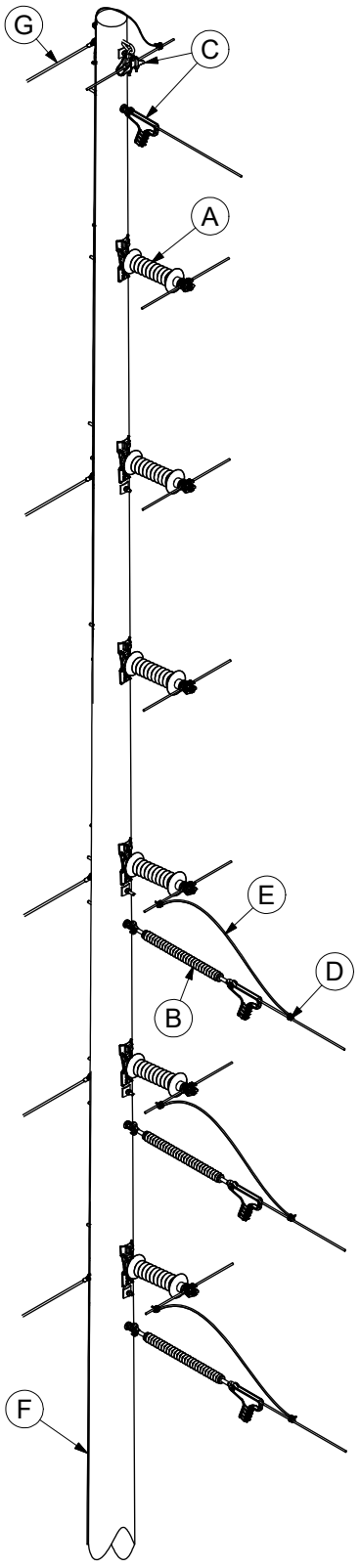
3. See DCS **12 34 ** ** ** for lightning arrester application and installation methods.

4. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

5. Refer to DCS Section 18 for OPGW applications.



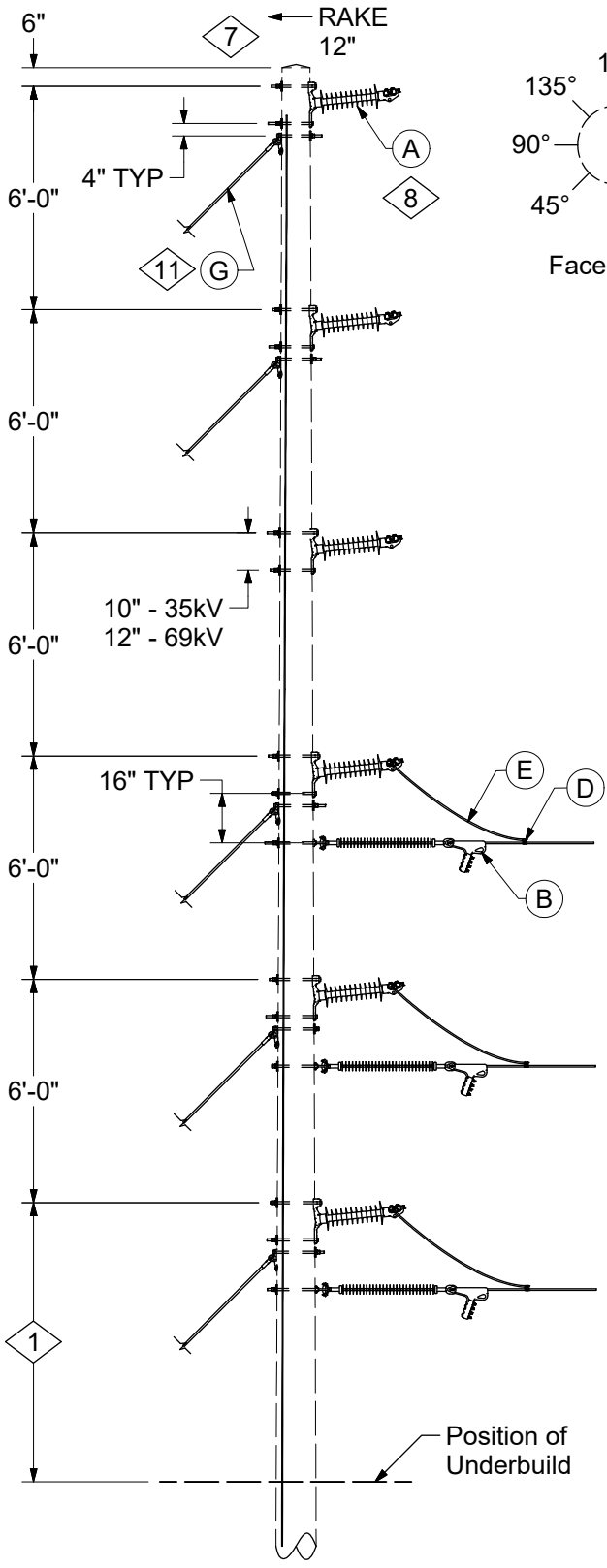


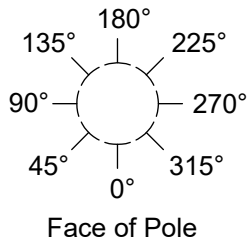


Isometric View

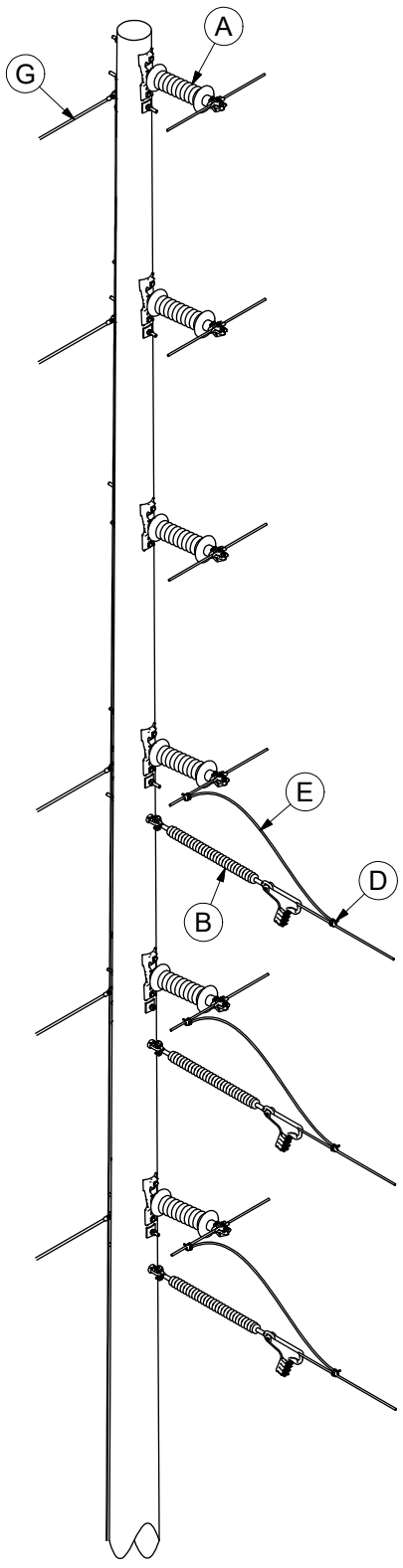
03 69 21 01 - Vertical Shielded, 69kV
03 69 21 02 - Vertical Shielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	





Face of Pole



Isometric View

03 69 21 51 - Vertical Unshielded, 69kV
03 69 21 52 - Vertical Unshielded, 35kV

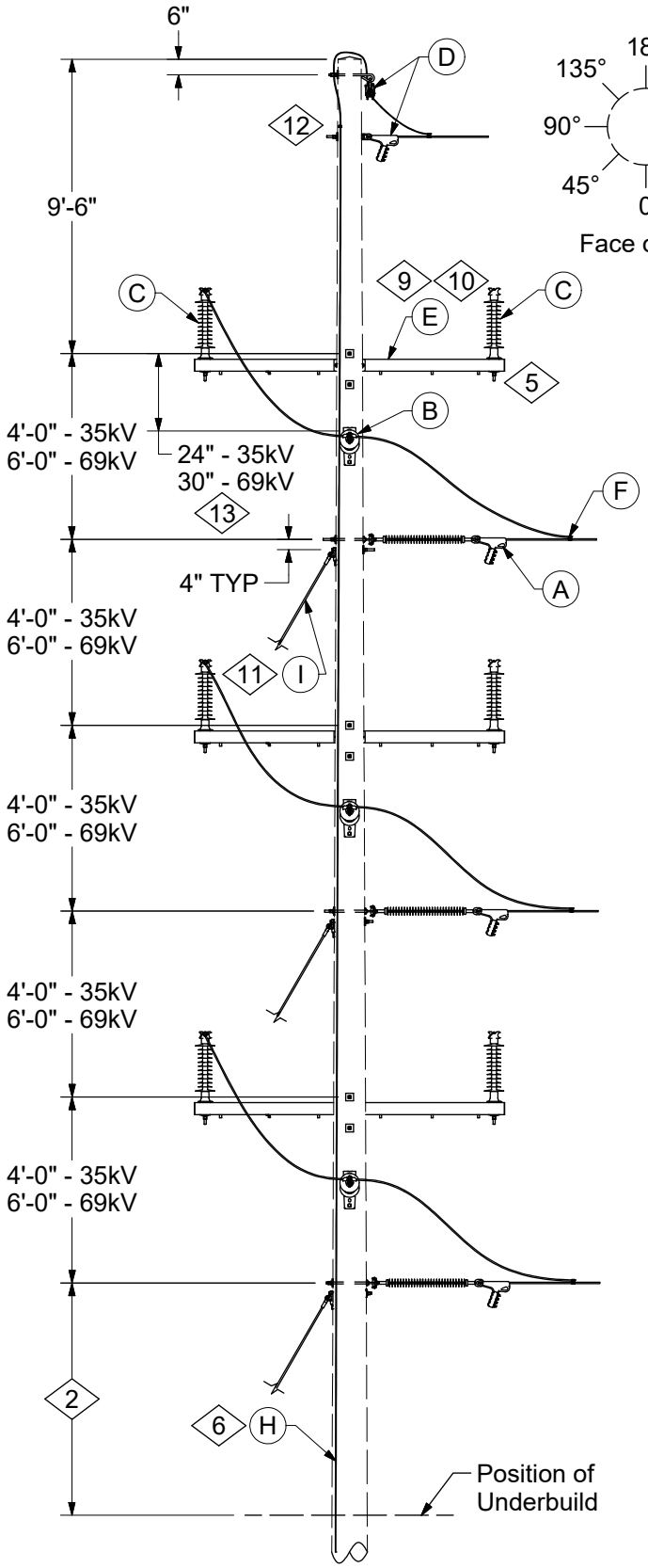
REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	

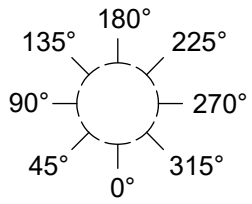
CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

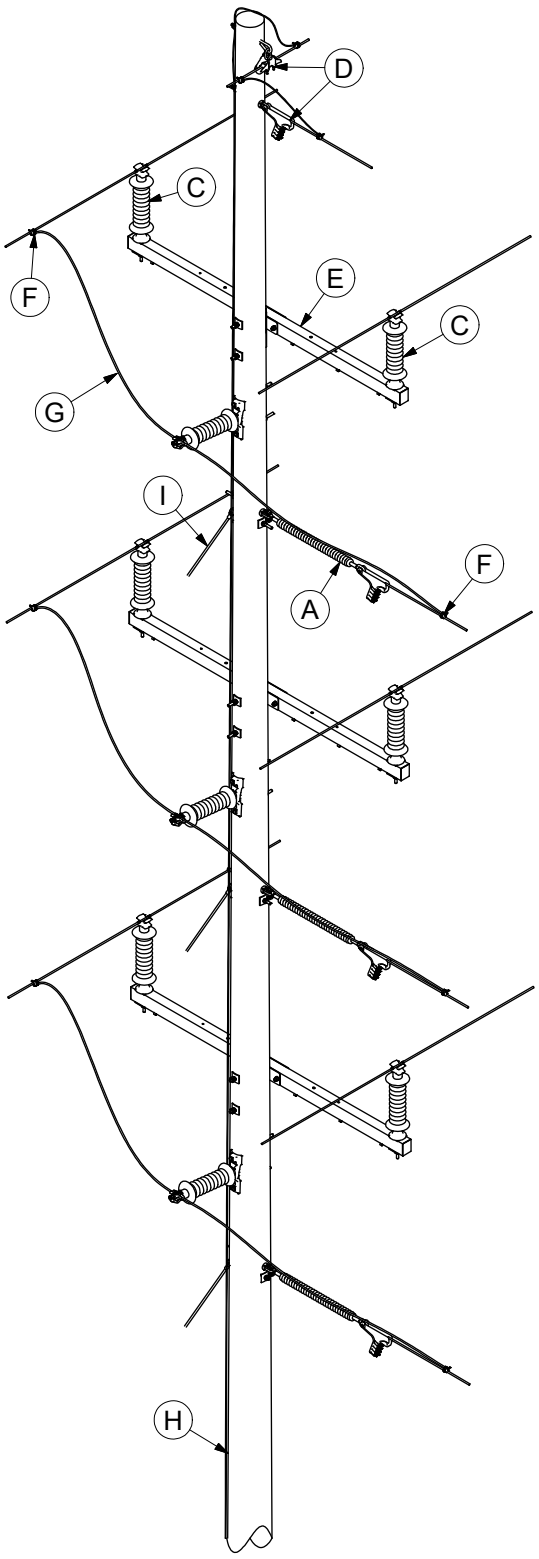
	ITEM	STK / DCS #	DESCRIPTION 03 69 21 **	01	02	51	52
	A	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator - Clamptop	6	-	6	-
		06 34 03 03 @	34kV Single Horizontal Line Post Insulator - Clamptop	-	6	-	6
	B	**06 34 60 06 @**	69kV Single Deadend	3	-	3	-
		06 34 60 02 @	34kV Single Deadend	-	3	-	3
	C	**06 00 11 04 @**	Static Wire Attachment - Tangent and Angle	1	1	-	-
12,@		**06 00 11 08 @**	Static Wire Attachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/Splice	1	1	-	-
		18 05 16 02 @	OPGW Double Deadend w/o Splice	1	1	-	-
@	D	**07 00 11 00 @**	Clamp, PG, PG*W	6	6	6	6
@	E	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
6,@	F	**12 00 10 ** @**	Grounding Unit	1	1	-	-
11,@	G	**11 00 4* ** @**	Guying Unit	#	#	#	#
7,@	H	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	I	252 or 260	Op Code, Install Jumper	6	6	6	6

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	





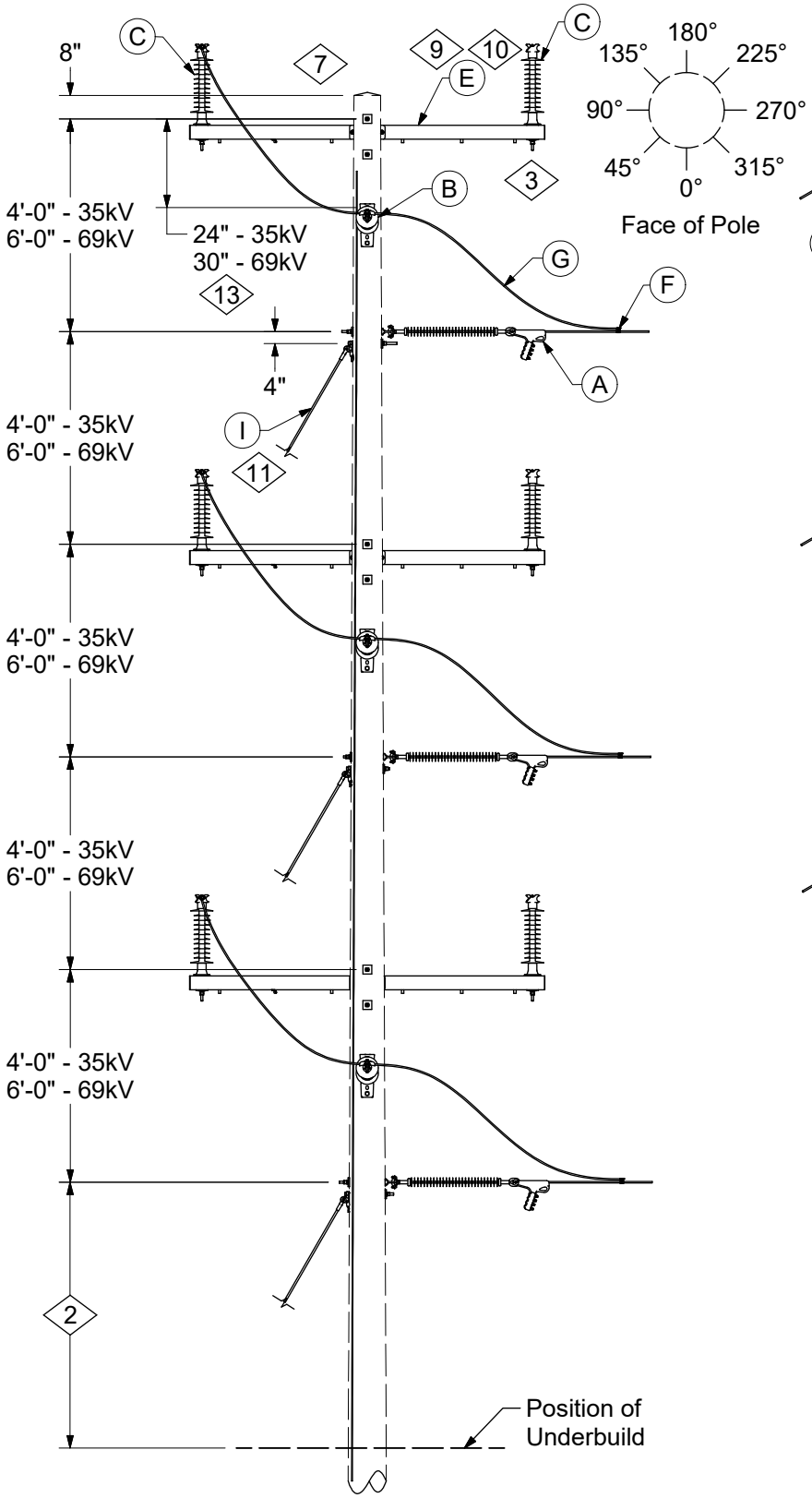
Face of Pole

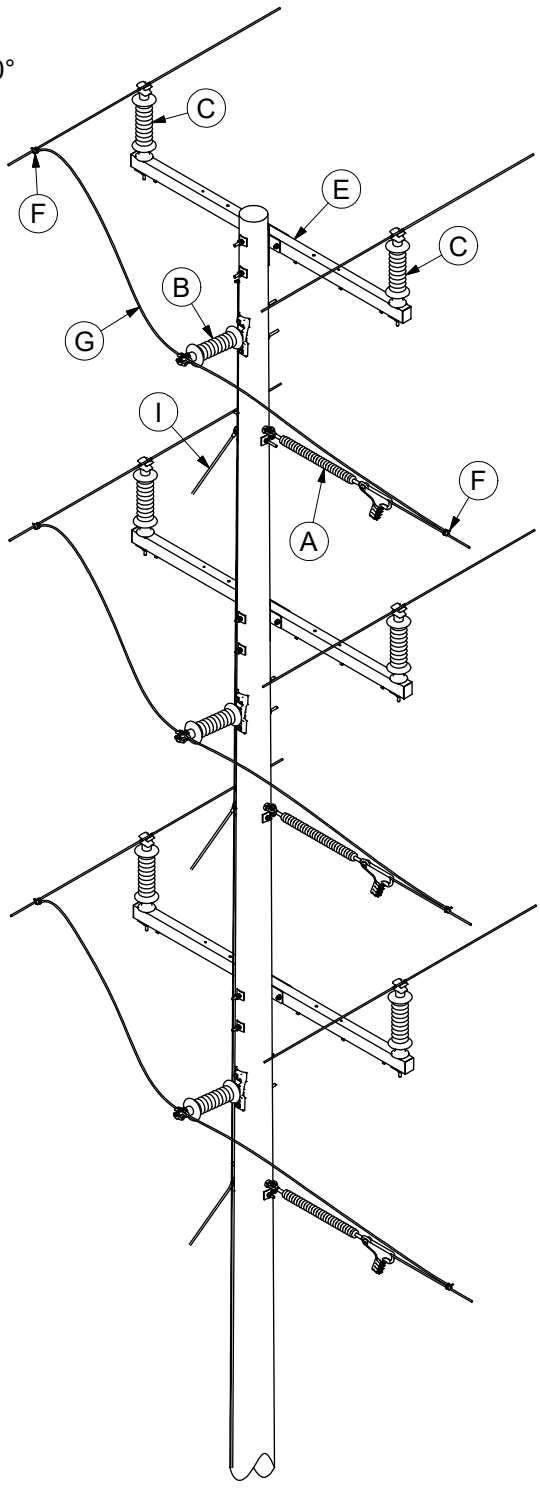


Isometric View

03 69 21 03 - Far Phase Tap, Shielded, 69kV
03 69 21 04 - Far Phase Tap, Shielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	





Isometric View

03 69 21 53 - Far Phase Tap, Unshielded, 69kV
03 69 21 54 - Far Phase Tap, Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	

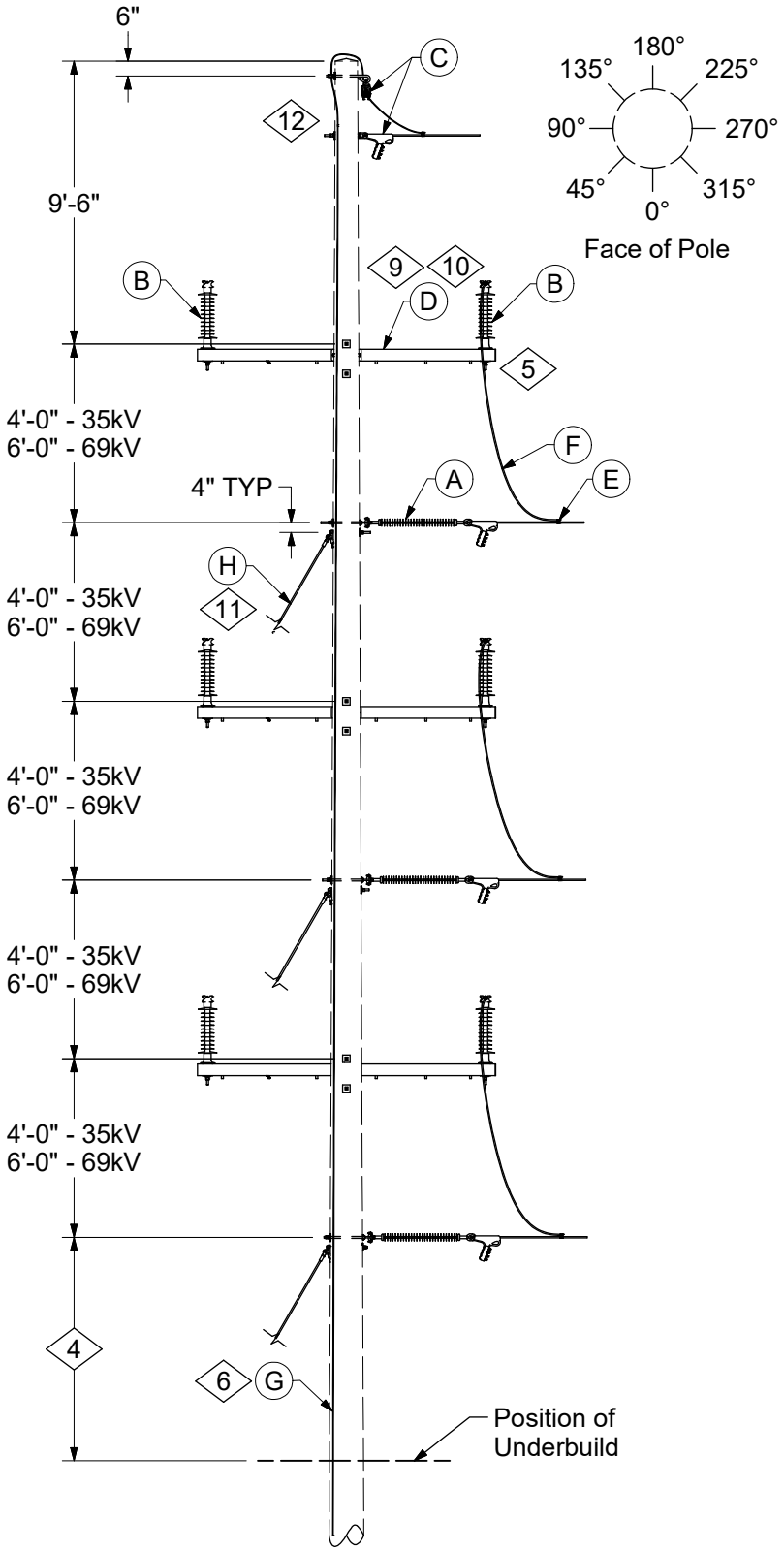
CONSTRUCTION NOTE(s):

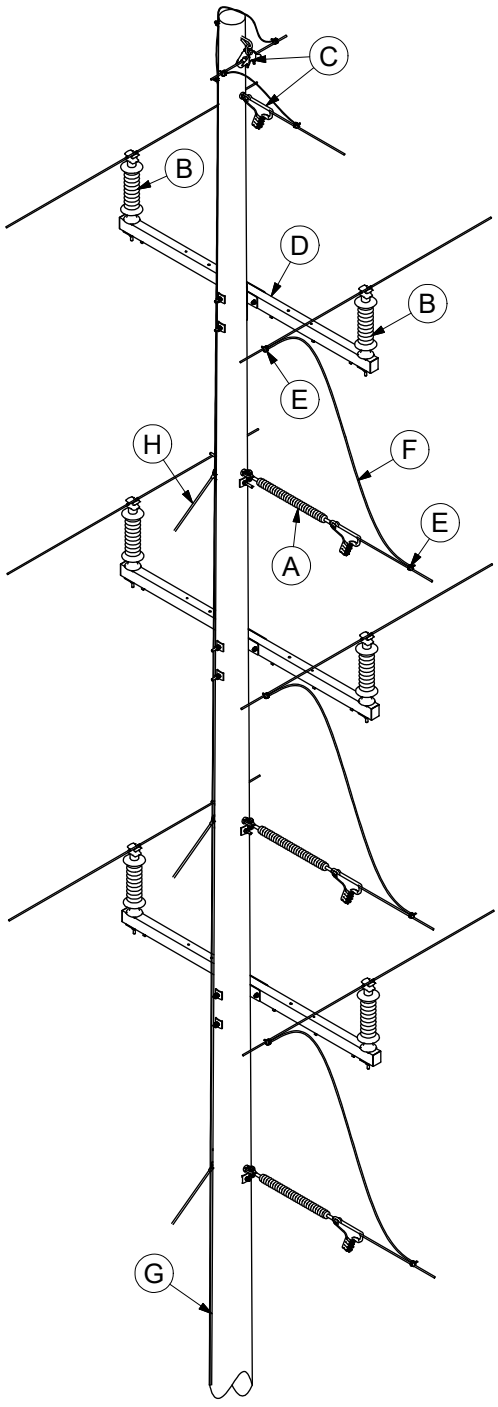
2. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

3. The 2" square washer received with the pin should be used after the 4" square washer.

	ITEM	STK / DCS #	DESCRIPTION 03 69 21 **	03	04	53	54
	A	**06 34 60 06 @**	69kV Single Deadend	3	-	3	-
		06 34 60 02 @	34kV Single Deadend	-	3	-	3
	B	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator - Clamptop	3	-	3	-
		06 34 03 03 @	34kV Single Horizontal Line Post Insulator - Clamptop	-	3	-	3
3,@	C	**06 69 01 ** @**	69kV Single Vertical Line Post Insulator on Crossarm	6	-	6	-
		06 34 01 ** @	34kV Single Vertical Line Post Insulator on Crossarm	-	6	-	6
	D	**06 00 11 04 @**	Static Wire Attachment - Tangent and Angle	1	1	-	-
11,@		**06 00 11 08 @**	Static Wire Atachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
		18 05 16 02 @	OPGW Double Deadend w/o Splice	1	1	-	-
9,10,@	E	**04 00 41 16 @**	10' Tangent FG Crossarm	3	3	3	3
@	F	**07 00 11 00 @**	Clamp, PG, PG*W	6	6	6	6
@	G	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
6,@	H	**12 00 10 ** @**	Grounding Unit	1	1	-	-
11,@	I	**11 00 4* ** @**	Guying Unit	#	#	#	#
7,@	J	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	K	252, 255, or 260	Op Code, Install Jumper	6	6	6	6

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	

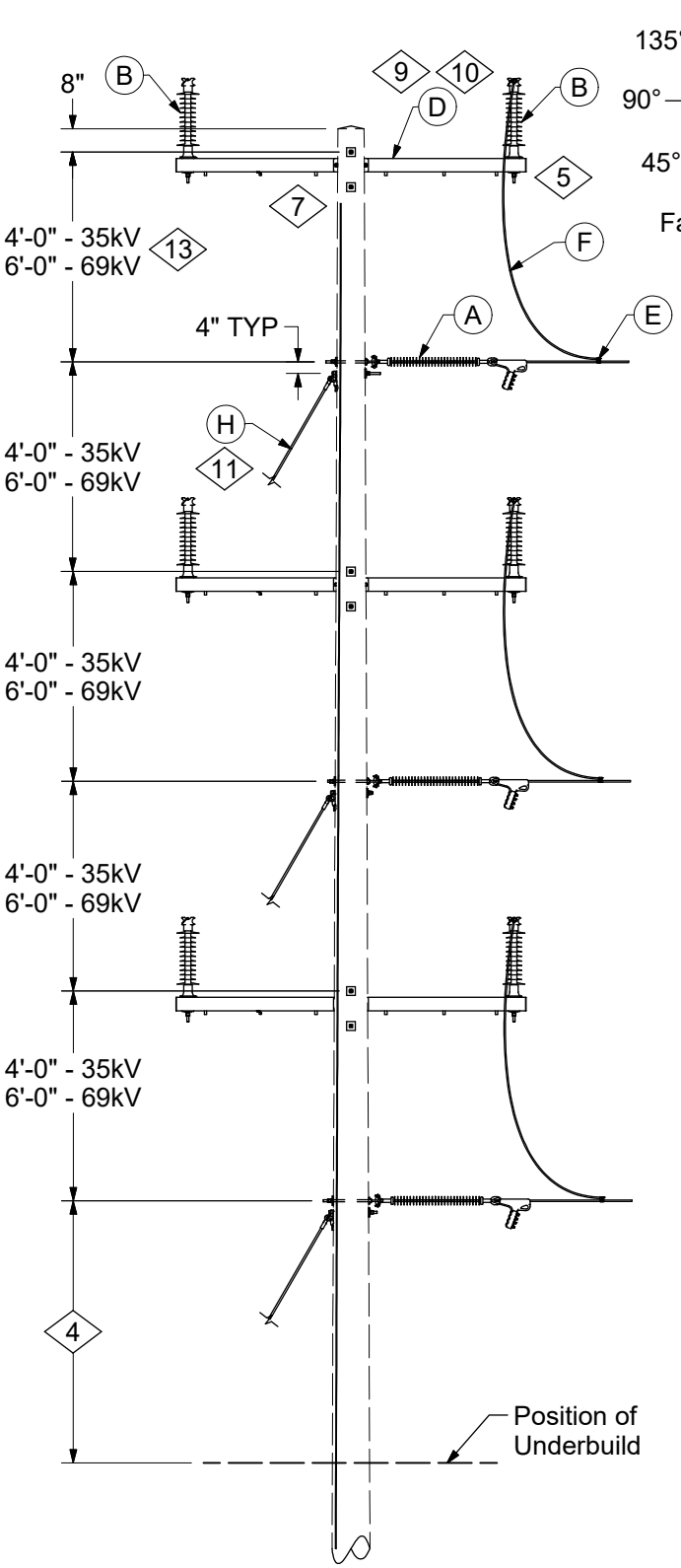


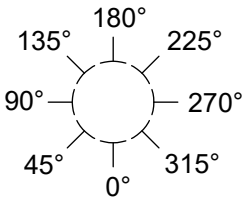


Isometric View

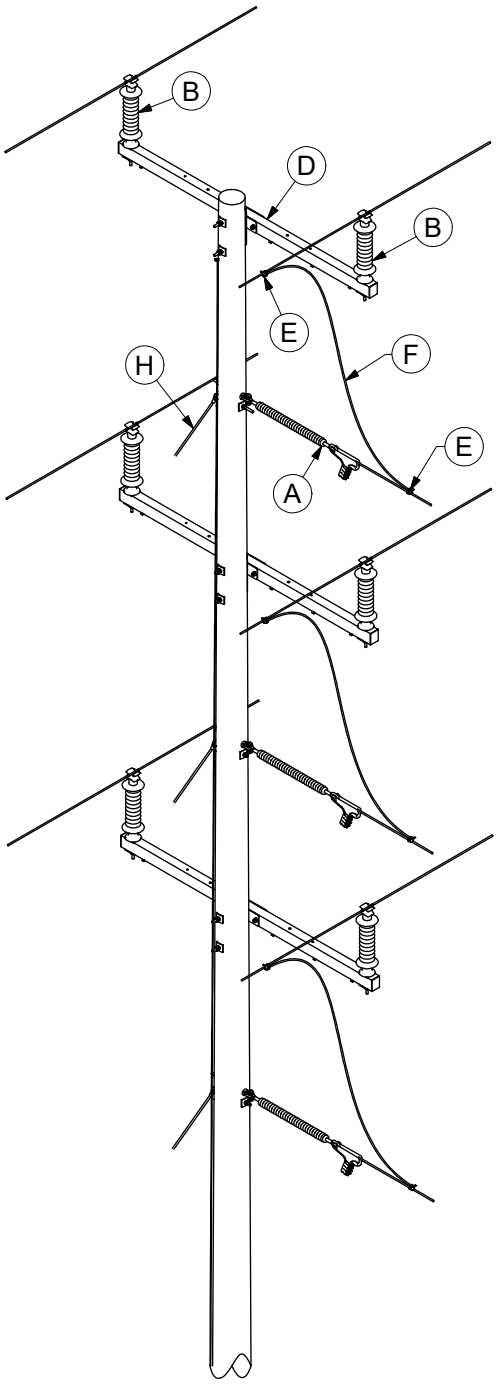
03 69 21 05 - Near Phase Tap, Shielded, 69kV
03 69 21 06 - Near Phase Tap, Shielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	





Face of Pole



Isometric View

03 69 21 55 - Near Phase Tap, Unshielded, 69kV
03 69 21 56 - Near Phase Tap, Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format and added new standard
2	02/17/12	DCG	

CONSTRUCTION NOTE(s):

4. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

5. The 2" square washer received with the pin should be used after the 4" square washer

	ITEM	STK / DCS #	DESCRIPTION 03 69 21 **	05	06	55	56
	A	**06 34 60 06** @	69kV Single Deadend	3	-	3	-
		06 34 60 02 @	34kV Single Deadend	-	3	-	3
5,@	B	**06 69 01** ** @	69kV Single Vertical Line Post Insulator on Crossarm	6	-	6	-
		06 34 01 ** @	34kV Single Vertical Line Post Insulator on Crossarm	-	6	-	6
	C	**06 00 11 04** @	Static Wire Attachment - Tangent and Angle	1	1	-	-
11,@		**06 00 11 08** @	Static Wire Atachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
		18 05 16 02 @	OPGW Double Deadend w/o Splice	1	1	-	-
9,10,@	D	**04 00 41 16** @	10' Tangent FG Crossarm	3	3	3	3
@	E	**07 00 11 00** @	Clamp, PG, PG*W	6	6	6	6
@	F	**07 00 80 00** @	Lead Wire, LW*W, PLW*W	#	#	#	#
6,@	G	**12 00 10** ** @	Grounding Unit	1	1	-	-
11,@	H	**11 00 4*** ** @	Guying Unit	#	#	#	#
7,@	I	**12 34** ** ** @	Arrester Assemblies	-	-	1	1
	J	252, 255, or 260	Op Code, Install Jumper	6	6	6	6

DESIGN NOTE(s):

6. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10** ** for grounding detail.

7. See DCS **12 34** ** ** for lightning arrester application and installation methods.

8. When additional clearance is needed, use 138kV line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them 9'-0" from the static bolt to ensure the proper shielding.

9. See DCS **04 00 01 01** for crossarm loading.

10. 8'-0" crossarm available for Ameren Missouri only.

11. Addtional guys may be required depending on line tension and line angle.

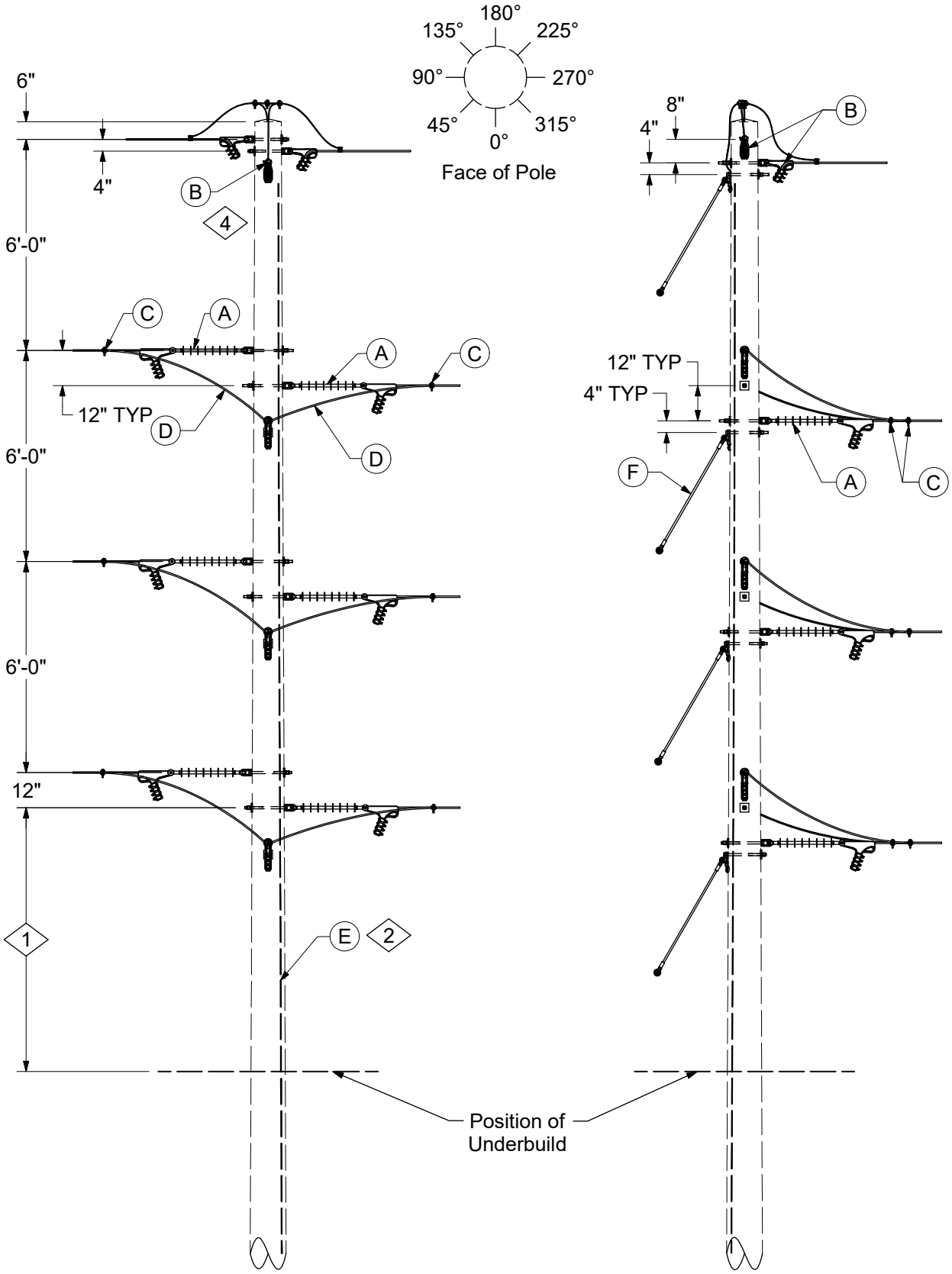
12. Refer to DCS Section 18 for OPGW applications.

13. Contact standards if there are composite pole layering issues when fabricating.

CONFIGURATIONS

T-Corner - Deadend Tap Structure
Single Circuit for > 1° and ≤ 60°

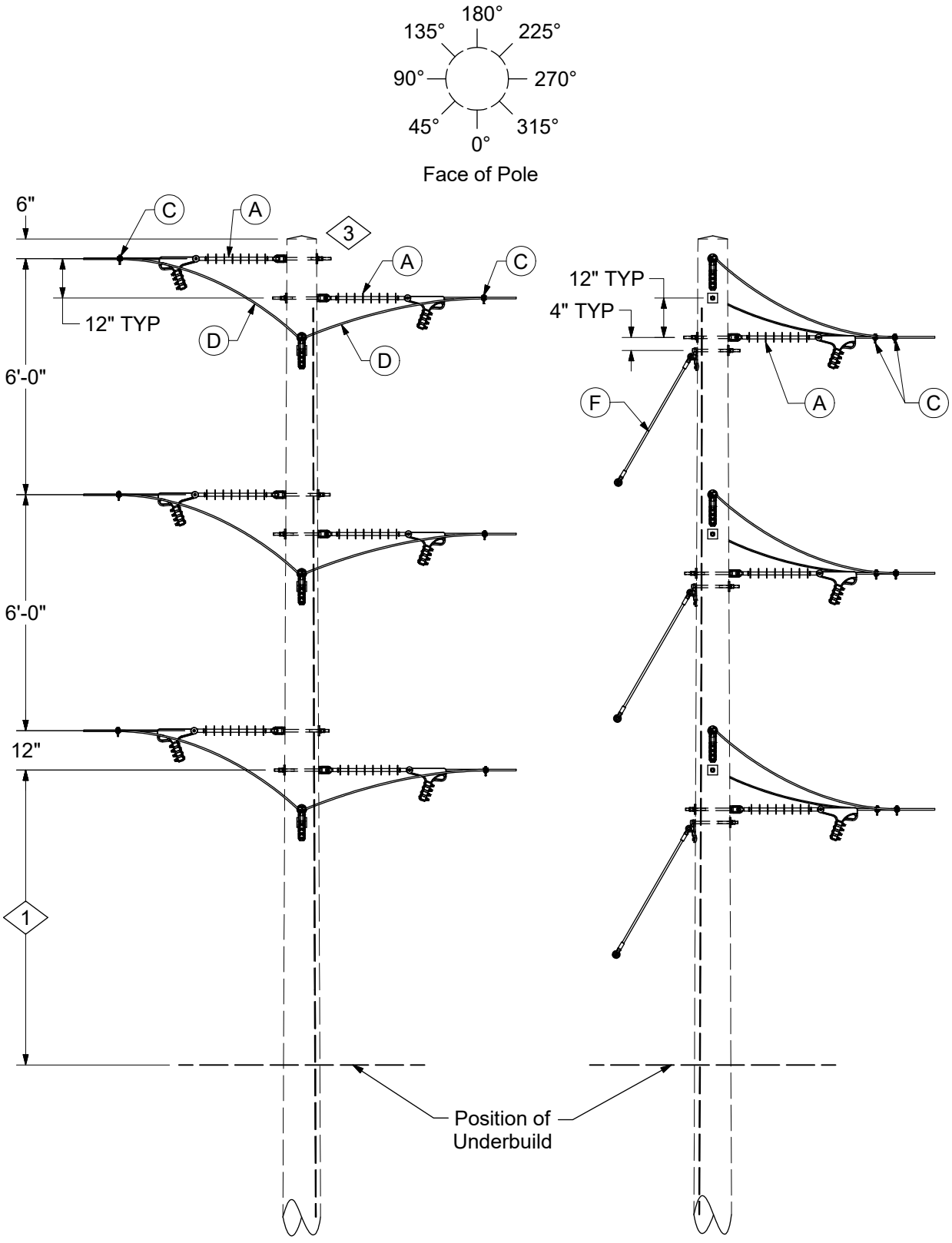
03 69 22 **
35kV, 69kV
1 of 4



03 69 22 01 - Equal Tension Shielded, 69kV
03 69 22 02 - Equal Tension Shielded, 35kV

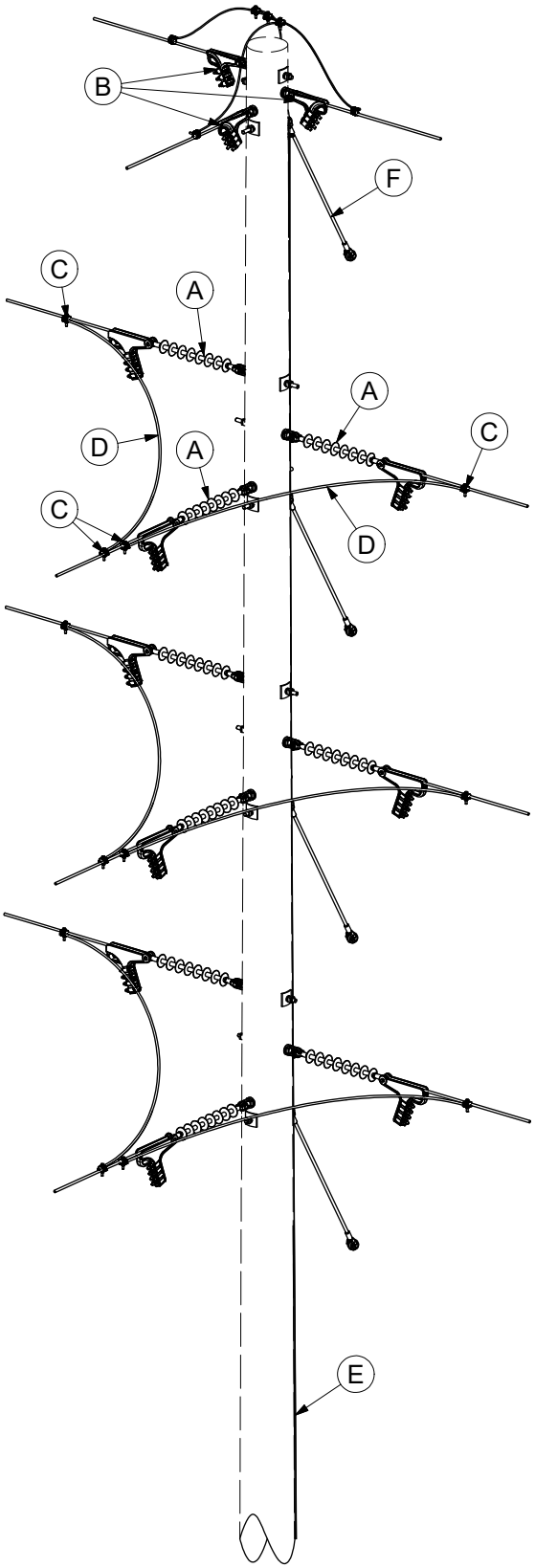
DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	

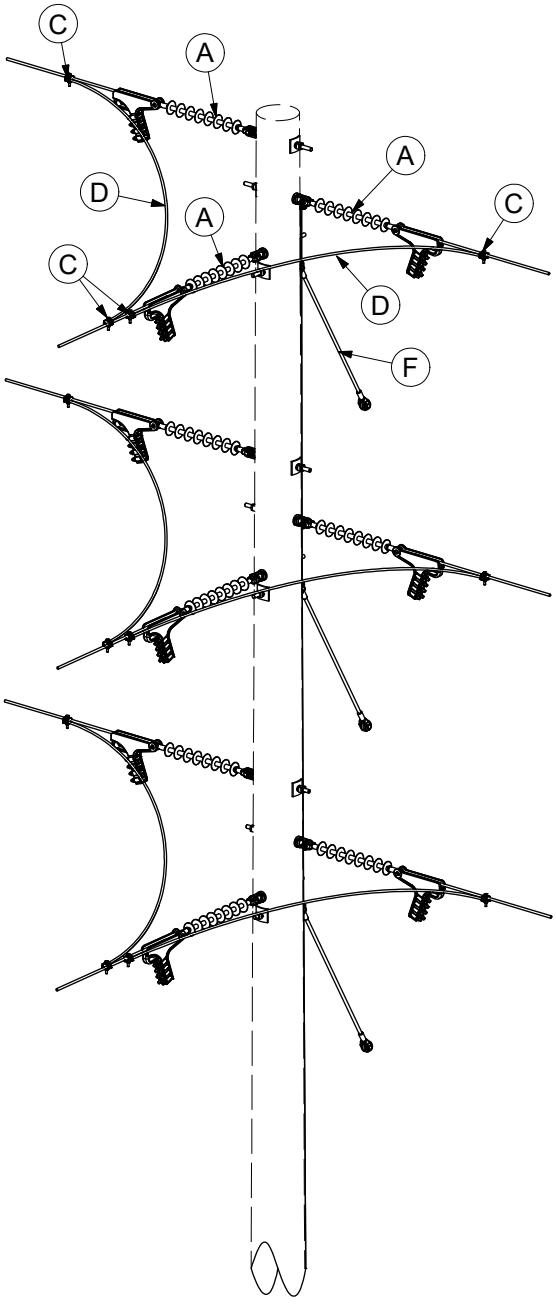


03 69 22 51 - Equal Tension Unshielded, 69kV
03 69 22 52 - Equal Tension Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	



Isometric View
03 69 22 01 - Equal Tension Shielded, 69kV
03 69 22 02 - Equal Tension Shielded, 35kV



Isometric View
03 69 22 51 - Equal Tension Unshielded, 69kV
03 69 22 52 - Equal Tension Unshielded, 35kV

REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 22 **	01	02	51	52
	A	**06 34 60 06 @**	69kV Single Deadend	9	-	9	-
		03 34 60 02 @	34kV Single Deadend	-	9	-	9
	B	**06 00 11 07 @**	Static Wire Attachment - Deadend Angle w/ Pole Ground	1	1	-	-
4,@		**06 00 11 08 @**	Static Wire Attachment - Deadend Endline w/ Pole Ground	1	1	-	-
		18 05 16 01 @	OPGW Single Deadend w/ Splice	1	1	-	-
		18 05 16 02 @	OPGW Double Deadend w/o Splice	1	1	-	-
@	C	**07 00 25 00 @**	Clamp, PG, PG*W	12	12	12	12
@	D	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#	#	#
2,@	E	**12 00 10 ** @**	Grounding Unit	1	1	-	-
@	F	**11 00 4* ** @**	Guying Unit	#	#	#	#
3,@	G	**12 34 ** ** @**	Arrester Assemblies	-	-	1	1
	H	252 or 260	Op Code, Install Jumper	12	12	12	12

DESIGN NOTE(s):

2. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

3. See DCS **12 34 ** ** ** for lightning arrester application and installation method.

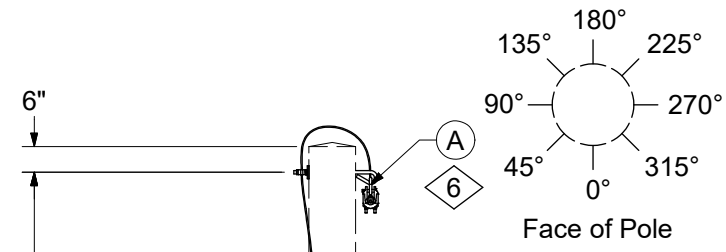
4. Refer to DCS Section 18 for OPGW applications.

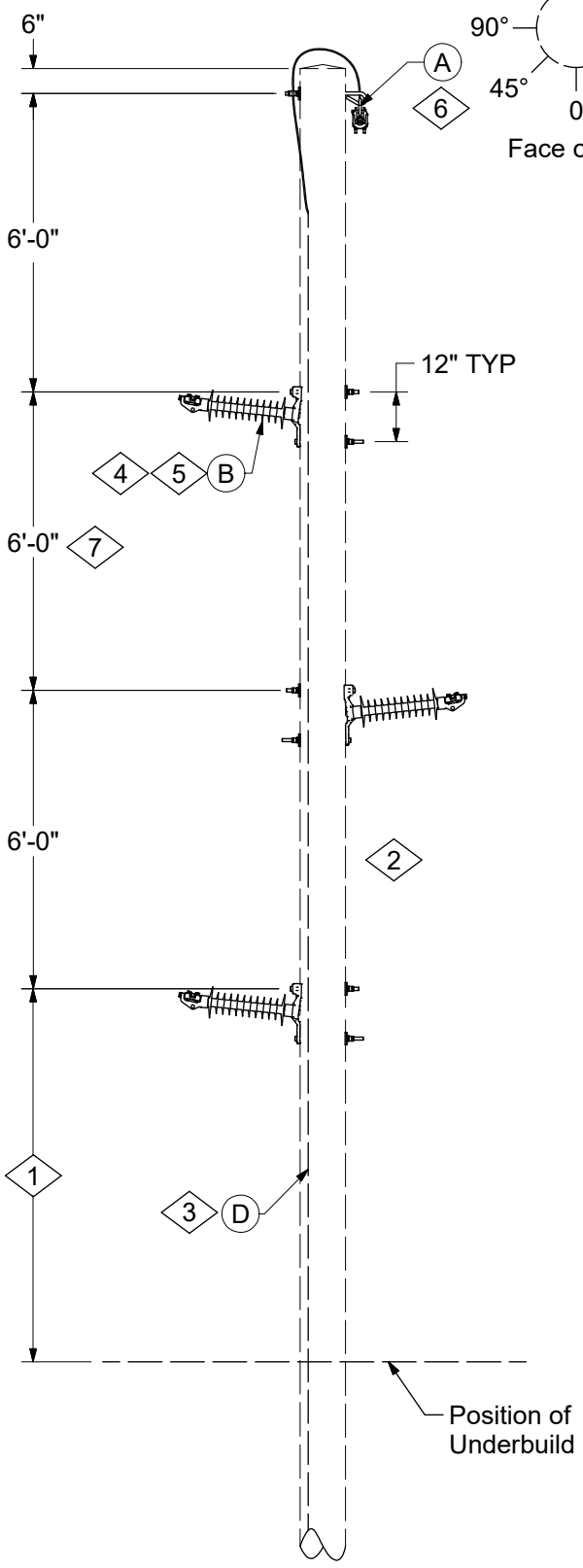
REV	DATE	ENG	DESCRIPTION
3	10/01/23	AEP	Converted to new format
2	02/17/12	DCG	

CONFIGURATIONS

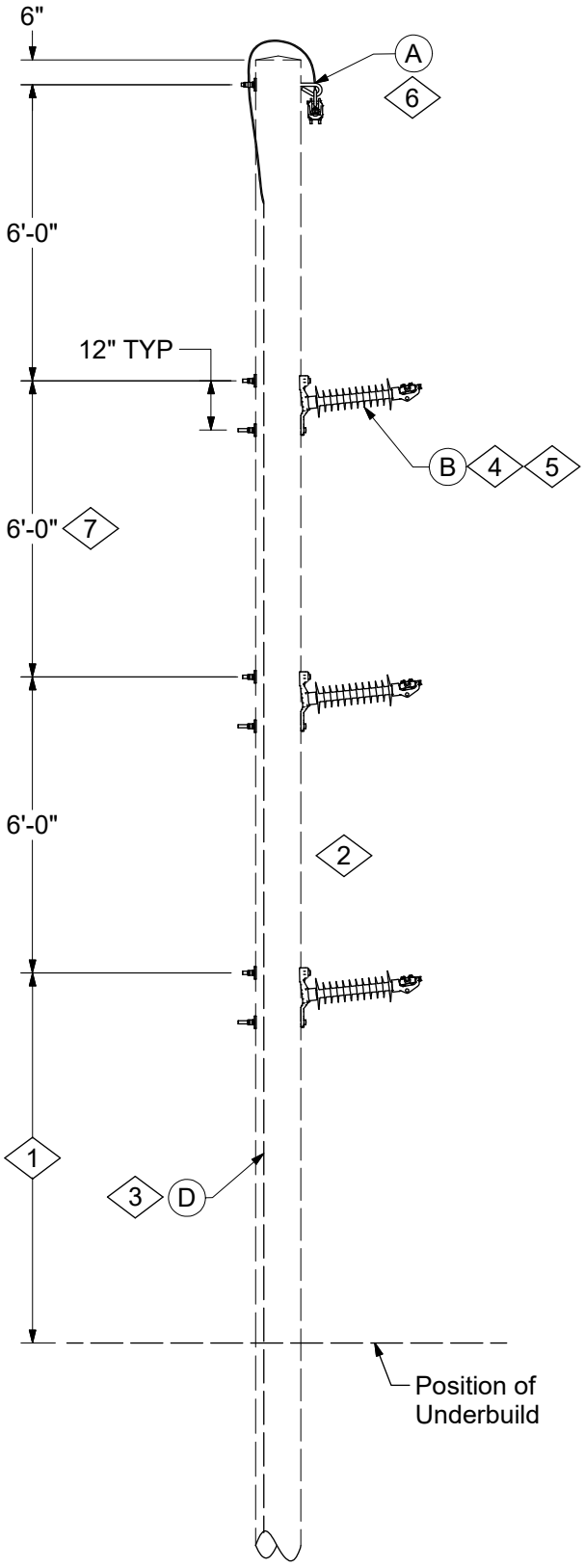
Tangent and Angle Structure - Composite Pole
Line Angle ≤ 20°

03 69 51 **
35kV, 69kV
1 of 3





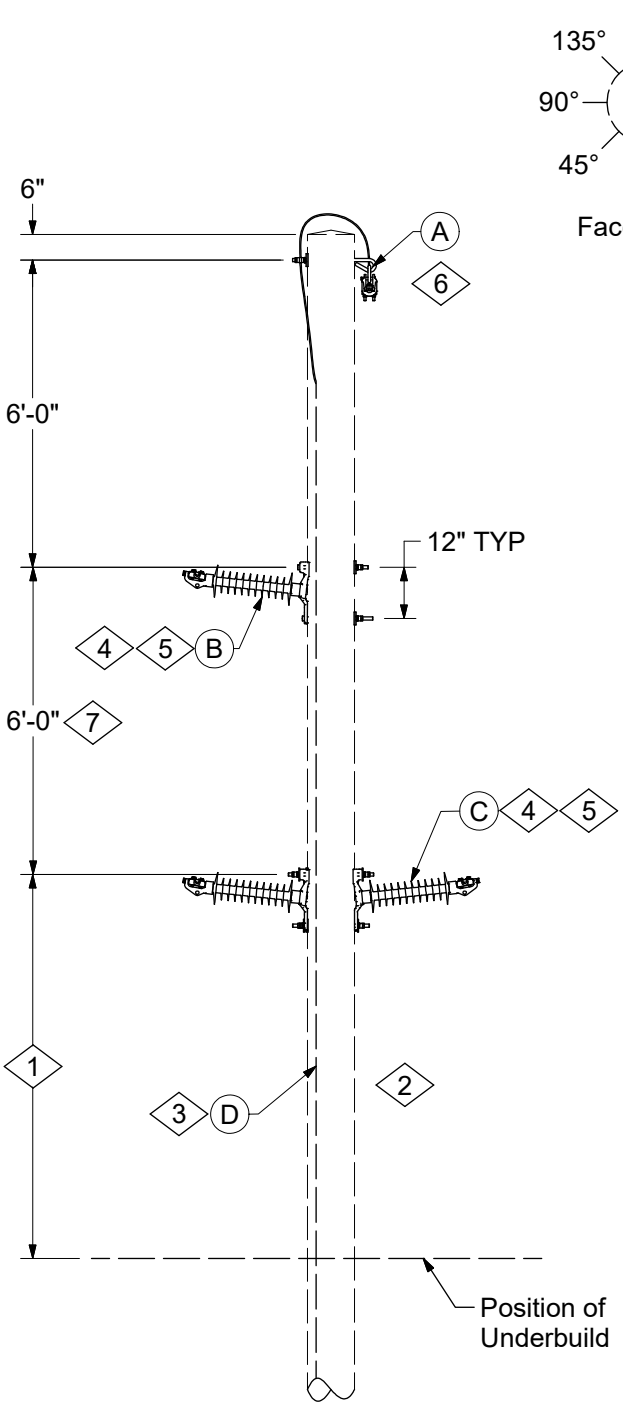
03 69 01 01 - Offset, 69kV



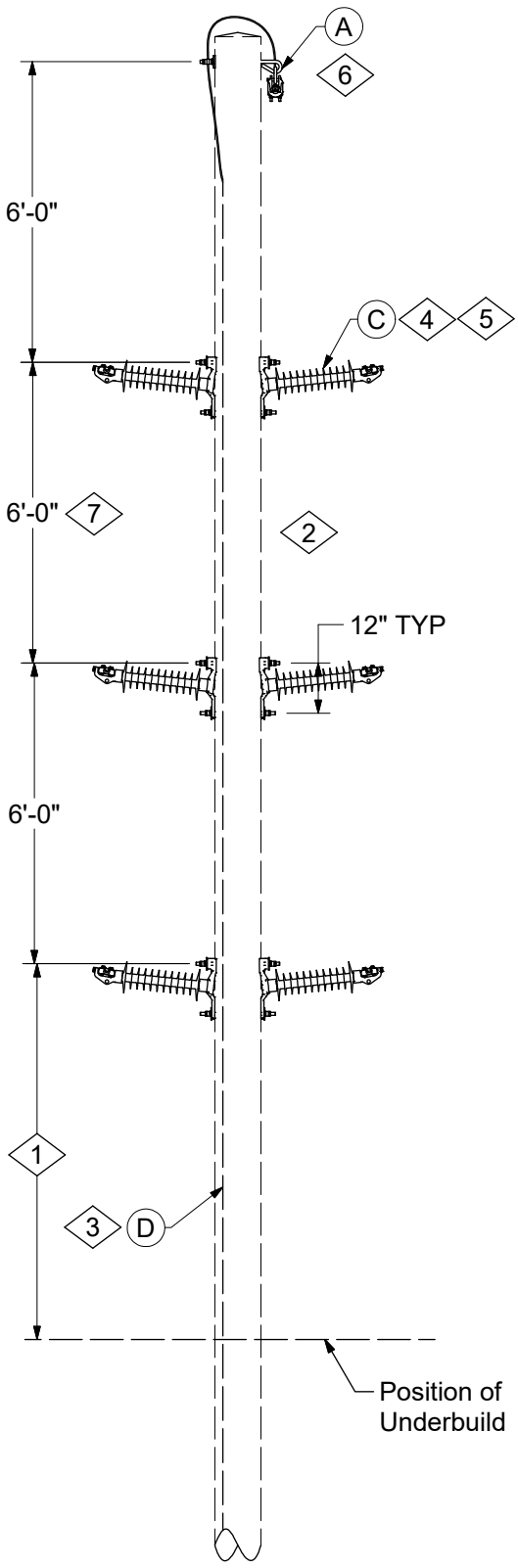
03 69 01 02 - In-line, 69kV

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/26/16	MJ	



03 69 01 03 - Back-to-Back Single Circuit, 69kV



03 69 01 04 - In-line Double Circuit, 69kV

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/26/16	MJ	

DCS #	DESCRIPTION
03 69 01 01	Offset, 69kV
03 69 01 02	In-line, 69kV
03 69 01 03	Back to Back Single Circuit, 69kV
03 69 01 04	In-line Double Circuit, 69kV

CONSTRUCTION NOTE(s):

1. Use 7-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 51 **	01	02	03	04
6,@	A	**06 00 11 04 @**	Static Wire Attachment - Tangent & Angle	1	1	1	1
		18 05 10 01 @	OPGW Tangent or Corner ≤ 30°	1	1	1	1
4,5,@	B	**06 69 03 03 @**	69kV Single Horizontal Line Post Insulator, Clamptop	3	3	1	-
		06 69 03 01 @	69kV Single Horizontal Line Post Insulator, Suspension	3	3	1	-
4,5,@	C	**06 69 03 04 @**	69kV Double Horizontal Line Post Insulator, Clamptop	-	-	1	3
		06 69 03 02 @	69kV Double Horizontal Line Post Insulator, Suspension	-	-	1	3
3,@	D	**12 00 10 ** @**	Grounding Unit	1	1	1	1
2,@	E	**02 20 05 ** @**	Backfill and Reinforcement	1	1	1	1

DESIGN NOTE(s):

2. See DCS Section 2 for pole selection options and refer to Engineering Design Manual (EDM) LS-25, LS-26, and LS-27 for design criteria.

3. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 ** ** for grounding detail.

4. When additional clearance is needed, use 138kV horizontal line post insulators (Stock #25 05 099, 25 05 132, and 25 05 213) and install them at 9'-0" from the static bolt to ensure the proper shielding.

5. Clamptop style insulators may be used in both compression and tension applications, and the suspension style insulators should be used in tension applications within allowable line angles.

6. Refer to DCS Section 18 for OPGW applications.

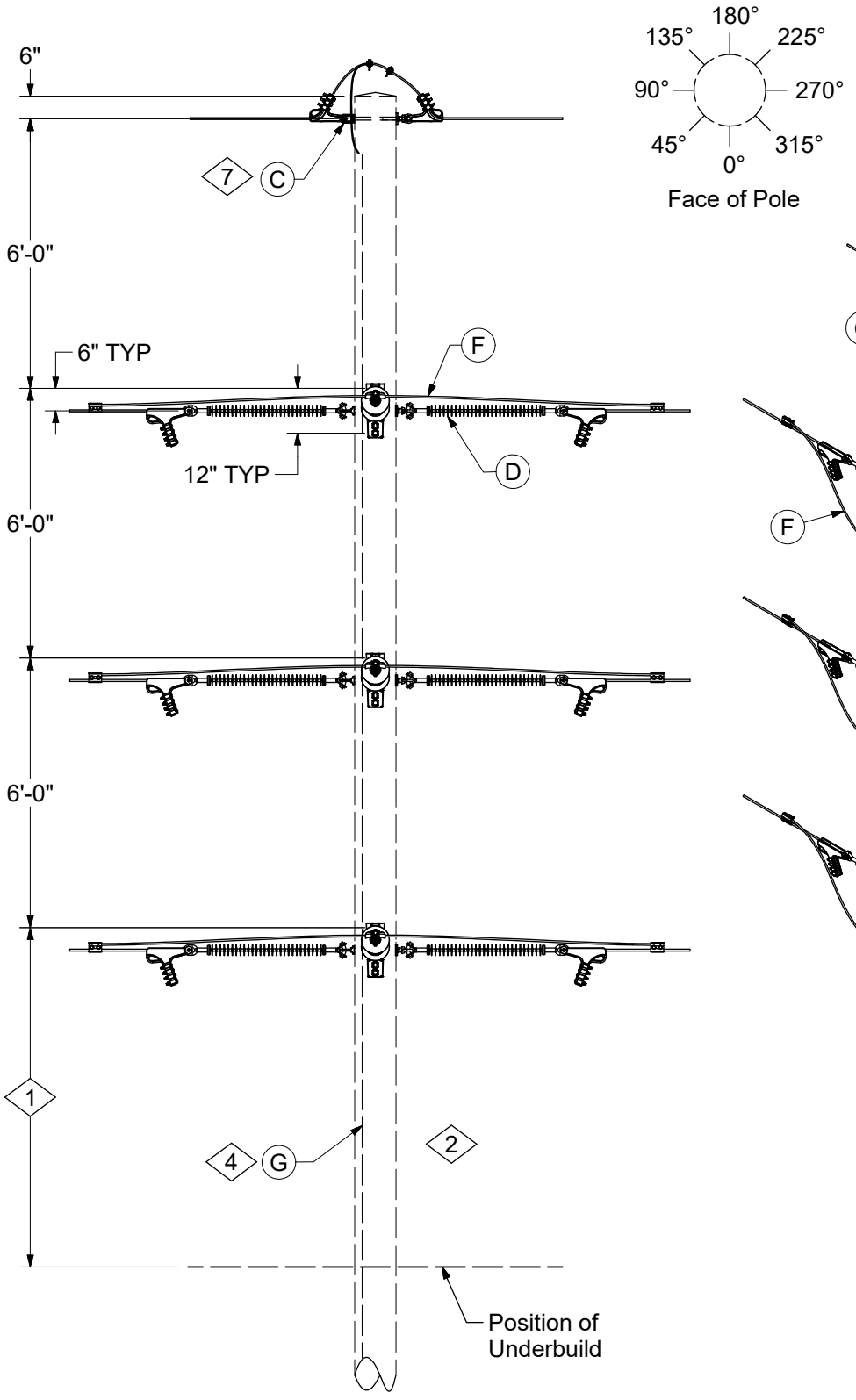
7. New line construction must meet the minimum 6'-0" clearance requirement. Clearance for single pole replacement or maintenance of existing poles can be reduced to no less than 4'-0".

REV	DATE	ENG	DESCRIPTION
4	10/01/23	AEP	Converted to new format
3	01/26/16	MJ	

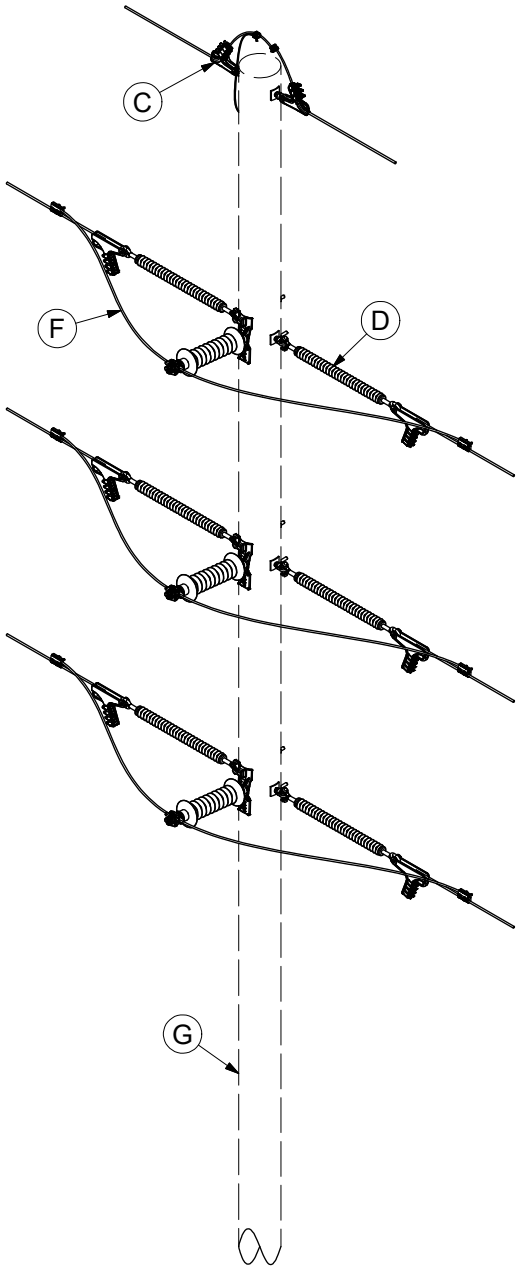
CONFIGURATIONS

Deadend Tangent Structure Composite Pole
Line Angle ≤ 1°

03 69 71 **
35kV, 69kV
1 of 3



Face of Pole

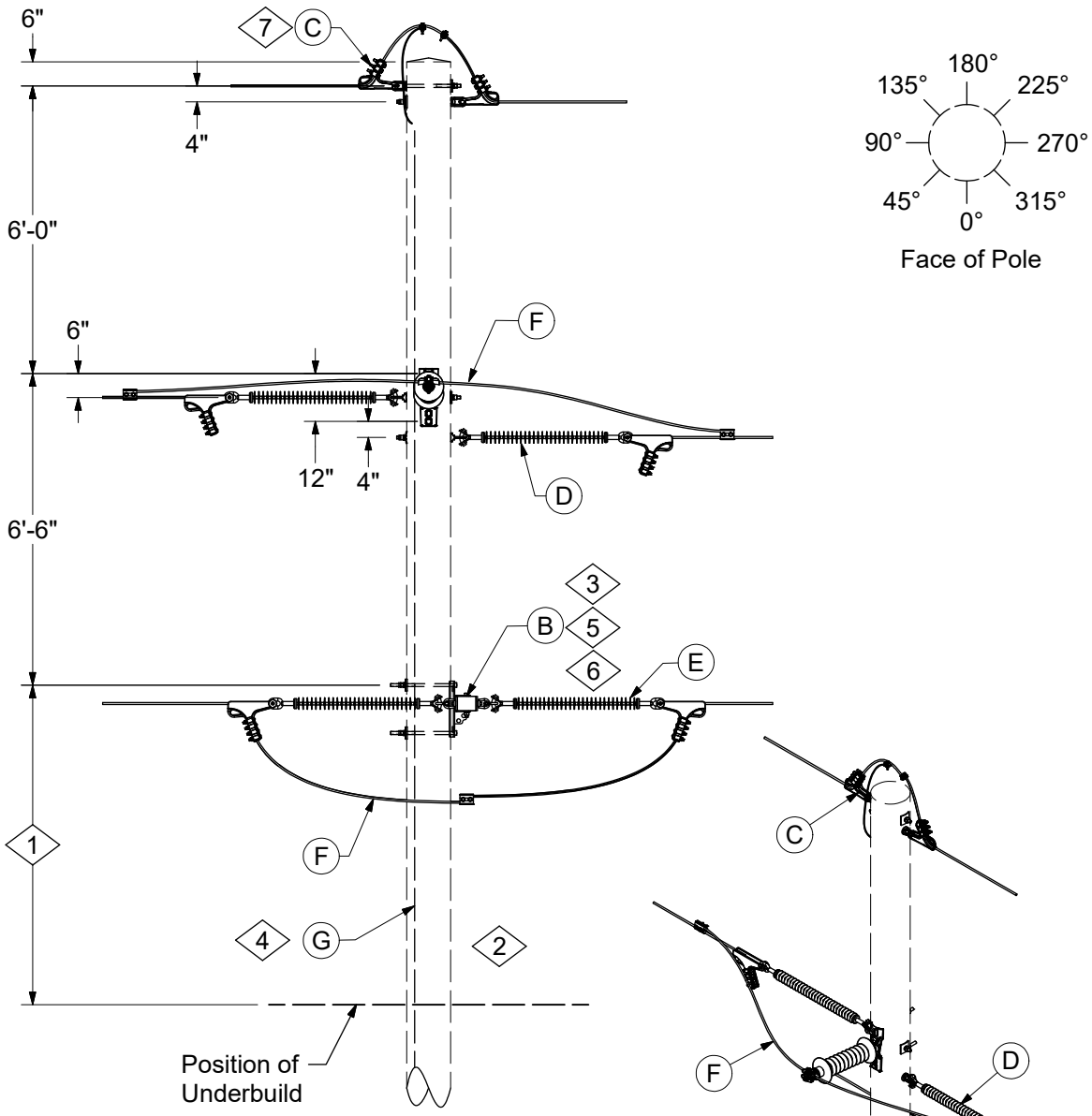


Isometric View

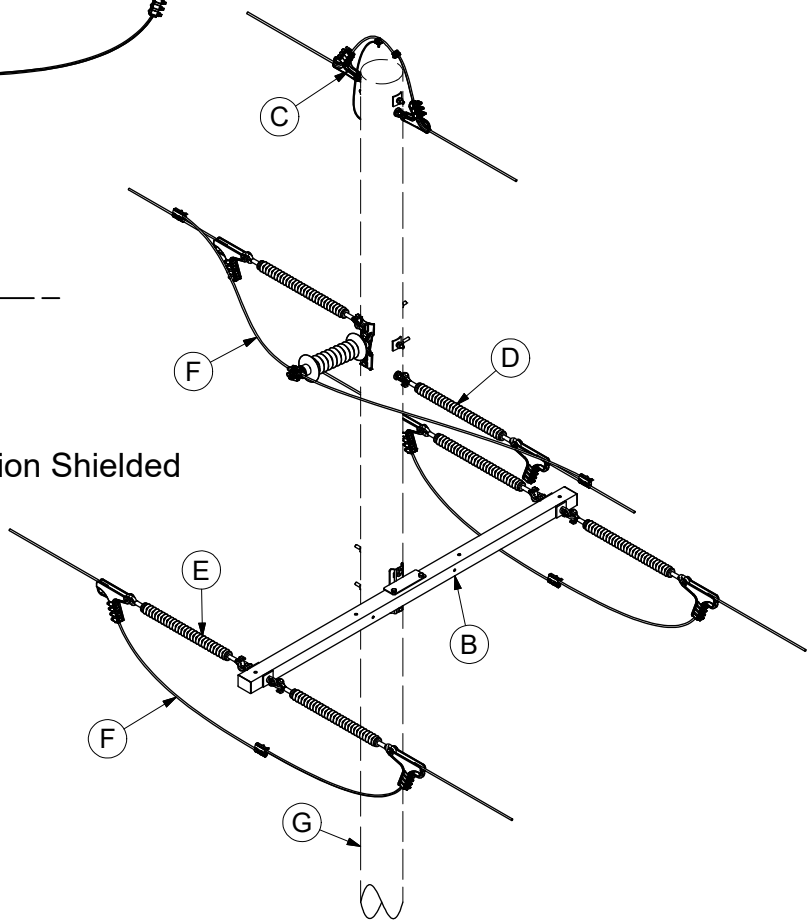
03 69 71 01 - Equal Tension Shielded

DISTRIBUTION
CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	09/13/13	MJ	



03 69 71 02 - Unequal Tension Shielded



Isometric View

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	09/13/13	MJ	

CONSTRUCTION NOTE(s):

1. Use 7'-6" spacing for tangent and 7'-0" spacing for deadend on underbuild. When using fiberglass crossarm, spacing is measured to the top bolt of the crossarm brace.

	ITEM	STK / DCS #	DESCRIPTION 03 69 71 **	01	02
2	A	**02 20 05 15**	Backfill and reinforcment, Corner	1	1
3,6,@	B	**04 00 42 03 @**	10' Deadend FG Crossarm	-	1
7,@	C	**06 00 11 07 @**	Static Wire Attachment - Deadend Angle w/ Pole Ground	-	1
		06 00 11 06 @	Static Wire Attachment - Deadend Tangent and Angle	1	-
		18 05 10 01 @	OPGW Tangent or Corner ≤ 30°	1	1
		18 05 16 ** @	OPGW Deadend	1	1
@	D	**06 34 60 01 @**	69kV Double Deadend w/ Looparound - Striaght	3	-
		06 34 60 03 @	69kV Double Deadend w/ Looparound - Offset	-	1
@	E	**06 34 68 14 @**	69kV Double Deadend Loopunder	-	2
@	F	**07 00 80 00 @**	Lead Wire, LW*W PLW*W	#	#
4,@	G	**12 00 10 ** @**	Grounding Unit	1	1
@	H	252 or 260	Op Code, Install Jumper	6	4

DESIGN NOTE(s):

2. See DCS Section 2 for pole selection options and refer to Engineering Design Manual (EDM) LS-25, LS-26, and LS-27 for design criteria.

3. See DCS **04 00 01 01** for crossarm loading. In some applications larger crossarm may be needed for heavier loadings.

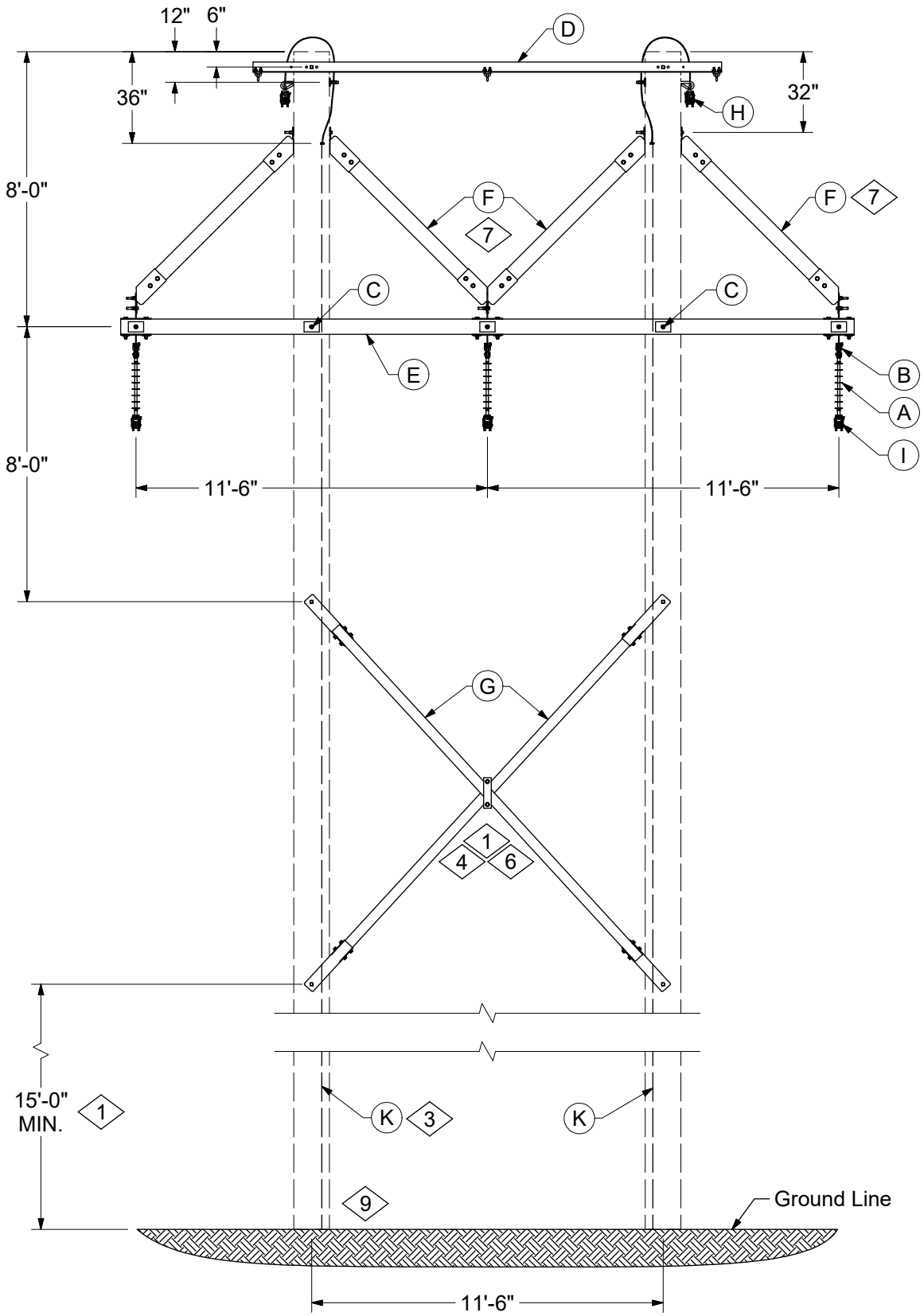
4. Composite pole has factory installed (internal) pole ground in the 45° quadrant. See DCS **12 00 10 **** for grounding details.

5. In underbuild applications, middle phase is deadended on the pole per DCS **03 12 14 ****.

6. 8'-0" crossarm available for Ameren Missouri only.

7. Refer to DCS Section 18 for OPGW applications.

REV	DATE	ENG	DESCRIPTION
2	10/01/23	AEP	Converted to new format
1	09/13/13	MJ	



03 69 91 01 - Tangent 69kV
03 69 91 02 - Tangent 35kV

REV	DATE	ENG	DESCRIPTION
1	10/01/23	AEP	New Standard

CONSTRUCTION NOTE(s):

1. Bottom bolt of X-brace shall remain 15' off ground.

2. Armor rods are required for spans greater than 300'.

	ITEM	STK / DCS #	DESCRIPTION 03 69 91 **	01	02
	A	25 06 053	Insulator, Suspension, 34kV	-	3
		25 06 113	Insulator, Suspension, 69kV	3	-
	B	23 68 181	Shackle - Deadend	3	3
	C	23 53 072	Bolt, Double Arming, 3/4"	2	2
	D	23 68 755	Static Support Bar, Galvanized	1	1
10,@	E	41 01 296	Fiberglass Tangent Arm Assembly, 24'	1	1
7,@	F	41 56 201	Vee Brace, 7'-6"	1	1
1,4,6,@	G	41 56 202	X-Brace, Fiberglass, 14'-8"	1	1
8,@	H	**06 00 11 04 @**	Static Wire Attachment - Tangent	2	2
		18 05 10 01 @	OPGW Support w/ Suspension Clamp	#	#
@	I	**07 00 20 00 @**	Clamp, Suspension, SC*W	3	3
9,@	J	**02 20 05 15 @**	Backfill and Reinforcement, Corner	2	2
3,@	K	**12 00 10 ** @**	Grounding unit	2	2

DESIGN NOTE(s):

3. Composite Pole has factory installed (internal) ground in the 45° quadrant.

4. Depending on structure height, additional X-braces may be needed.

5. See DCS **02 00 04 01** for composite pole sizes. Refer to (EDM) LS-25 for pole size requirements.

6. Center clamps and hardware are included with X-brace assembly.

7. Both sets of vee braces are included with Stock #41 56 201.

8. Refer to DCS Section 18 for OPGW applications.

9. Each pole must have (8) total angle brackets per DCS **02 20 05 15**.

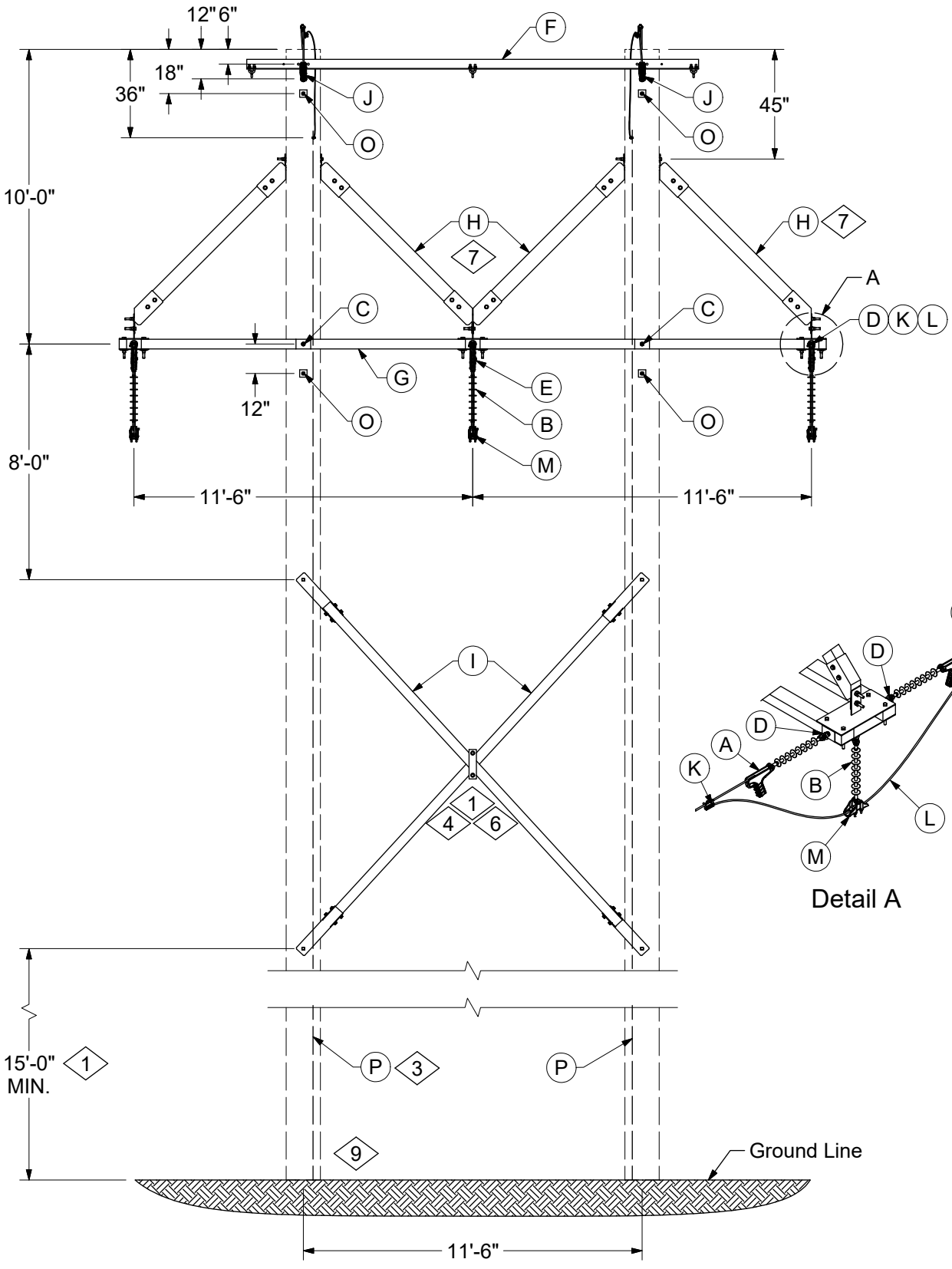
10. Stock #41 01 296 is to only be used for composite pole structures.

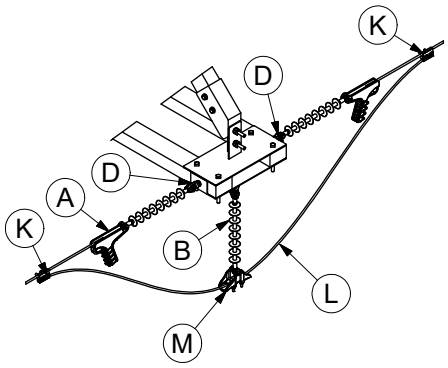
REV	DATE	ENG	DESCRIPTION
1	10/01/23	AEP	New Standard

CONFIGURATIONS

Deadend H-Frame Structure - Composite Pole
Line Angle ≤ 2°

03 69 92 **
35kV, 69kV
1 of 2





Detail A

03 69 92 01 - Deadend 69kV
03 69 92 02 - Deadend 35kV

DISTRIBUTION CONSTRUCTION STANDARDS

REV	DATE	ENG	DESCRIPTION
1	10/01/23	AEP	New Standard

CONSTRUCTION NOTE(s):

1. Bottom bolt of X-brace shall remain 15' off ground.

2. Armor rods are required for spans greater than 300'.

	ITEM	STK / DCS #	DESCRIPTION 03 69 92 **	01	02
	A	**06 34 68 13 @**	34kV Double Deadend Loopunder	-	3
		06 34 68 14 @	69kV Double Deadend Loopunder	3	-
	B	25 06 053	Insulator, Suspension, 34kV	-	3
		25 06 113	Insulator, Suspension, 69kV	3	-
	C	23 53 072	Bolt, Double Arming, 3/4"	2	2
	D	23 65 018	Eyenut, 3/4"	8	8
	E	23 68 181	Shackle - Deadend	3	3
	F	23 68 755	Static Support Bar, Galvanized	1	1
10,@	G	41 01 316	Fiberglass Deadend Arm Assembly, 24'	1	1
7,@	H	41 56 201	Vee Brace, 7'-6"	1	1
1,4,6,@	I	41 56 202	X-Brace, Fiberglass, 14'-8"	1	1
8,@	J	**06 00 11 06 @**	Static Wire Attachment - Deadend Tangent w/ Pole Ground	2	2
		18 05 ** ** @	OPGW Support	#	#
@	K	**07 00 25 00 @**	Clamp, PG*W	6	6
@	L	**07 00 80 00 @**	Lead Wire, LW*W, PLW*W	#	#
@	M	**07 00 20 00 @**	Clamp, Suspension, SC*W	3	3
9,@	N	**02 20 05 15 @**	Backfill and Reinforcement, Corner	2	2
@	O	**11 00 4* ** @**	Guying Unit	#	#
3,@	P	**12 00 10 ** @**	Grounding unit	2	2
	Q	252, 255, or 260	Op Code, Install Jumper	3	3

DESIGN NOTE(s):

3. Composite Pole has factory installed (internal) ground in the 45° quadrant.

4. Depending on structure height, additional X-braces may be needed.

5. See DCS **02 00 04 01** for composite pole sizes. Refer to (EDM) LS-25 for pole size requirements.

6. Center clamps and hardware are included with X-brace assembly.

7. Both sets of vee braces are included with Stock #41 56 201.

8. Refer to DCS Section 18 for OPGW applications.

9. Each pole must have (8) total angle brackets per DCS **02 20 05 15**.

10. Stock #41 01 316 is to only be used for composite pole structures.

REV	DATE	ENG	DESCRIPTION
1	10/01/23	AEP	New Standard

NOTES