

**EXHIBIT D**  
**SPECIFICATION BOOK**  
**EXHIBIT DRAWINGS**

- 1. City of Brenham specific unit drawings.**
- 2. PDFs of general specifications and unit drawings.**



**CITY OF BRENHAM (COB)**

**ELECTRIC DISTRIBUTION  
CONSTRUCTION  
SPECIFICATION BOOK**



1. GENERAL

All construction work shall be done in accordance with the staking sheets, plans, specifications, and the construction drawings. Any exceptions or modifications shall be approved by the engineer or COB representative.

The latest edition of the National Electric Safety Code (NESC), shall be followed except where local regulations are more stringent, in which case local regulations shall govern.

2. DISTRIBUTION OF POLES

Poles distributed for transformers, dead-ends, angles and corner locations shall be high quality large, dense poles.

3. COB STANDARD POLE SETTING DEPTHS (unless otherwise specified on staking sheets)

Pole (Feet)	Soil (Feet)
35	6.5
40	7.0
45	7.5
50	8.0
55	8.5
60	9.0
65	9.5
70	10.0

On sloping ground, the depth of the hole shall be measured from the low side of the hole.

Poles shall be set so that alternated crossarm gains face in the opposite directions, except at terminals and dead-ends where the gains of the last two (2) poles shall be on the side facing the terminal or dead end. On unusually long spans or crossings, the poles shall be set so that the crossarm is located on the side of the pole away from the long span or crossing unless double

crossarms are used (2012 NESC Rule 261D5a3). Where pole top insulator brackets or pole top pins are used, they shall be located on the opposite side of the pole from the gain.

Poles shall be set in alignment and plumb. At corners, terminals, angles, junctions, or other points of strain, they shall be set and raked against the strain so that the conductors are in line.

Poles shall be raked against the conductor strain not less than one inch for each 10 feet of pole length, or more than three inches for each ten feet of pole length after conductors are installed at the required tension.

Pole back fill material shall be thoroughly tamped in full depth, to assure a minimum of 90% compaction of the backfill. Backfill material shall be added in a maximum of 6" lifts and then thoroughly compacted by tamping before additional amounts of backfill material are added. Only one shovel shall be utilized during the backfill and tamping process. Excess dirt shall be banked around the pole. However, spoils should be removed from lawns and pedestrian walk areas. Expanding foam or concrete is an acceptable replacement to original backfill.

#### 4. GRADING OF LINE

When using high poles to clear obstacles such as buildings, foreign wire crossings, railroads, etc., there shall be no uplift on adjacent poles having pin or post insulators on pin-type or post-type insulators in grading the line each way to lower poles. The Engineer and/or COB representative shall be notified immediately, prior to conductor being attached to insulators, if any such condition is found. The Engineer or COB representative will recommend the proper corrective action.

#### 5. GUYS AND ANCHORS

All anchors and rods shall be in line with the line tension AND angled as to be aligned with the point of attachment on the pole and should be installed so that approximately six inches of the rod remain out of the ground. In cultivated fields or other locations, as deemed necessary, the projection of the anchor rod above earth may be increased with approval of COB engineer/representative.

#### 6. LOCKNUTS

A locknut shall be installed with each nut or other fastener on all bolts or threaded hardware such as insulators pins and studs, upset bolts, double arming bolts, etc.

## 7. CONDUCTORS

Conductors must be handled with care. Conductors SHALL NOT be dragged across the ground during placement/stringing. Conductors SHALL NOT be trampled or run over by vehicles. Each reel shall be examined and the wire shall be inspected for cuts, kinks, or other injuries. Injured portions shall be cut out and the conductor spliced. The conductors shall be pulled over suitable rollers or stringing blocks properly mounted on the pole or crossarm to prevent binding while stringing or damage to conductor strands.

The neutral conductor should be maintained on one side of the pole for tangent construction and for angles not exceeding 20°.

Construction Crews shall conduct the stringing operation so there will be a minimum number of random lengths of wire remaining upon completion of the job. The conductors and cables shall be strung by the controlled tension method. The stringing tension shall be sufficient to prevent the conductor or cable from contacting the ground or any foreign object, but shall not equal or exceed the recommended sagging tension. Particular attention shall be taken in paying-out the conductor or cable to prevent kinking, twisting or abrading the cable. Should this occur, the damaged section of the conductor or cable shall be removed. The conductor shall be protected at road crossings and over rocky ground.

Construction crews shall install temporary guard structures or other mechanical supports as required at all highway, street or railroad crossings and at all overhead line crossings. These guard structures shall be adequately maintained until the conductor or cable is pulled up above the minimum clearance required by law, and permanently clamped or dead ended in place. These temporary structures shall be removed and the location left in original condition. All holes must be filled and tamped. Any hole which later shows settlement will be repaired by the responsible party.

When pin-type insulators are used the conductors shall be tied in the top groove of the insulator on tangent poles and on the side of the insulator away from the strain at angles. Pin-type and post-type insulators shall be tight on the pins and brackets, respectively, and the top groove must be in line with the conductor after tying.

All conductors shall be cleaned thoroughly by wire brushing before splicing or installing connectors or clamps. A suitable inhibitor shall be used before splicing or applying connectors over aluminum conductor.

## 8. SPLICES AND DEAD ENDS

Conductors shall be spliced and dead-ended as shown on the construction drawings. There shall be no- more than two splices per conductor in any span and splices shall be located at least 20 feet from the conductor support. No splices shall be located in Grade B crossing spans and

preferably not in the adjacent spans. Splices shall be installed in accordance with the manufacturer's recommendations.

## 9. TAPS AND JUMPERS

- 9.1 Jumpers for equipment and double dead-ends that require "feed through" permanent jumpers shall have the necessary jumpers installed as part of the installation unit.
- 9.2 Jumpers and other leads connected to line conductors shall have sufficient slack to allow free movement of the conductors. Where slack is not shown on the construction drawings, it will be provided by at least two (2) bends in the vertical plane, or one (1) in a horizontal plane, or the equivalent. In areas where Aeolian vibration occurs, special measures to minimize the effects of jumper breaks shall be used as specified.
- 9.3 All leads (jumpers) on electrical equipment such as transformers, reclosers, etc., shall be sized according to the rated ampacity of the device/equipment and have a minimum ampacity equal to # 6 copper. Where aluminum jumpers are connected to bronze or copper terminals a transition pad, isolator bar, or an all-purpose connector must be used to minimize oxidation between the dissimilar metals.

## 10. HOT-LINE CLAMPS AND CONNECTORS

Only connectors and hot-line clamps suitable for the purpose shall be utilized on the COB power system. Appropriate wedge-type stirrups and hot-line clamps shall be used on all transformer stations, line fuses, lightning arrester stations, and any other equipment when indicated on construction drawings. On all hot-line clamp installations, the clamp shall be installed on the main line conductor so that they are permanently bonded allowing the load side jumper to be de-energized when removed from the clamp.

The use of stirrups to connect tap conductors (jumper wires) to primary conductors may be used if the following criteria are met;

- The stirrup and hot line clamp shall be sized to meet or exceed the current carrying capacity of the tap conductor or equipment jumper.
- All stirrup conductors shall be made of all-purpose metal, copper or bronze;
- All stirrup conductors shall be made of #2 copper or equivalent or larger;
- Aluminum hot line clamps shall NOT be used with stirrups;
- All stirrups, conductors and clamps shall be installed in accordance with the manufacture's specifications;
- Stirrups with two compression connectors are NOT to be used in areas of vibrating conductors;
- Stirrups are NOT to be used to connect main lines or heavily loaded tap lines.

- On the rare occasion a two way feed situations exist a “WARNING-TWO WAY FEED” sign SHALL BE attached to the pole.

#### 11. CONDUCTOR TIES

Factory-formed ties shall be utilized and installed in accordance with the manufacturer’s recommendations. When hand-formed ties are necessary, they shall be installed in accordance with COB established work practices.

#### 12. SAGGING OF CONDUCTORS

Conductors shall be sagged evenly and in accordance with the conductor manufacturer’s recommendations. The temperature used for sagging purposes shall be determined by the use of an accurate thermometer located at or near where the sagging of wire is taking place. When possible, sagging shall be done when outside temperature is reasonably stable.

The sag of all conductors after stringing shall be in accordance with the Engineer’s instructions. Proper tensions SHALL be determined by the use of dynamometers (scales) only, which have been approved by COB and calibrated within 1 year. Sagging will be completed with the use of appropriate wire dollies while pulling and sagging wire.

#### 13. SECONDARY AND SERVICE DROPS TO POINT OF DELIVERY

- 13.1 Secondary conductors shall be multi-conductor service cable. The conductors shall be sagged in accordance with the manufacturer’s recommendations.
- 13.2 Point of service delivery shall be a pole mounted safety disconnect with a secondary riser attached to overhead secondary or pole mounted transformers.
- 13.3 Point of service shall be the connection point of COB owned equipment/material to Customer owned equipment/material. Customer is responsible for providing all necessary conduits and entry cables from the meter can to the point of attachment on a permanent building or service pole and a disconnect switch immediately accessible at the meter location.

#### 14. GROUNDS

Ground rods shall be driven full length and as near straight as possible in undisturbed earth in accordance with the construction drawings. The top shall be flush with ground level or below ground level. The ground wire shall be attached to the rod with a clamp that is specified for direct earth contact and shall be secured to the pole with staples. The staples on the ground wire shall be spaced two feet apart, except for a distance of eight feet above ground and eight

feet down from the top of the pole where they should be six inches apart. Ground rods shall be installed a minimum of 24 inches from pole.

All equipment ground, neutral wires, and surge-protection equipment shall be interconnected and attached to a common ground wire using COB approved connectors.

#### 15. CLEARING RIGHT-OF-WAY AND TREE TRIMMING

When ROW clearing is required, it will be stated on the construction drawings. Where required; the right-of-way shall be prepared by removing trees, clearing underbrush, and trimming trees so that the right-of-way is cleared close to the ground and is the width specified. All chips and slash shall be removed from the job site.

The landowner's written permission is required prior to cutting or trimming any trees outside of the right-of-way. Trees fronting each side of the right-of-way shall be pruned symmetrically unless otherwise specified. Dead trees beyond the right-of-way which would strike the line in falling shall be removed with permission of the landowner. Leaning trees beyond the right-of-way, which would strike the line in falling and which would require topping if not removed, shall either be removed or topped, except that shade, fruit or other ornamental tree shall be trimmed and not removed, unless otherwise authorized.

When tree trimming is required, it will be stated on the construction drawings. Trees shall be pruned to a minimum of 15' of clearance from the center line with NO overhang. All pruning shall be accomplished utilizing proper tree pruning techniques as directed by International Society of Arboriculture (ISA) Standards. No stubs, flush cuts, rips, or peels will be accepted.

#### 16. TRANSFORMER BANKS AND SECONDARY CONNECTIONS

Transformer banks shall be built in accordance to the COB approved standards and practices. The secondary voltage shall be checked for proper voltage after construction and before connecting secondary/service conductors.

#### 17. Underground

17.1. Underground cable installation shall include appropriate cable terminations; 200amp load break elbows and/or potheads.

17.2. Elbow arresters shall be installed inside pad mount transformers, at the last transformer within a line of transformers, or on both riser poles when underground is looped through multiple transformers.

17.3. Pad mount sectionalizing pedestals shall include appropriate load break junctions for feed-through or lateral taps and parking stands.

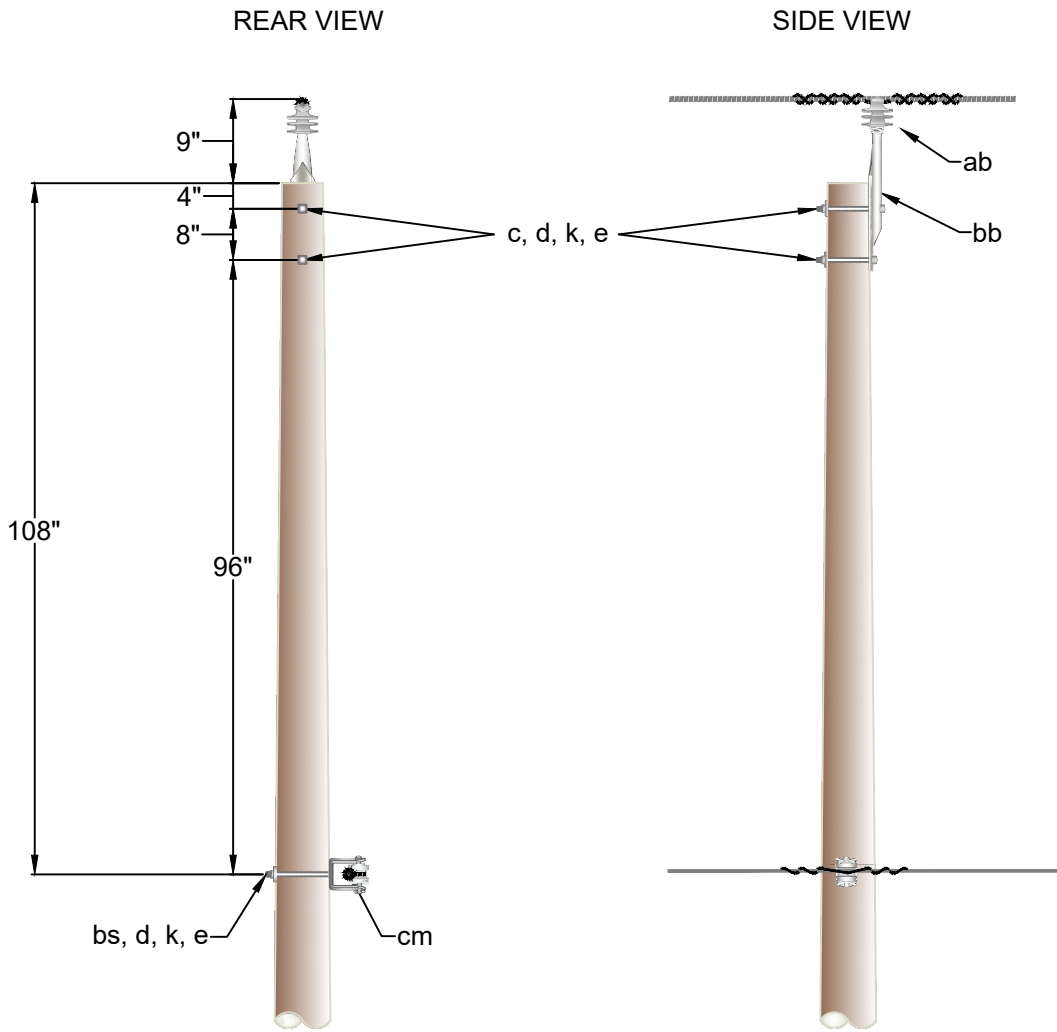
COB Standard Design Span and Pole Size Table

Conductor Size and Number of Phases	Design Ruling Span (Feet)	Maximum Design Span (Feet)	Minimum Pole Size	* Crossing Minimum Pole Size
1- Phase #2 ACSR	275	300	40-3	45-3
3-Phase #2 ACSR	275	300	40-3	45-3
1-Phase #4 ACSR	275	300	40-3	45-3
3-Phase #4 ACSR	275	300	40-3	45-3
1-Phase 1/0 ACSR	275	300	40-3	45-3
3-Phase 1/0 ACSR	275	300	40-3	45-3
3-Phase 4/0 ACSR	225	250	40-3	45-3
3-Phase #336 AAC	225	250	40-3	45-3
3-Phase #477 AAC W/ #336 AAC Neutral	225	250	40-3	45-3
3-Phase 795 AAC W/ #336 AAC Neutral	200	225	40-3	45-3
3-Phase Double Circuit #795 AAC	190	210	45-2	50-2

Notes:

\* Minimum pole size to be used when crossing over a public roadway or a railway. NESC and any Suthority having Jurisdiction clearances suprsede the above table. Unless otherwise noted the neutral conductor is the same size as the primary conductor.

# **Single Phase**



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	1	Insulator, Pin Type (15kv)	d	3	Washer, Sq 2-1/4"
bb	1	Pin, Pole Top 1"	e	3	Lock Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	k	3	Square Nut 5/8"
c	2	Bolt, Machine 5/8" x Req'd. Length		As Req'd.	Preform
cm	1	Insulator, 3" Spool		As Req'd.	Connector

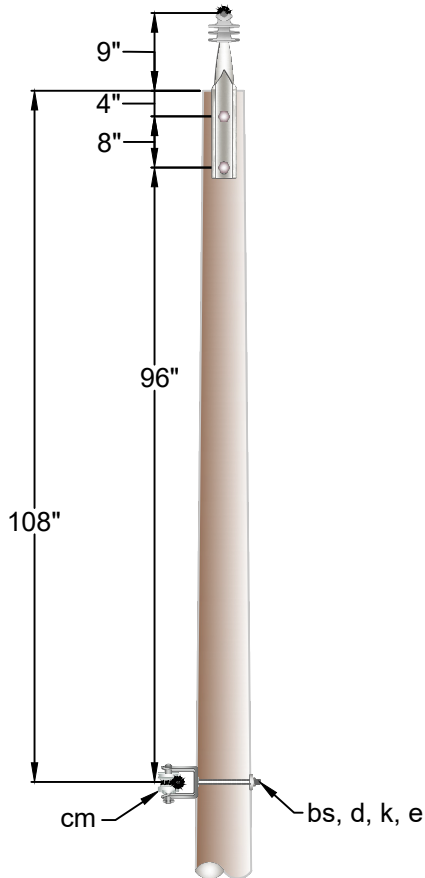


CITY OF BRENHAM ELECTRIC SYSTEM

200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

TITLE		1Ø TANGENT	
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	VA1

REAR VIEW



SIDE VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	e	3	Lock Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	hb	2	Pin, Pole Top Offset 1"
c	2	Bolt, Machine 5/8" x Req'd. Length	k	3	Square Nut 5/8"
cm	1	Clevis, Insulated 3" Spool		As Req'd.	Preform
d	1	Washer, Sq 2-1/4"		As Req'd.	Connector

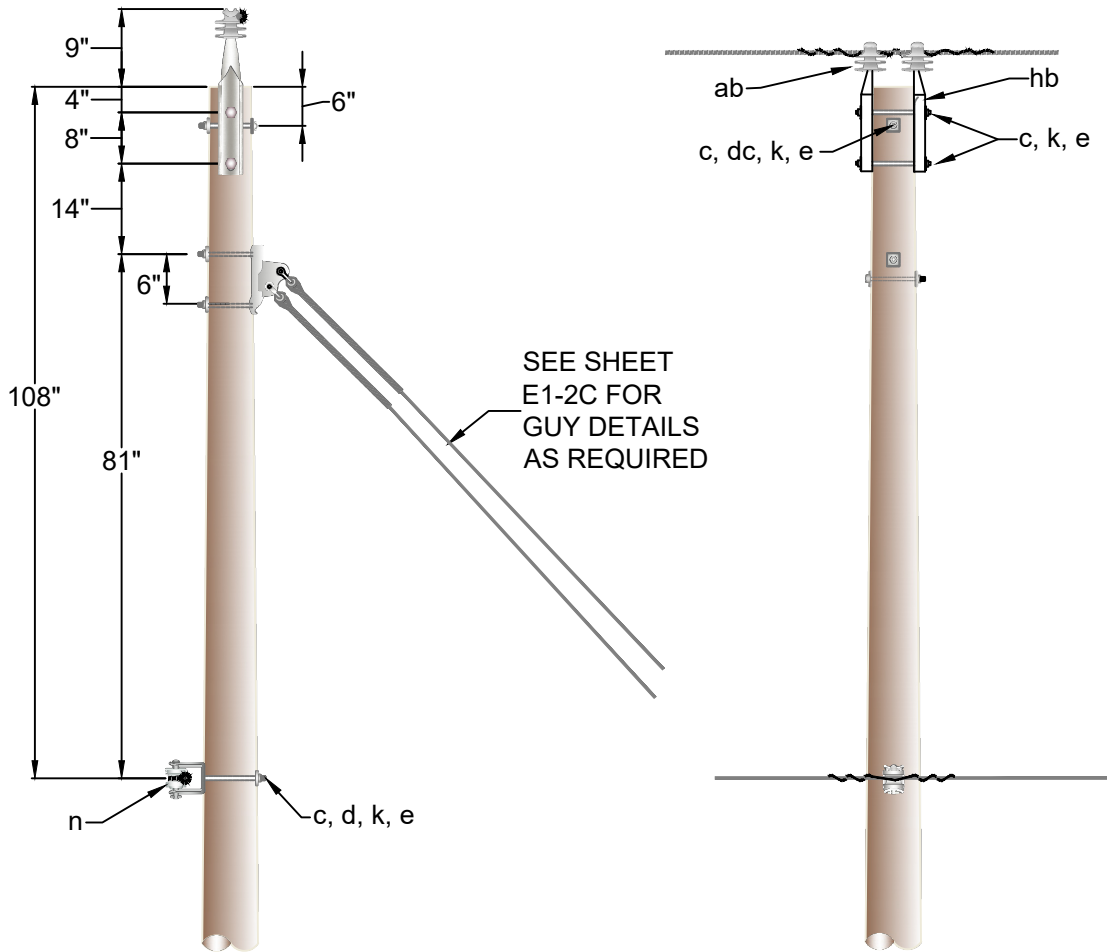


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TITLE		10 TANGENT TO SMALL ANGLE DOUBLE PRIMARY SUPPORT	
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VA1-1

REAR VIEW

SIDE VIEW



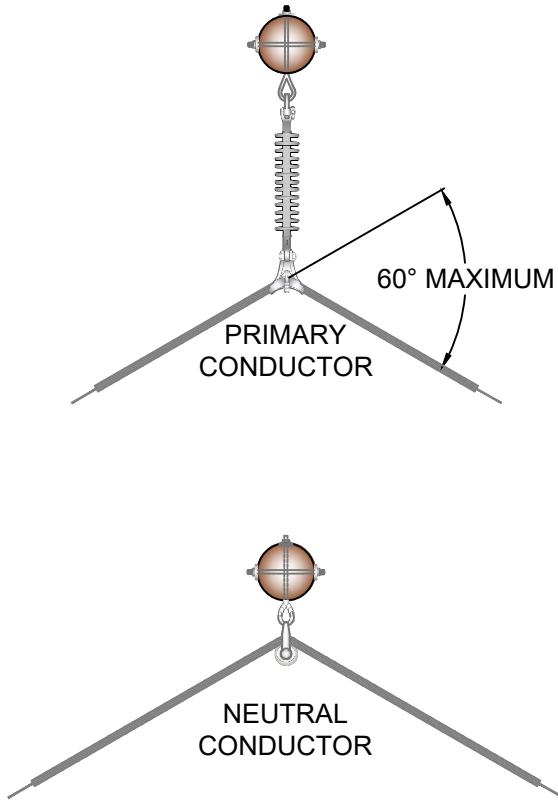
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	hb	2	Pin, Pole Top
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	1	Washer, Sq 2-1/4"	n	1	Clevis, Insulated Rack 3" Spool
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	4	Lock Nut 5/8"		As Req'd.	Connector



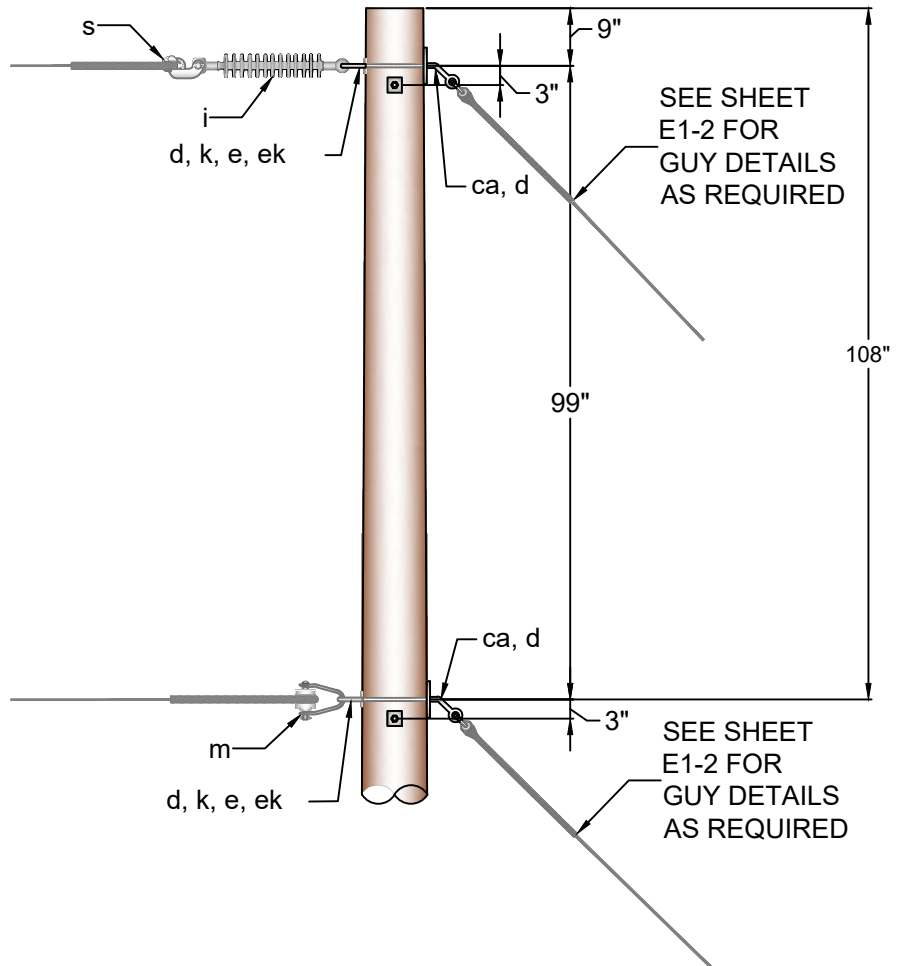
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TITLE			
1Ø SMALL ANGLE DOUBLE PRIMARY SUPPORT			
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS		TECH
PAGE	1	OF	1
			DRAWING NO # VA2

TOP VIEW



SIDE VIEW



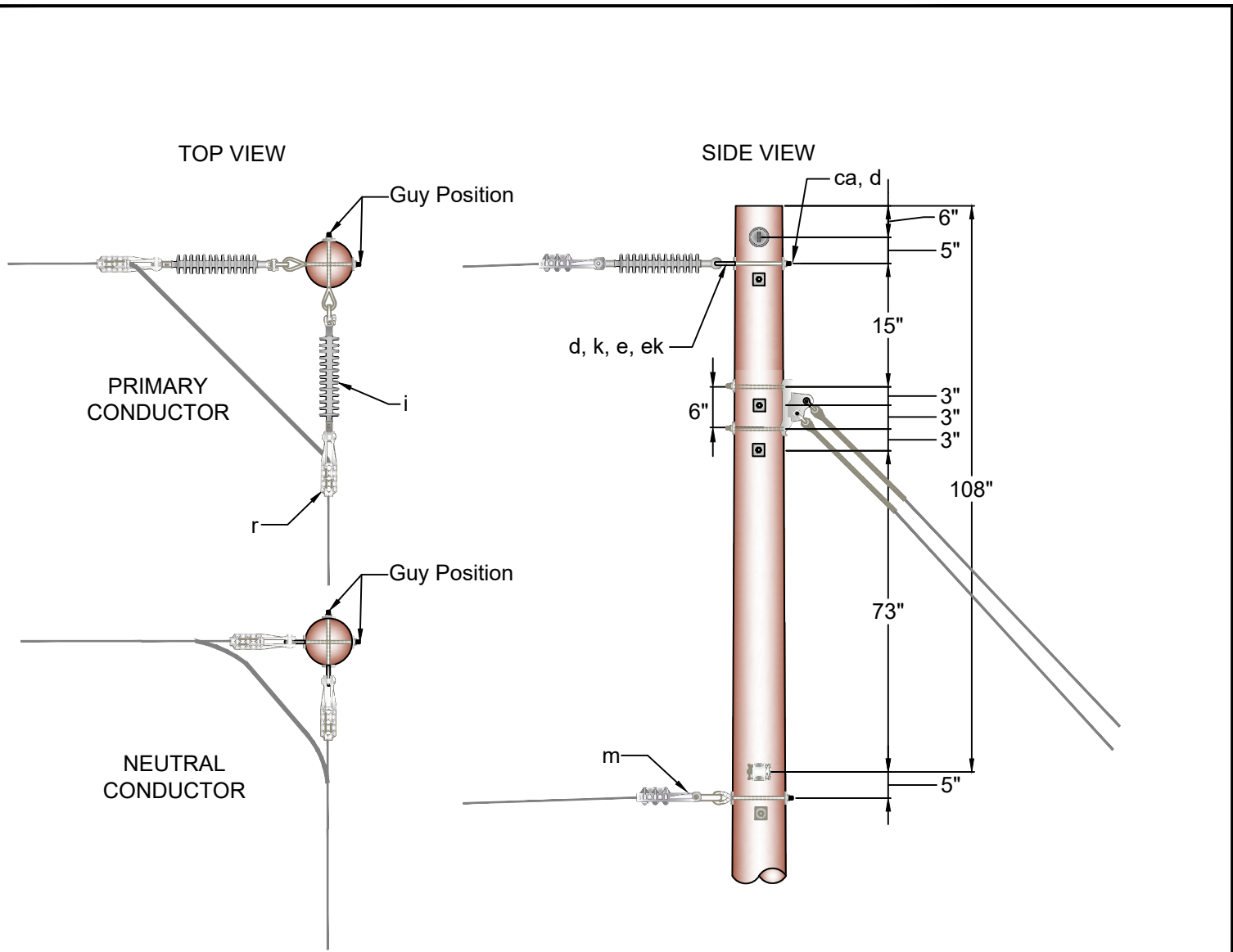
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	2	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	m	1	Clevis, Insulated Swing 4" Spool
d	4	Washer, Sq 2-1/4"	s	1	Clamp, Susp
e	2	Lock Nut 5/8"		As Req'd.	Connector
ek	2	Eye Nut 5/8"		As Req'd.	Tie Wire
i	1	Insulator, Suspension (15kv)		As Req'd.	Armor Rod
k	4	Square Nut 5/8"			



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TITLE		1Ø MEDIUM ANGLE 60° MAXIMUM	
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VA3



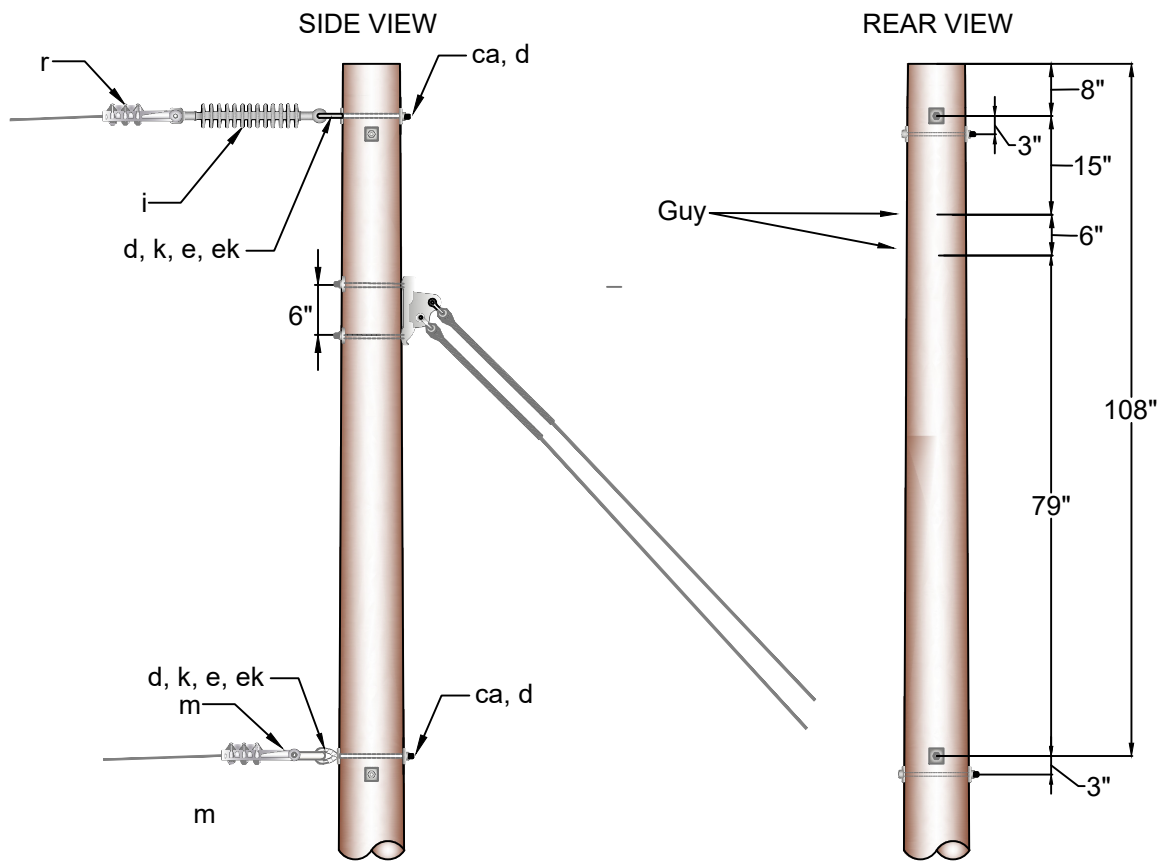
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	4	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	m	2	Shoe, Dead End
d	8	Washer, Sq 2-1/4"	r	2	Clamp, DE
e	4	Lock Nut 5/8"		As Req'd.	Preform
ek	4	Eye Nut 5/8"		As Req'd.	Jumper
i	2	Insulator, Suspension (15kv)		As Req'd.	Connector
k	8	Square Nut 5/8"			



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TITLE			
<b>1Ø LARGE ANGLE ANY GRADE CONSTRUCTION</b>			
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	VA4



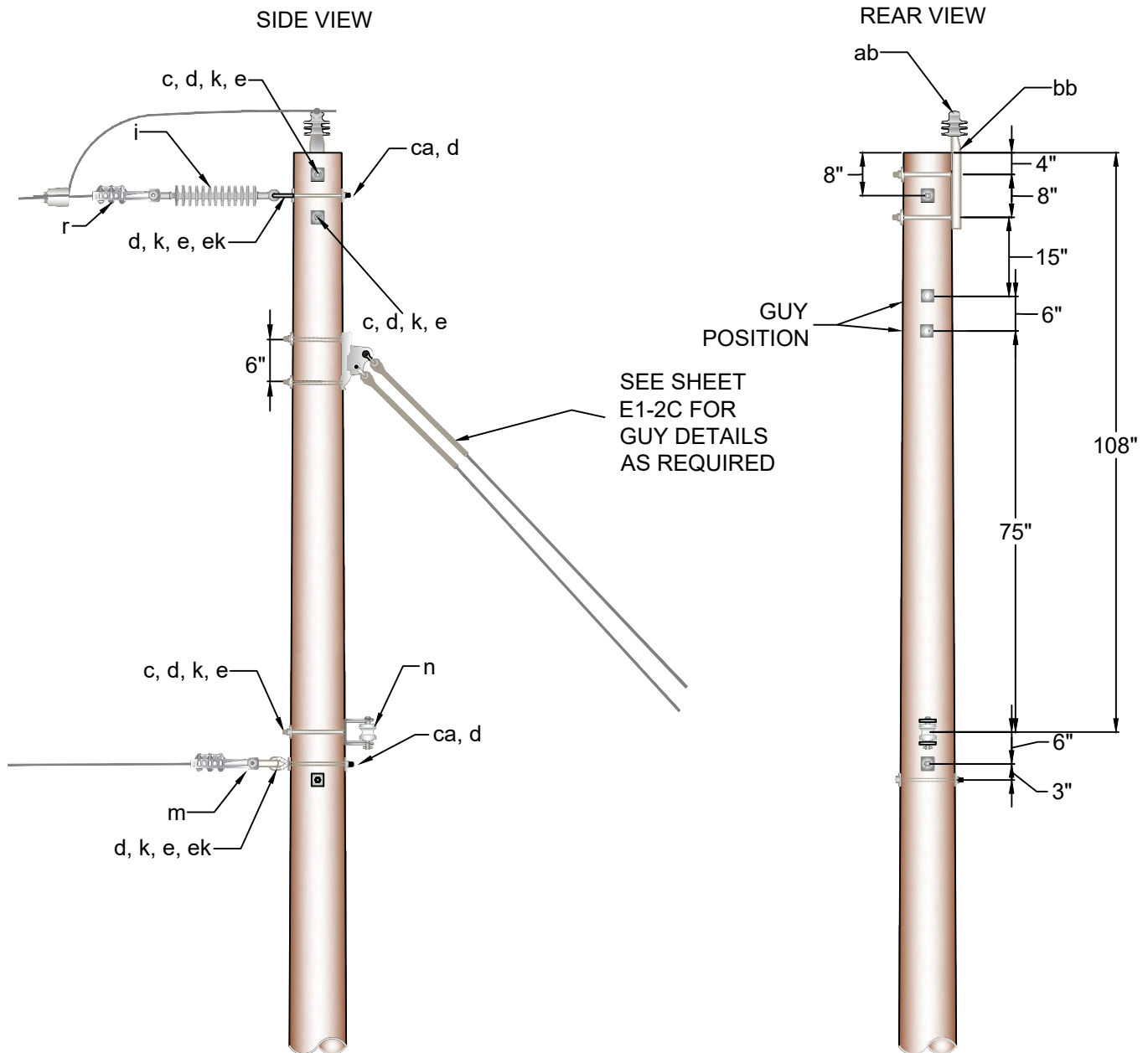
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	2	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"	m	1	
e	2	Lock Nut 5/8"	r	2	Clamp, DE
ek	2	Eye Nut 5/8"		As Req'd.	Preform
i	1	Insulator, Suspension (15kv)		As Req'd.	Connector



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TITLE			
		1Ø DEADEND	
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	VA5



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	1	Insulator, Pin Type (15kv)	k	7	Square Nut 5/8"
bb	1	Pin, Pole Top 1"	m		
c	3	Bolt, Machine 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
ca	2	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	r	2	Clamp, DE
d	7	Washer, Sq 2-1/4"		As Req'd.	Preform
e	5	Lock Nut 5/8"		As Req'd.	Jumper
ek	2	Eye Nut 5/8"		As Req'd.	Connector
i	1	Insulator, Suspension (15kv)			

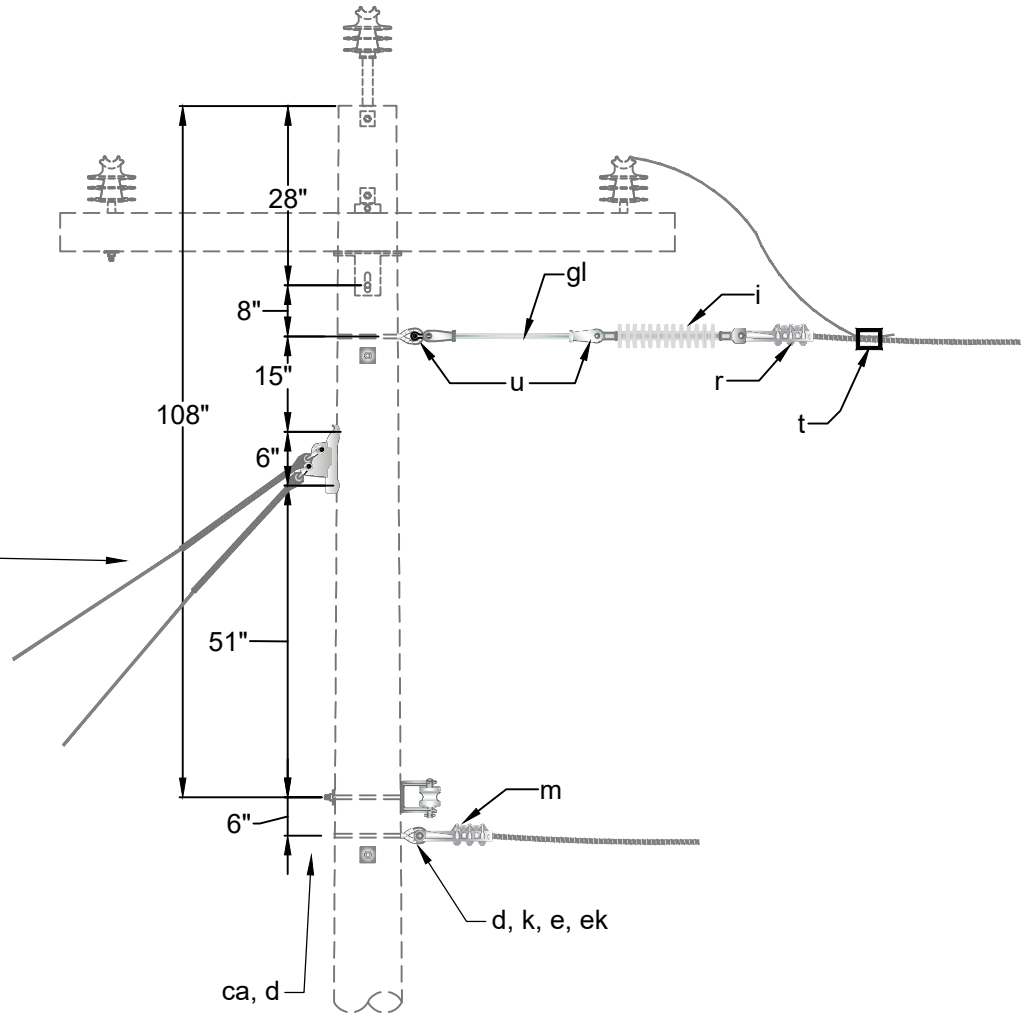


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REV NO		REV BY	ISSUE DATE	
			09/26/2025	
SCALE		TECH		
NTS		GRM		
PAGE		DRAWING NO #		
1 OF 1		VA5-1		

SEE SHEET  
E1-2C FOR  
GUY DETAILS  
AS REQUIRED



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	2	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	m		
d	4	Washer, Sq 2-1/4"	r	2	Clamp, DE
e	2	Lock Nut 5/8"	t	1	Clamp, HL
ek	2	Eye Nut 5/8"	u	2	Shackle, Anchor
gl	1	Link, Insulated 24"		As Req'd.	Preform
i	1	Insulator, Suspension (15kv)		As Req'd.	Jumper
k	4	Square Nut 5/8"		As Req'd.	Connector



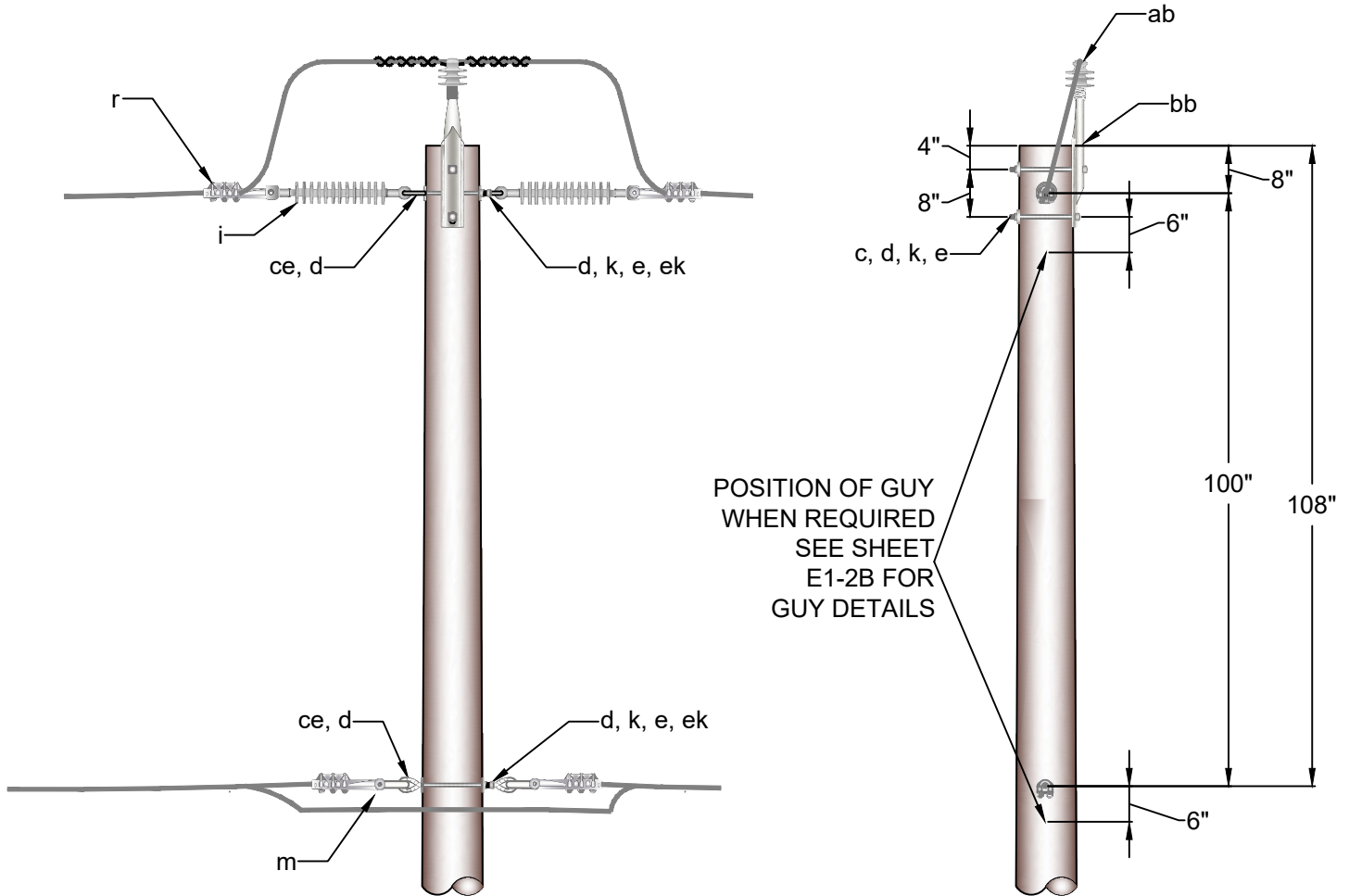
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200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
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TITLE		1Ø OFF 3Ø POLE	
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	VA5-2

SIDE VIEW

REAR VIEW



POSITION OF GUY  
WHEN REQUIRED  
SEE SHEET  
E1-2B FOR  
GUY DETAILS

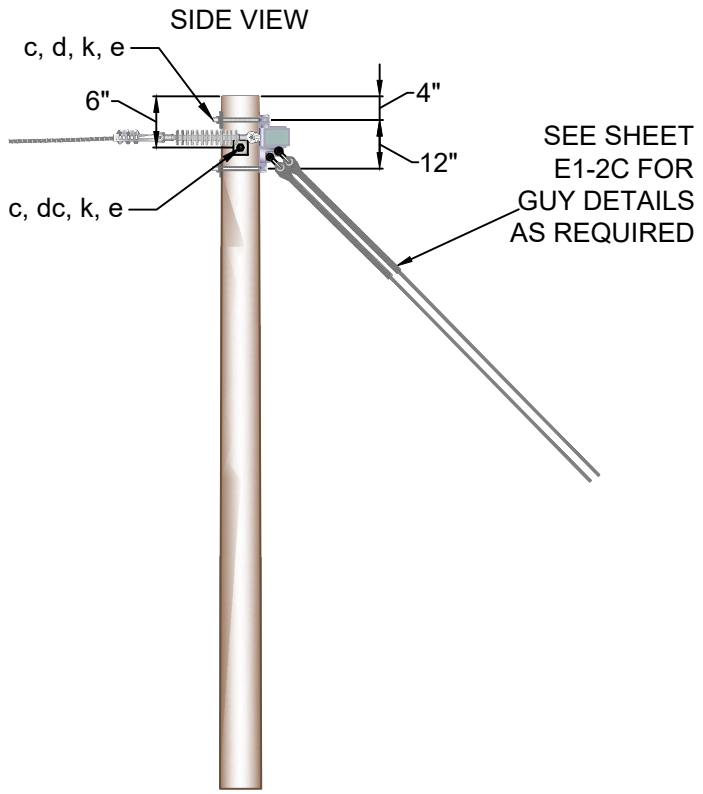
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	1	Insulator, Pin Type (15kv)	i	2	Insulator, Suspension (15kv)
bb	1	Pin, Pole Top 1"	k	6	Square Nut 5/8"
c	2	Bolt, Machine 5/8" x Req'd. Length	m		
ce	2	Bolt, Eye 5/8" x Req'd. Length	r	4	Clamp, DE
d	6	Washer, Sq 2-1/4"		As Req'd.	Preform
e	4	Lock Nut 5/8"		As Req'd.	Jumper
ek	2	Eye Nut 5/8"		As Req'd.	Connector



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TITLE			
1Ø VERTICAL DOUBLE DEADEND			
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	VA6

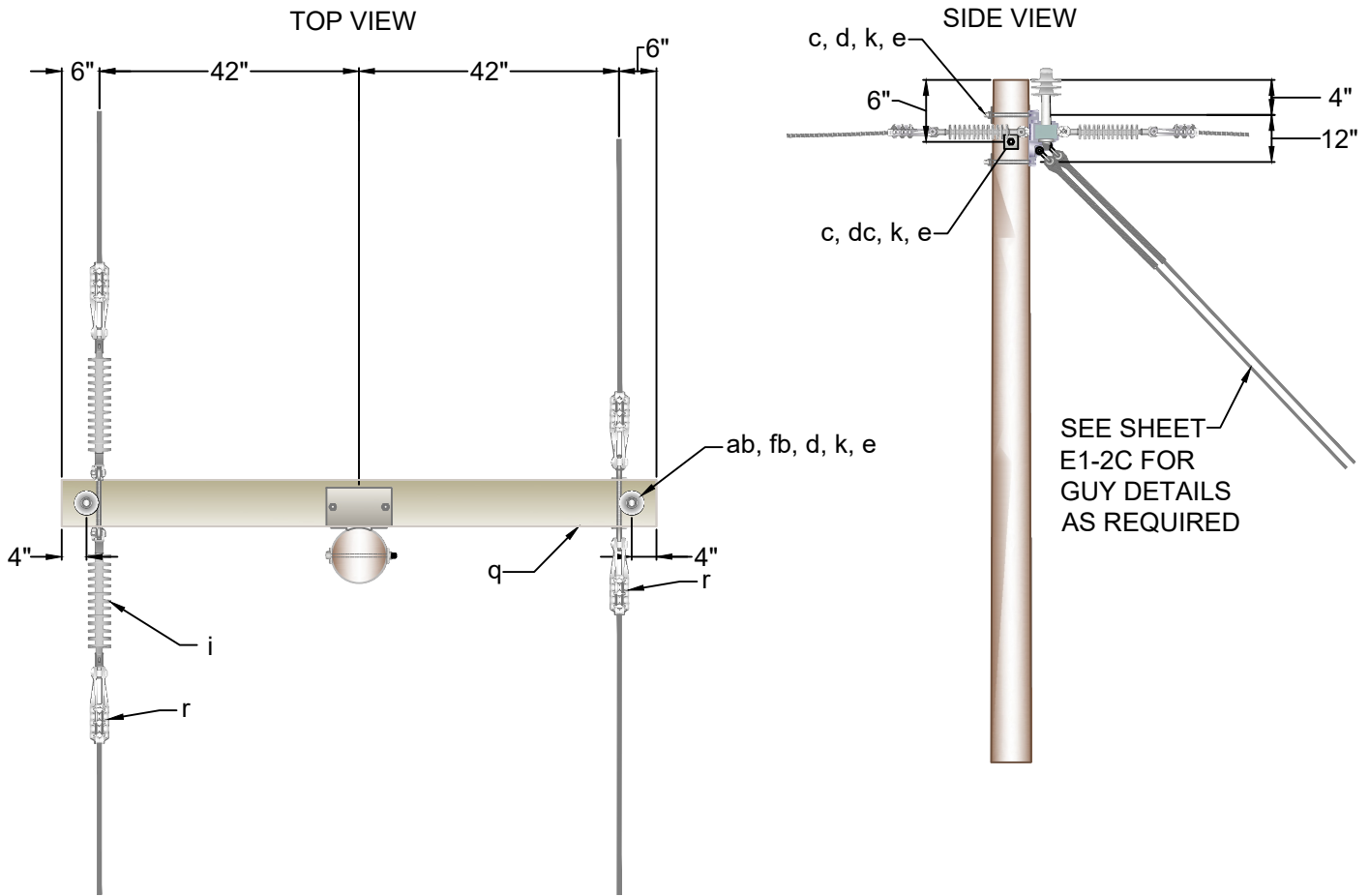


Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	3	Bolt, Machine 5/8" x Req'd. Length	k	3	Square Nut 5/8"
d	2	Washer, Sq 2-1/4"	r	2	Clamp, DE
dc	2	Washer, Curved 3-1/2"			
e	3	Lock Nut 5/8"		As Req'd.	Connector
hq	1	Xarm DE Fbgls 8' HD			
i	1	Insulator, Suspension (15kv)			



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TITLE			
1Ø CROSSARM DEADEND			
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	A7



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	i	2	Insulator, Suspension (15kv)
c	3	Bolt, Machine 5/8" x Req'd. Length	k	5	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"			
dc	2	Washer, Curved 3-1/2"	r	4	Clamp, DE
e	5	Lock Nut 5/8"			
fb	2	Pin, Xarm Steel 1"		As Req'd.	Connector
hq	1	Xarm DE Fbgls 8' HD			

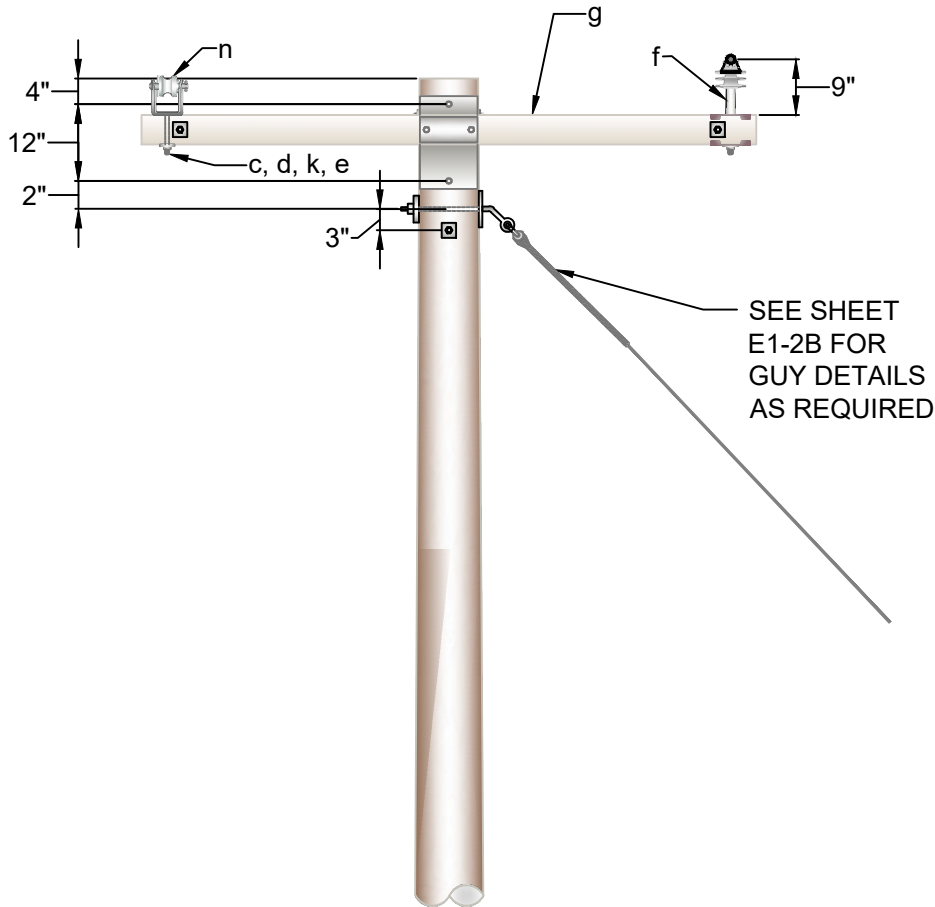


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TITLE			
1Ø CROSSARM DOUBLE DEADEND			
REV NO	REV BY	ISSUE DATE	09/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	A8

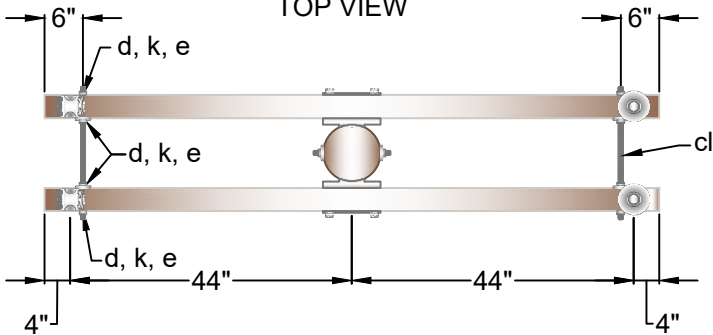
FRONT VIEW



SIDE VIEW



TOP VIEW



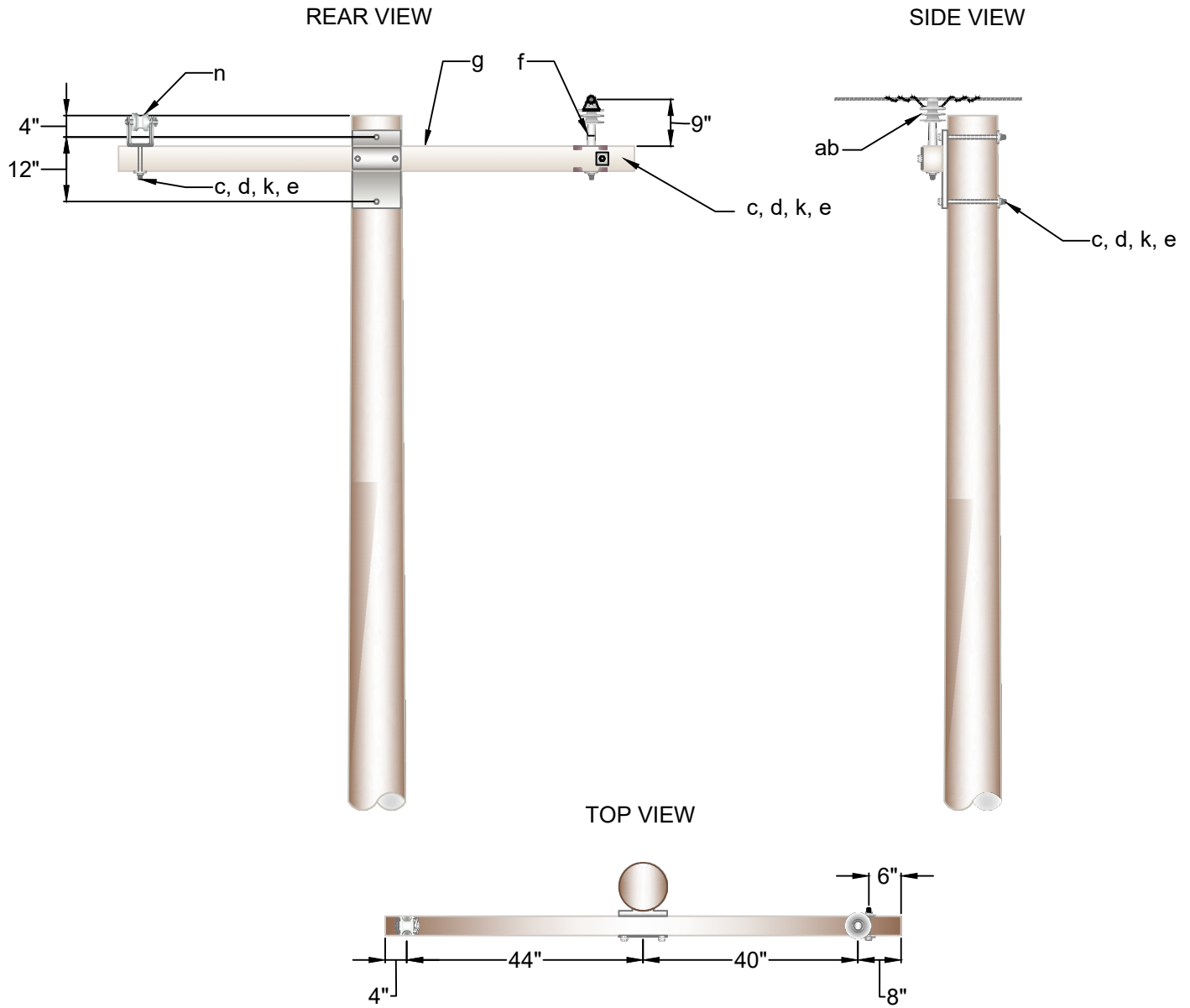
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	g	2	Xarm Fbgl's 8'
c	5	Bolt, Machine 5/8" x Req'd. Length	k	13	Square Nut 5/8"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	n	2	Clevis, Insulated Rack 3" Spool
d	10	Washer, Sq 2-1/4"		As Req'd.	Preform
dc	2	Washer, Curved 3-1/2"		As Req'd.	Connector
e	13	Lock Nut 5/8"		As Req'd.	Tie Wire
f	2	Pin, Xarm Clamp Type 1"			



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TITLE			
1Ø ON DOUBLE CROSSARM (SMALL ANGLE)			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	A9



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	1	Insulator, Pin Type (15kv)	k	4	Square Nut 5/8"
c	4	Bolt, Machine 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
d	5	Washer, Sq 2-1/4"		As Req'd.	Preform
e	4	Lock Nut 5/8"		As Req'd.	Connector
f	1	Pin, Xarm Clamp Type 1"		As Req'd.	Tie Wire
g	1	Xarm Fbgls 8'			



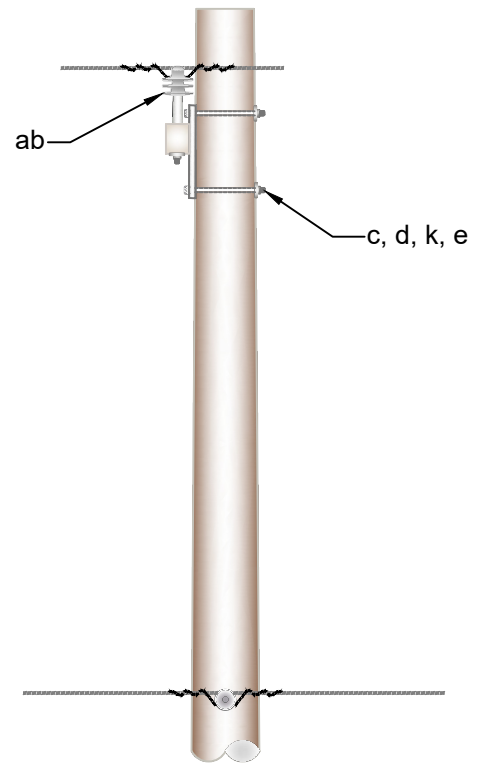
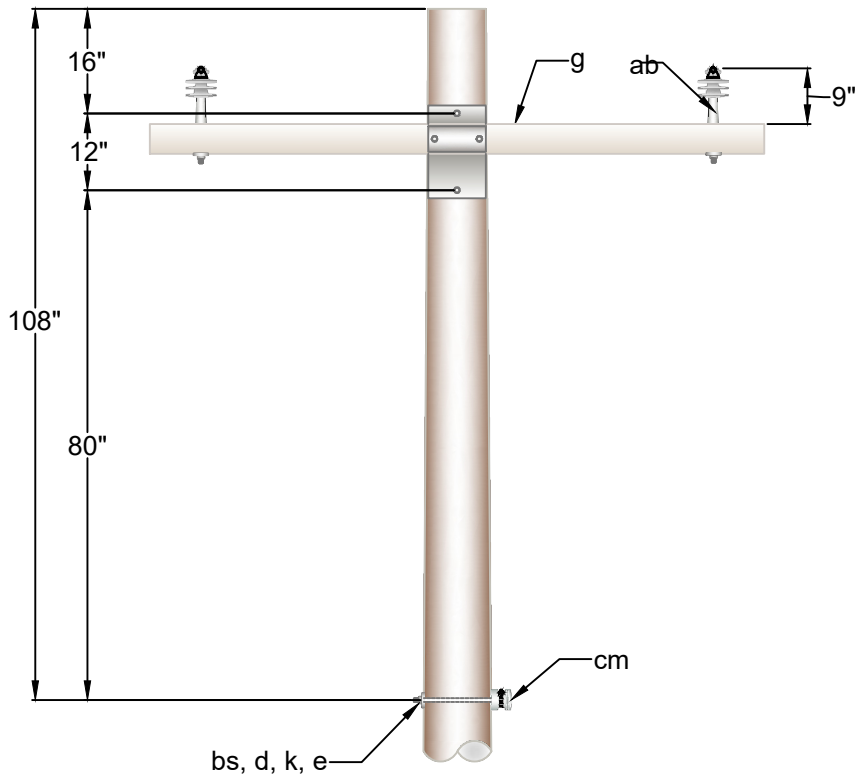
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TITLE			
1Ø ON SINGLE CROSSARM			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	GRM
PAGE	1 OF 1	DRAWING NO #	A9-1

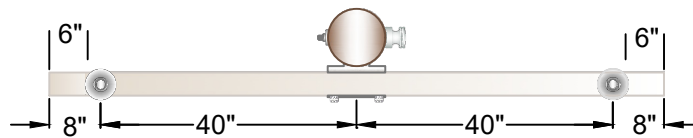
# Two Phase

FRONT VIEW

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	f	2	Pin, Xarm Clamp Type 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	1	Xarm Fbgls 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	5	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	7	Washer, Sq 2-1/4"		As Req'd.	Connector
e	5	Lock Nut 5/8"			

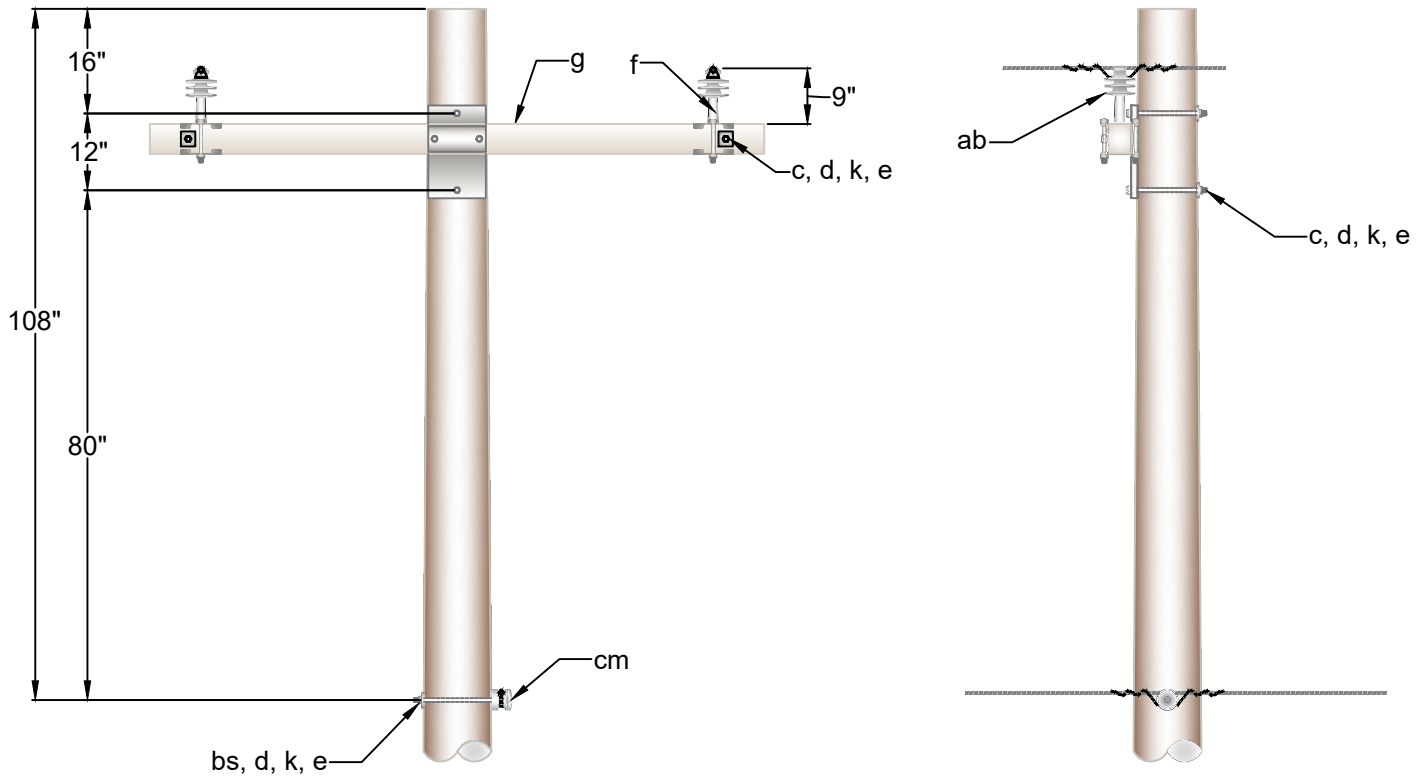


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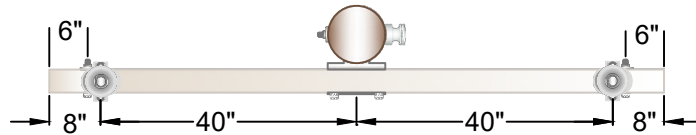
TITLE		2Ø TANGENT	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B1

FRONT VIEW

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	f	2	Pin, Xarm Clamp Type 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	1	Xarm Fbgls 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	5	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	7	Washer, Sq 2-1/4"		As Req'd.	Connector
e	5	Lock Nut 5/8"			

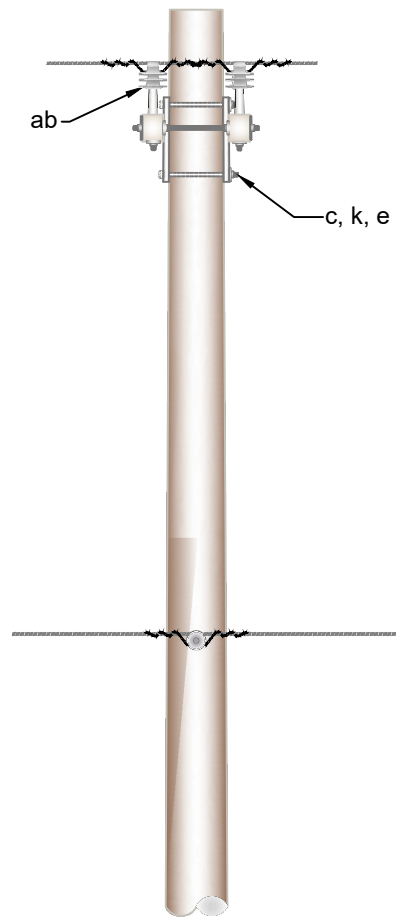
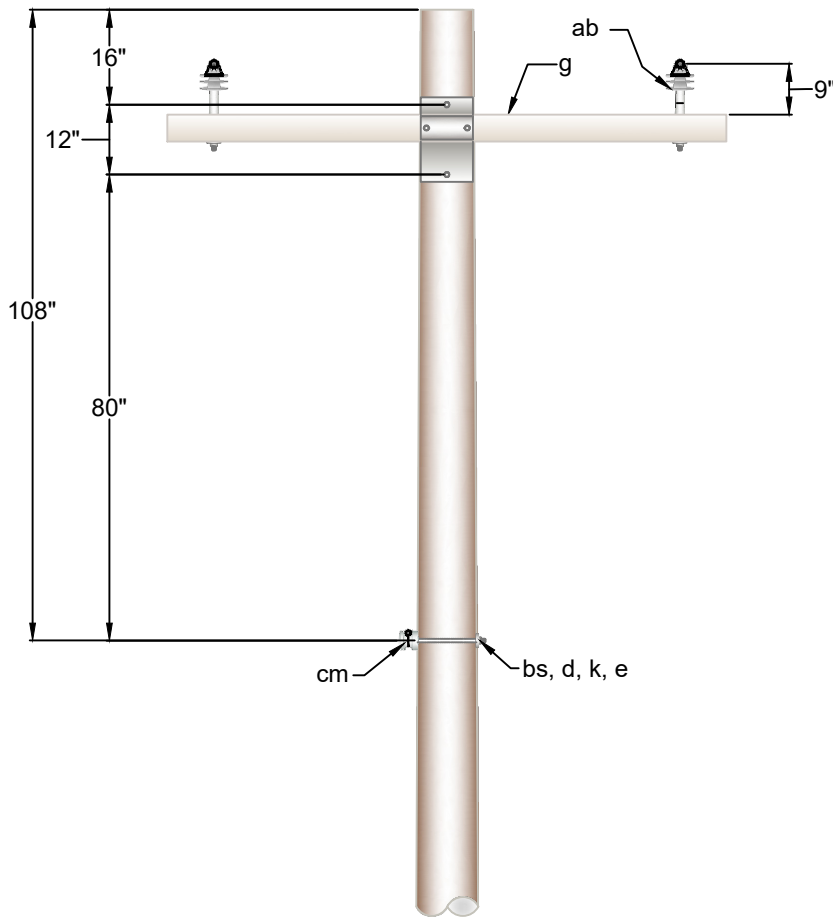


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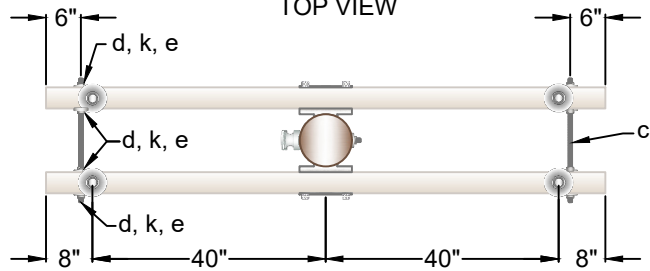
TITLE		2Ø TANGENT	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VB1

FRONT VIEW

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	4	Insulator, Pin Type (15kv)	e	11	Lock Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	f	4	Pin, Xarm Clamp Type 1"
c	2	Bolt, Machine 5/8" x Req'd. Length	g	2	Xarm Fbgl's 8'
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	11	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	9	Washer, Sq 2-1/4"		As Req'd.	Connector



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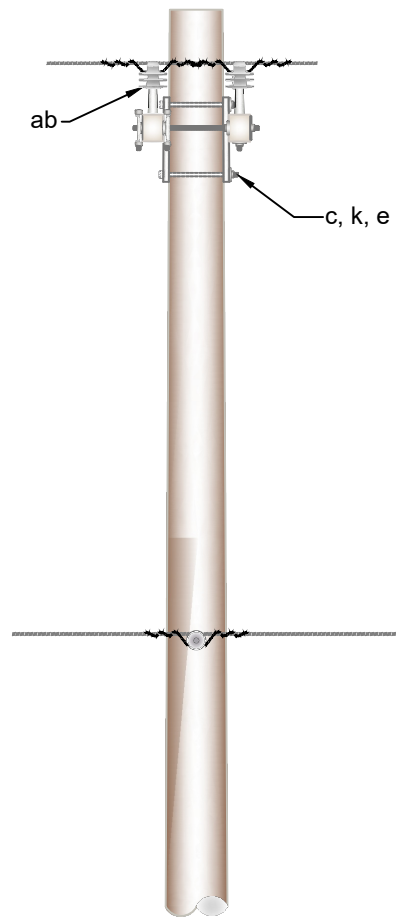
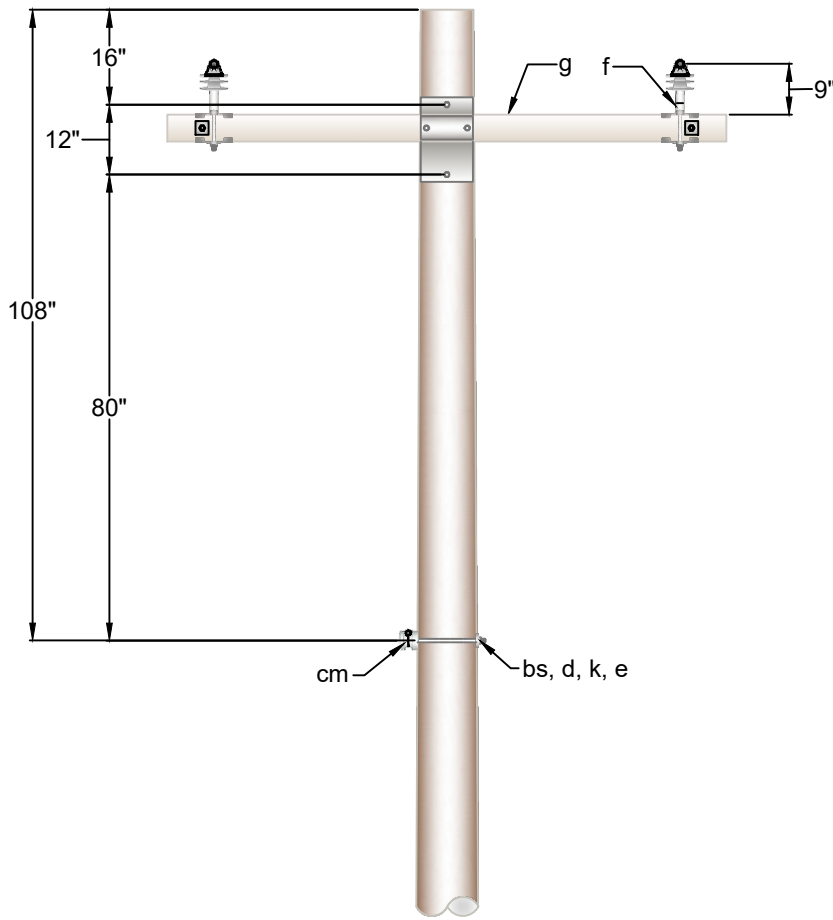
200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

2Ø LIGHT ANGLE

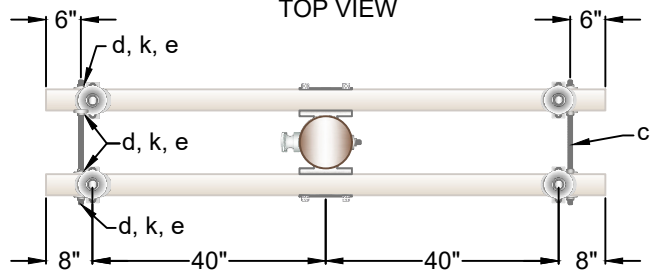
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B1-1

FRONT VIEW

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	4	Insulator, Pin Type (15kv)	e	11	Lock Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	f	4	Pin, Xarm Clamp Type 1"
c	2	Bolt, Machine 5/8" x Req'd. Length	g	2	Xarm Fbgl's 8'
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	11	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	9	Washer, Sq 2-1/4"		As Req'd.	Connector

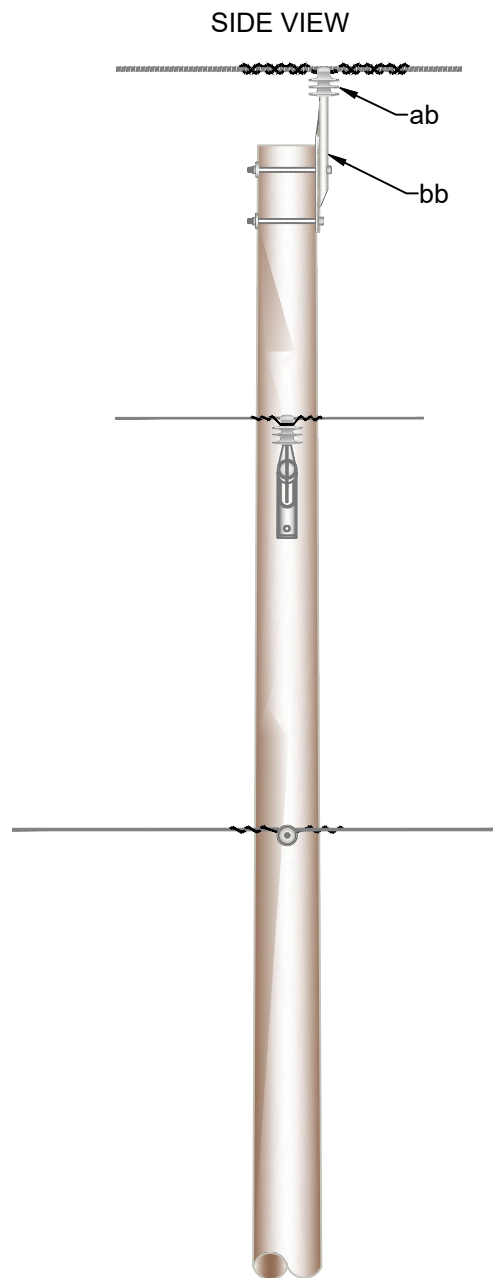
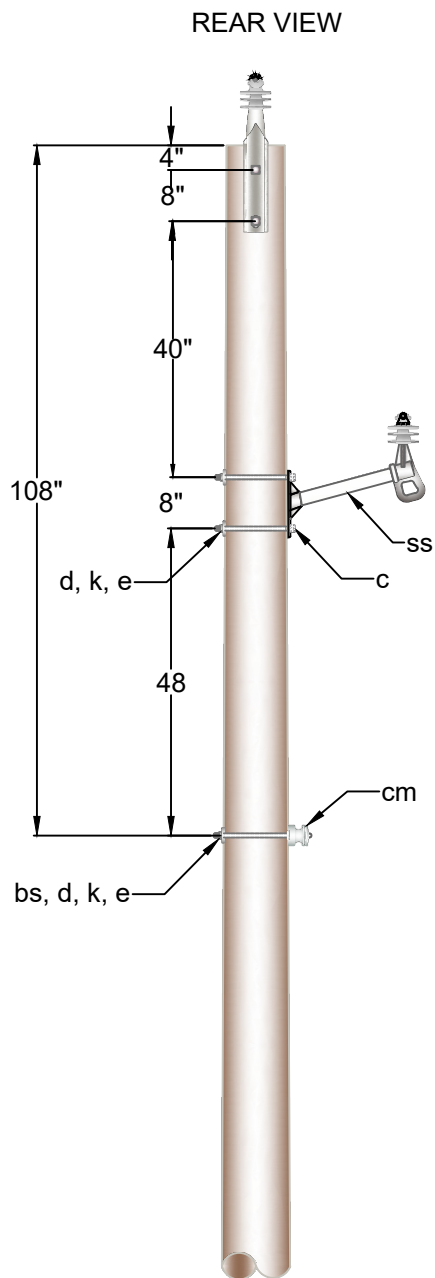


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2Ø LIGHT ANGLE

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VB1-1



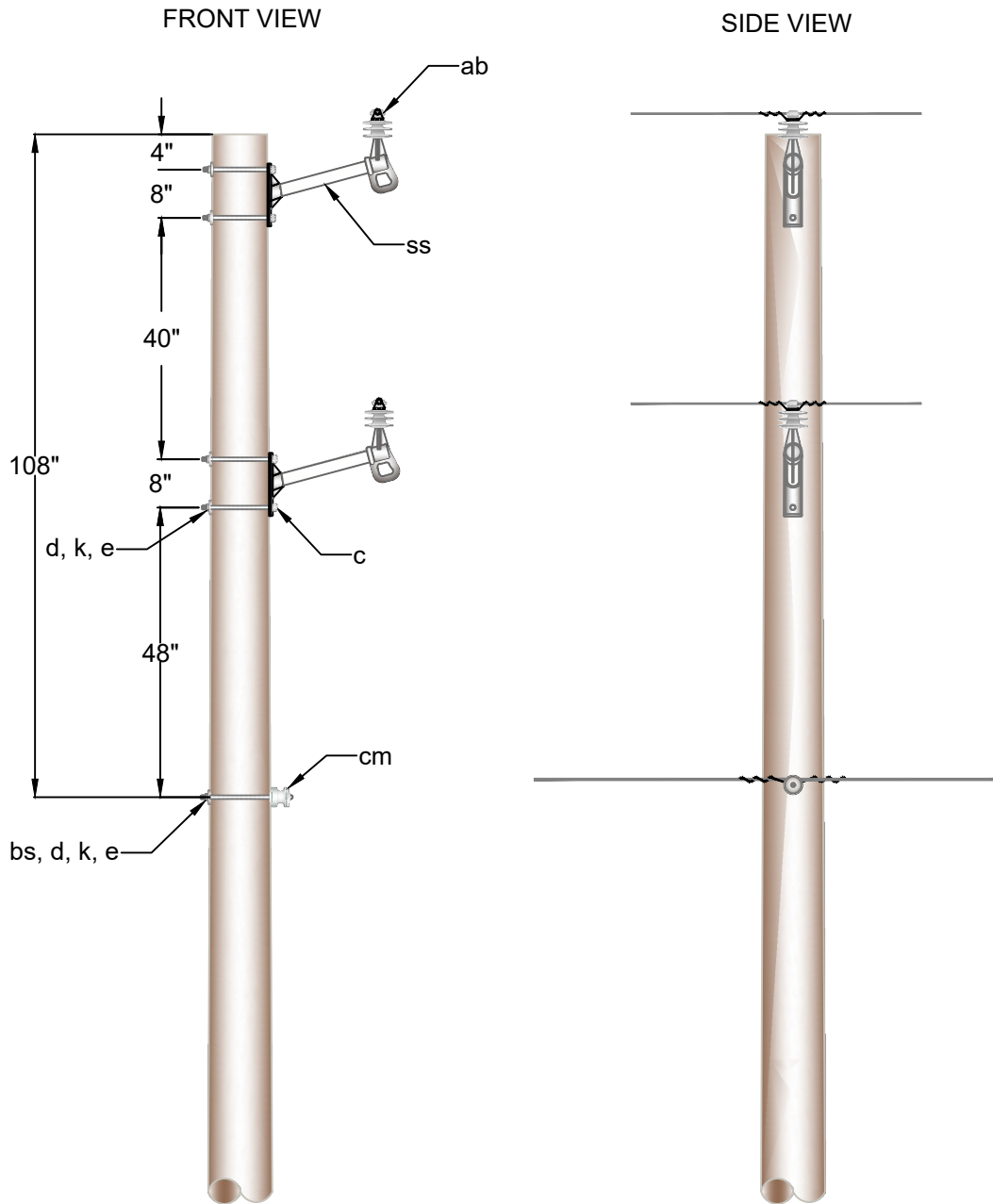
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	e	5	Lock Nut 5/8"
bb	1	Pin, Pole Top 1"	k	5	Square Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	ss	1	Bracket, Standoff 18"-1"
c	4	Bolt, Machine 5/8" x Req'd. Length		As Req'd.	Preform
cm	1	Insulator, 3" Spool		As Req'd.	Connector
d	5	Washer, Sq 2-1/4"			



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TITLE			
20 SINGLE SUPPORT TANGENT VERTICAL CONSTRUCTION			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B1PT



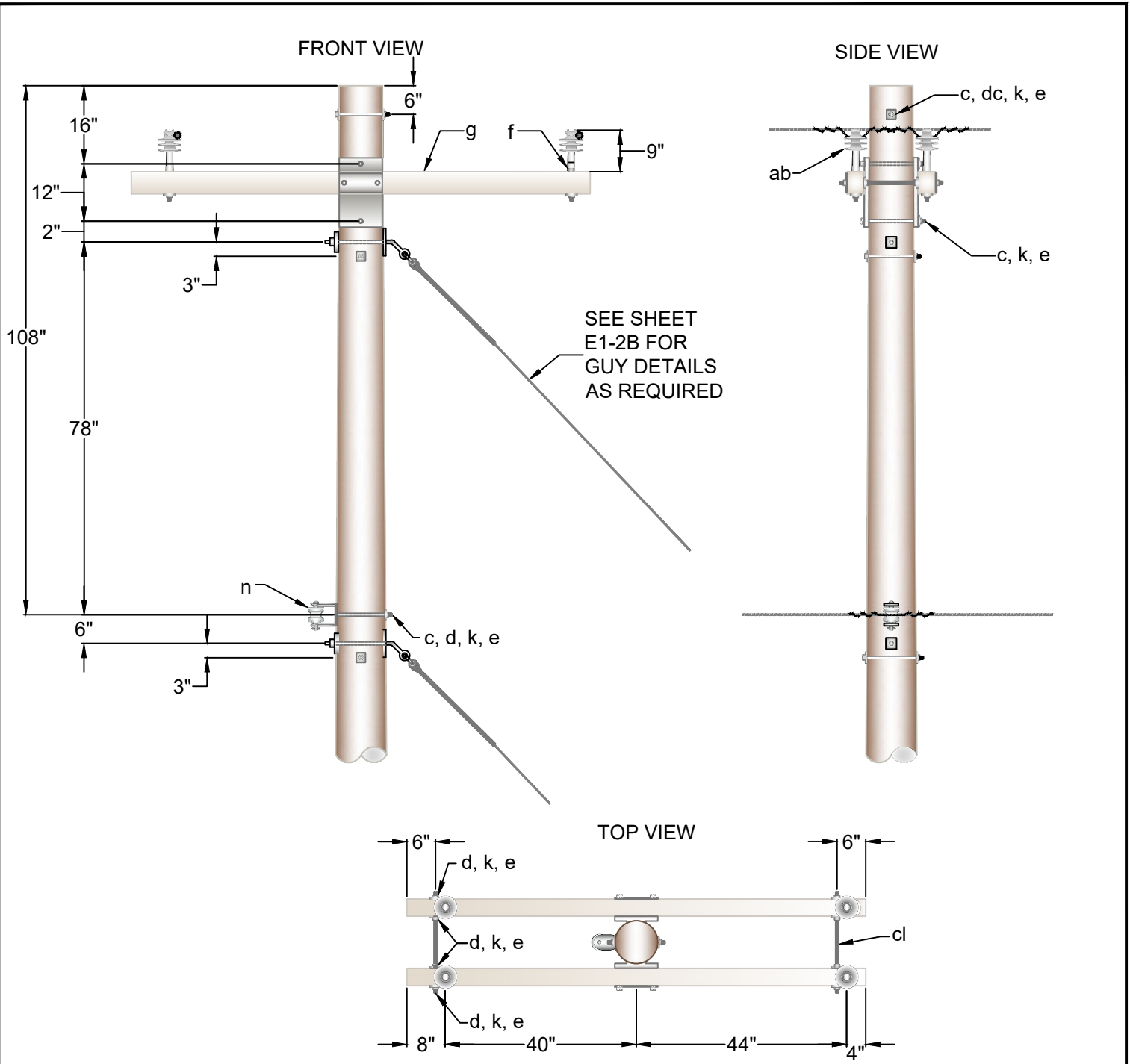
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	e	5	Lock Nut 5/8"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	k	5	Square Nut 5/8"
c	4	Bolt, Machine 5/8" x Req'd. Length	ss	2	Bracket, Standoff 18"-1"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	5	Washer, Sq 2-1/4"		As Req'd.	Connector



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TITLE			
20Ø SINGLE SUPPORT TANGENT VERTICAL CONSTRUCTION			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	ES
PAGE	1 OF 1	DRAWING NO #	B1S



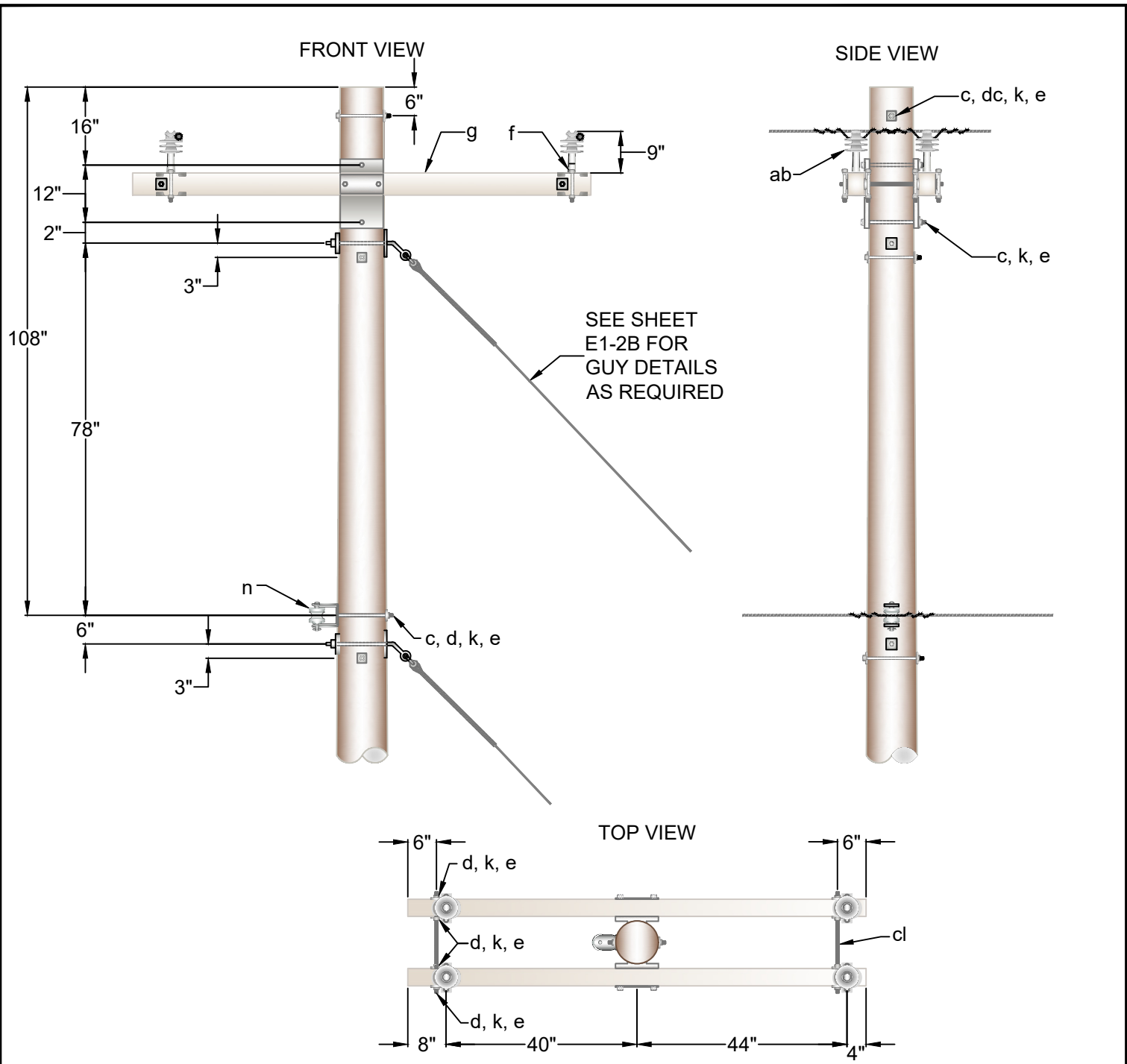
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	4	Insulator, Pin Type (15kv)	g	2	Xarm Fbgl's 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	12	Square Nut 5/8"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
d	9	Washer, Sq 2-1/4"		As Req'd.	Preform
dc	2	Washer, Curved 3-1/2"		As Req'd.	Connector
e	12	Lock Nut 5/8"		As Req'd.	Armor Rod
f	4	Pin, Xarm Clamp Type 1"			



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TITLE		2Ø LIGHT ANGLE	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B2



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	4	Insulator, Pin Type (15kv)	g	2	Xarm Fbgl's 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	12	Square Nut 5/8"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
d	9	Washer, Sq 2-1/4"		As Req'd.	Preform
dc	2	Washer, Curved 3-1/2"		As Req'd.	Connector
e	12	Lock Nut 5/8"		As Req'd.	Armor Rod
f	4	Pin, Xarm Clamp Type 1"			



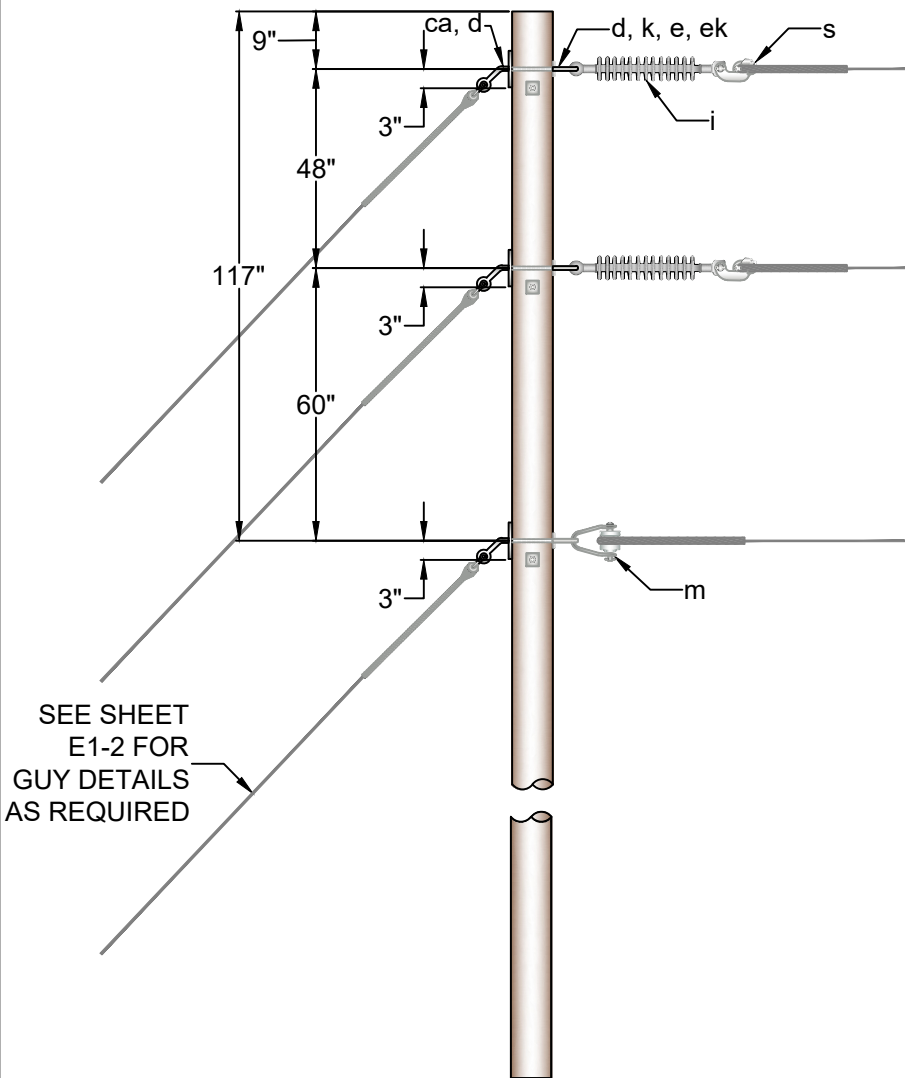
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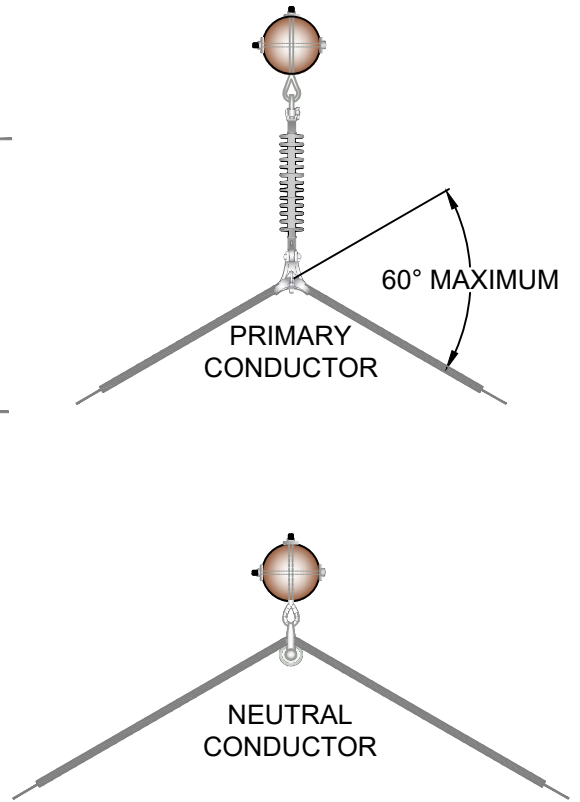
2Ø LIGHT ANGLE

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1		DRAWING NO # VB2

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	3	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	k	6	Square Nut 5/8"
d	6	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
e	3	Lock Nut 5/8"	s	2	Clamp, Susp
ek	3	Eye Nut 5/8"		As Req'd.	Tie Wire
i	2	Insulator, Suspension (15kv)		As Req'd.	Armor Rod



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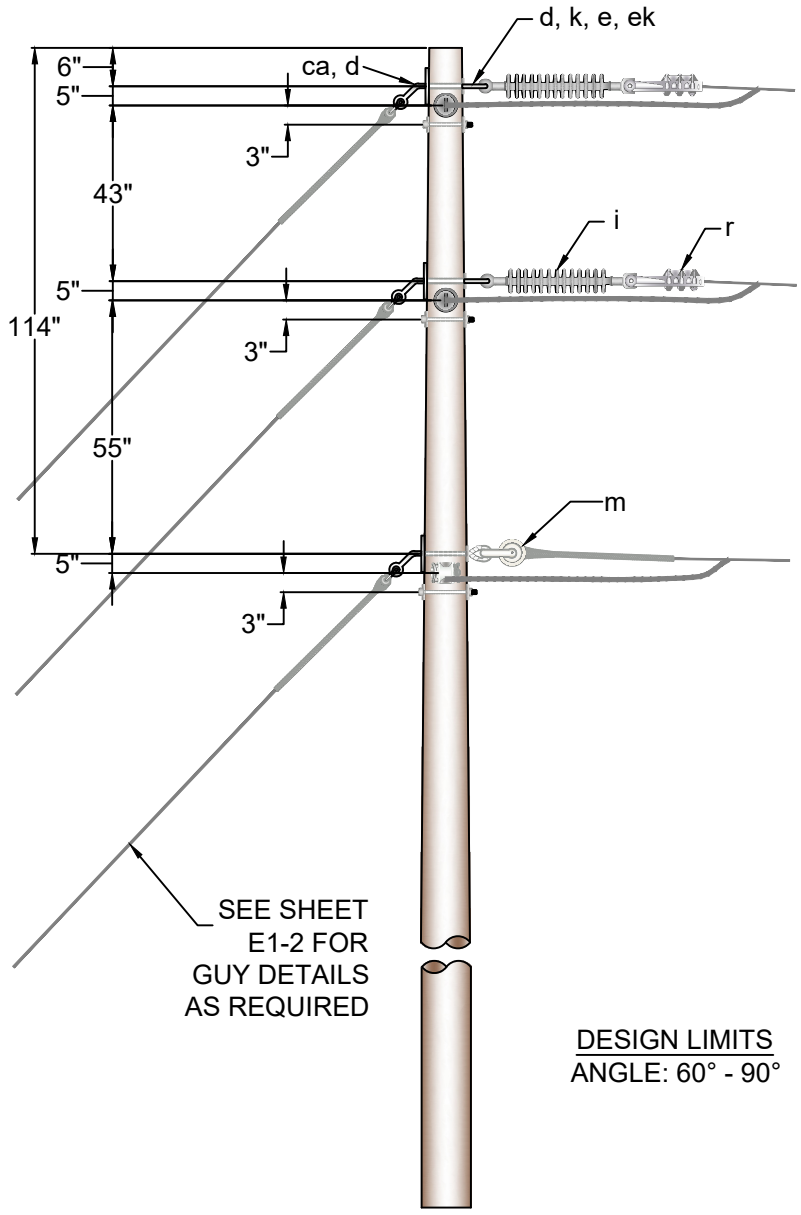
TITLE 2Ø VERTICAL CONSTRUCTION  
MEDIUM ANGLE

REV NO REV BY ISSUE DATE 12/19/2025

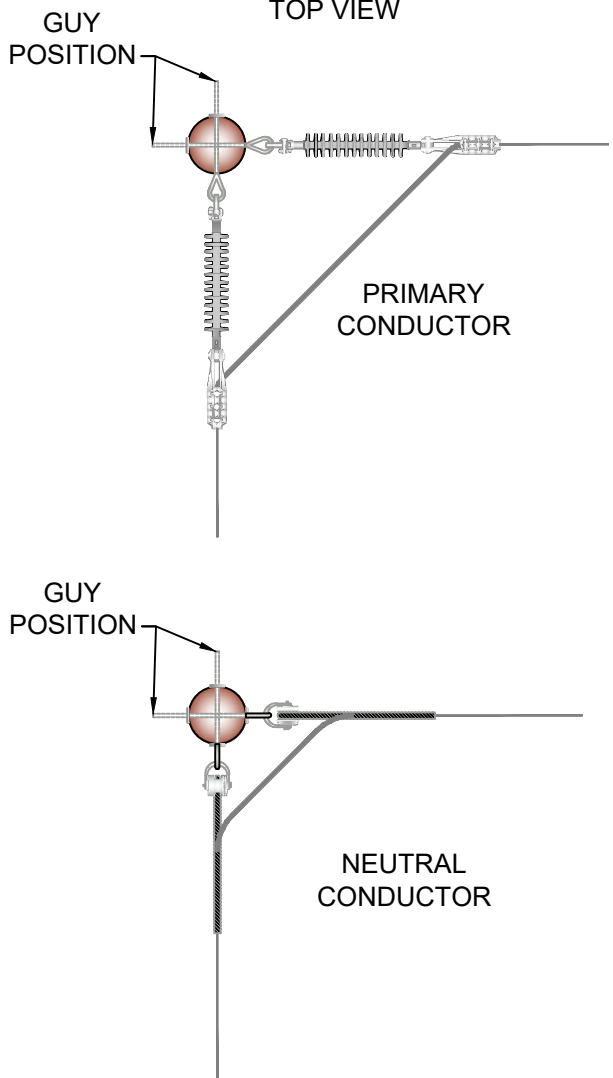
SCALE NTS TECH

PAGE 1 OF 1 DRAWING NO# B3

SIDE VIEW



TOP VIEW



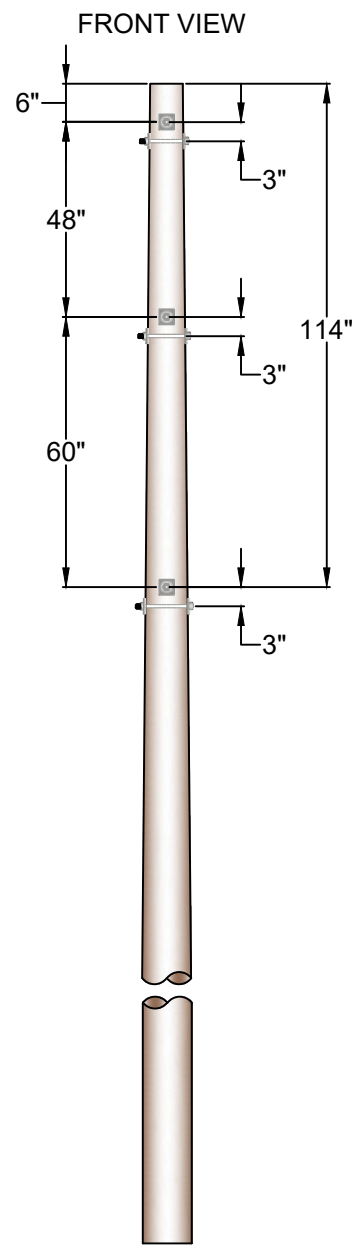
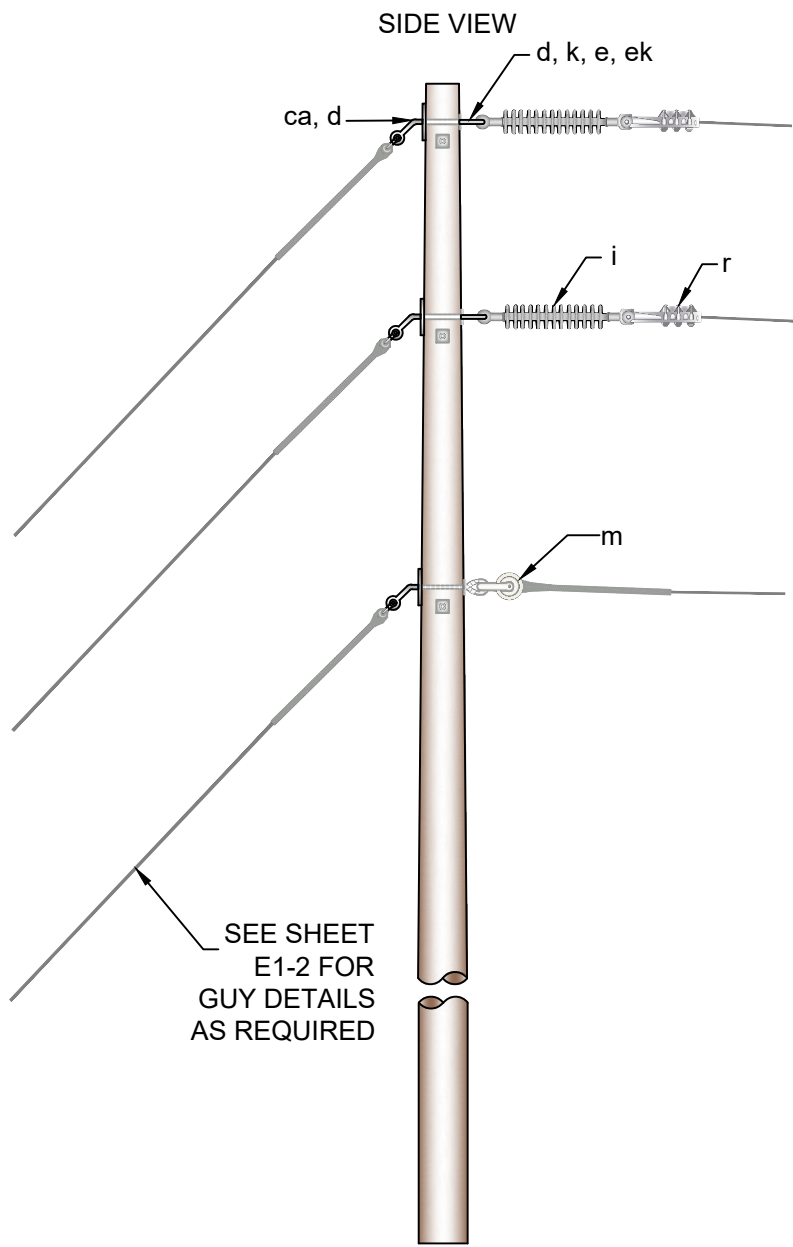
DESIGN LIMITS  
ANGLE: 60° - 90°

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	6	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	m	2	Clevis, Insulated Swing 4" Spool
d	14	Washer, Sq 2-1/4"	r	4	Clamp, DE
e	6	Lock Nut 5/8"		As Req'd.	Preform
ek	6	Eye Nut 5/8"		As Req'd.	Jumper
i	4	Insulator, Suspension (15kv)		As Req'd.	Connector
k	12	Square Nut 5/8"			



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TITLE		2Ø VERTICAL CONSTRUCTION LARGE ANGLE	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B4

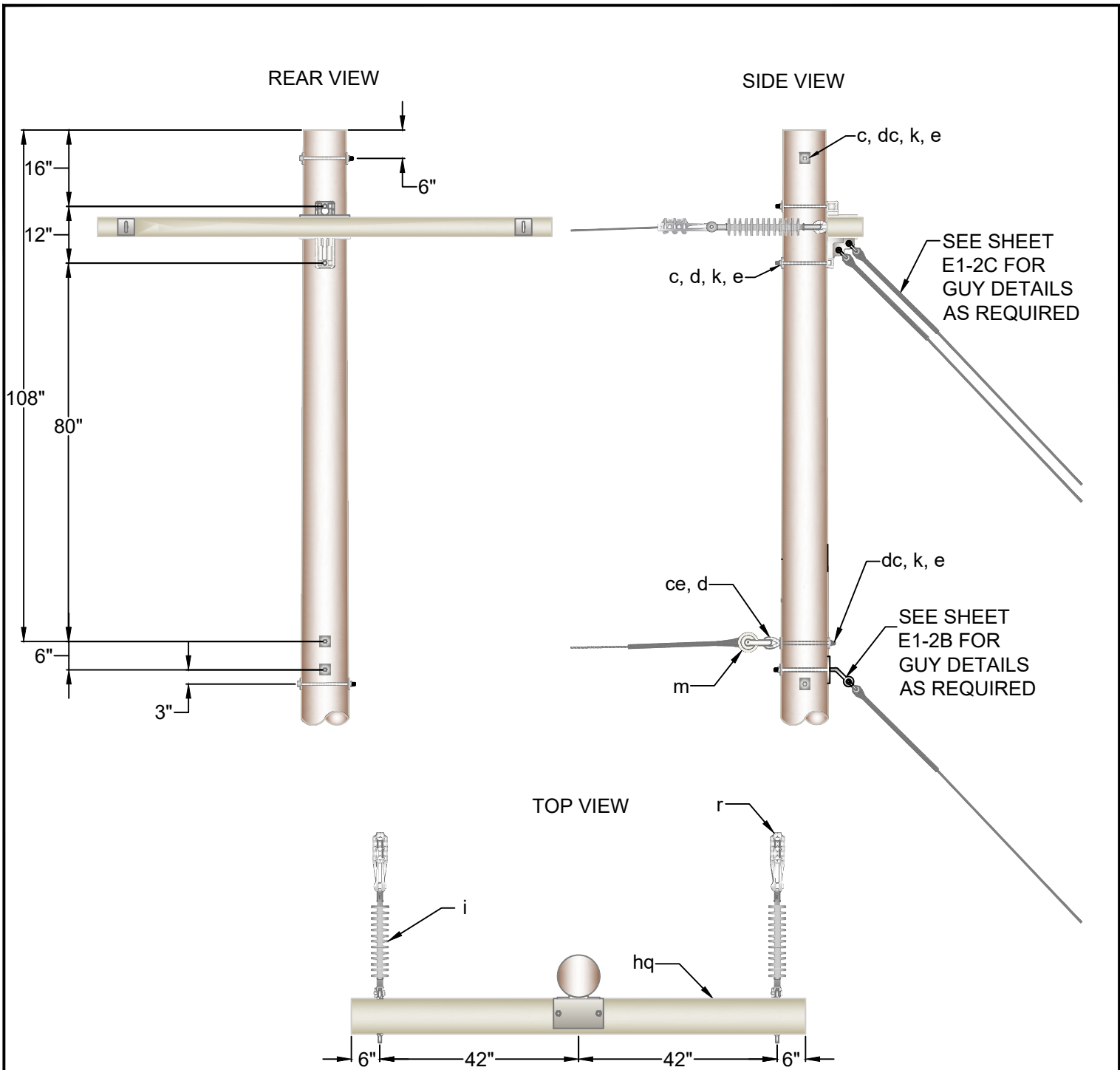


Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	3	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	k	6	Square Nut 5/8"
d	6	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
e	3	Lock Nut 5/8"	r	2	Clamp, DE
ek	3	Eye Nut 5/8"		As Req'd.	Preform
i	2	Insulator, Suspension (15kv)		As Req'd.	Connector



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TITLE		2Ø VERTICAL CONSTRUCTION (DEADEND)	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B5



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	3	Bolt, Machine 5/8" x Req'd. Length	i	2	Insulator, Suspension (15kv)
ce	1	Bolt, Eye 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	3	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
dc	3	Washer, Curved 3-1/2"	r	2	Clamp, DE
e	4	Lock Nut 5/8"		As Req'd.	Preform
hq	1	Xarm DE Fbgl's 8' HD		As Req'd.	Connector

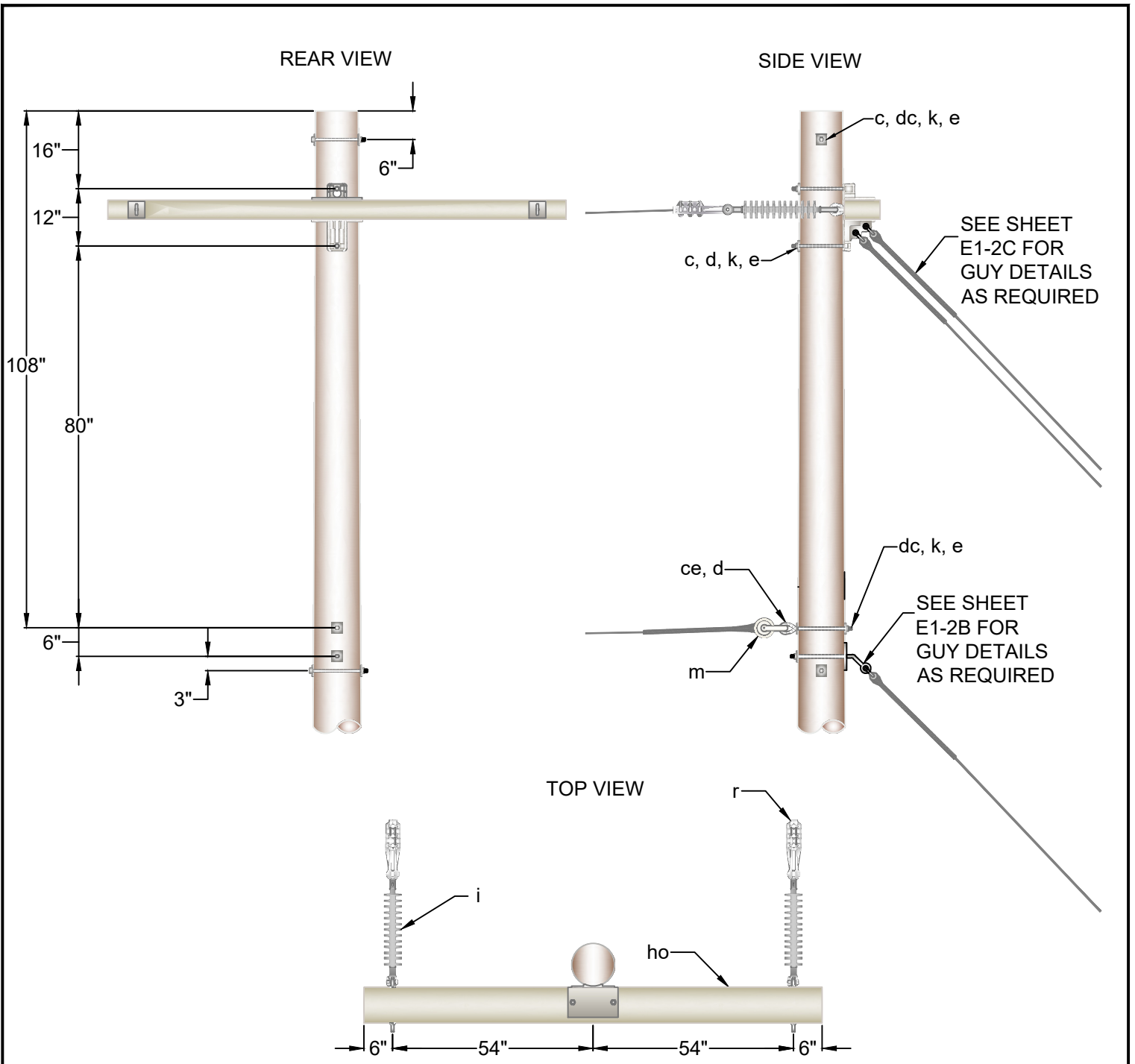


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2Ø DEADEND

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B7



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	3	Bolt, Machine 5/8" x Req'd. Length	i	2	Insulator, Suspension (15kv)
ce	1	Bolt, Eye 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	3	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
dc	3	Washer, Curved 3-1/2"	r	2	Clamp, DE
e	4	Lock Nut 5/8"		As Req'd.	Preform
ho	1	Xarm DE Fbgls 10' HD		As Req'd.	Connector

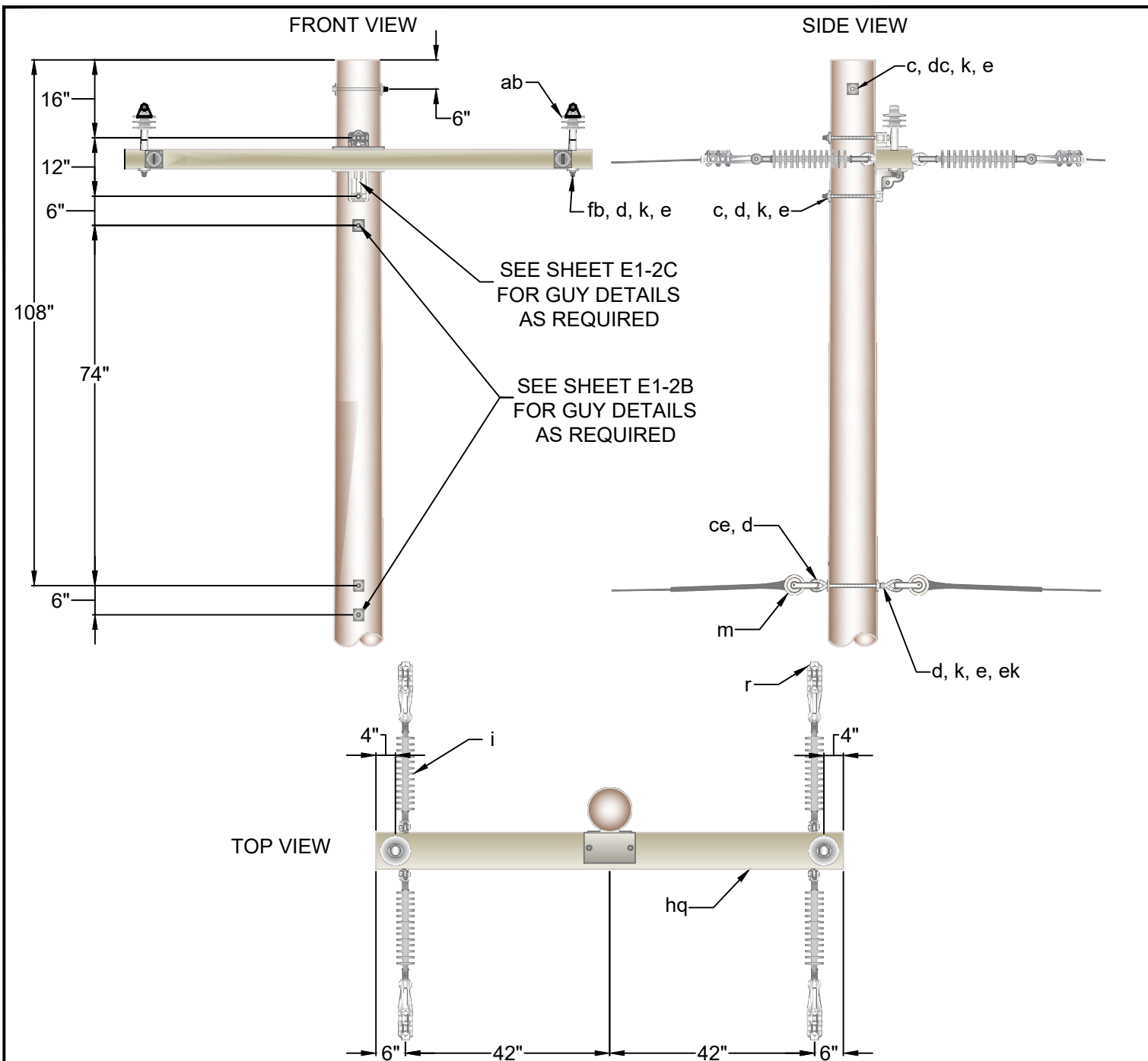


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2Ø DEADEND 10' XARM

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B7-1



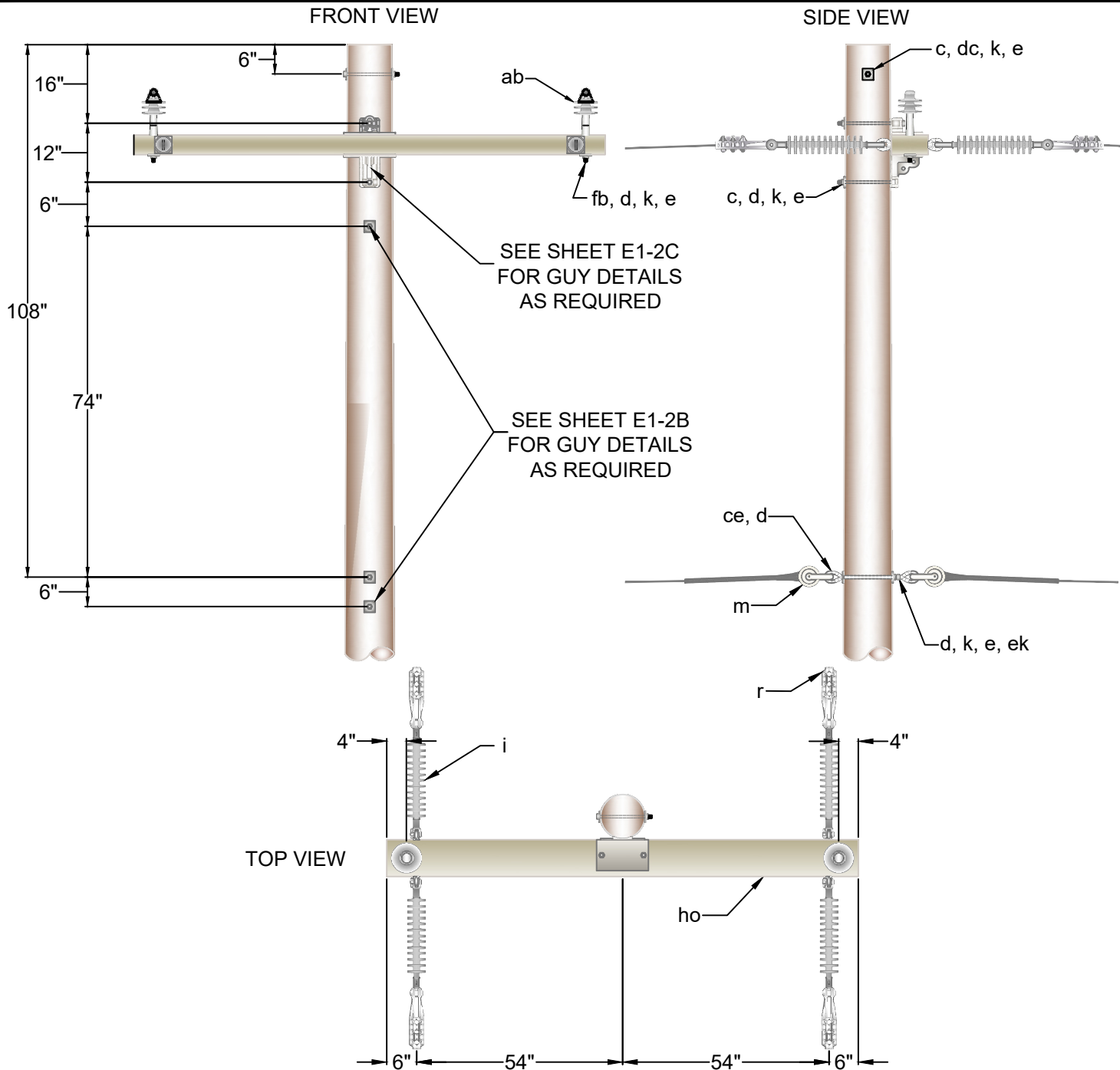
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	hq	1	Xarm DE Fbgls 8' HD
c	3	Bolt, Machine 5/8" x Req'd. Length	i	4	Insulator, Suspension (15kv)
ce	1	Bolt, Eye 5/8" x Req'd. Length	k	7	Square Nut 5/8"
d	6	Washer, Sq 2-1/4"	m	2	Clevis, Insulated Swing 4" Spool
dc	2	Washer, Curved 3-1/2"	r	4	Clamp, DE
e	6	Lock Nut 5/8"		As Req'd.	Preform
ek	1	Eye Nut 5/8"		As Req'd.	Jumper
fb	2	Pin, Xarm Steel 1"		As Req'd.	Connector



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TITLE			
2Ø DOUBLE DEADEND			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	B8



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	2	Insulator, Pin Type (15kv)	ho	1	Xarm DE Fbgls 10' HD
c	3	Bolt, Machine 5/8" x Req'd. Length	i	4	Insulator, Suspension (15kv)
ce	1	Bolt, Eye 5/8" x Req'd. Length	k	7	Square Nut 5/8"
d	6	Washer, Sq 2-1/4"	m	2	Clevis, Insulated Swing 4" Spool
dc	2	Washer, Curved 3-1/2"	r	4	Clamp, DE
e	6	Lock Nut 5/8"		As Req'd.	Preform
ek	1	Eye Nut 5/8"		As Req'd.	Jumper
fb	2	Pin, Xarm Steel 1"		As Req'd.	Connector



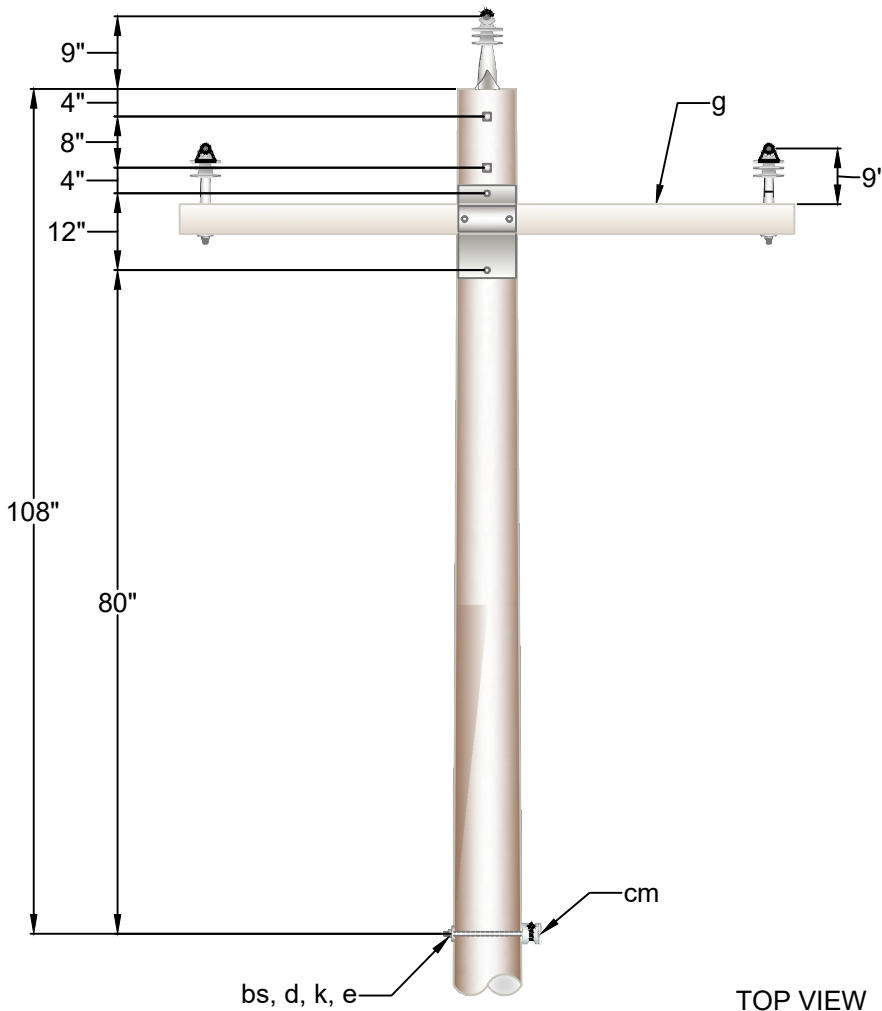
CITY OF BRENHAM ELECTRIC SYSTEM

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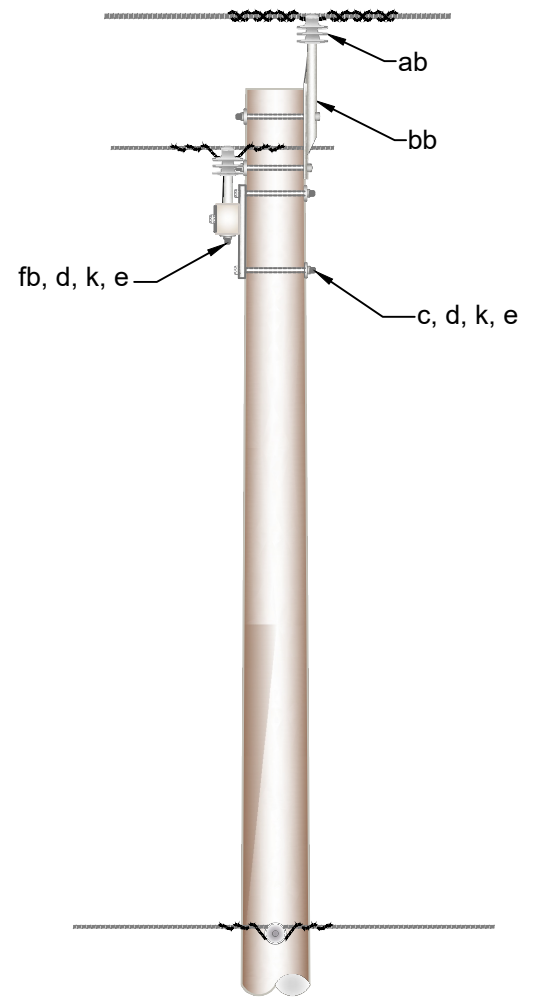
TITLE		2Ø DOUBLE DEADEND 10'	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	B8-1

# **Three Phase**

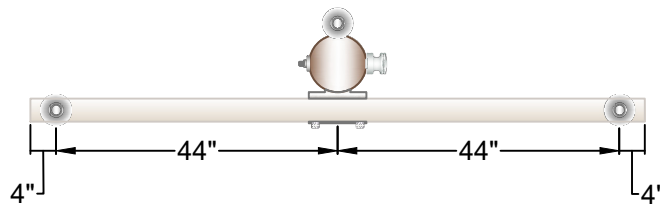
REAR VIEW



SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	e	7	Lock Nut 5/8"
bb	1	Pin, Pole Top 1"	fb	2	Pin, Xarm Steel 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	1	Xarm Fbgl 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	7	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	7	Washer, Sq 2-1/4"		As Req'd.	Connector

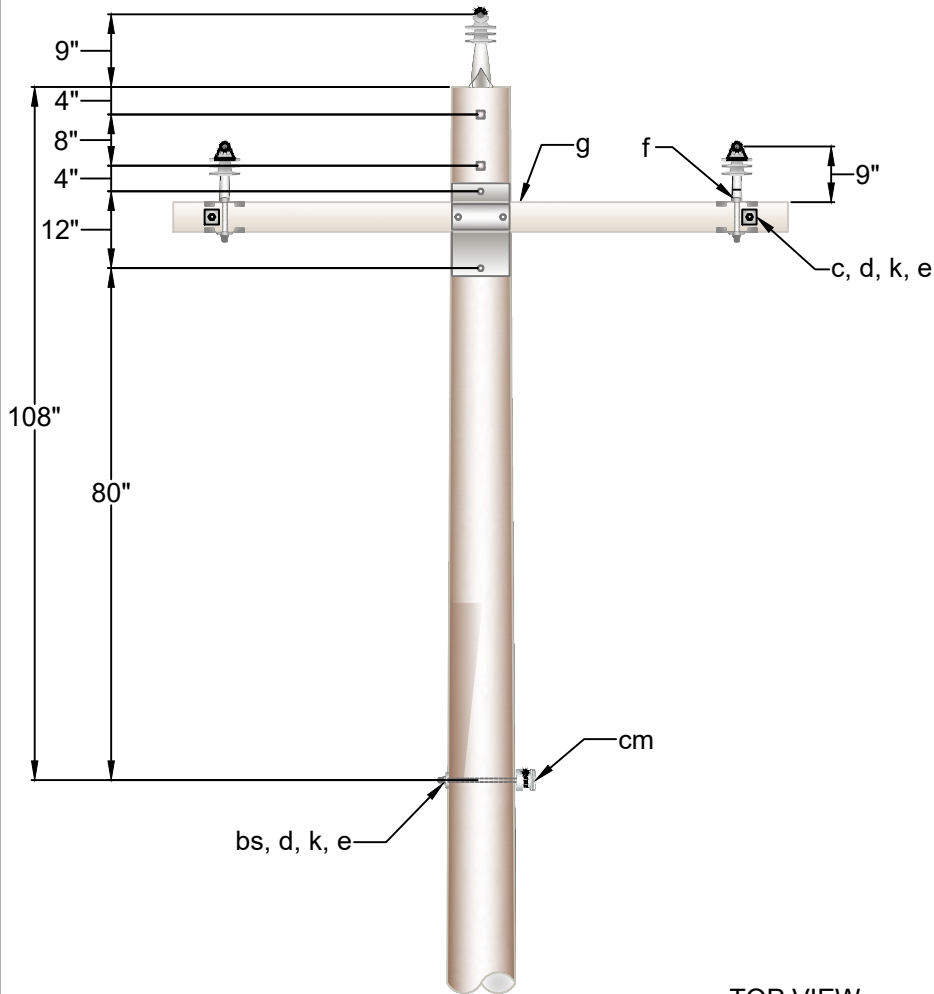


CITY OF BRENHAM ELECTRIC SYSTEM

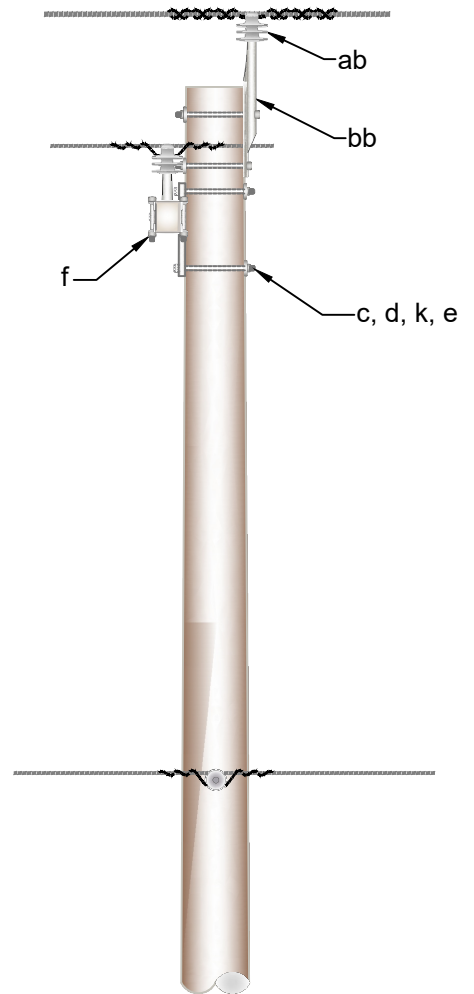
200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

TITLE			
3Ø TANGENT			
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C1

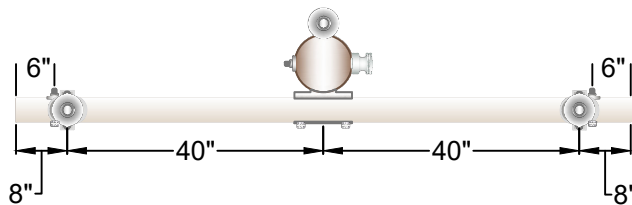
REAR VIEW



SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	e	7	Lock Nut 5/8"
bb	1	Pin, Pole Top 1"	f	2	Pin, Xarm Clamp Type 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	1	Xarm Fbgls 8'
c	6	Bolt, Machine 5/8" x Req'd. Length	k	7	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	9	Washer, Sq 2-1/4"		As Req'd.	Connector



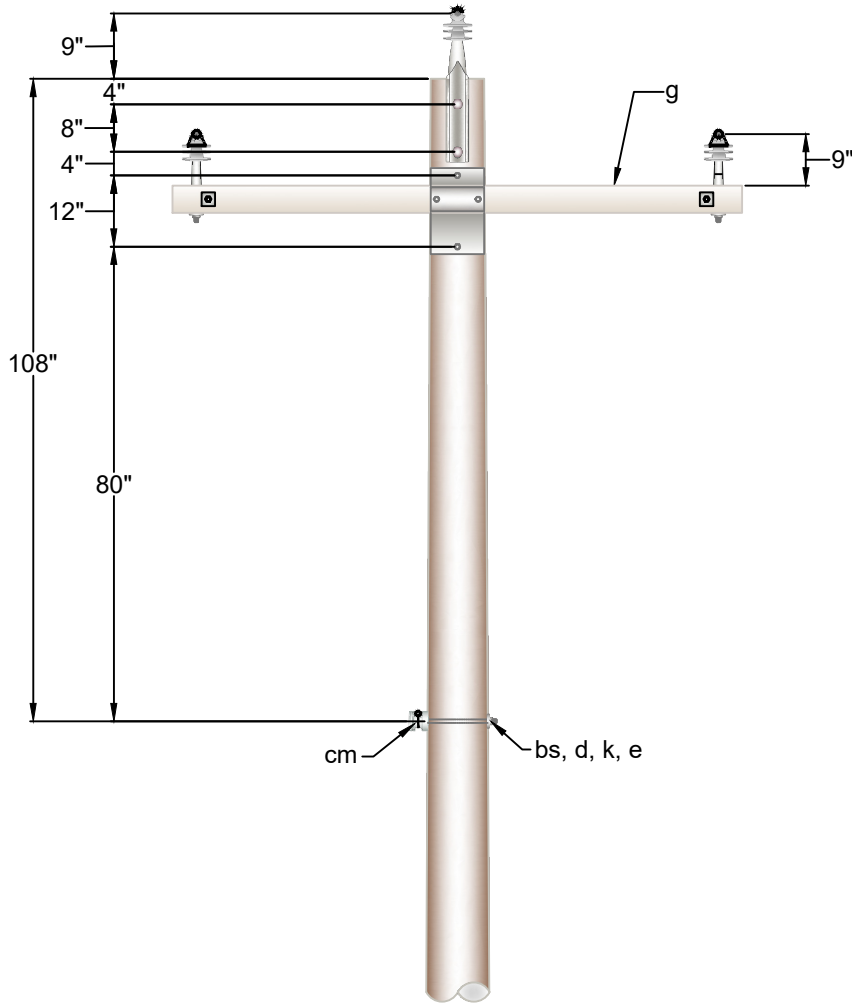
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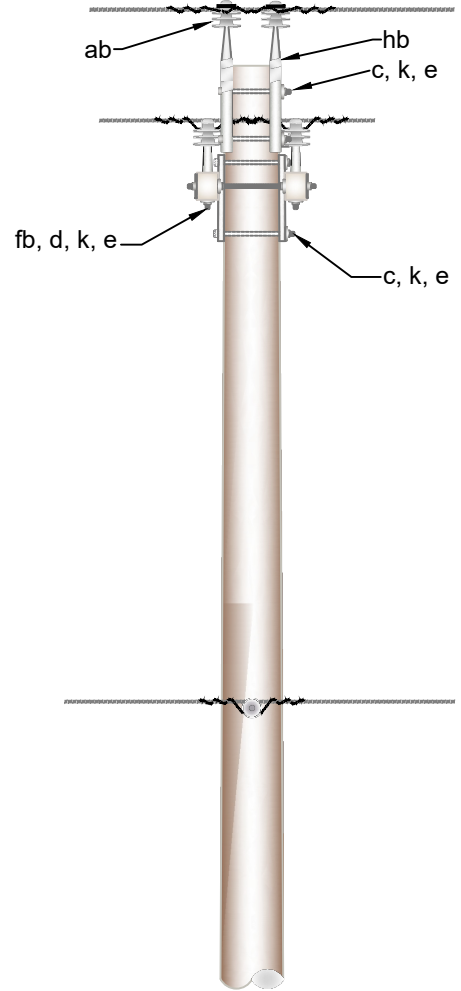
3Ø TANGENT

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VC1

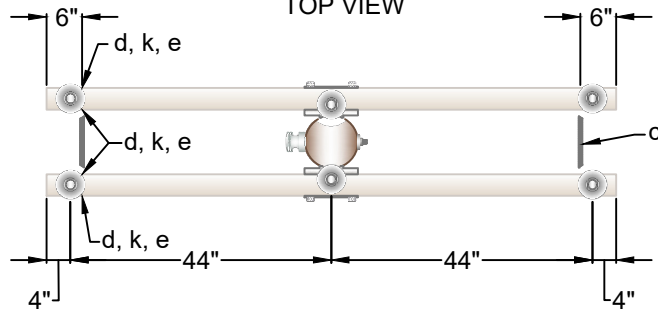
FRONT VIEW



SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	fb	4	Pin, Xarm Steel 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	2	Xarm Fbgl 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	hb	2	Pin, Pole Top 1"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	17	Square Nut 5/8"
cm	1	Insulator, 3" Spool		As Req'd.	Preform
d	13	Washer, Sq 2-1/4"		As Req'd.	Connector
e	17	Lock Nut 5/8"			

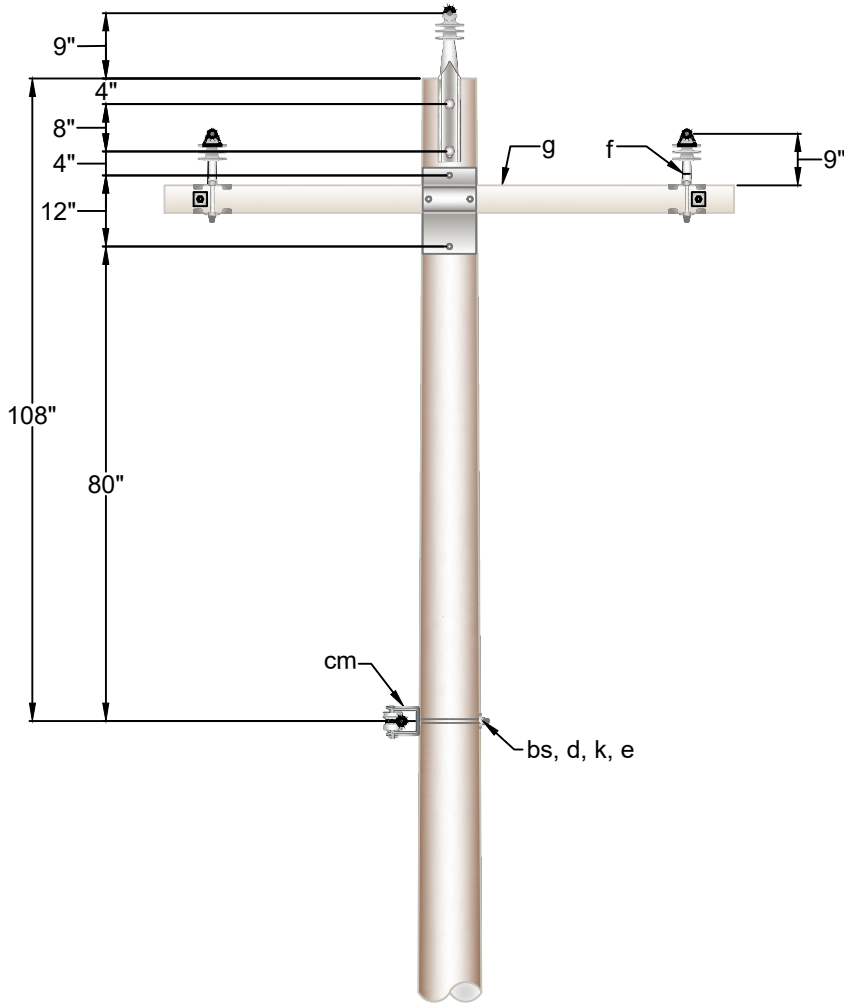


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TITLE			
3Ø LIGHT ANGLE		ISSUE DATE	12/23/2025
REV NO	REV BY	TECH	
SCALE	NTS	PAGE	1 OF 1
DRAWING NO #		C1-1	

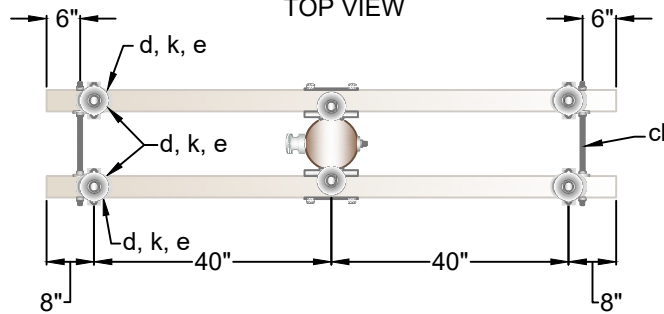
FRONT VIEW



SIDE VIEW



TOP VIEW



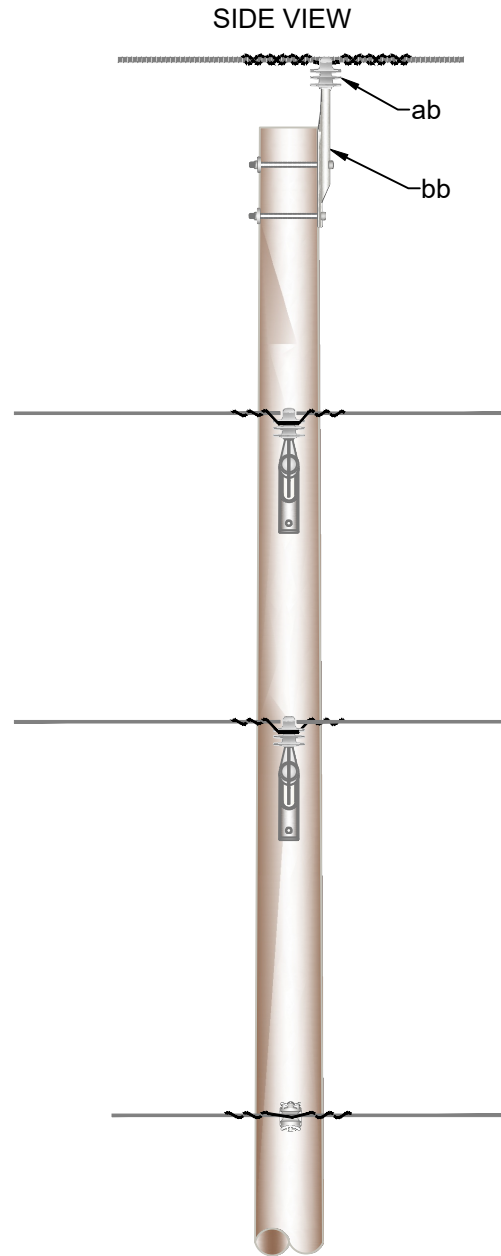
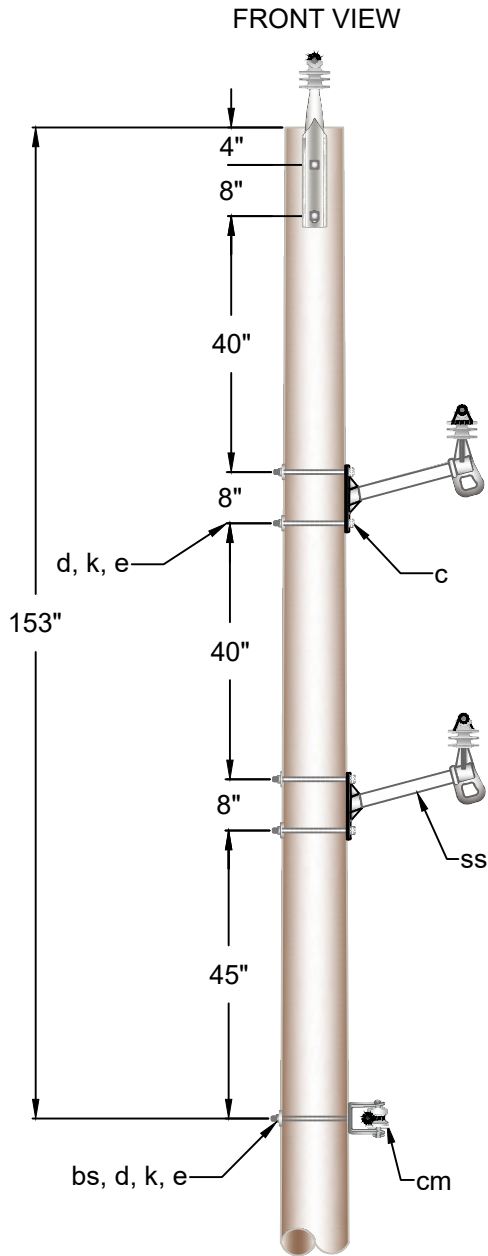
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	f	4	Pin, Xarm Clamp Type 1"
			g	2	Xarm Fbgls 8'
c	5	Bolt, Machine 5/8" x Req'd. Length	hb	2	Pin, Pole Top
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	13	Square Nut 5/8"
cm	1	Clevis, Insulated 3" Spool		As Req'd.	Preform
d	9	Washer, Sq 2-1/4"		As Req'd.	Connector
e	13	Lock Nut 5/8"			



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3Ø LIGHT ANGLE

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VC1-1



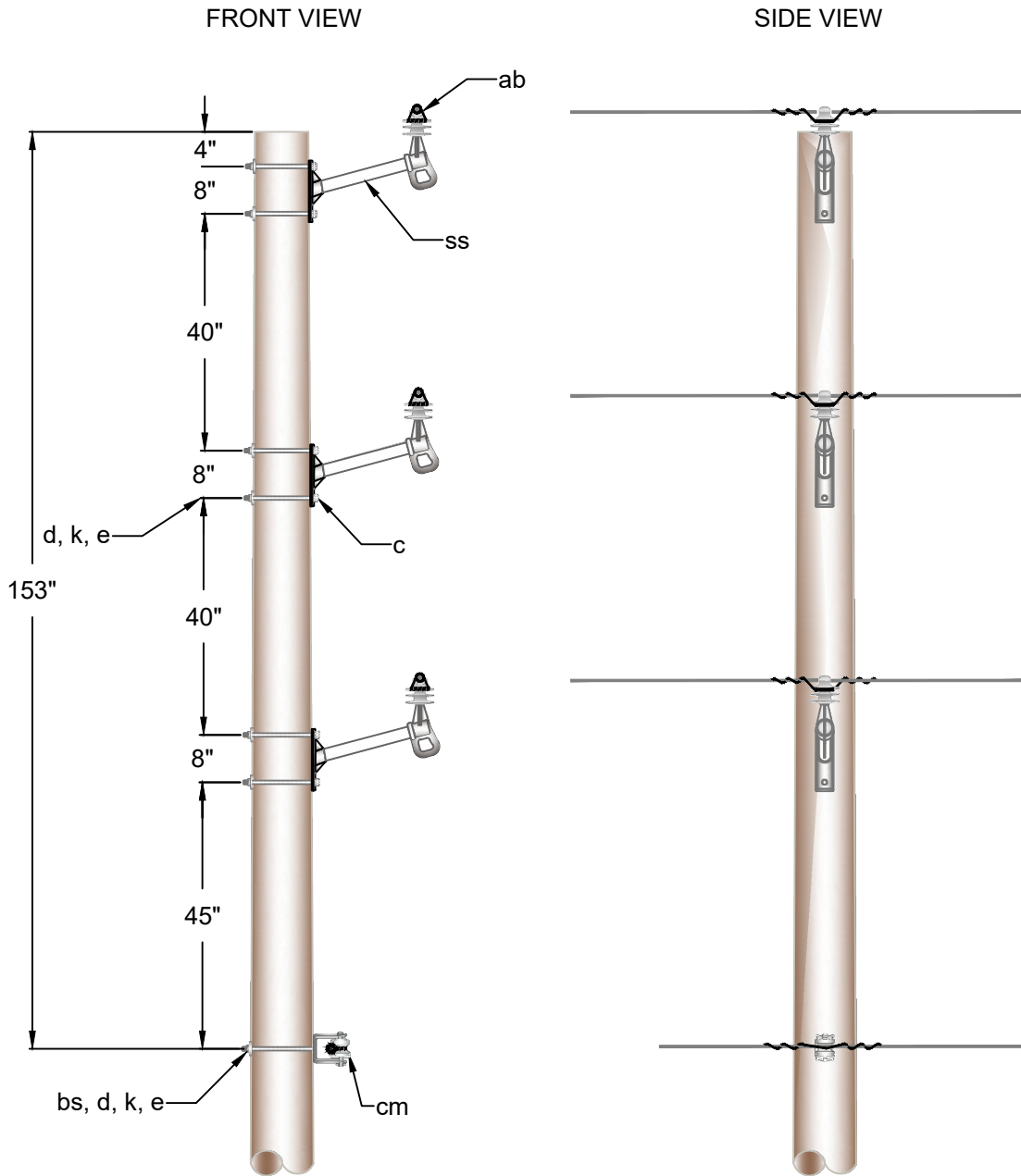
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	e	8	Lock Nut 5/8"
bb	1	Pin, Pole Top 1"	k	8	Square Nut 5/8"
bs			ss	2	Bracket, Standoff 18"-1"
c	7	Bolt, Machine 5/8" x Req'd. Length		As Req'd.	Preform
cm	1	Insulator, 3" Spool		As Req'd.	Connector
d	8	Washer, Sq 2-1/4"			



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TITLE			
<b>3Ø SINGLE SUPPORT TANGENT VERTICAL CONSTRUCTION</b>			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C1PT



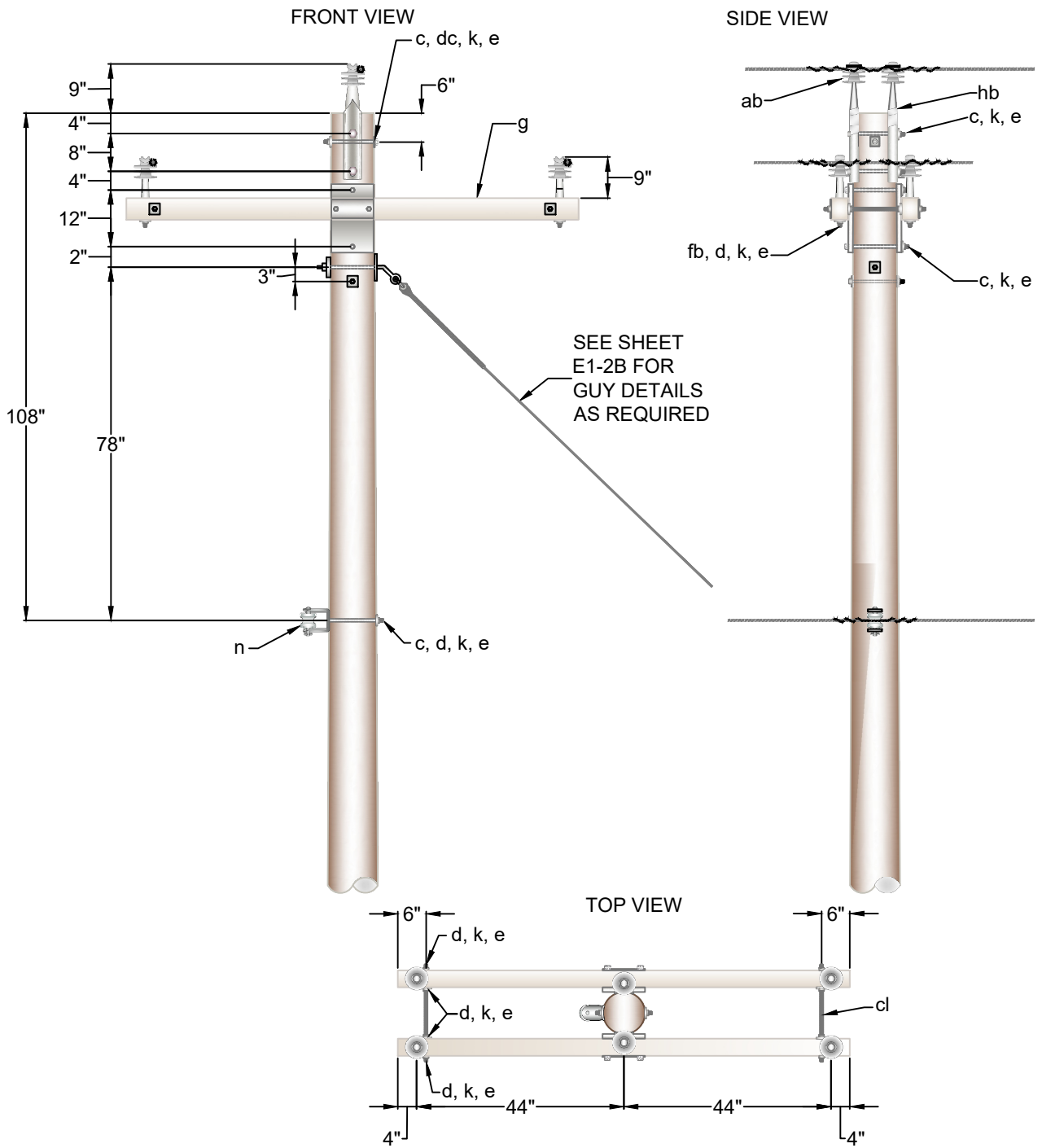
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	e	8	Lock Nut 5/8"
bs			k	8	Square Nut 5/8"
c	7	Bolt, Machine 5/8" x Req'd. Length	ss	3	Bracket, Standoff 18"-1"
cm	1	Clevis, Insulator, 3" Spool		As Req'd.	Preform
d	8	Washer, Sq 2-1/4"		As Req'd.	Connector



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TITLE			
3Ø SINGLE SUPPORT TANGENT VERTICAL CONSTRUCTION			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C1S

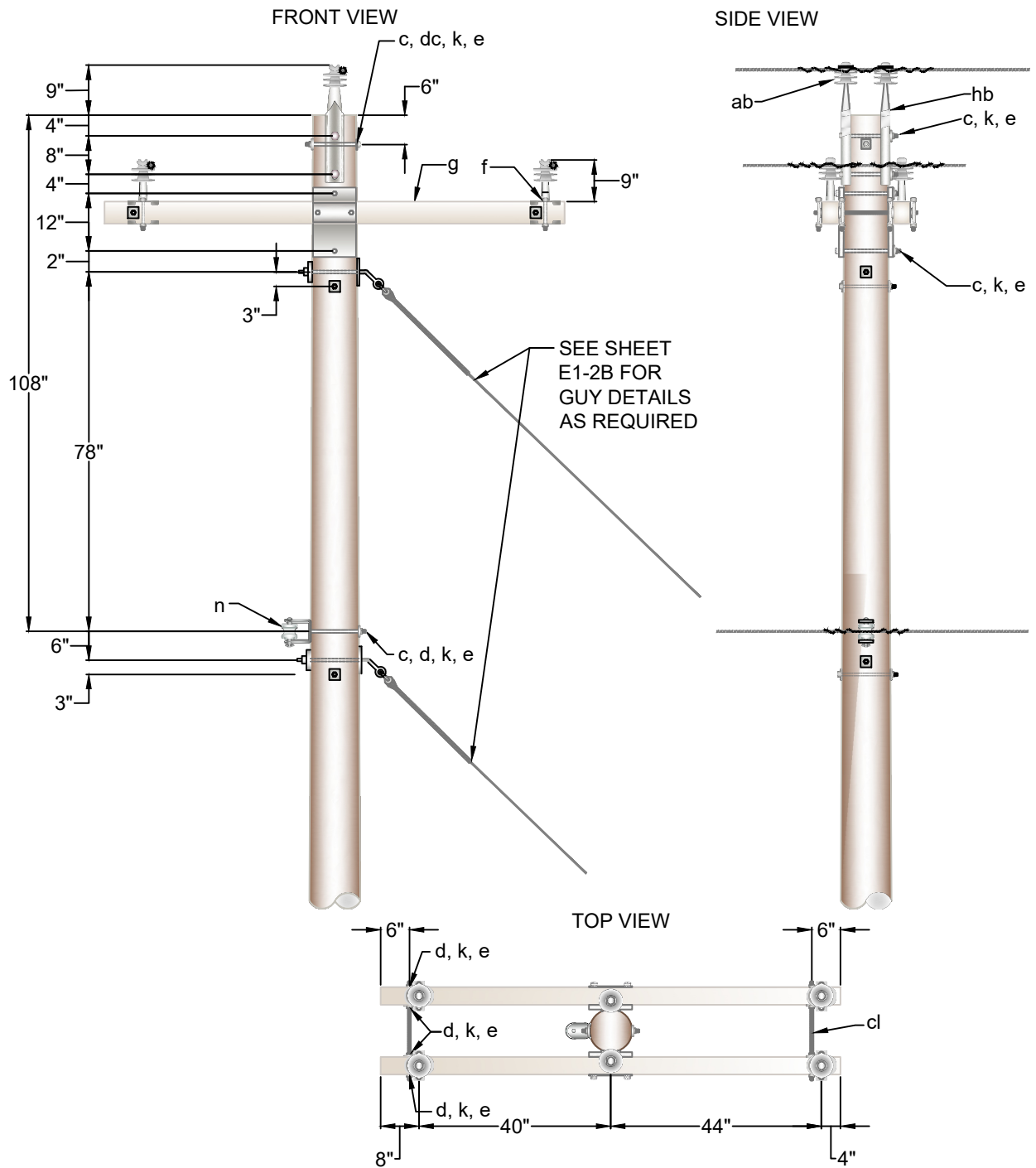


Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	g	2	Xarm Fbgls 8'
c	6	Bolt, Machine 5/8" x Req'd. Length	hb	2	Pin, Pole Top Offset 1"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	18	Square Nut 5/8"
d	13	Washer, Sq 2-1/4"	n	1	Clevis, Insulated Rack 3" Spool
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	18	Lock Nut 5/8"		As Req'd.	Connector
fb	4	Pin, Xarm Steel 1"		As Req'd.	Armor Rod



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TITLE			
3Ø LIGHT ANGLE			
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C2



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	g	2	Xarm Fbgl's 8'
c	6	Bolt, Machine 5/8" x Req'd. Length	hb	2	Pin, Pole Top Offset 1"
cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length	k	14	Square Nut 5/8"
d	9	Washer, Sq 2-1/4"	n	1	Clevis, Insulated Rack 3" Spool
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	14	Lock Nut 5/8"		As Req'd.	Connector
f	4	Pin, Xarm Clamp Type 1"		As Req'd.	Armor Rod



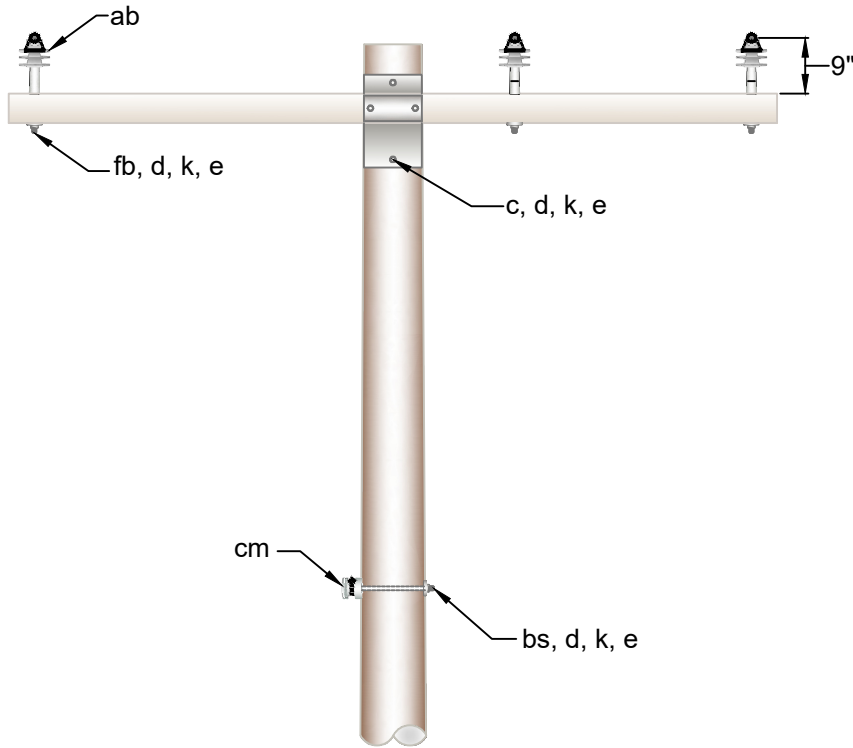
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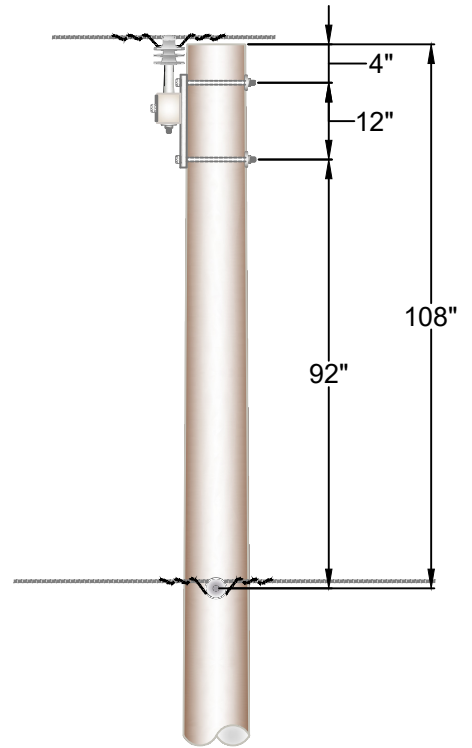
3Ø LIGHT ANGLE

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VC2

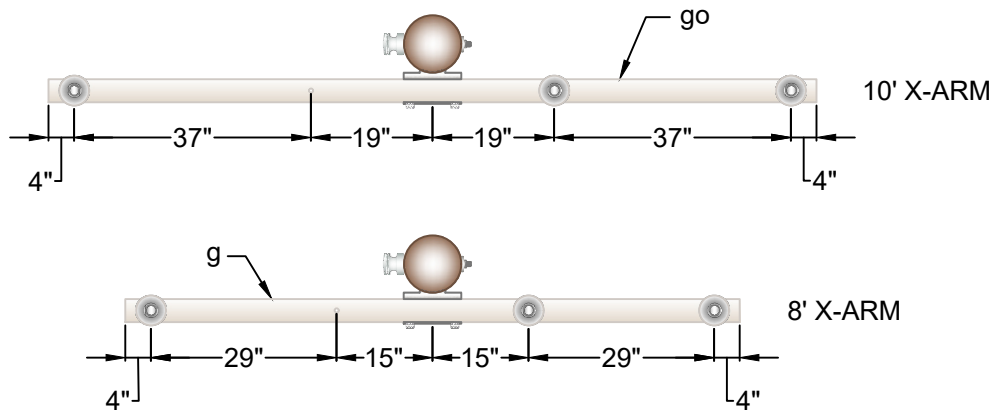
FRONT VIEW



SIDE VIEW



TOP VIEW



NOTE:  
SPECIFY CROSSARM  
LENGTH TO BE USED:  
8' OR 10'

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	fb	3	Pin, Xarm Steel 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	As Specified	Xarm Fbgl 8'
c	2	Bolt, Machine 5/8" x Req'd. Length	go	As Specified	Xarm Fbgl 10'
cm	1	Insulator, 3" Spool	k	6	Square Nut 5/8"
d	6	Washer, Sq 2-1/4"		As Req'd.	Preform
e	6	Lock Nut 5/8"		As Req'd.	Connector



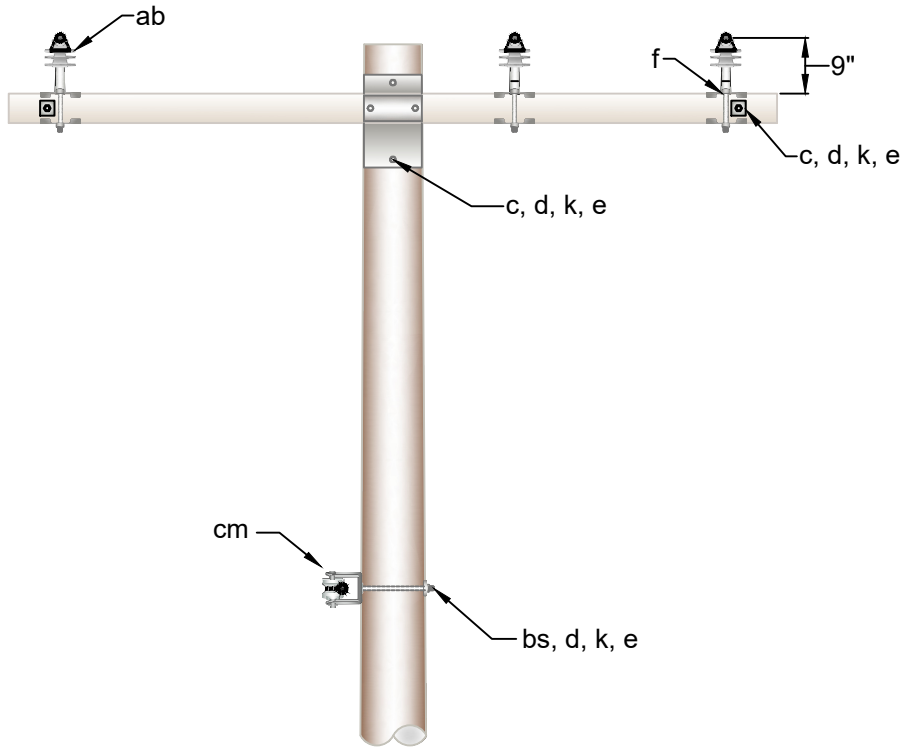
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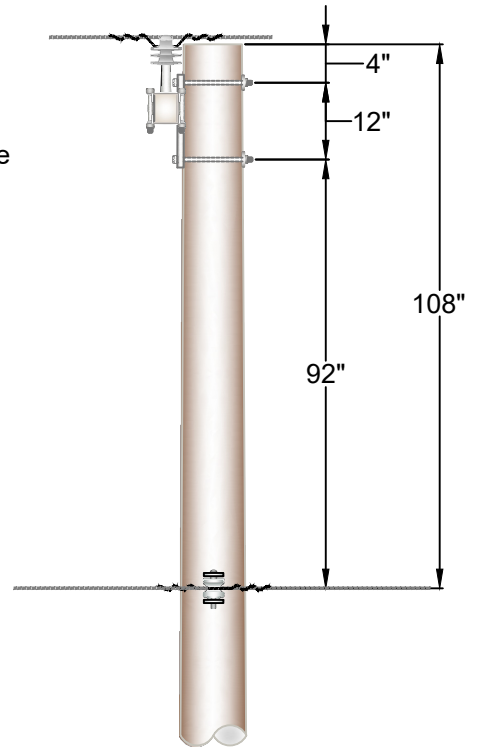
TITLE  
3Ø ON SINGLE CROSSARM

REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C2-1

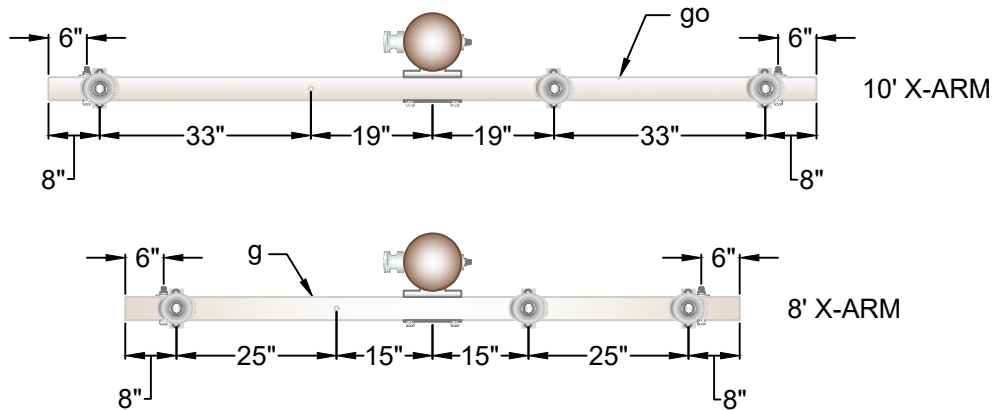
FRONT VIEW



SIDE VIEW



TOP VIEW



NOTE:  
SPECIFY CROSSARM  
LENGTH TO BE USED:  
8' OR 10'

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	f	3	Pin, Xarm Clamp Type 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length	g	As Specified	Xarm Fbgls 8'
c	4	Bolt, Machine 5/8" x Req'd. Length	go	As Specified	Xarm Fbgls 10'
cm	1	Insulator, 3" Spool	k	5	Square Nut 5/8"
d	7	Washer, Sq 2-1/4"		As Req'd.	Preform
e	5	Lock Nut 5/8"		As Req'd.	Connector

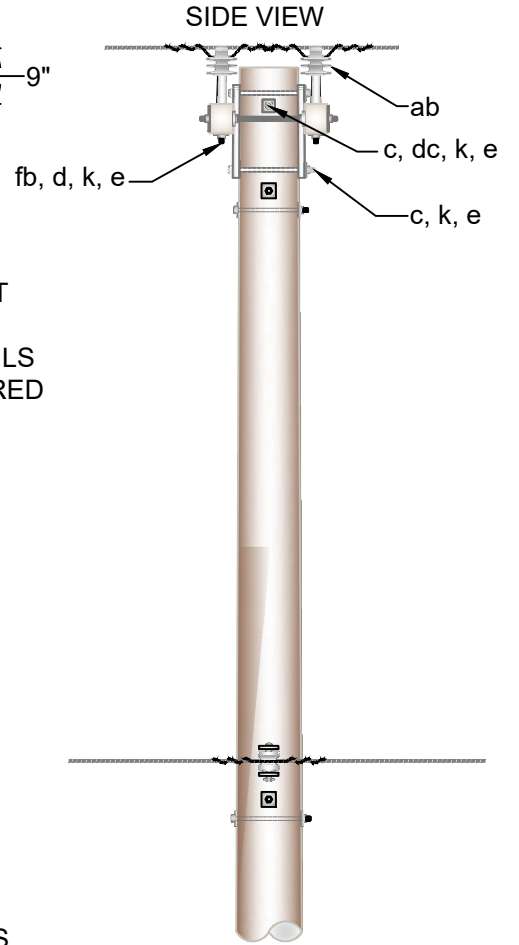
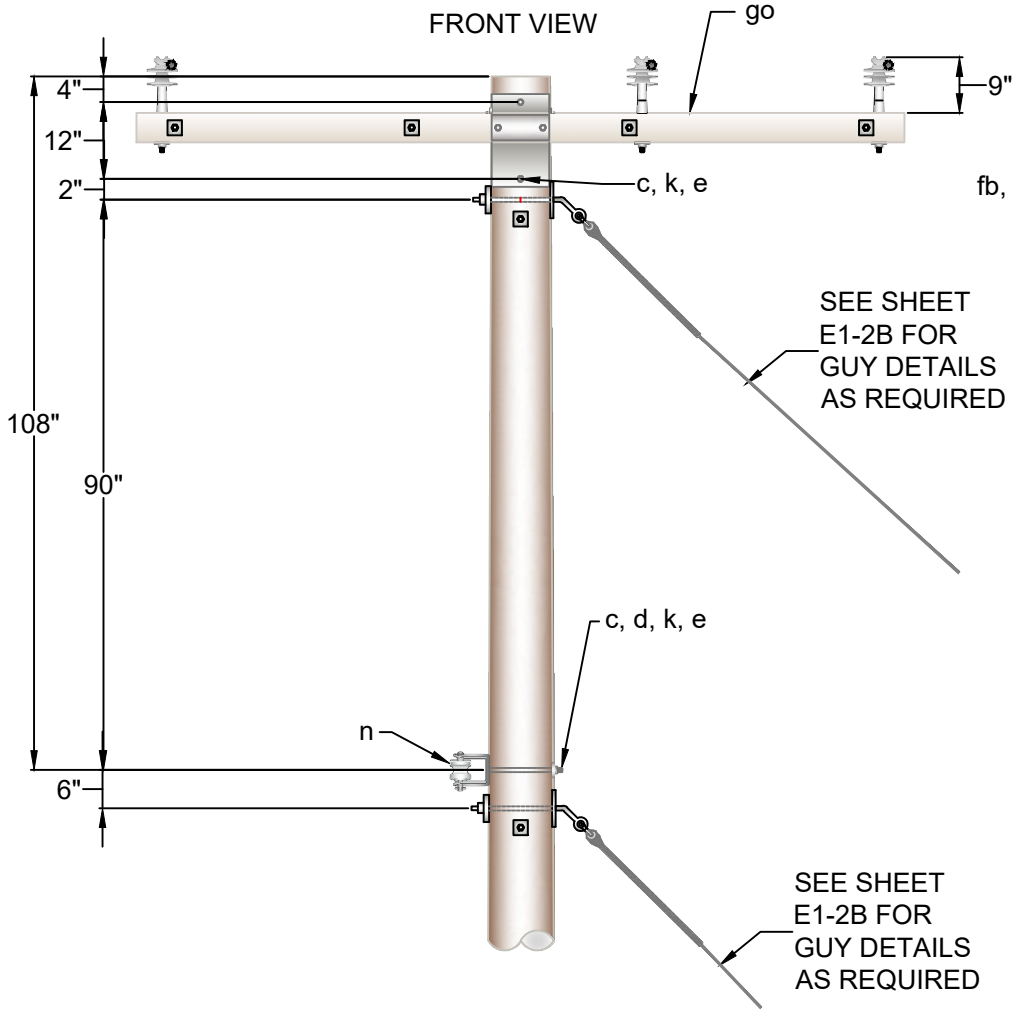
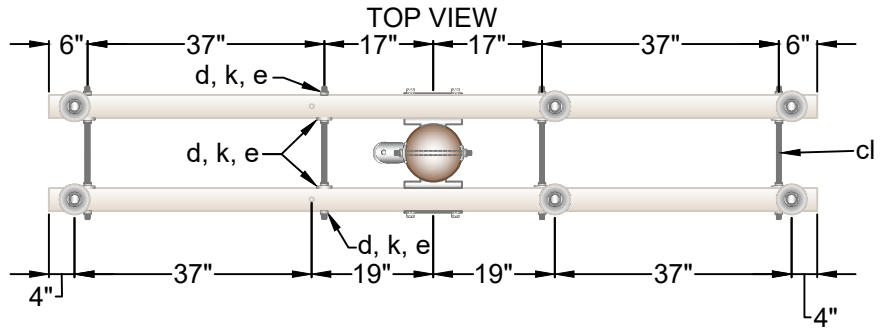


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3Ø ON SINGLE CROSSARM

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VC2-1



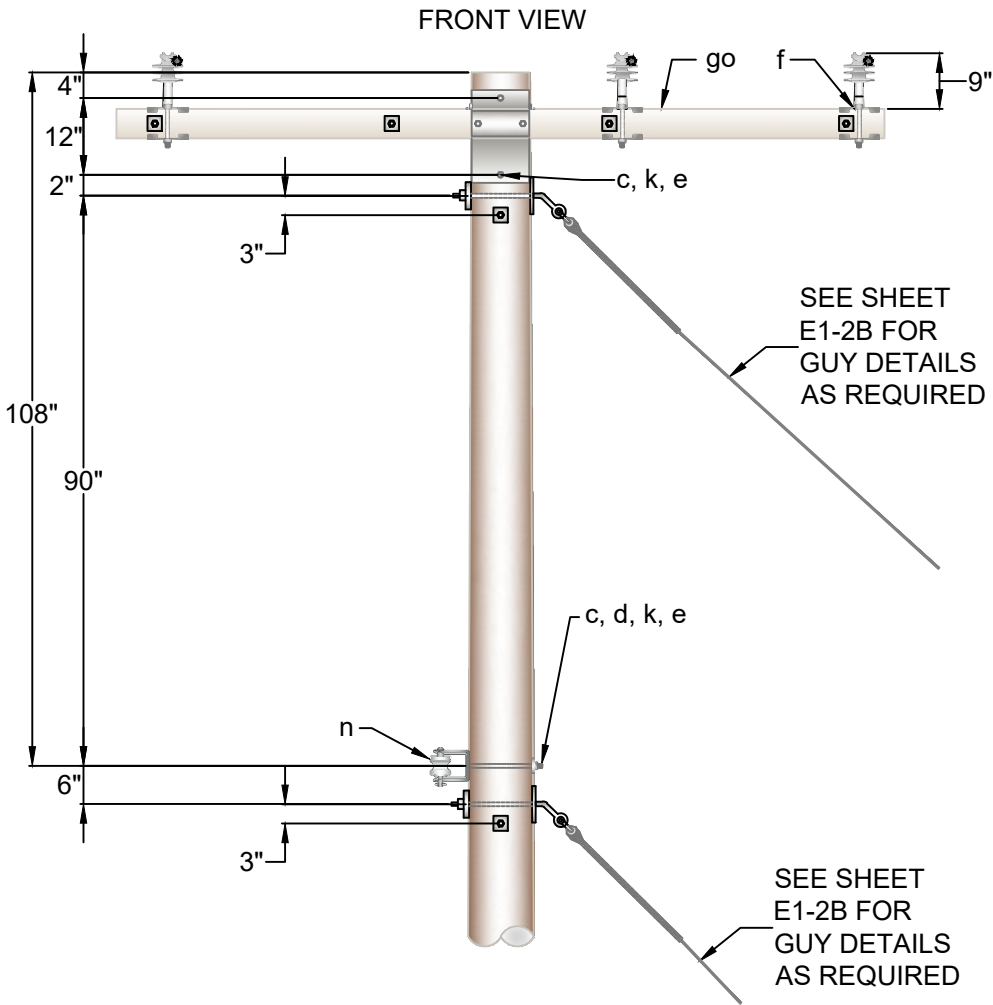
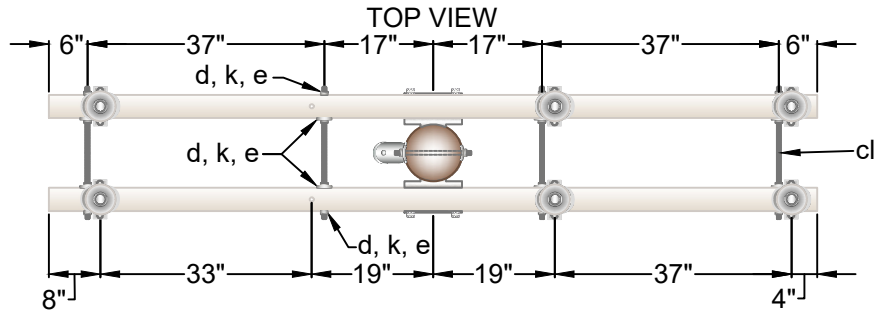
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	go	2	Xarm Fbgl's 10'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	26	Square Nut 5/8"
cl	4	Bolt, Dbl Arming 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
d	23	Washer, Sq 2-1/4"		As Req'd.	Preform
dc	2	Washer, Curved 3-1/2"		As Req'd.	Connector
e	26	Lock Nut 5/8"		As Req'd.	Armor Rod
fb	6	Pin, Xarm Steel 1"			



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TITLE		3Ø ON DOUBLE CROSSARM	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C2-2



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	go	2	Xarm Fbgls 10'
c	4	Bolt, Machine 5/8" x Req'd. Length	k	20	Square Nut 5/8"
cl	4	Bolt, Dbl Arming 5/8" x Req'd. Length	n	1	Clevis, Insulated Rack 3" Spool
d	17	Washer, Sq 2-1/4"		As Req'd.	Preform
dc	2	Washer, Curved 3-1/2"		As Req'd.	Connector
e	20	Lock Nut 5/8"		As Req'd.	Armor Rod
f	6	Pin, Xarm Clamp Type 1"			

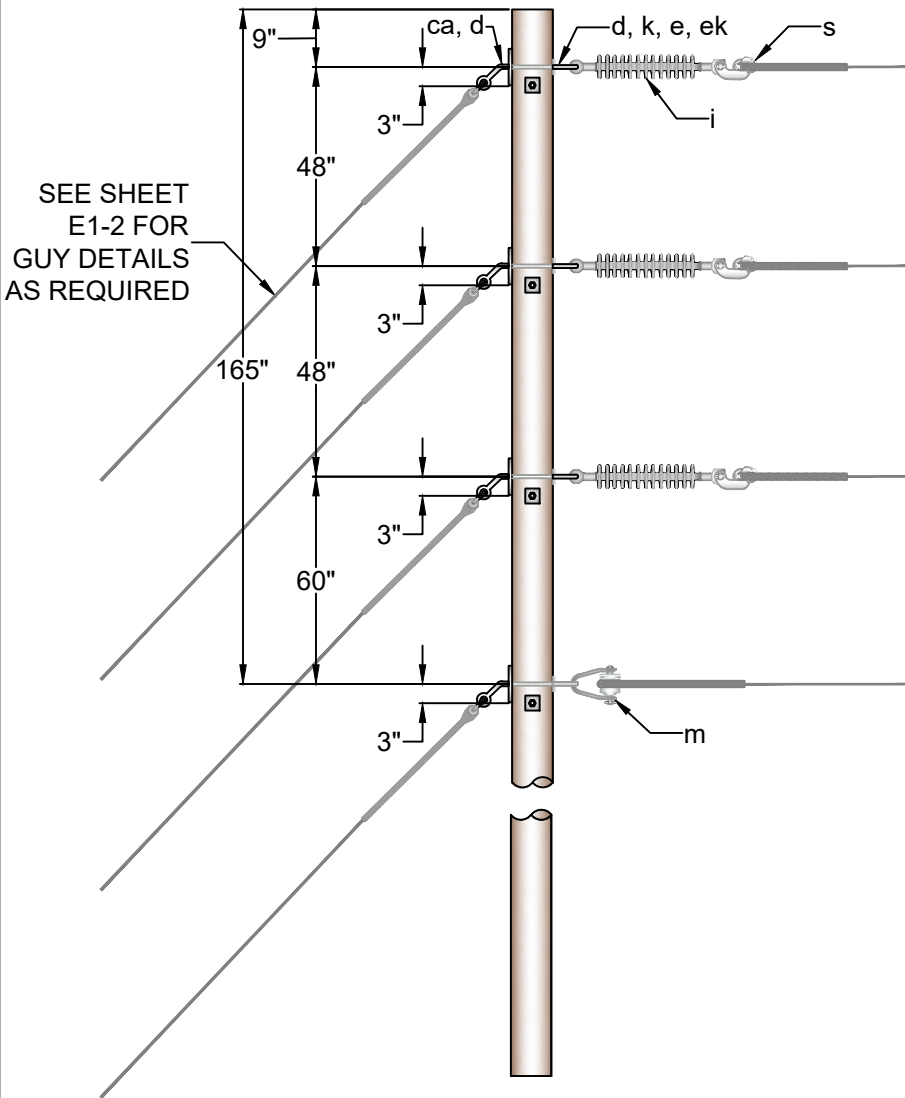


CITY OF BRENHAM ELECTRIC SYSTEM

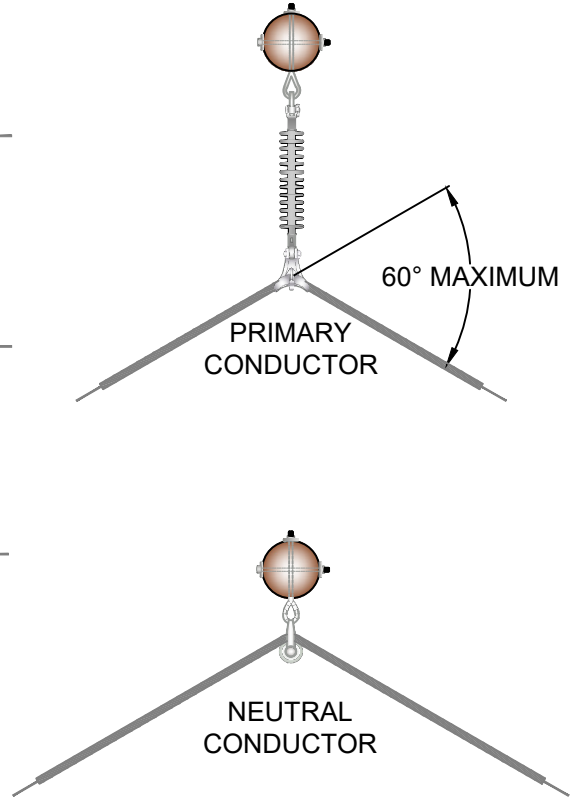
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TITLE		3Ø ON DOUBLE CROSSARM	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	VC2-2

SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	4	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	k	8	Square Nut 5/8"
d	8	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
e	4	Lock Nut 5/8"	s	3	Clamp, Susp
ek	4	Eye Nut 5/8"		As Req'd.	Tie Wire
i	3	Insulator, Suspension (15kv)		As Req'd.	Armor Rod

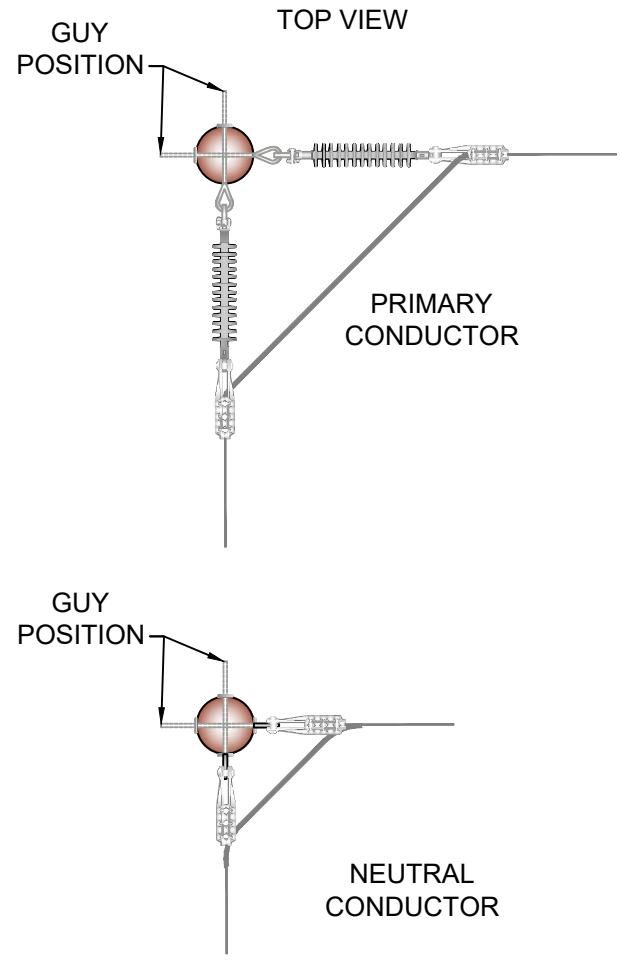
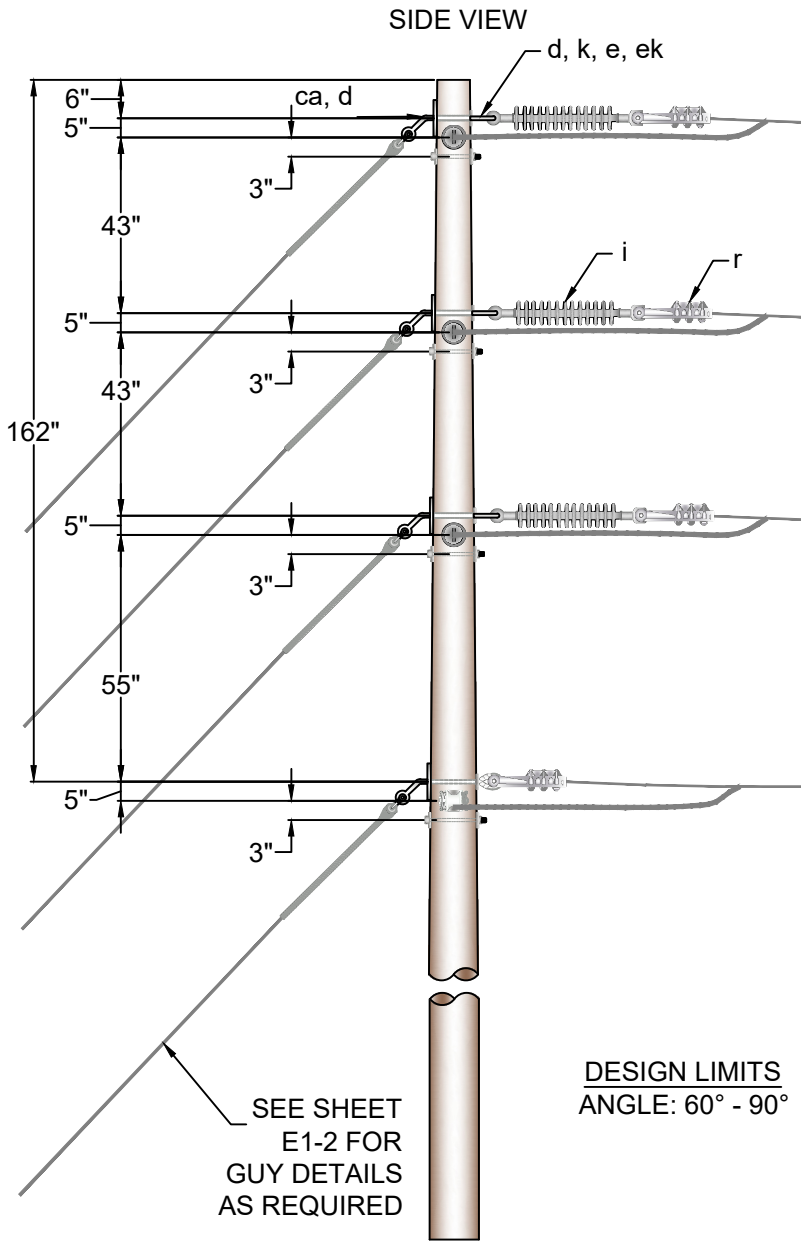


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TITLE 3Ø VERTICAL CONSTRUCTION  
MEDIUM ANGLE

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C3



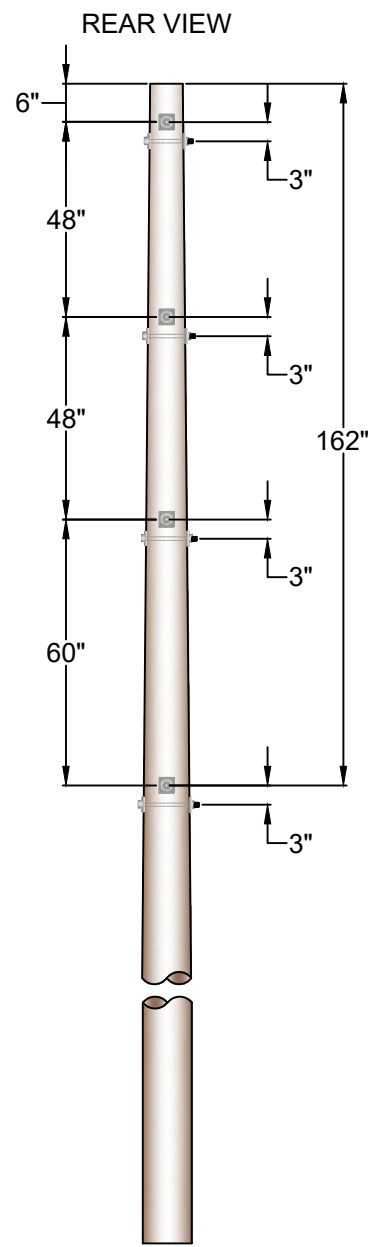
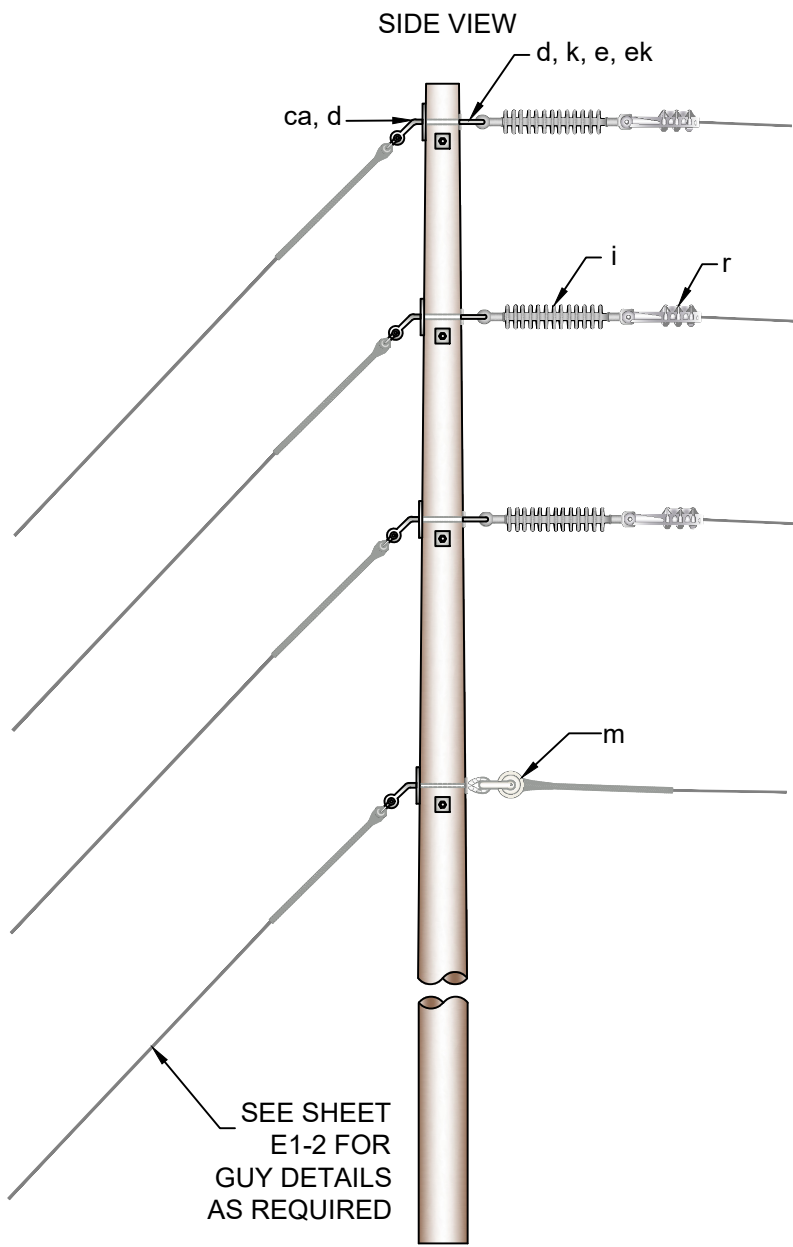
DESIGN LIMITS  
ANGLE: 60° - 90°

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	8	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	m	2	Clevis, Insulated Swing 4" Spool
d	16	Washer, Sq 2-1/4"	r	6	Clamp, DE
e	8	Lock Nut 5/8"		As Req'd.	Preform
ek	8	Eye Nut 5/8"		As Req'd.	Jumper
i	6	Insulator, Suspension (15kv)		As Req'd.	Connector
k	16	Square Nut 5/8"			



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TITLE		3Ø VERTICAL CONSTRUCTION LARGE ANGLE	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C4



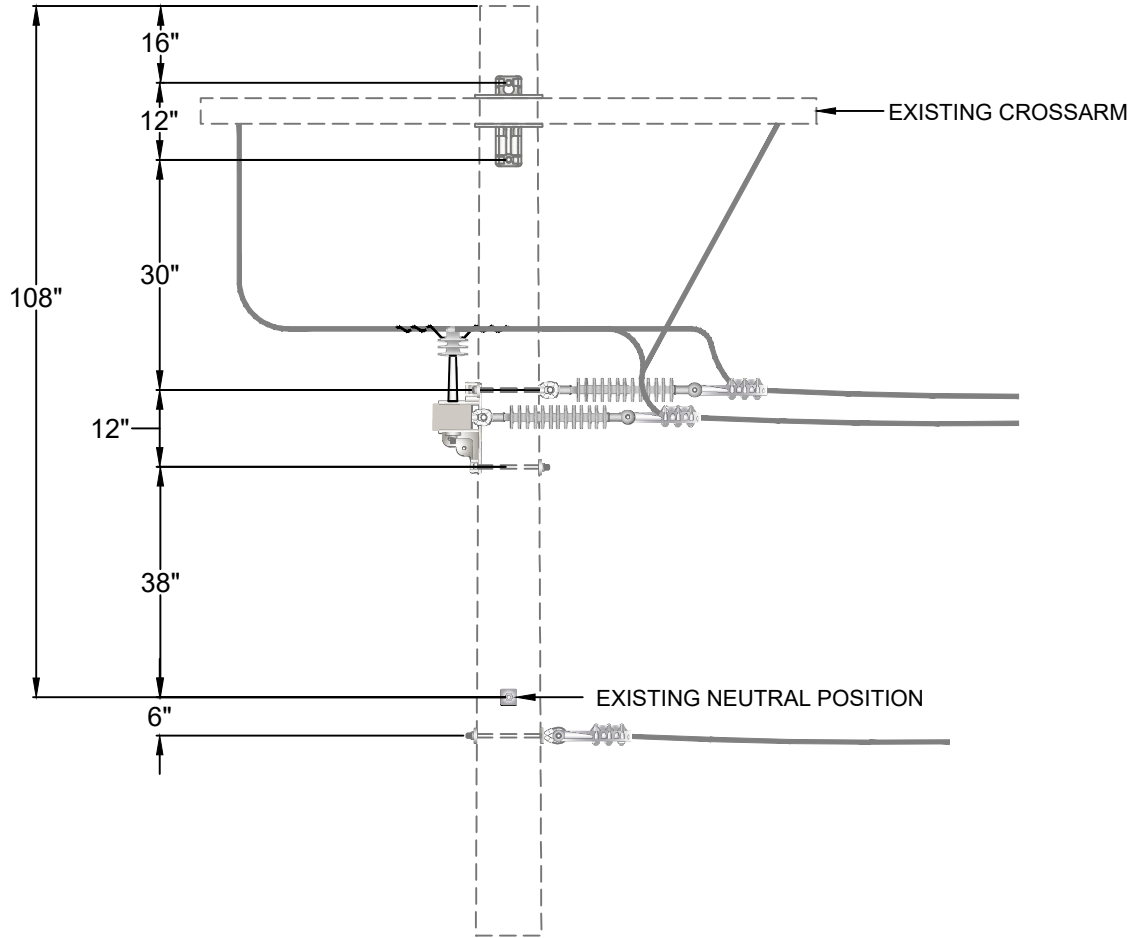
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ca	4	Bolt, Thimble Eye Ang 5/8" x Req'd. Length	k	8	Square Nut 5/8"
d	8	Washer, Sq 2-1/4"	m	1	Clevis, Insulated Swing 4" Spool
e	4	Lock Nut 5/8"	r	3	Clamp, DE
ek	4	Eye Nut 5/8"		As Req'd.	Preform
i	3	Insulator, Suspension (15kv)		As Req'd.	Connector



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TITLE			
3Ø VERTICAL CONSTRUCTION (DEADEND)			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1	OF	1
DRAWING NO #			C5

SIDE VIEW



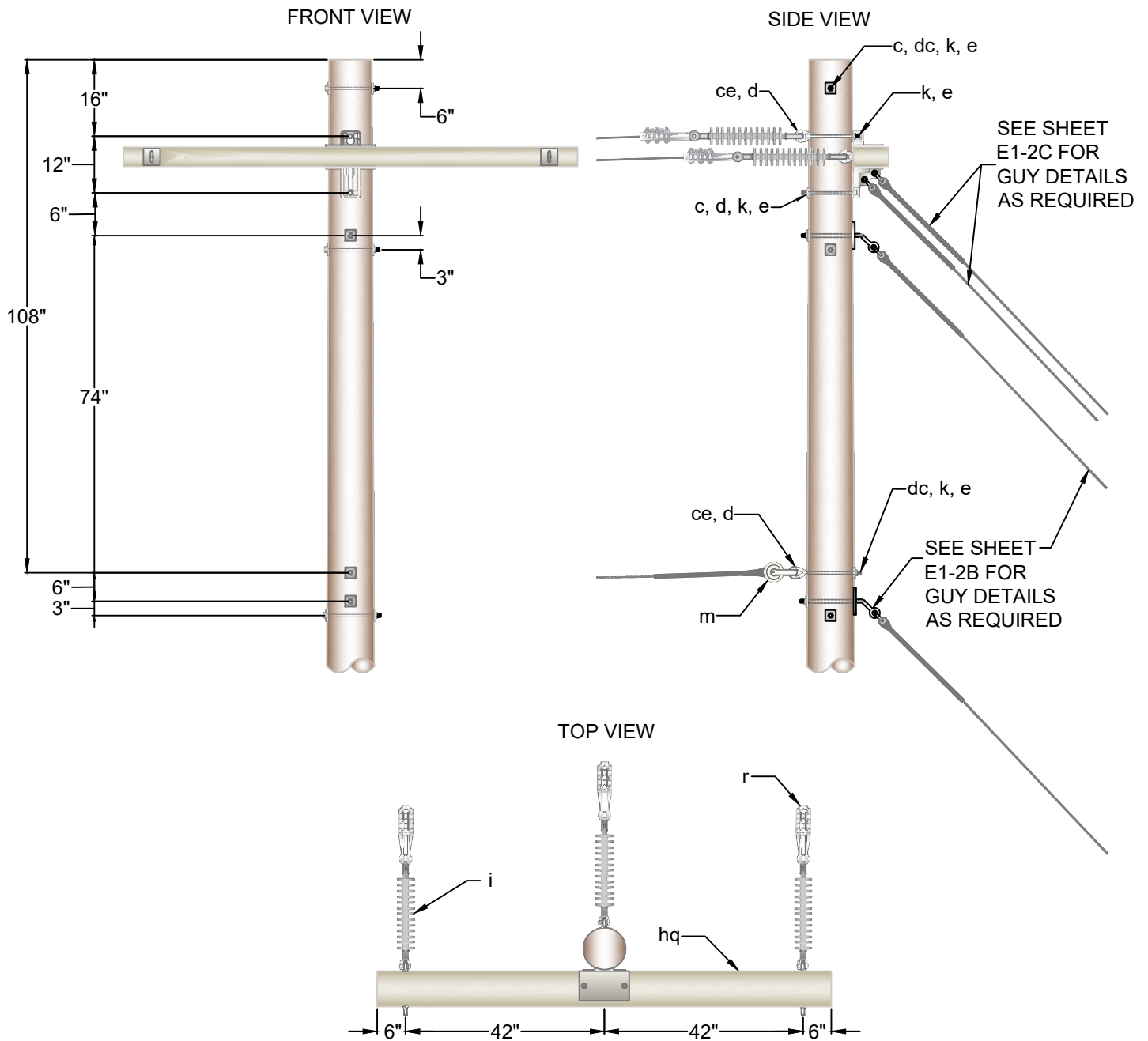
NOTE: FOR DIMENSIONAL REFERENCE ONLY



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TITLE		DIMENSIONS FOR 3Ø TAP OFF EXISTING POLE	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C7 TAP



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	i	3	Insulator, Suspension (15kv)
ce	2	Bolt, Eye 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	3	Washer, Sq 2-1/4"	m	4	Clamp, DE
dc	3	Washer, Curved 3-1/2"	r		
e	4	Lock Nut 5/8"			
hq	1	Xarm DE Fbgls 8' HD		As Req'd.	Connector

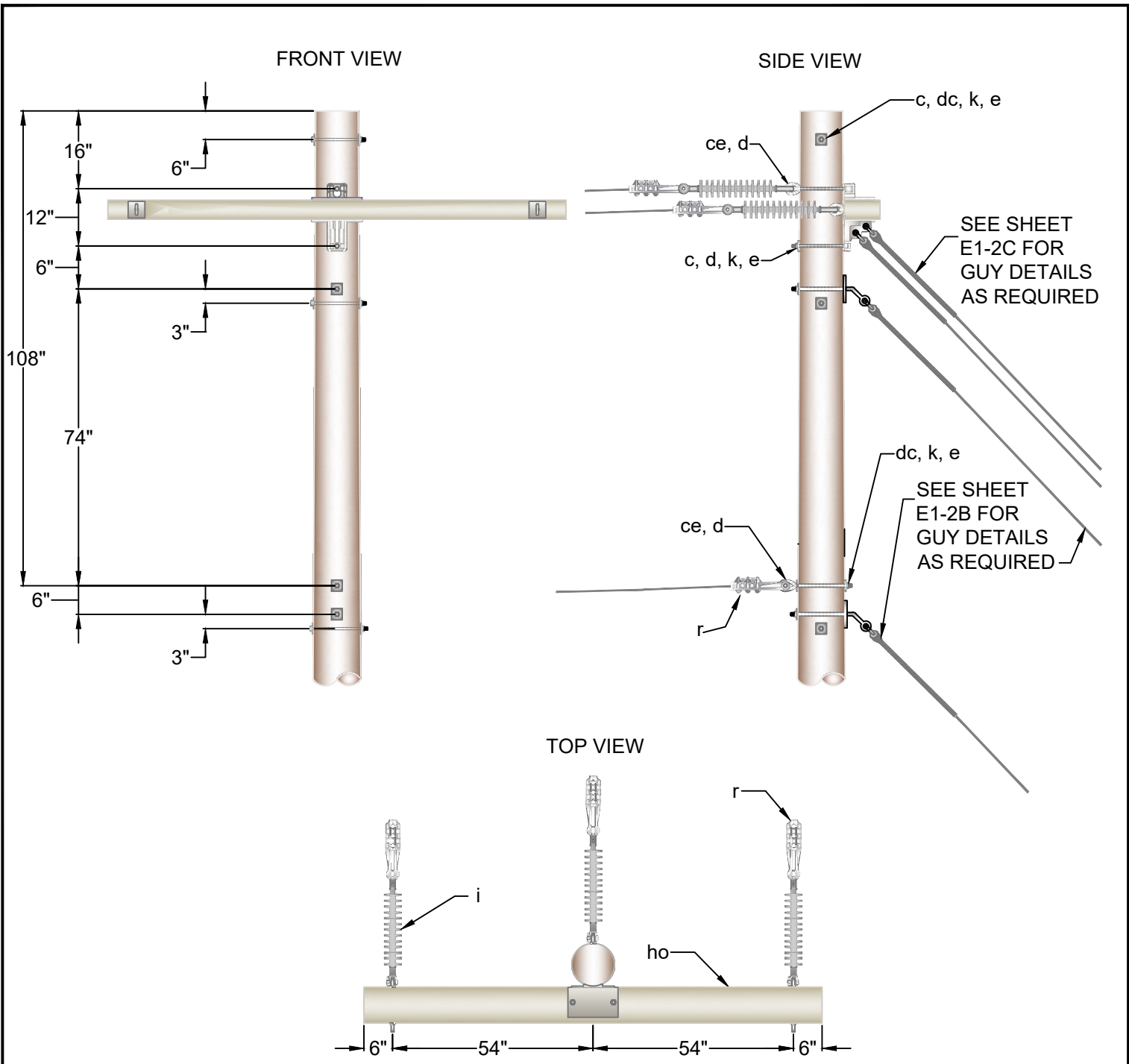


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3Ø DEADEND

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C7

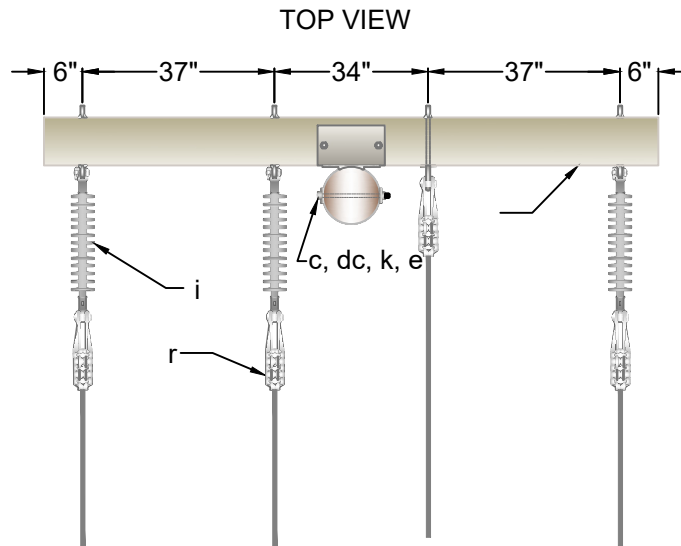
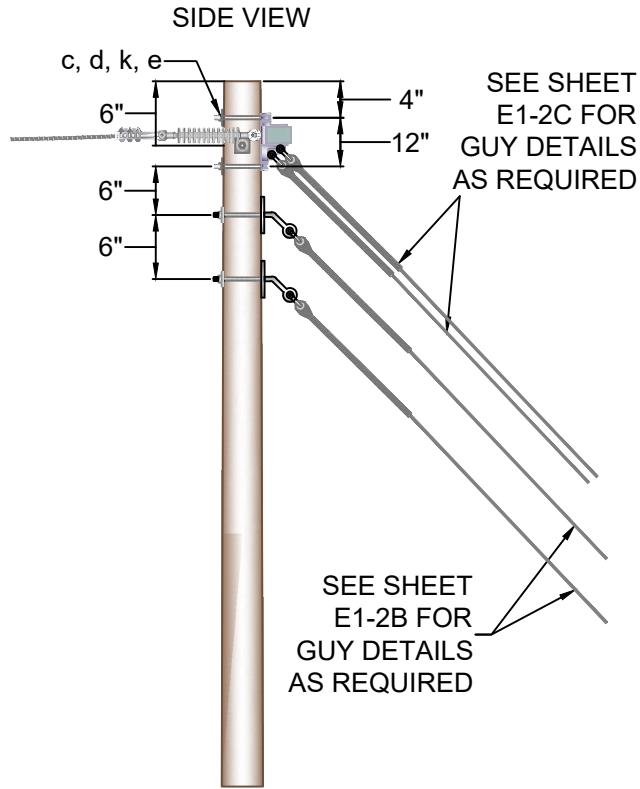


Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	i	3	Insulator, Suspension (15kv)
ce	2	Bolt, Eye 5/8" x Req'd. Length	k	4	Square Nut 5/8"
d	3	Washer, Sq 2-1/4"			
dc	3	Washer, Curved 3-1/2"	r	4	Clamp, DE
e	4	Lock Nut 5/8"			
ho	1	Xarm DE Fbgl's 10' HD		As Req'd.	Connector



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TITLE		3Ø DEADEND 10' XARM	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C7-1



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	3	Bolt, Machine 5/8" x Req'd. Length	k	3	Square Nut 5/8"
d	2	Washer, Sq 2-1/4"			
dc	2	Washer, Curved 3-1/2"	r	4	Clamp, DE
e	3	Lock Nut 5/8"			
ho	1	Xarm DE Fbgl 10' HD		As Req'd.	Connector
i	3	Insulator, Suspension (15kv)			

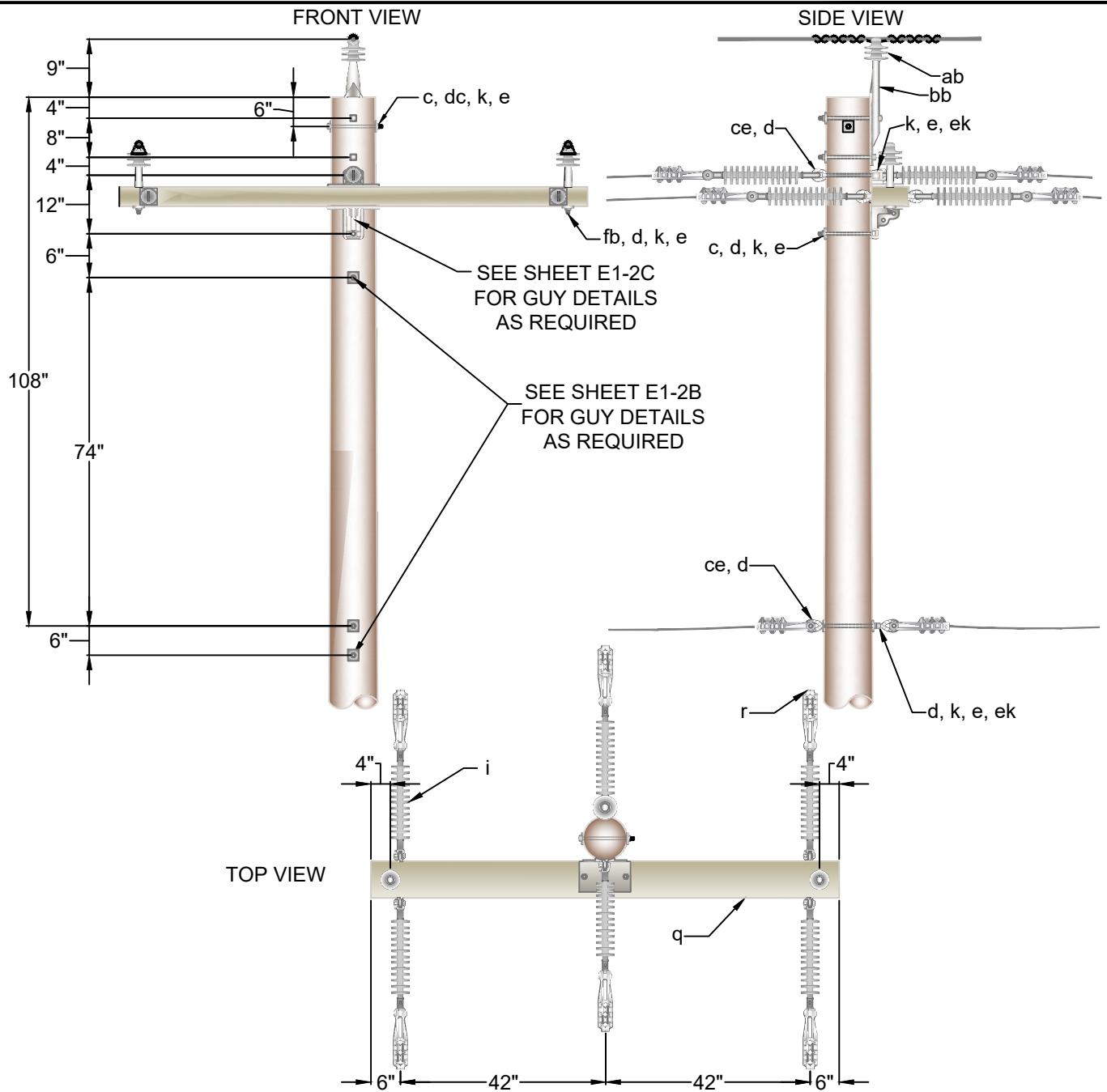


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FOUR WIRE 10' CROSSARM

REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C7-4



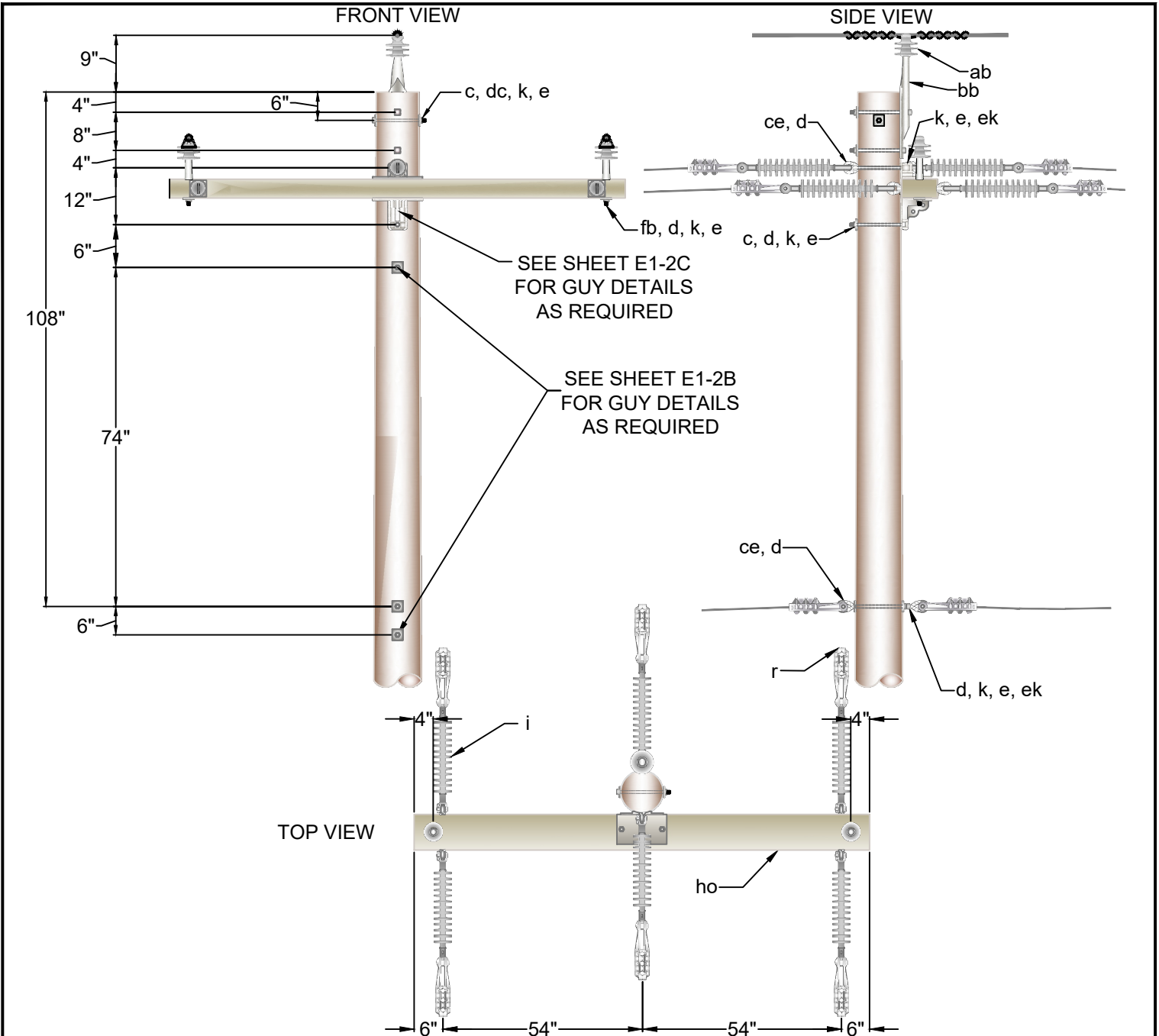
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	hq	1	Xarm DE Fbgl 8' HD
bb	1	Pin, Pole Top 1"	i	6	Insulator, Suspension (15kv)
c	4	Bolt, Machine 5/8" x Req'd. Length	k	10	Square Nut 5/8"
ce	2	Bolt, Eye 5/8" x Req'd. Length			
d	8	Washer, Sq 2-1/4"	r	8	Clamp, DE
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	8	Lock Nut 5/8"		As Req'd.	Jumper
ek	2	Eye Nut 5/8"		As Req'd.	Connector
fb	2	Pin, Xarm Steel 1"			



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TITLE			
<b>30 DOUBLE DEADEND</b>			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C8



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	ho	1	Xarm DE Fbglis 10' HD
bb	1	Pin, Pole Top 1"	i	6	Insulator, Suspension (15kv)
c	4	Bolt, Machine 5/8" x Req'd. Length	k	10	Square Nut 5/8"
ce	2	Bolt, Eye 5/8" x Req'd. Length			
d	8	Washer, Sq 2-1/4"	r	8	Clamp, DE
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	8	Lock Nut 5/8"		As Req'd.	Jumper
ek	2	Eye Nut 5/8"		As Req'd.	Connector
fb	2	Pin, Xarm Steel 1"			

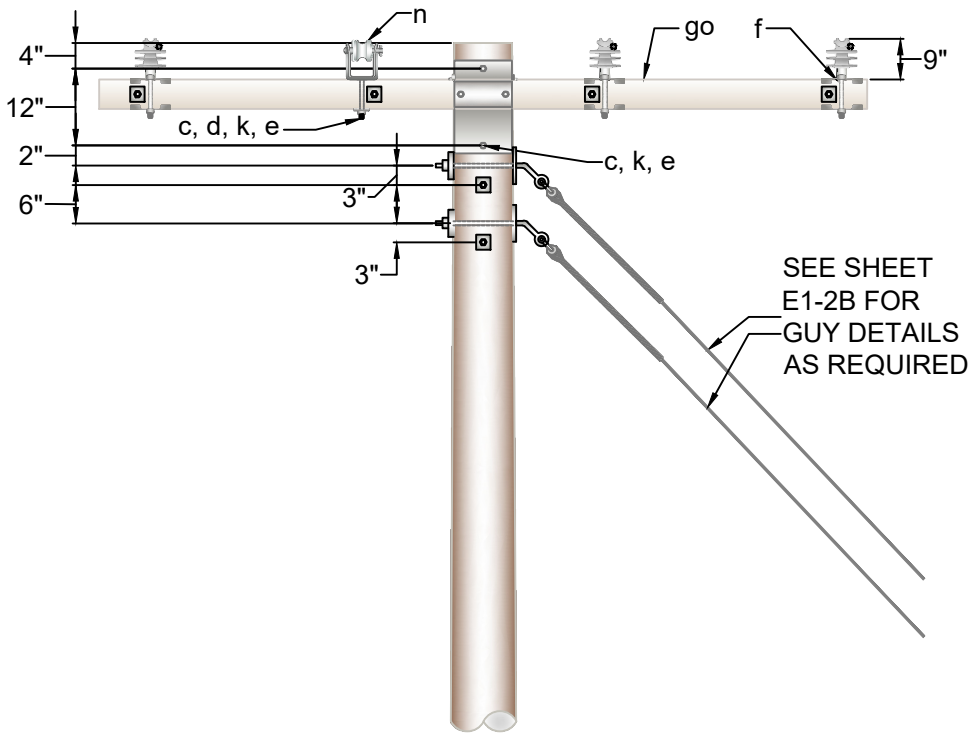


CITY OF BRENHAM ELECTRIC SYSTEM

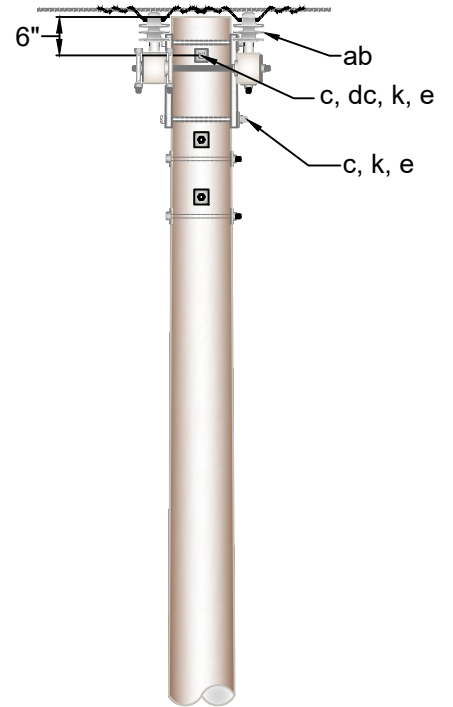
200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

TITLE		3Ø DOUBLE DEADEND 10'	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C8-1

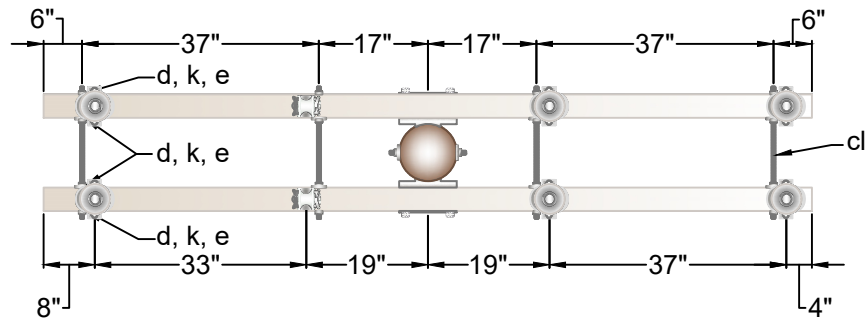
FRONT VIEW



SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)	f	6	Pin, Xarm Clamp or Pin Type 1"
c	4	Bolt, Machine 5/8" x Req'd. Length	go	2	Xarm Fbgl 10'
cl	4	Bolt, Dbl Arming 5/8" x Req'd. Length	k	21	Square Nut 5/8"
d	18	Washer, Sq 2-1/4"	n	2	Clevis, Insulated Rack 3" Spool
dc	2	Washer, Curved 3-1/2"		As Req'd.	Preform
e	21	Lock Nut 5/8"		As Req'd.	Connector

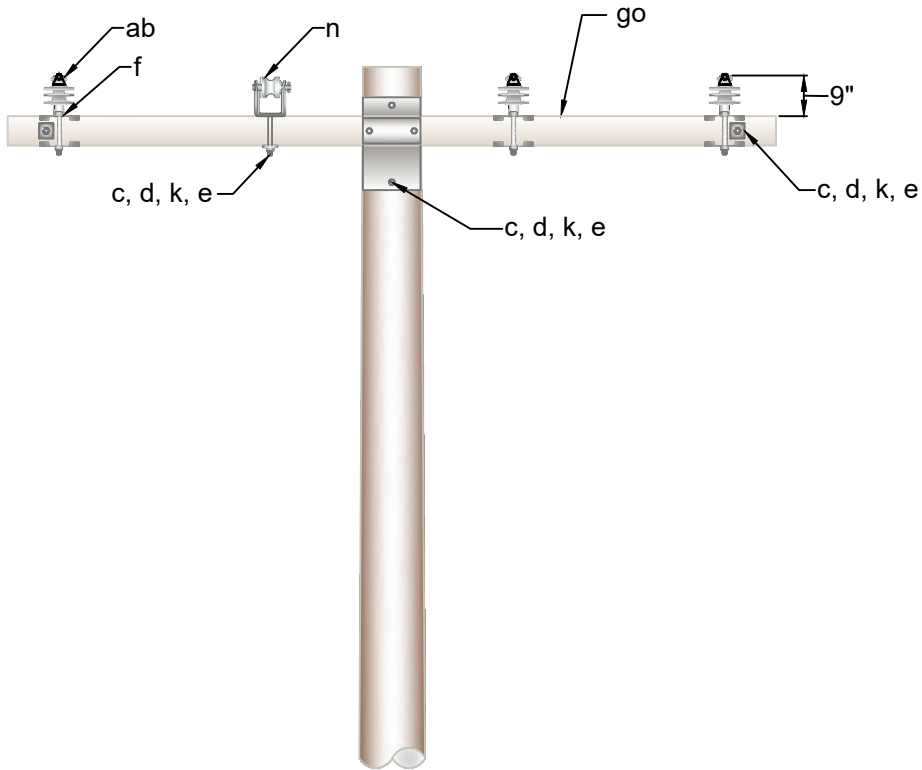


CITY OF BRENHAM ELECTRIC SYSTEM

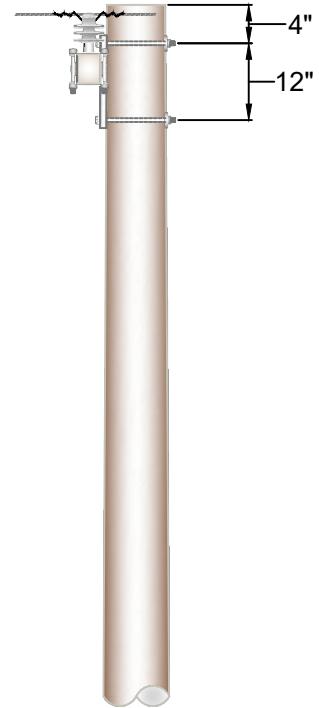
200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

TITLE			
3Ø 4 CONDUCTOR DOUBLE ARM (SMALL ANGLE)			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	C9

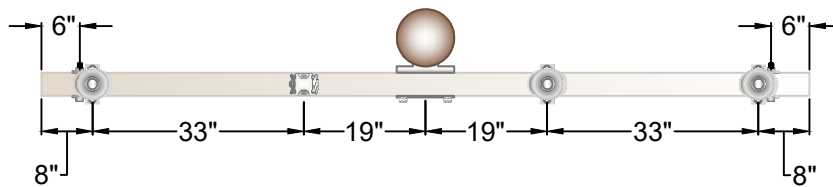
FRONT VIEW



SIDE VIEW



TOP VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
ab	3	Insulator, Pin Type (15kv)	go	1	Xarm Fbgls 10'
c	5	Bolt, Machine 5/8" x Req'd. Length	k	5	Square Nut 5/8"
d	7	Washer, Sq 2-1/4"	n	1	Clevis, Insulated Rack 3" Spool
e	5	Lock Nut 5/8"		As Req'd.	Preform
f	3	Pin, Xarm Clamp or Pin Type 1"		As Req'd.	Connector



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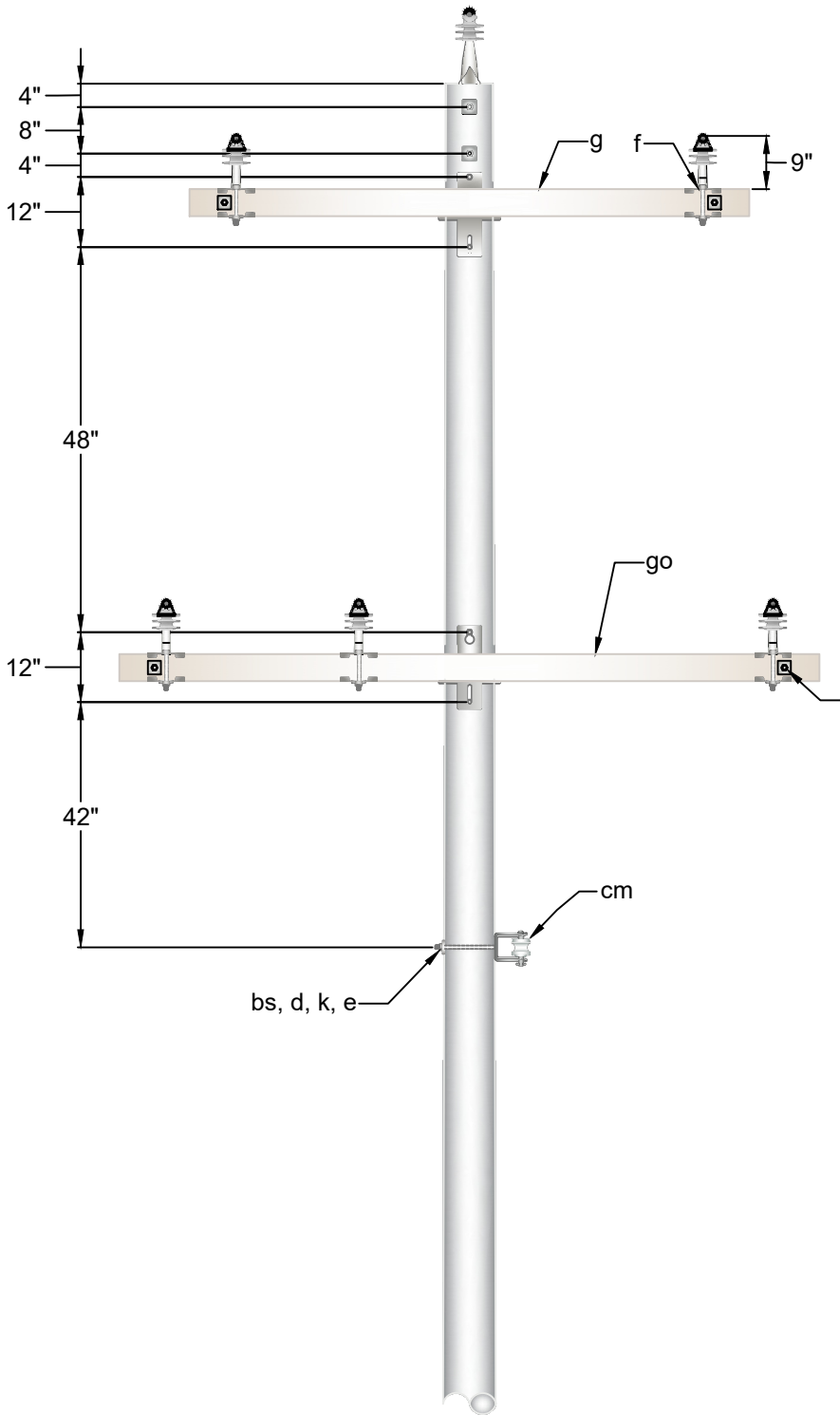
TITLE  
**3Ø 4 CONDUCTOR SINGLE ARM**

REV NO    REV BY    ISSUE DATE 12/19/2025

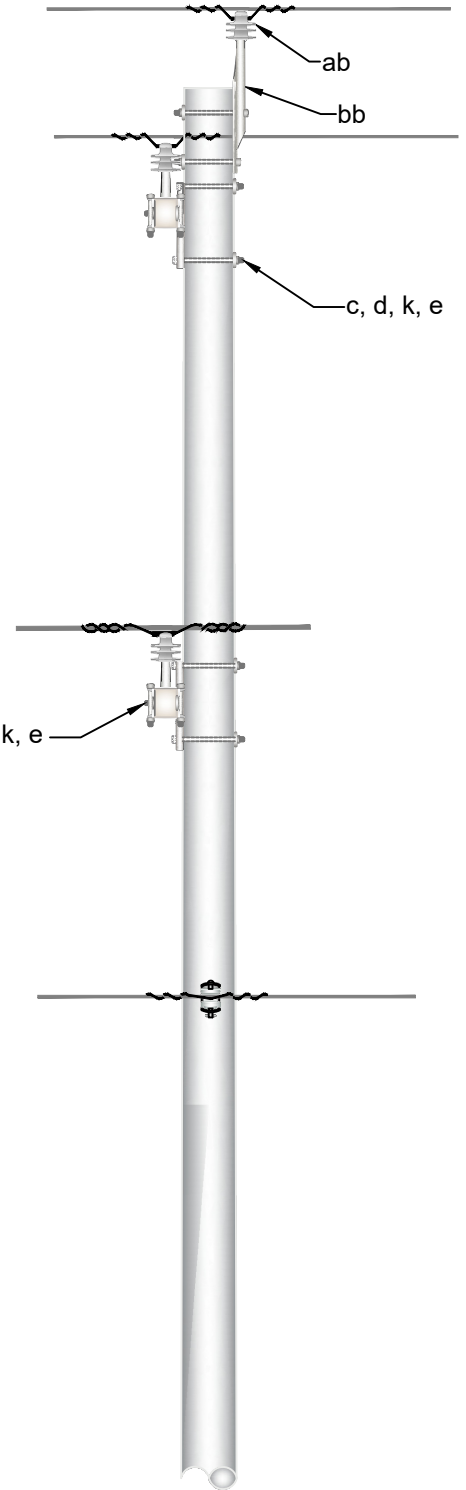
SCALE    NTS    TECH

PAGE 1 OF 1    DRAWING NO # C9-1

FRONT VIEW



SIDE VIEW



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TITLE		DOUBLE CIRCUIT TANGENT	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS	TECH	
PAGE	1 OF 4	DRAWING NO #	DC-1

Item	Item Quantity	Item Description
ab	6	Insulator, Pin Type (15kv)
bb	1	Pin, Pole Top 1"
bs	1	Bolt, Upset Sgl 5/8" x Req'd. Length
c	10	Bolt, Machine 5/8" x Req'd. Length
cm	1	Clevis, Insulator, 3" Spool
d	15	Washer, Sq 2-1/4"
e	15	Lock Nut 5/8"
f	5	Pin, Xarm Clamp Type 1"
g	1	Xarm Fbgl 8'
go	1	Xarm Fbgl 10'
k	15	Square Nut 5/8"
	As Req'd.	Preform
	As Req'd.	Connector



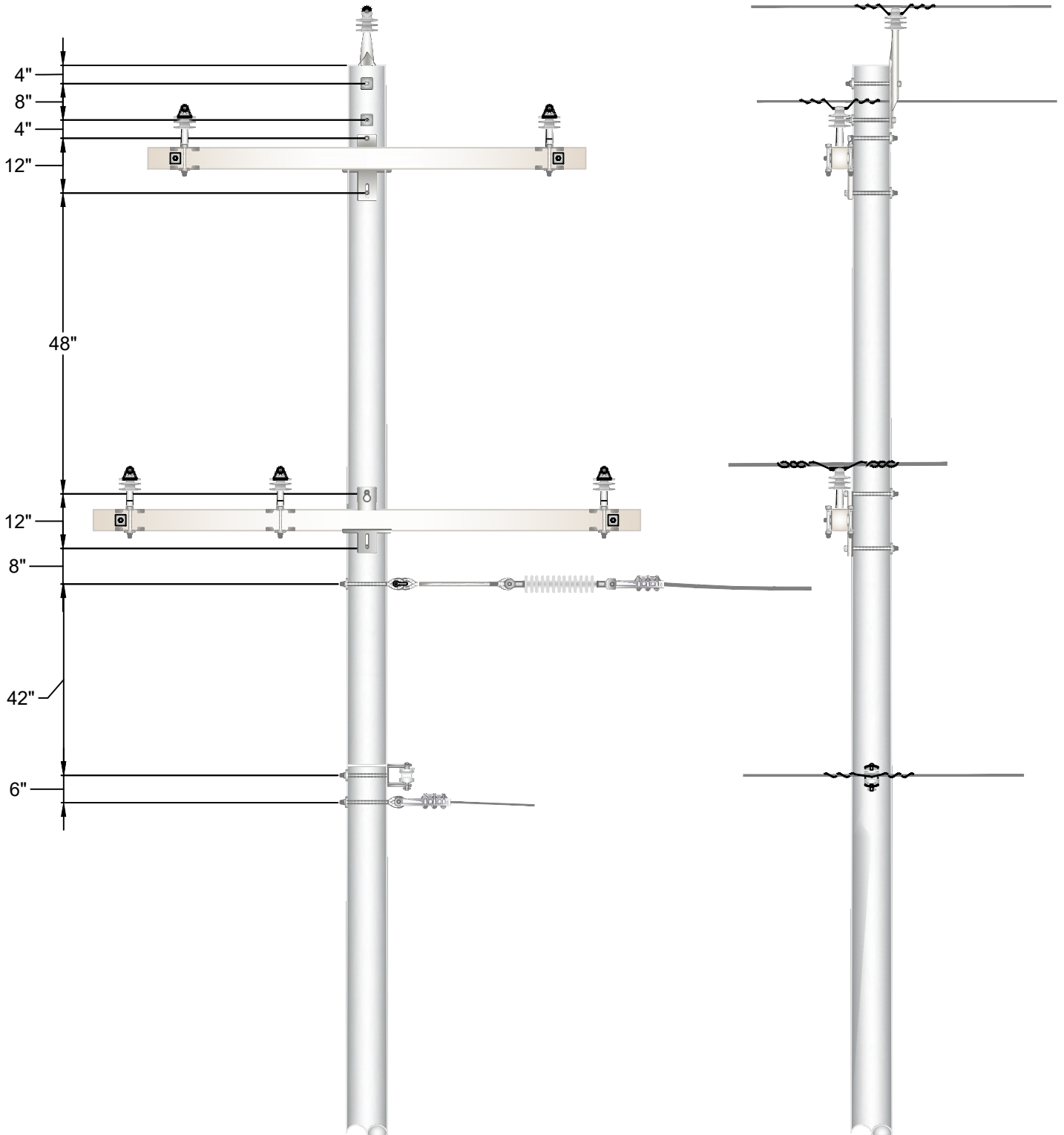
CITY OF BRENHAM ELECTRIC SYSTEM

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BRENHAM, TX 77834  
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TITLE		DOUBLE CIRCUIT TANGENT	
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	2	OF	4
DRAWING NO #			DC-1

FRONT VIEW

SIDE VIEW



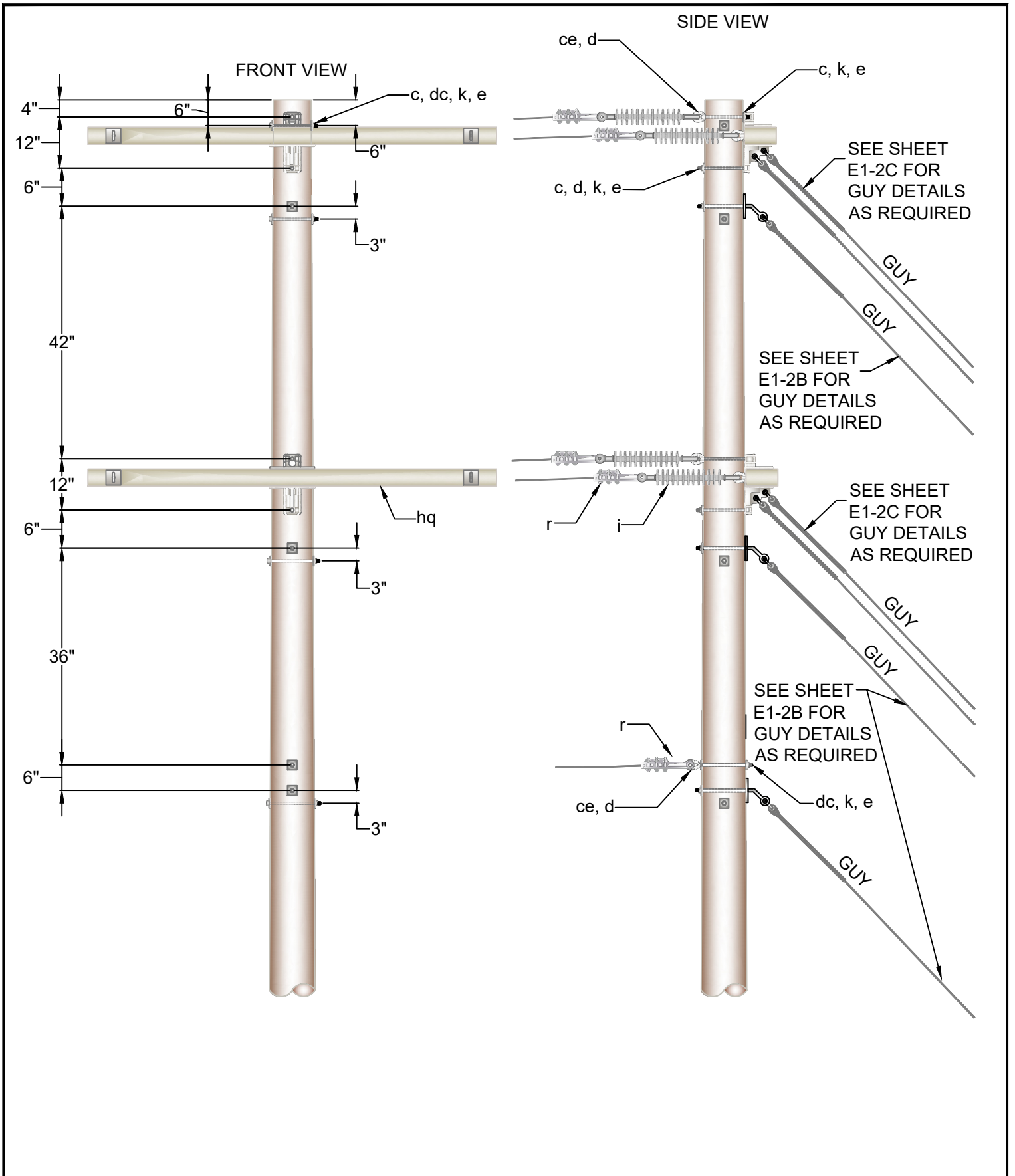
NOTE: FOR DIMENSIONAL REFERENCE ONLY



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TITLE			
DIMENSIONS FOR SINGLE Ø TAP			
REV NO	REV BY	ISSUE DATE	12/19/2025
SCALE	NTS		TECH
PAGE	3 OF 4	DRAWING NO. DC/A5-2	



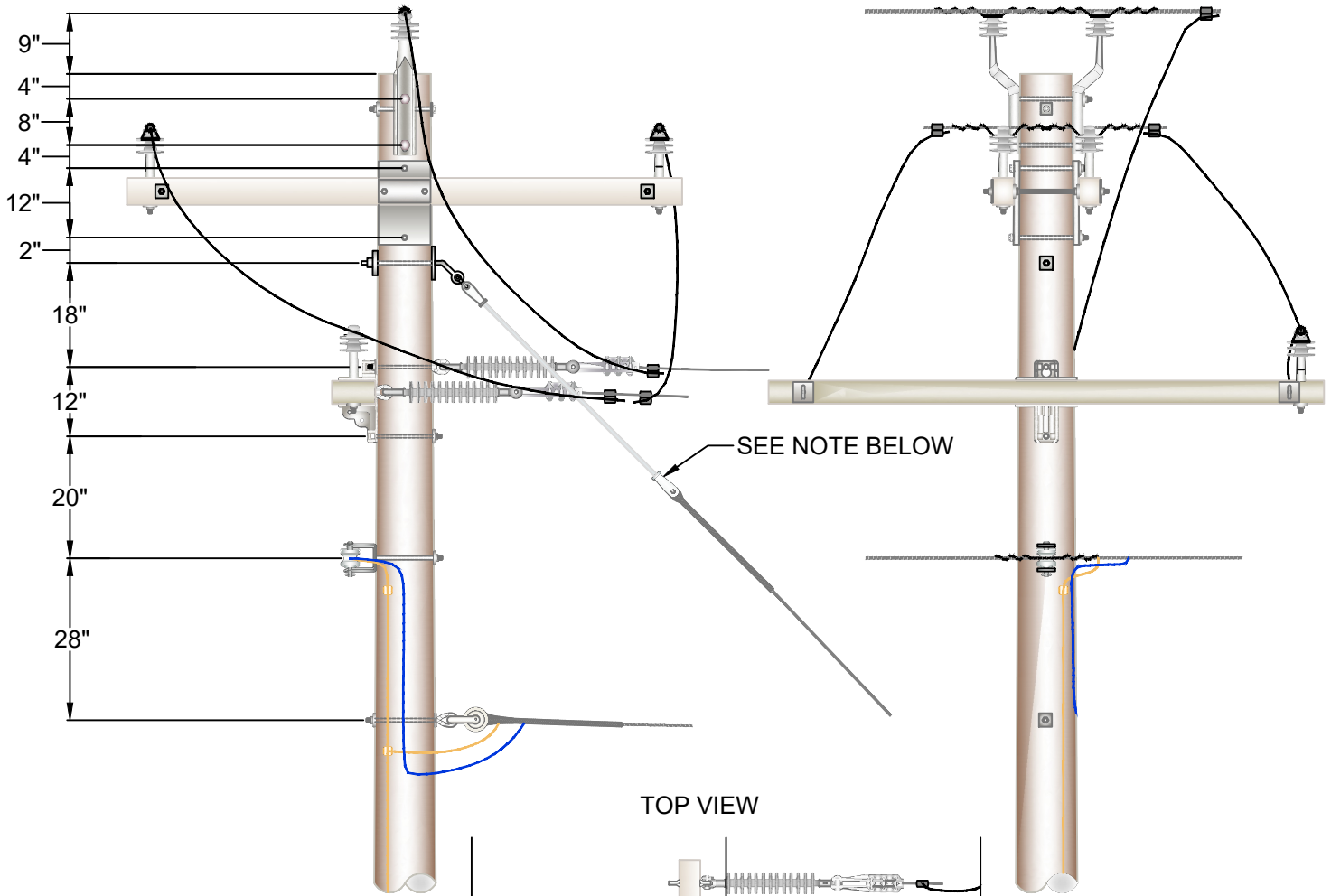
CITY OF BRENHAM ELECTRIC SYSTEM

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REV NO		REV BY	ISSUE DATE
			12/19/2025
SCALE		TECH	
NTS			
PAGE		DRAWING NO #	
1 OF 2		DC-7	



FRONT VIEW

SIDE VIEW



**NOTE:**  
 INSULATED LINK SHALL BE  
 PLACED APPROPRIATELY TO  
 PROTECT AGAINST CONTACT  
 WITH ENERGIZED EQUIPMENT.  
 ADD LINKS AS NECESSARY.

LEGEND

	SYSTEM NEUTRAL
	POLE GROUND

DIMENSIONS TO BE USED WHEN TAKEOFF IS NOT AN EXISTING 9' NEUTRAL.



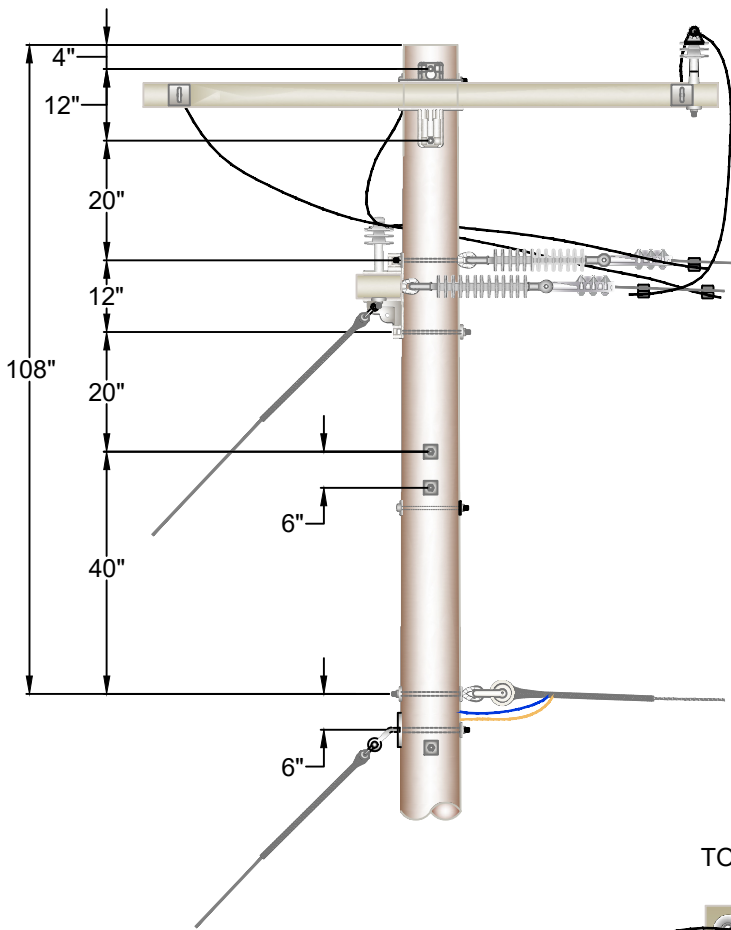
CITY OF BRENHAM ELECTRIC SYSTEM  
 200 W. VULCAN STREET  
 P.O. BOX 1059  
 BRENHAM, TX 77834  
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TITLE		C2 5' NEUTRAL C7 9' NEUTRAL	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	C2 + C7

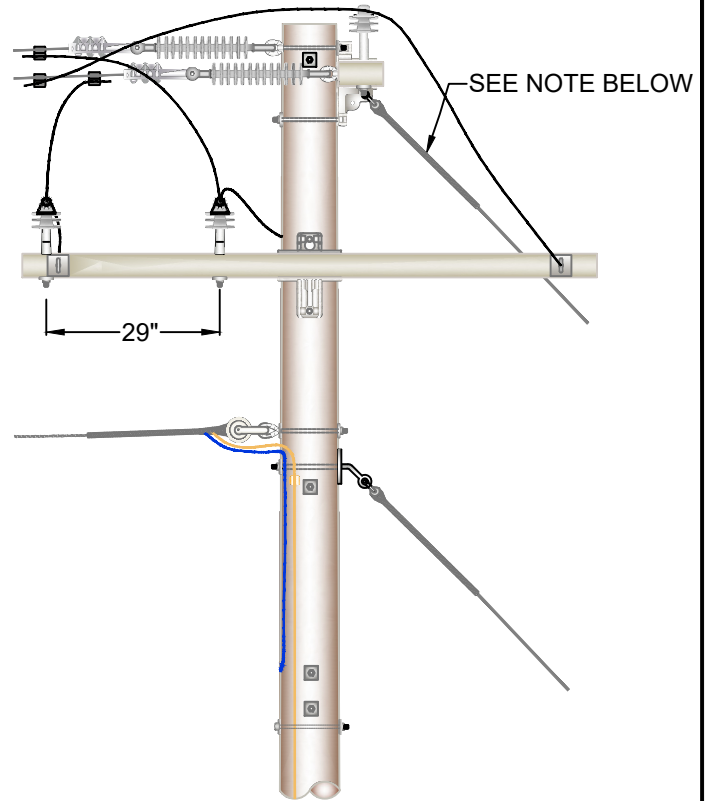
# **Guy & Anchor**

## **Assemblies**

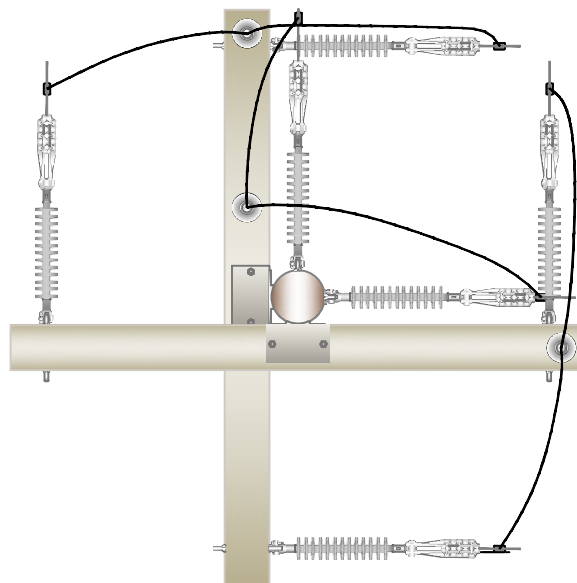
FRONT VIEW



SIDE VIEW





TOP VIEW



NOTE:  
INSULATED LINK SHALL BE PLACED APPROPRIATELY TO PROTECT AGAINST CONTACT WITH ENERGIZED EQUIPMENT. ADD LINKS AS NECESSARY.

LEGEND

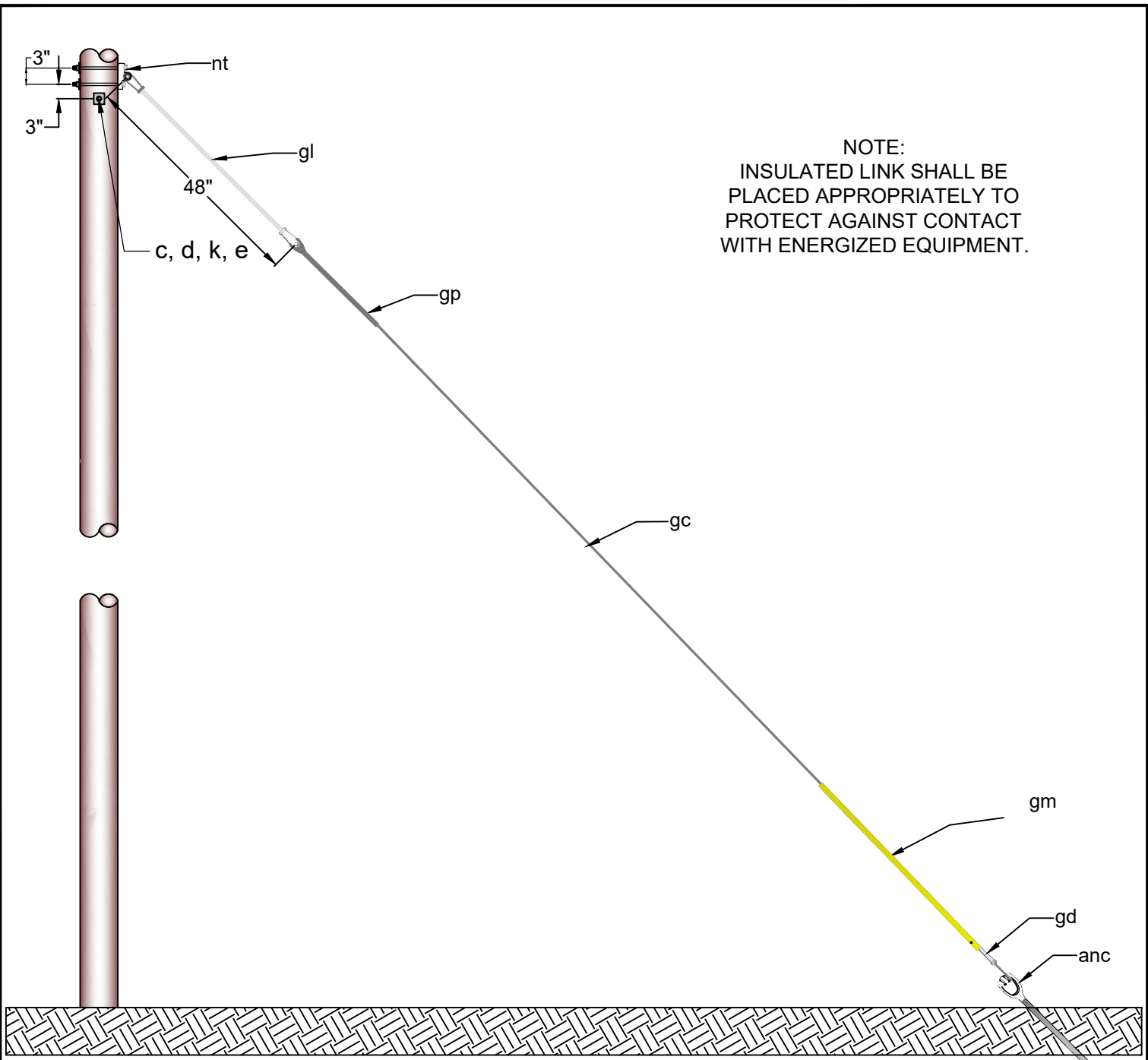
	SYSTEM NEUTRAL
	POLE GROUND

DIMENSIONS TO BE USED WHEN TAKEOFF IS NOT AN EXISTING 9' NEUTRAL.



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200 W. VULCAN STREET  
P.O. BOX 1059  
BRENHAM, TX 77834  
(979) 337-7400

TITLE		C7 5' NEUTRAL C7 9' NEUTRAL	
REV NO	REV BY	ISSUE DATE	11/05/2014
SCALE	NTS	TECH	ES
PAGE	1 OF 1	DRAWING NO #	C7+C7



NOTE:  
INSULATED LINK SHALL BE  
PLACED APPROPRIATELY TO  
PROTECT AGAINST CONTACT  
WITH ENERGIZED EQUIPMENT.

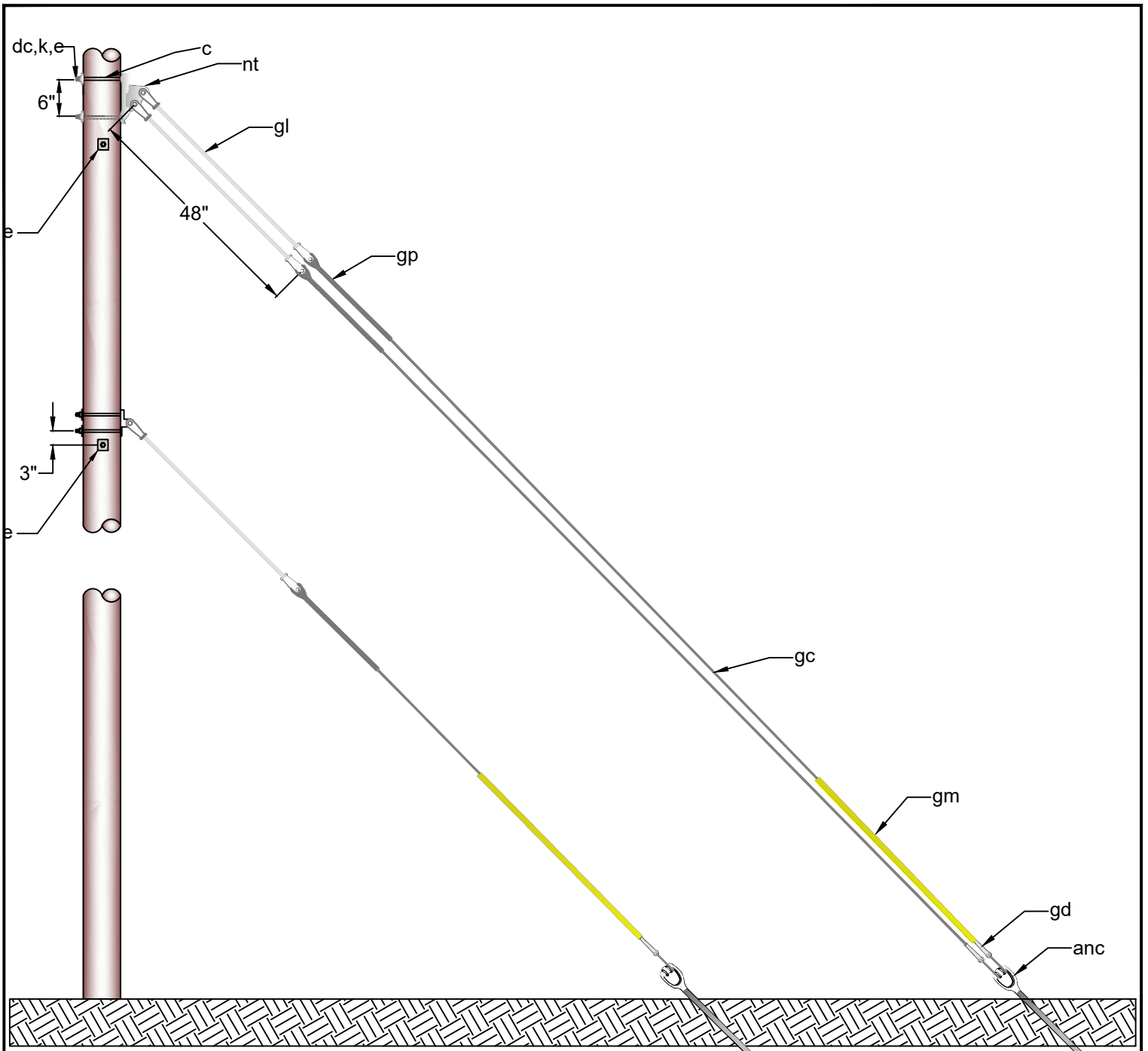
SEE SHEETS F1-2S & F1-3S  
FOR ANCHOR ASSEMBLY

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	3	Bolt, Machine 5/8" x Req'd. Length	gl	1	Link, Insulated 48"
d	3	Washer, Sq 2-1/4"	gm	1	Marker, Guy
e	3	Lock Nut 5/8"	gp	1	Preform, Guy
gc	As Req'd.	Cable, Guy 3/8"	k	3	Square Nut 5/8"
gd	1	DE, Auto or Preform Guy 3/8"	n	1	Bracket, Guy



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TITLE			
SINGLE DOWN GUY		ISSUE DATE 12/22/2025	
REV NO	REV BY	TECH	
SCALE	NTS	DRAWING NO #	E1-2
PAGE	1 OF 1		



SEE SHEETS F1-2S  
& F1-3S FOR  
ANCHOR ASSEMBLY

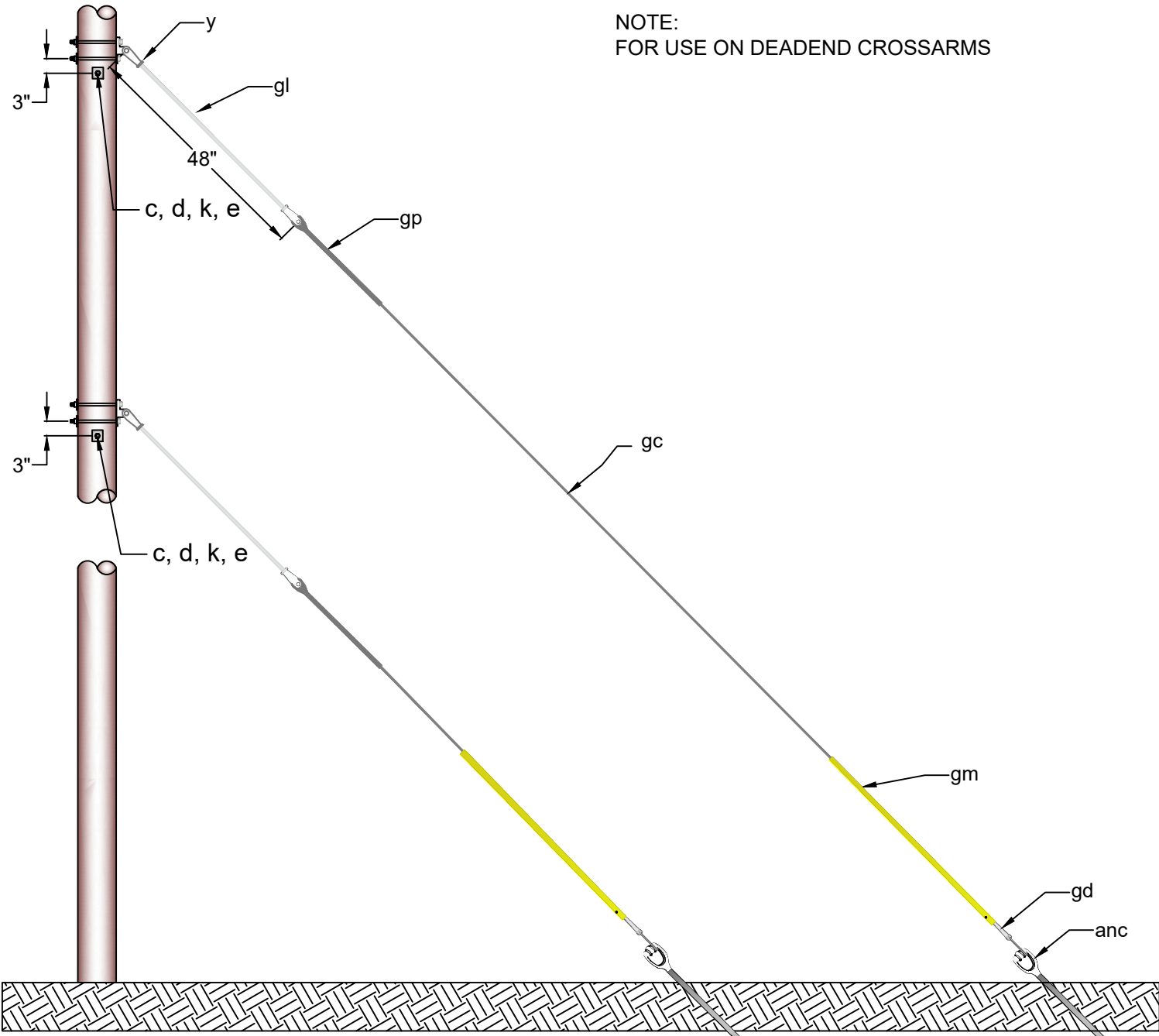
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	6	Bolt, Machine 5/8" x Req'd. Length	gl	3	Link, Insulated 48"
d	6	Washer, Sq 2-1/4"	gm	2	Marker, Guy
e	6	Lock Nut 5/8"	gp	3	Preform, Guy
gc	As Req'd.	Cable, Guy 3/8"	k	6	Square Nut 5/8"
gd	3	DE, Auto or Preform Guy 3/8"	nt	2	Bracket, Guy



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TITLE			
TRIPLE DOWN GUY			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	E1-2B

NOTE:  
FOR USE ON DEADEND CROSSARMS



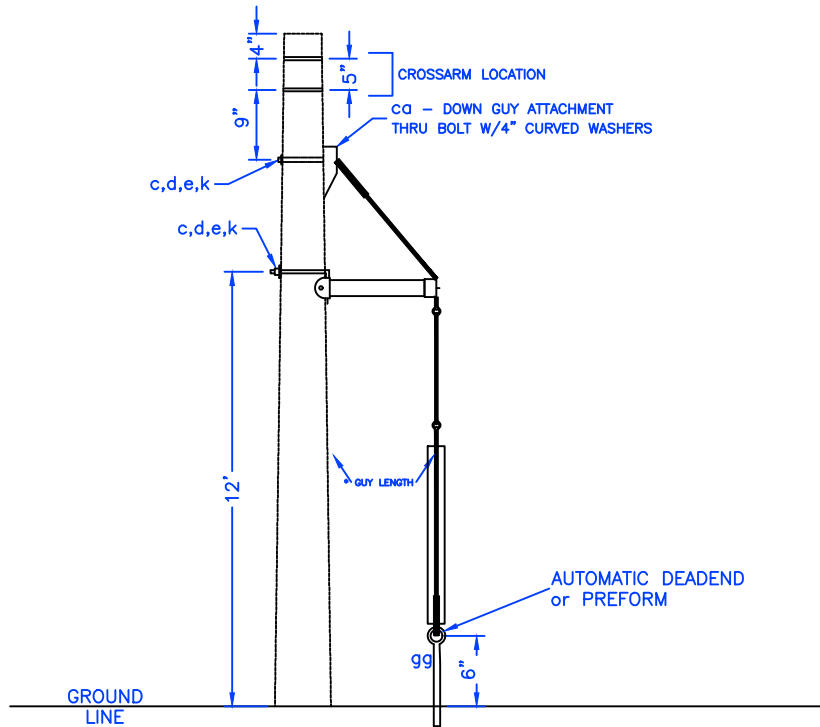
SEE SHEETS F1-2S  
& F1-3S FOR  
ANCHOR ASSEMBLY

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	6	Bolt, Machine 5/8" x Req'd. Length	gl	2	Link, Insulated 48"
d	6	Washer, Sq 2-1/4"	gm	2	Marker, Guy
e	6	Lock Nut 5/8"	gp	2	Preform, Guy
gc	As Req'd.	Cable, Guy 3/8"	k	6	Square Nut 5/8"
gd	2	DE, Auto or Preform Guy 3/8"	nt	2	Bracket, Guy



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TITLE			
DOUBLE DOWN GUY			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1	OF	1
DRAWING NO #			E1-2C



\* GUY LENGTH WILL VARY WITH CONDITIONS AT SPECIFIC GUY LOCATION

SEE SHEETS F1-2S & F1-3S FOR ANCHOR ASSEMBLY

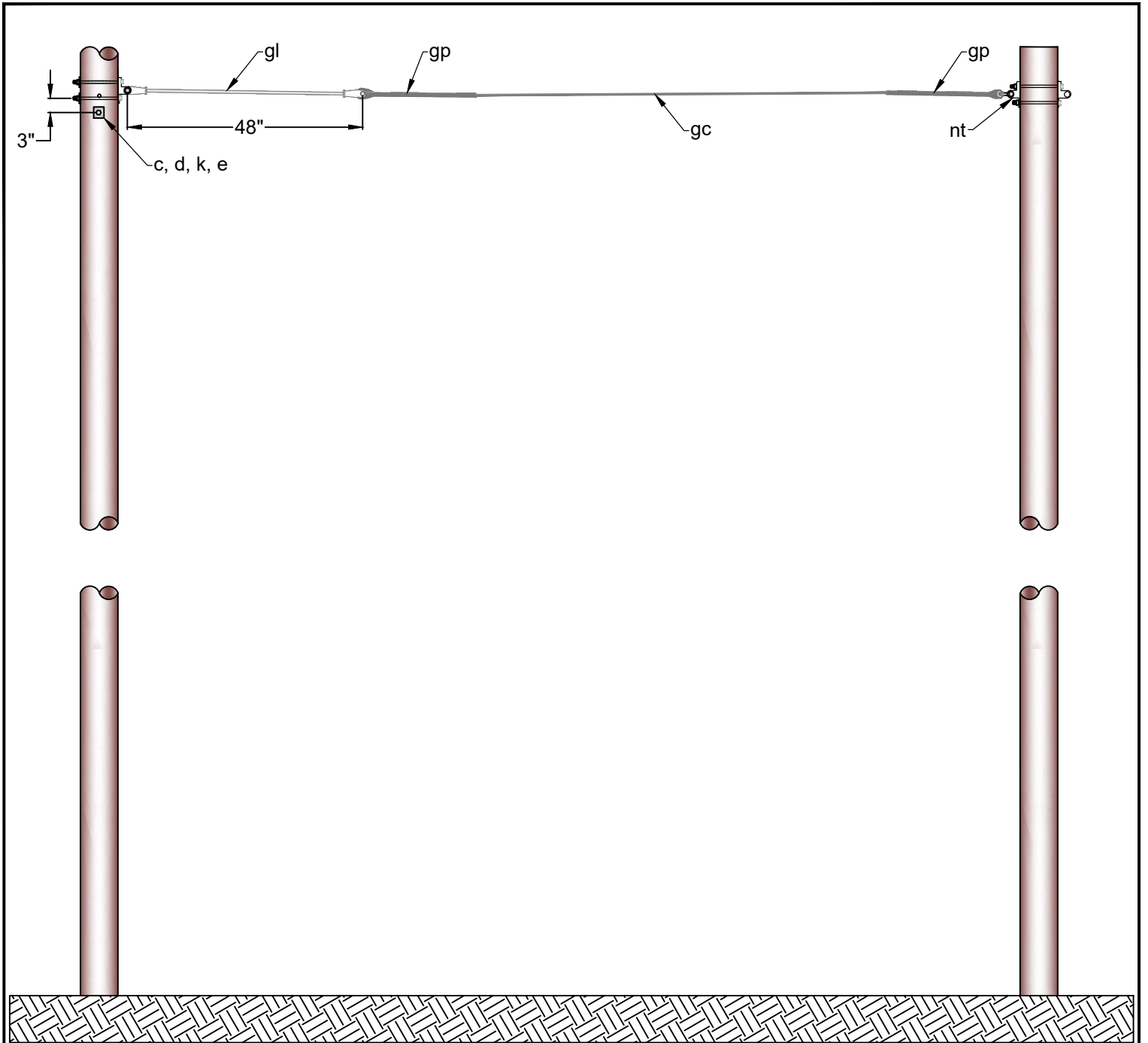
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	gl	1	Link, Insulated 48"
d	4	Washer, Sq 2-1/4"	gm	1	Marker, Guy
e	4	Lock Nut 5/8"	gp	1	Preform, Guy
gc	As Req'd.	Cable, Guy 3/8"	k	4	Square Nut 5/8"
gd	1	DE, Auto or Preform Guy 3/8"	nt	1	Bracket, Guy



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TITLE		SIDEWALK GUY	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	E1-2D

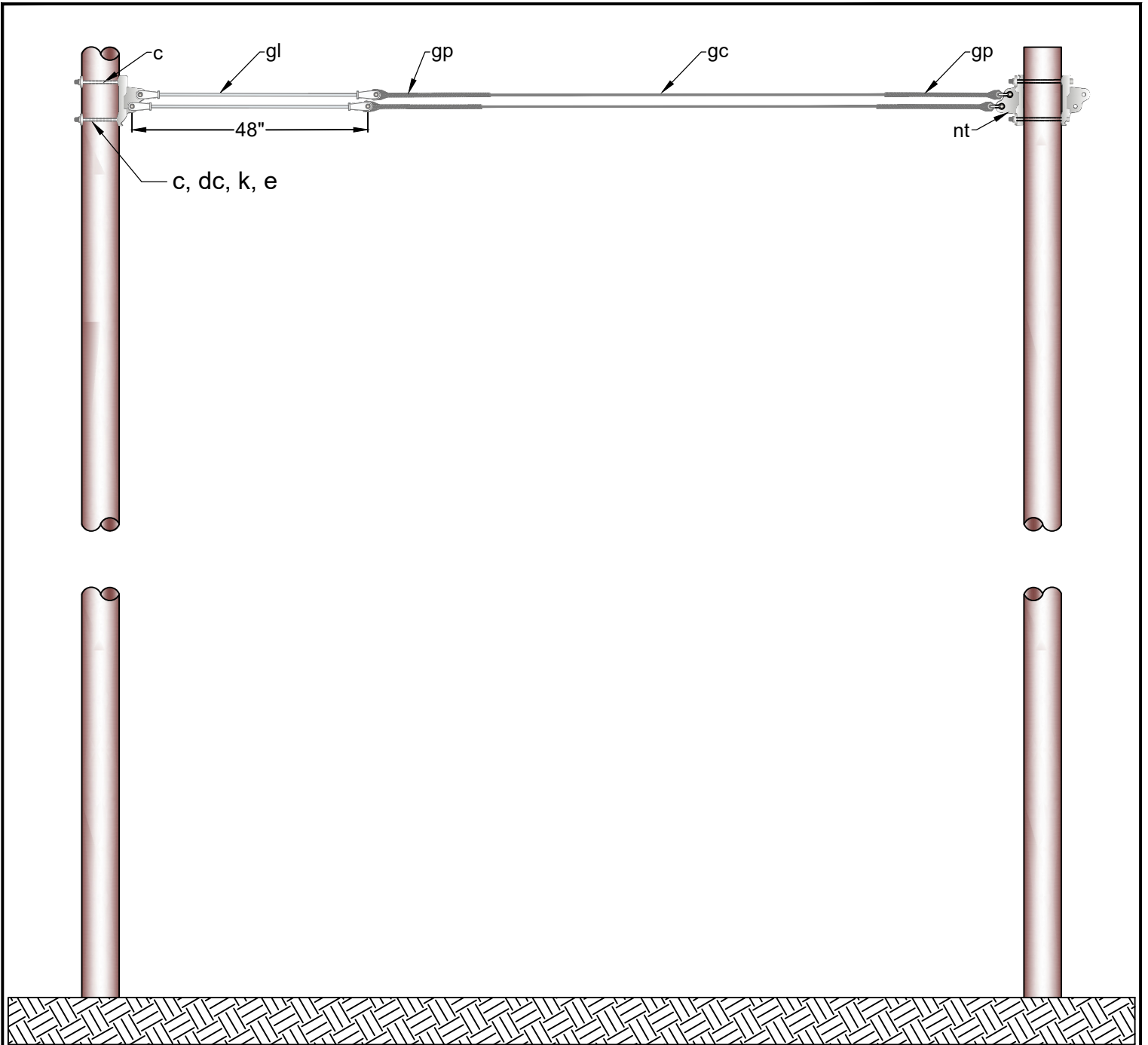


Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	5	Bolt, Machine 5/8" x Req'd. Length	gl	1	Link, Insulated 48"
dc	4	Washer, Square 2-1/4"	gp	2	Preform, Guy
e	5	Lock Nut 5/8"	k	5	Square Nut 5/8"
gc	As Req'd.	Cable, Guy 3/8"	nt	3	Guy, Bracket



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TITLE		SINGLE OVERHEAD GUY	
REV NO	REV BY	ISSUE DATE	12/12/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	E2-2



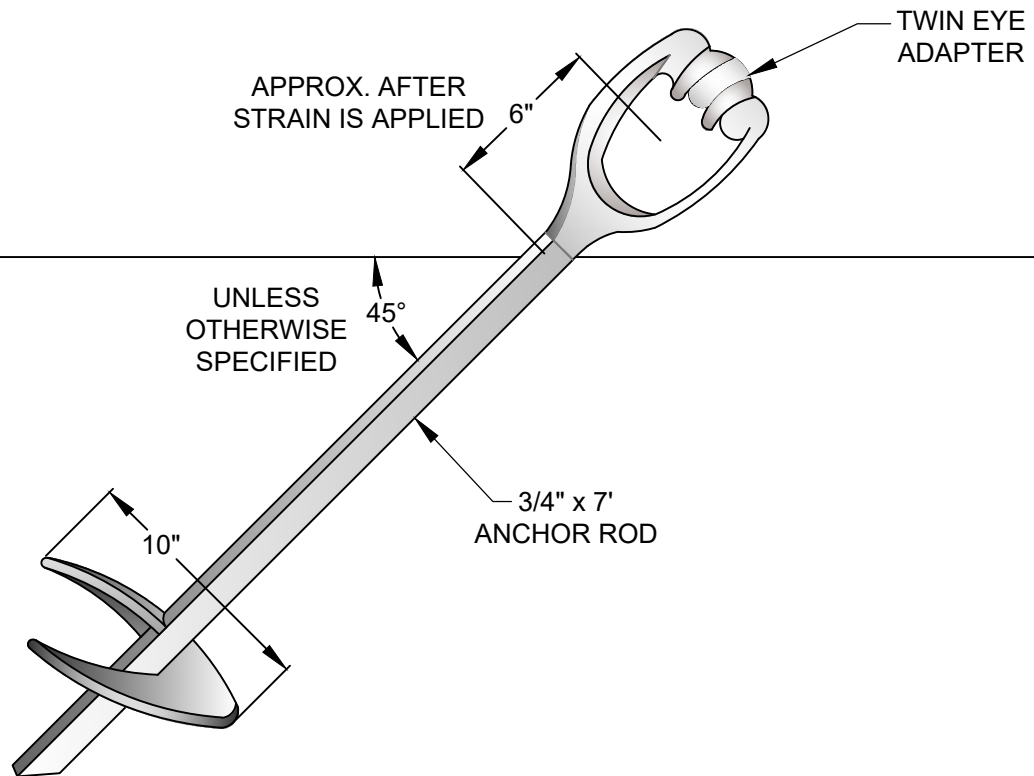
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	gl	2	Link, Insulated 48"
dc	2	Washer, Curved 3-1/2"	gp	4	Preform, Guy
e	4	Lock Nut 5/8"	k	4	Square Nut 5/8"
gc	As Req'd.	Cable, Guy 3/8"	nt	3	Guy, Bracket



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TITLE		DOUBLE OVERHEAD GUY	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	E2-2C

GROUND



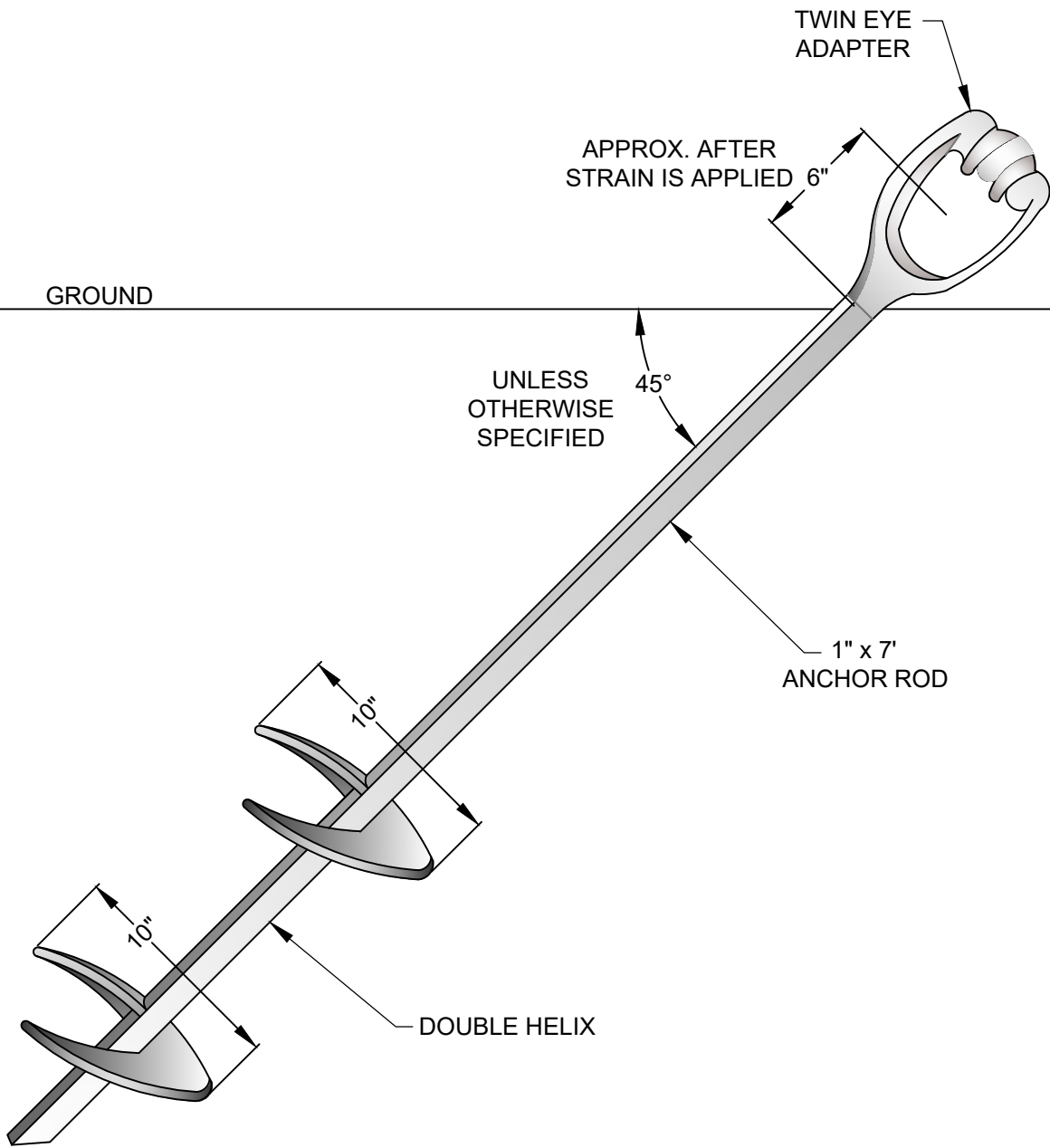
NOTE:  
ANCHOR ROD EXTENSIONS  
TO BE ADDED AS REQUIRED  
TO ACHIEVE RECOMMENDED  
TORQUE.



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REV. NO.		ISSUE DATE	
		12/22/2025	
SCALE		TECH	
	NTS		
PAGE		DRAWING NO. #	
1	OF 1	F1-2S	

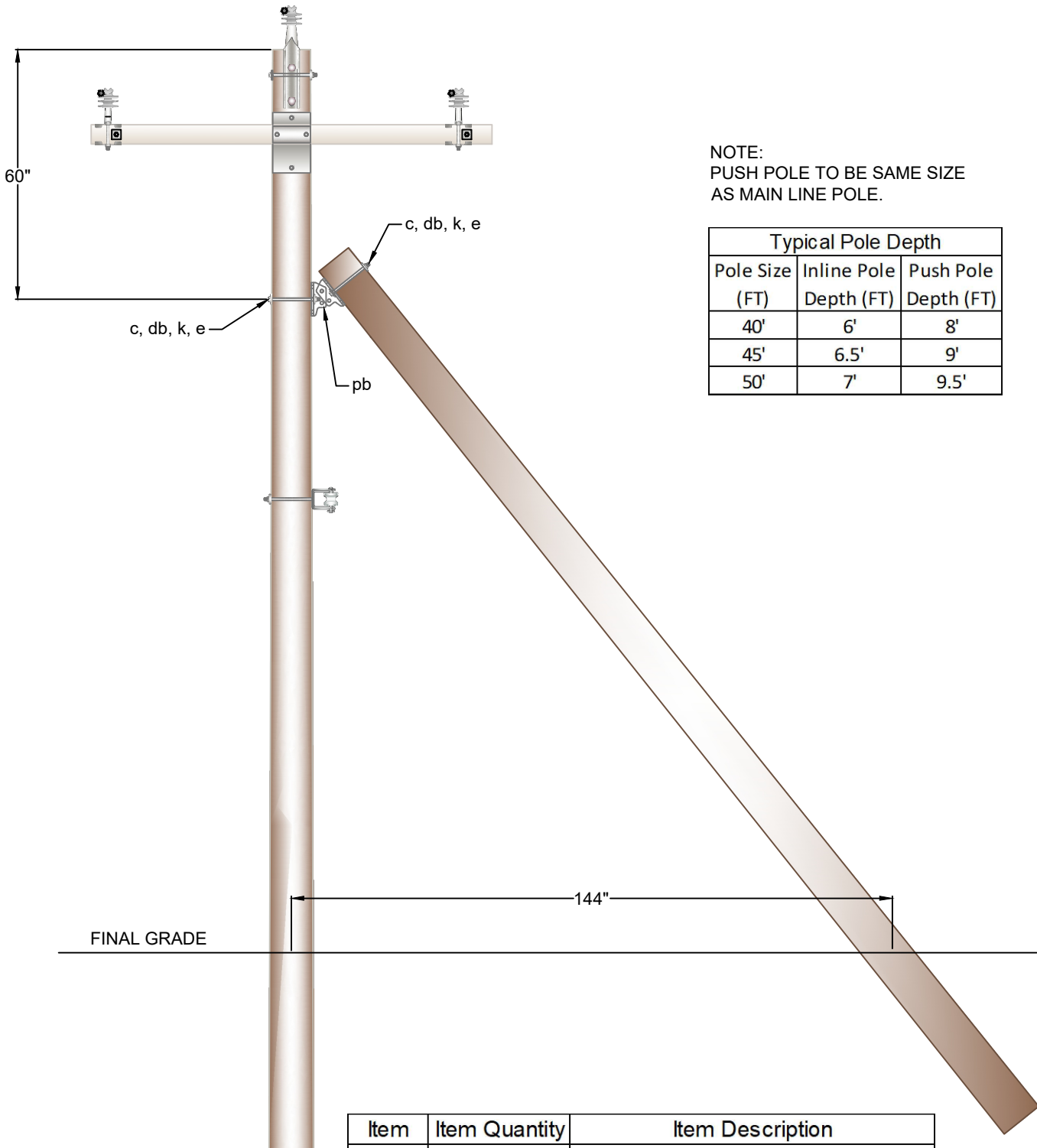


NOTE:  
 ANCHOR ROD EXTENSIONS  
 TO BE ADDED AS REQUIRED  
 TO ACHIEVE RECOMMENDED  
 TORQUE.



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REV. NO.		REV. BY		ISSUE DATE	
				12/22/2025	
SCALE		TECH		DRAWING NO. #	
NTS				F1-3S	
PAGE		OF			
1		1			



NOTE:  
 PUSH POLE TO BE SAME SIZE  
 AS MAIN LINE POLE.

Typical Pole Depth		
Pole Size (FT)	Inline Pole Depth (FT)	Push Pole Depth (FT)
40'	6'	8'
45'	6.5'	9'
50'	7'	9.5'

Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length
db	2	Washer, Crvd 3"x3"x1/4"-11/16" Hole
e	2	Lock Nut 5/8"
k	2	Square Nut 5/8"
pb	1	Bracket, Push Pole



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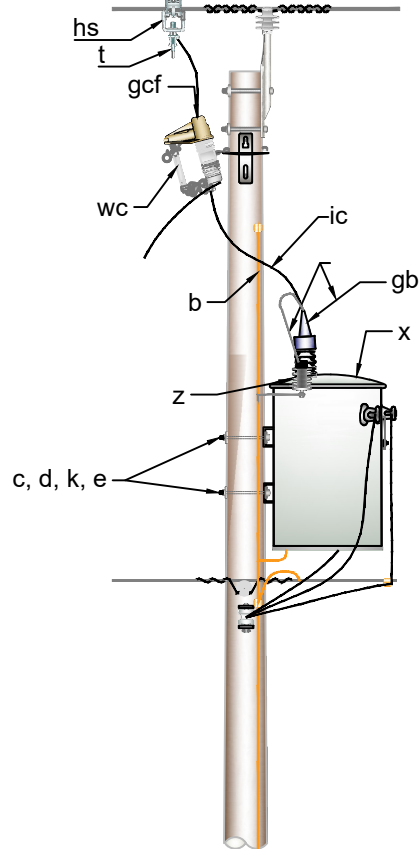
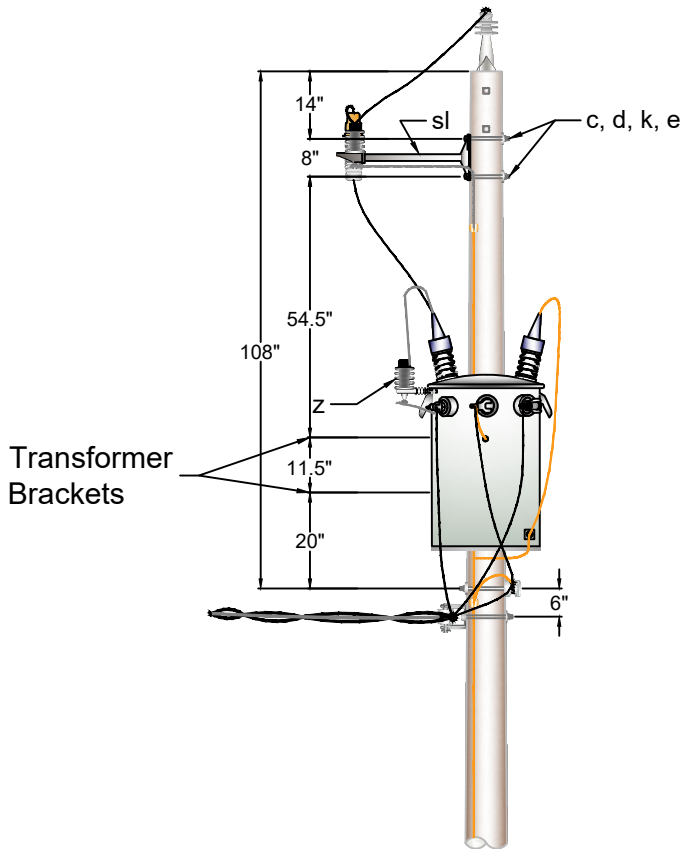
TITLE			
BRACE GUY/PUSH POLE			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	F10-1

# **Transformer Specification**

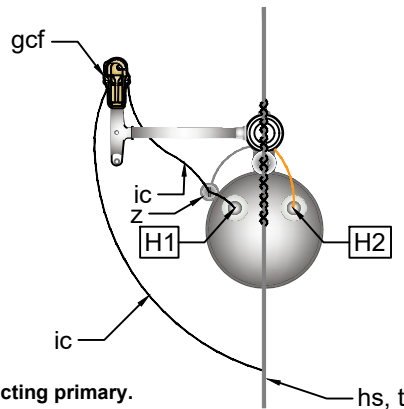
**Single Phase-Three Phase**

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

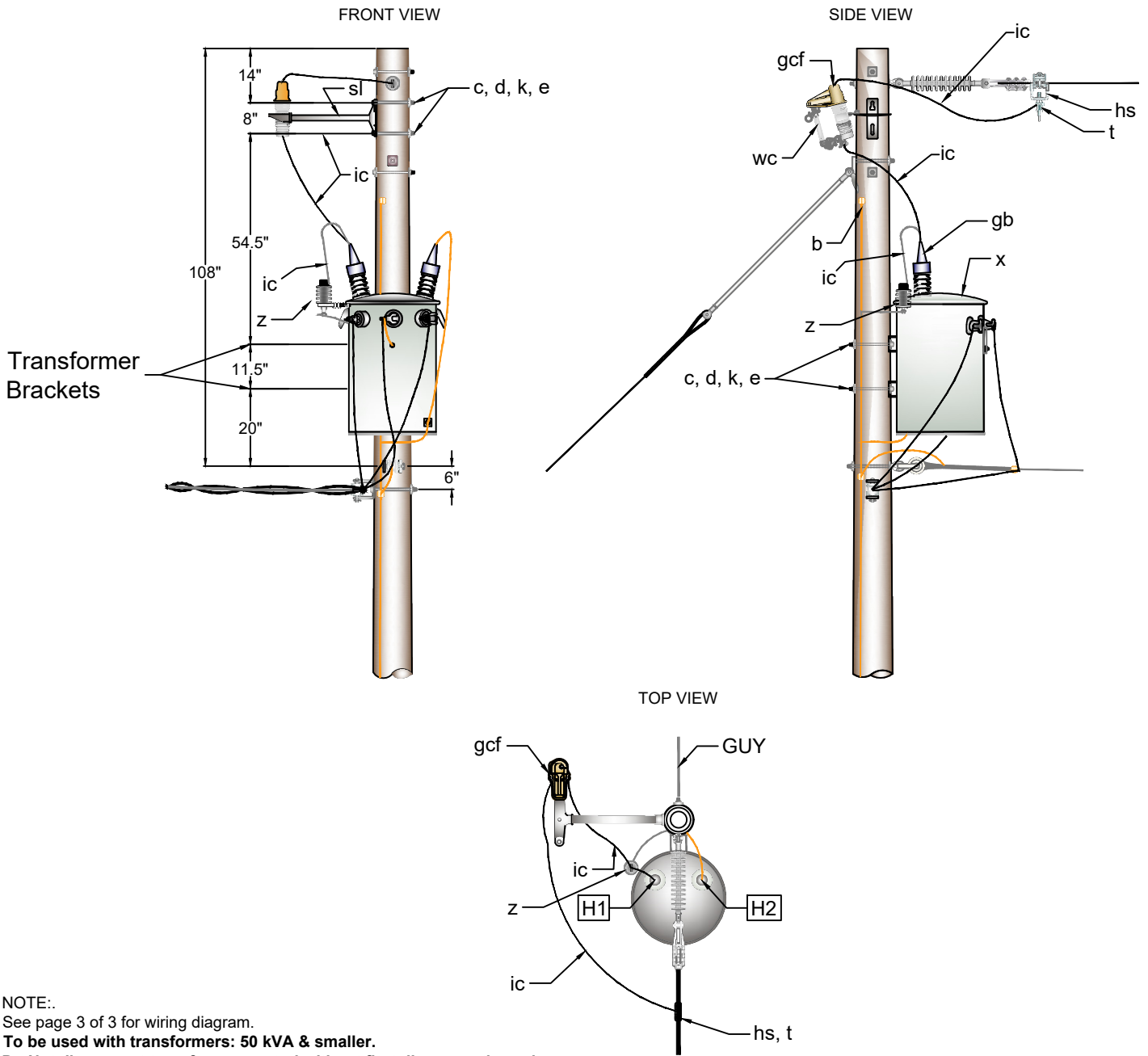
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	4	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
e	4	Lock Nut 5/8"	t	1	Clamp, HL
ga	1	Guard, Arrestor	wc	1	Cutout
gb	2	Guard, Bushing	x	1	Transformer
gcf	1	Guard, Cutout	z	1	Lightning Arrester
hs	1	Stirrup, HL		As Req'd.	Connector



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TITLE		1Ø TRANSFORMER 120-240 ON 1Ø TANGENT	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 3	DRAWING NO #	G10



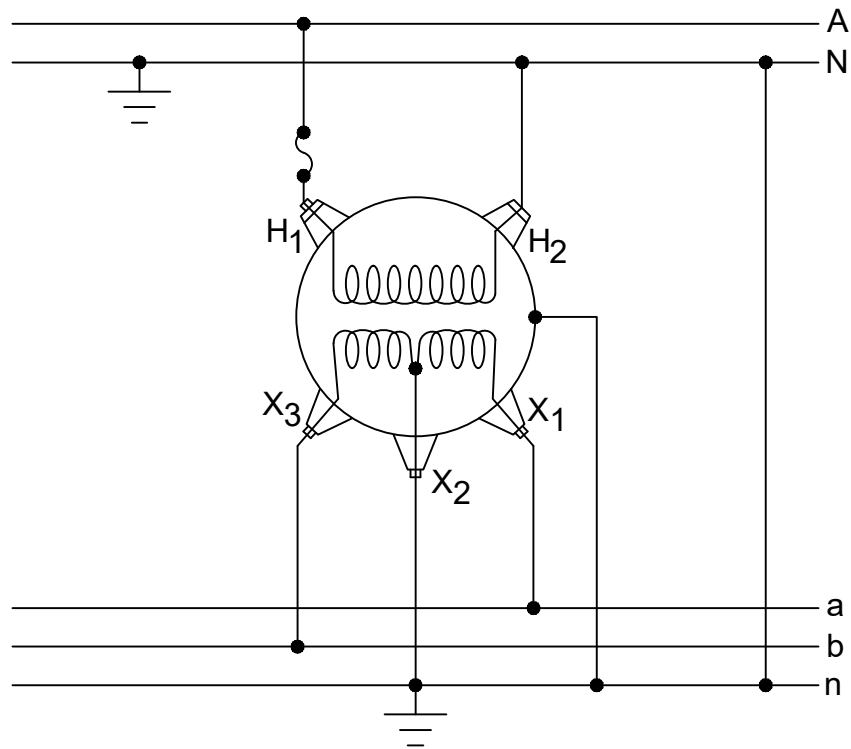
NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	4	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
e	4	Lock Nut 5/8"	t	1	Clamp, HL
ga	1	Guard, Arrestor	wc	1	Cutout
gb	2	Guard, Bushing	x	1	Transformer
gcf	1	Guard, Cutout	z	1	Lightning Arrester
hs	1	Stirrup, HL		As Req'd.	Connector



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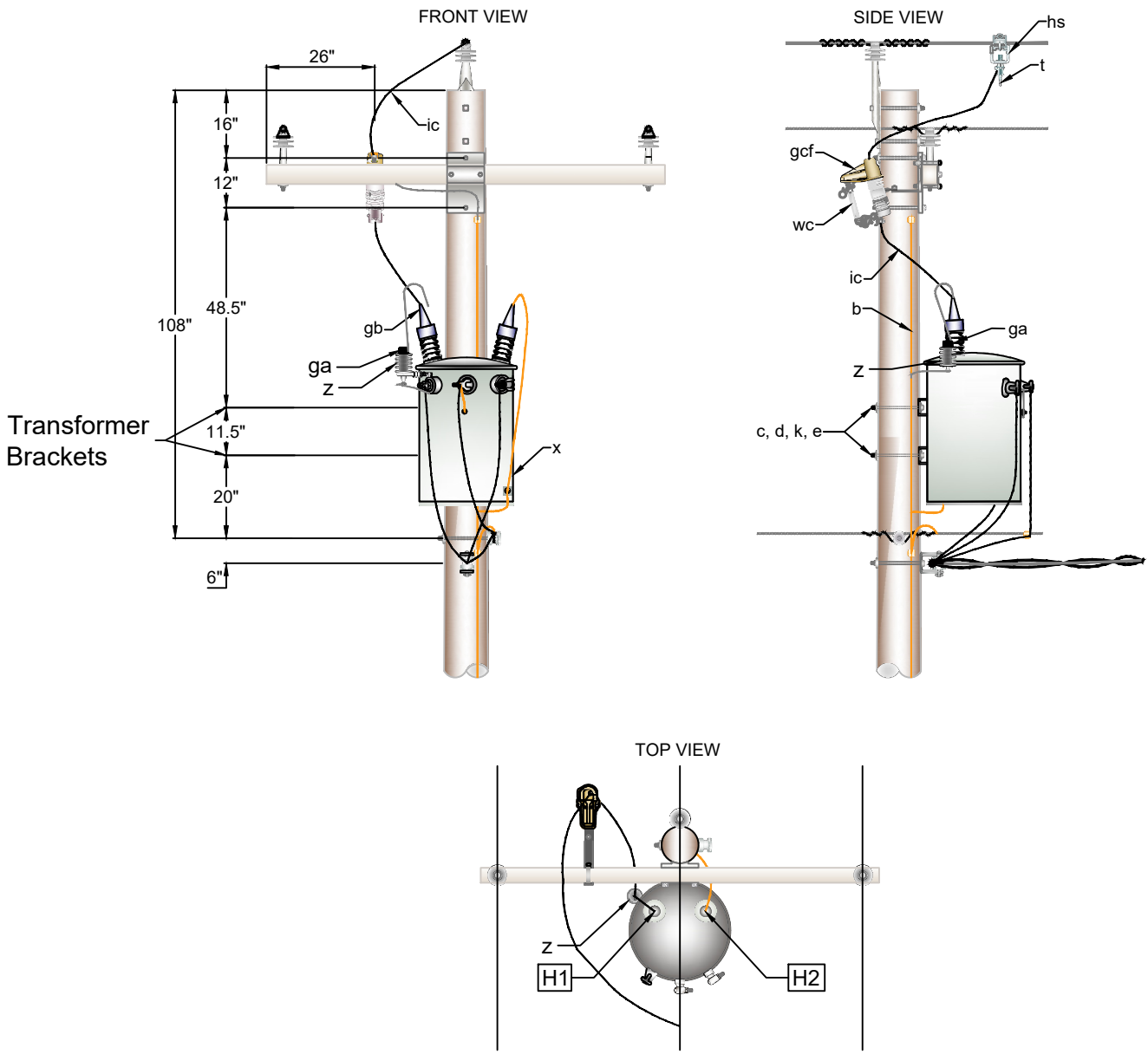
TITLE		1Ø TRANSFORMER 120-240 ON 1Ø DEADEND	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G10



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REV NO		REV BY	ISSUE DATE
SCALE		TECH	
PAGE		DRAWING NO #	
3 OF 3		G10	
TITLE			1Ø TRANSFORMER 120-240
			12/23/2025
NTS			



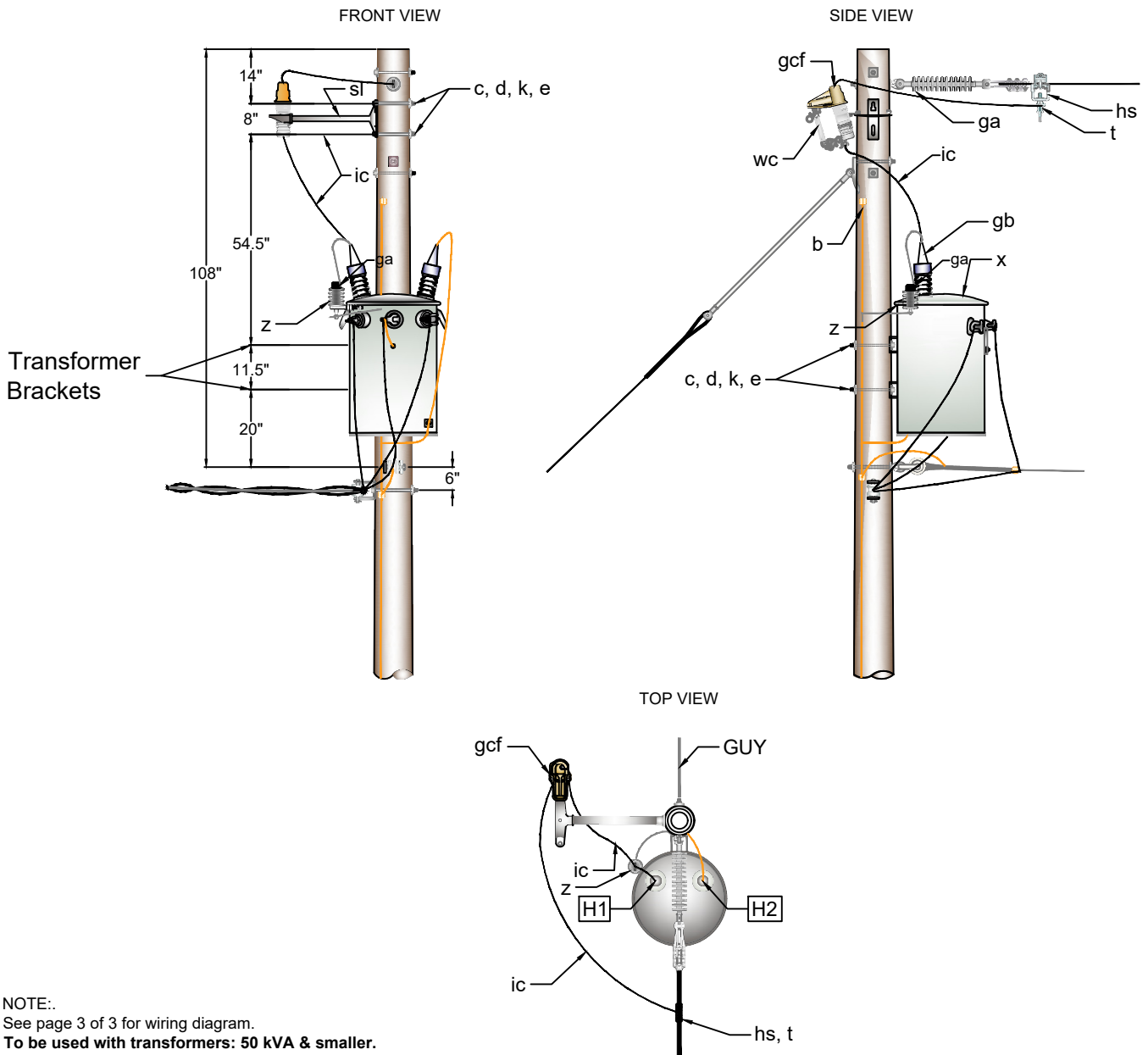
NOTE:  
 See page 3 of 3 from G10 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	2	Square Nut 5/8"
d	2	Washer, Sq 2-1/4"	t	1	Clamp, HL
e	2	Lock Nut 5/8"	wc	1	Cutout
ga	1	Guard, Arrester	x	1	Transformer
gb	2	Guard, Bushing	z	1	Lightning Arrester
gcf	1	Guard, Cutout		As Req'd.	Connector
hs	1	Stirrup, HL			



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TITLE		1Ø TRANSFORMER ON 3Ø POLE TANGENT	
REV NO	REV BY	ISSUE DATE	08/19/2014
SCALE	NTS	TECH	ES
PAGE	1 OF 2	DRAWING NO #	G11



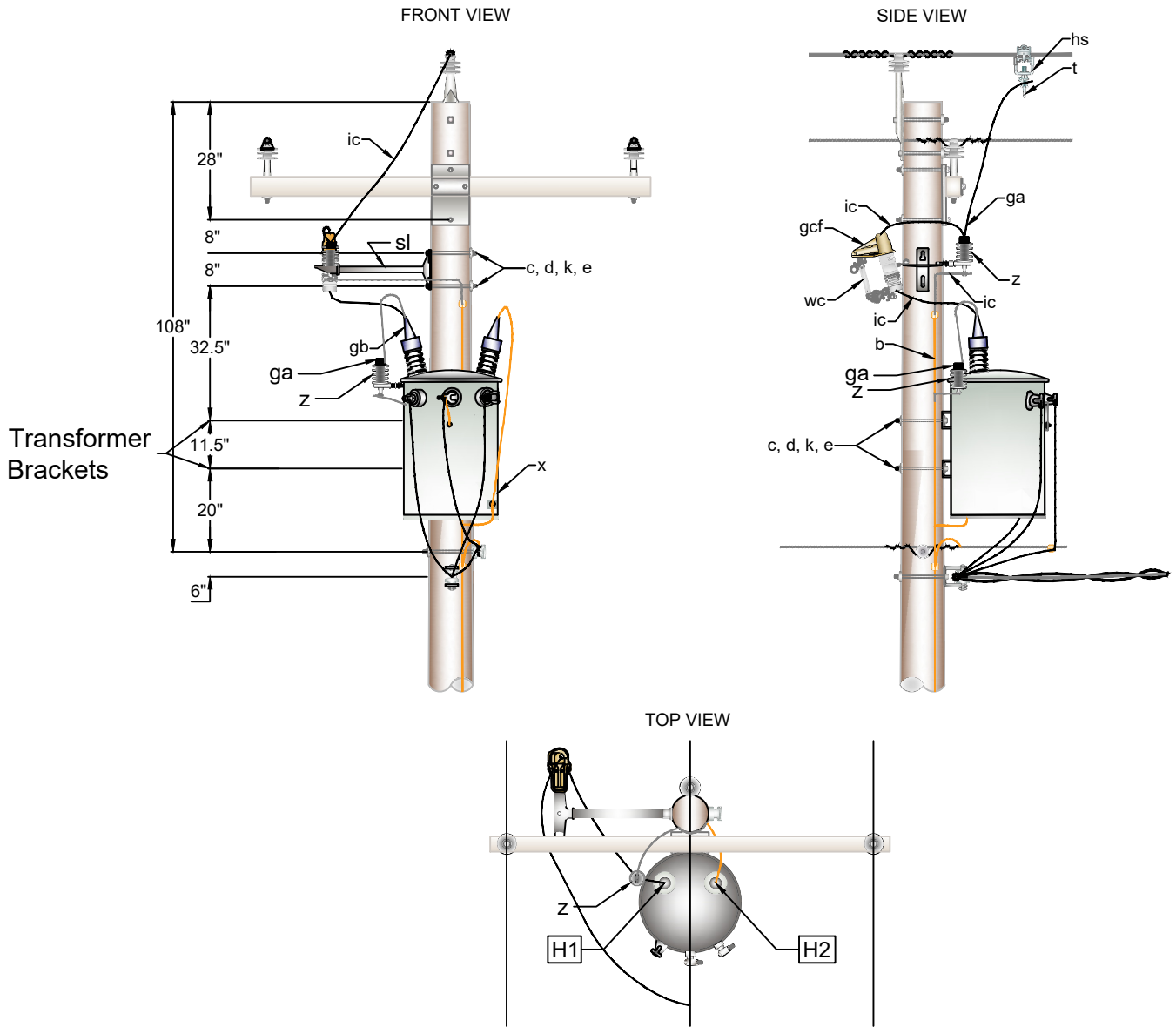
NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	2	Square Nut 5/8"
d	2	Washer, Sq 2-1/4"	t	1	Clamp, HL
e	2	Lock Nut 5/8"	wc	1	Cutout
ga	1	Guard, Arrester	x	1	Transformer
gb	2	Guard, Bushing	z	1	Lightning Arrester
gcf	1	Guard, Cutout		As Req'd.	Connector
hs	1	Stirrup, HL			



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TITLE		1Ø TRANSFORMER ON 1Ø POLE DEADEND	
REV NO	REV BY	ISSUE DATE	08/19/2014
SCALE	NTS	TECH	ES
PAGE	2 OF 2	DRAWING NO #	G11



NOTE:  
 See page 3 of 3 from G10 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

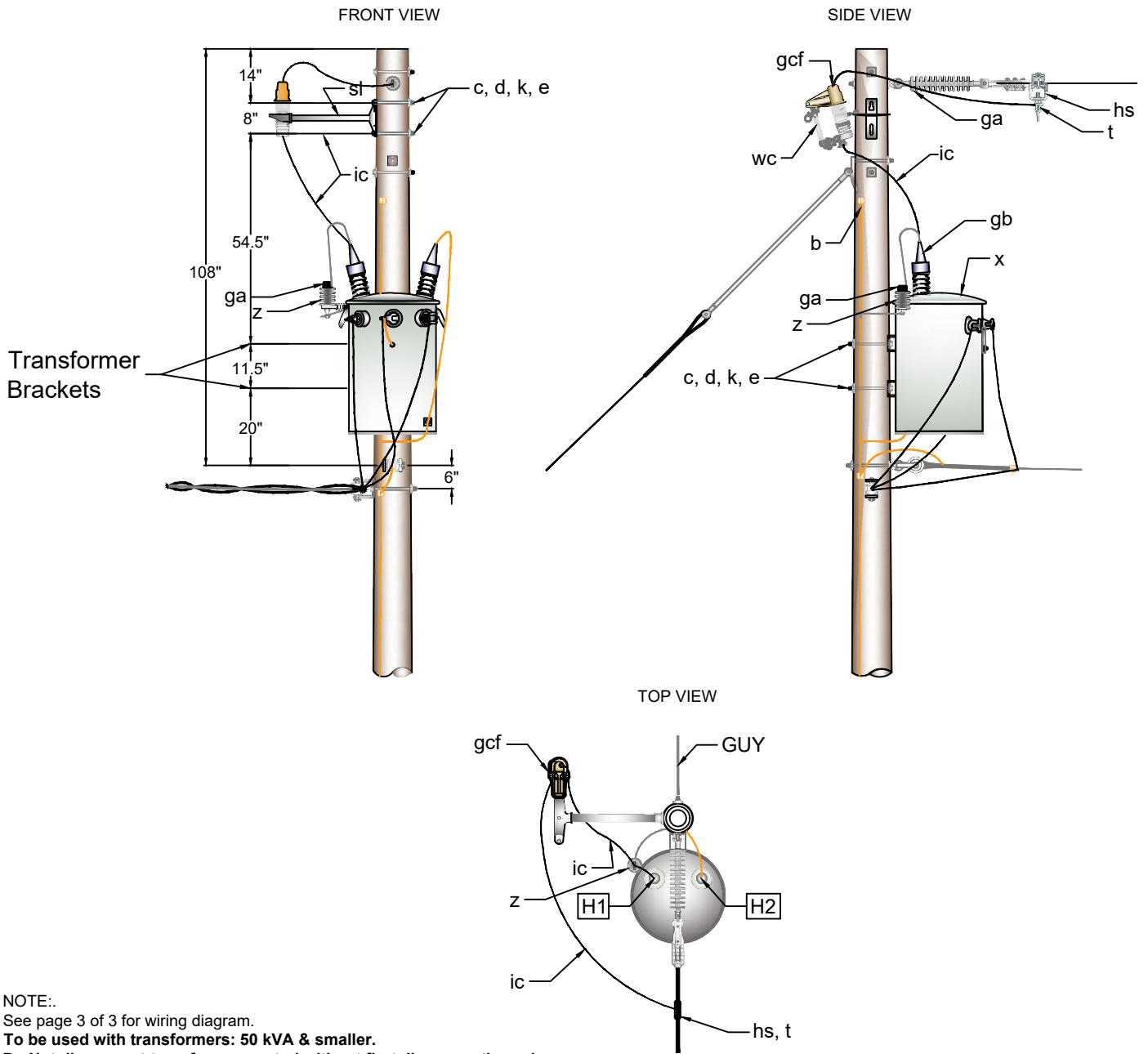
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	4	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
e	4	Lock Nut 5/8"	t	1	Clamp, HL
ga	1	Guard, Arrestor	wc	1	Cutout
gb	2	Guard, Bushing	x	1	Transformer
gcf	1	Guard, Cutout	z	1	Lightning Arrestor
hs	1	Stirrup, HL		As Req'd.	Connector



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TITLE			
1Ø TRANSFORMER ON 3Ø TANGENT POLE WITH STANDOFF BRACKET			
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 2	DRAWING NO #	G11S



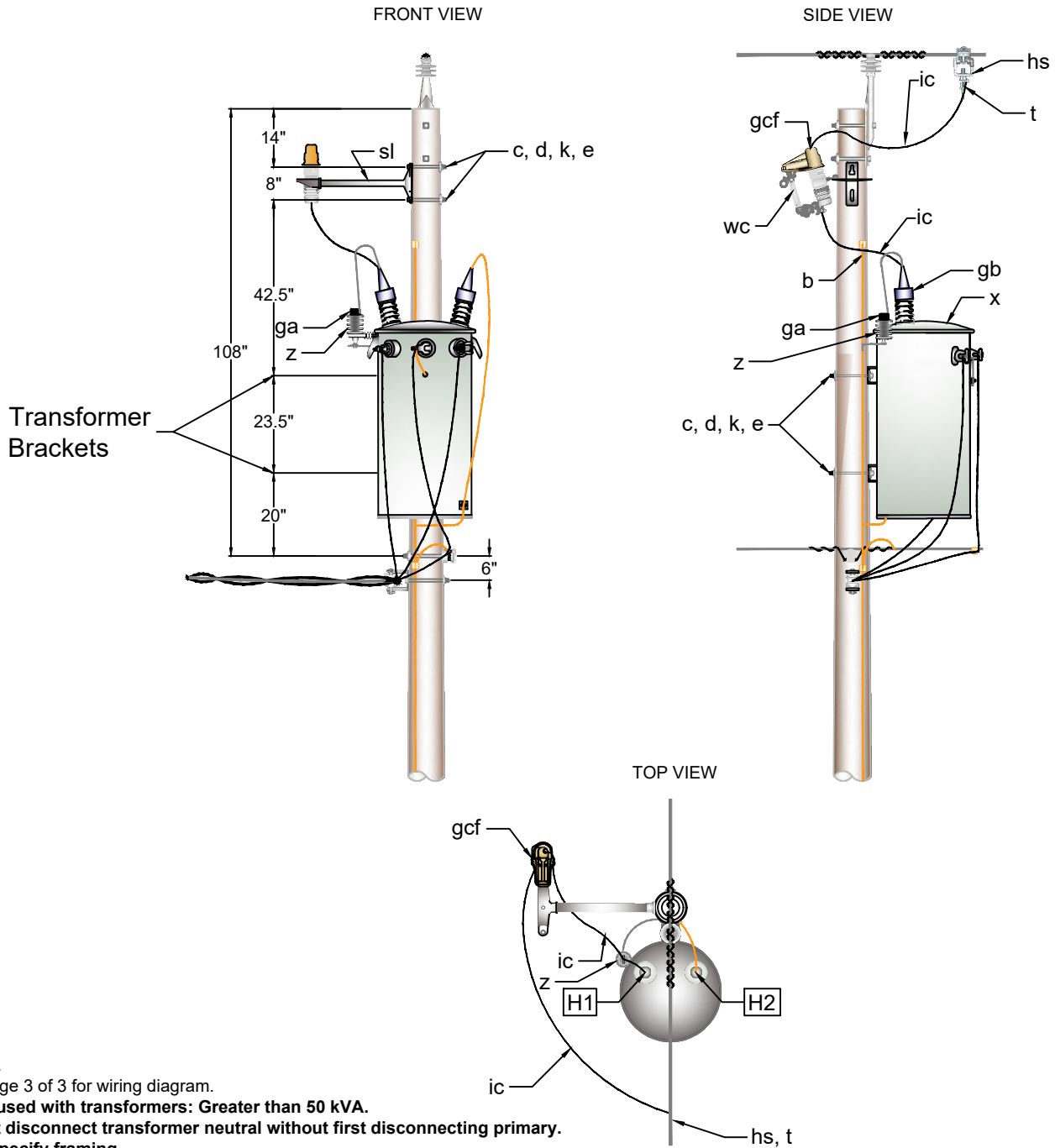
NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: 50 kVA & smaller.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	4	Square Nut 5/8"
d	4	Washer, Sq 2-1/4"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
e	4	Lock Nut 5/8"	t	1	Clamp, HL
ga	1	Guard, Arrestor	wc	1	Cutout
gb	2	Guard, Bushing	x	1	Transformer
gcf	1	Guard, Cutout	z	1	Lightning Arrestor
hs	1	Stirrup, HL		As Req'd.	Connector



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TITLE		1Ø TRANSFORMER ON 1Ø DEADEND POLE WITH STANDOFF BRACKET	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	2 OF 2	DRAWING NO #	G11S



NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: Greater than 50 kVA.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

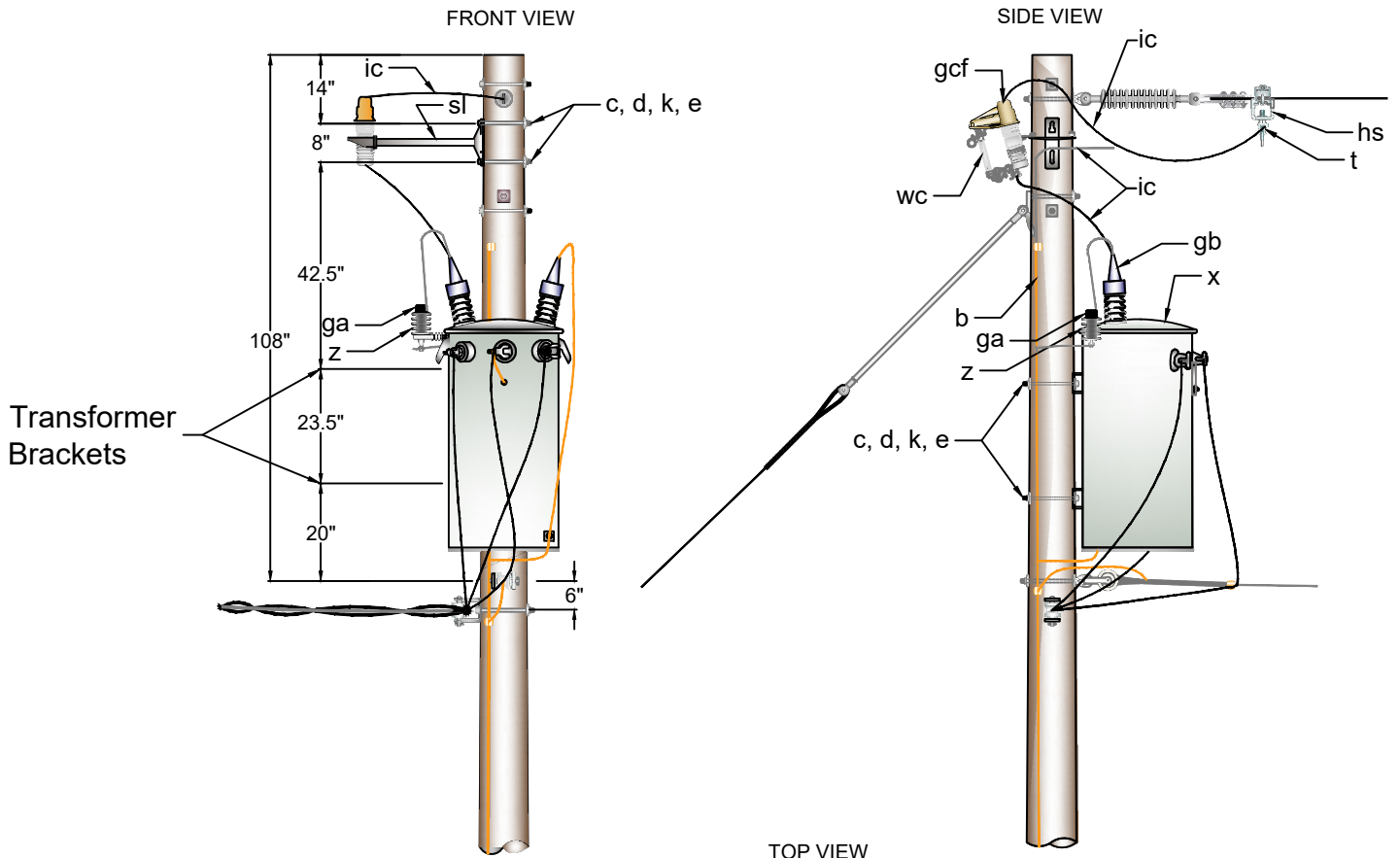
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	l	2	Square Nut, 3/4"
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
e	2	Lock Nut 5/8"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
ga	1	Guard, Arrestor	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrester
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
k	2	Square Nut 5/8"			



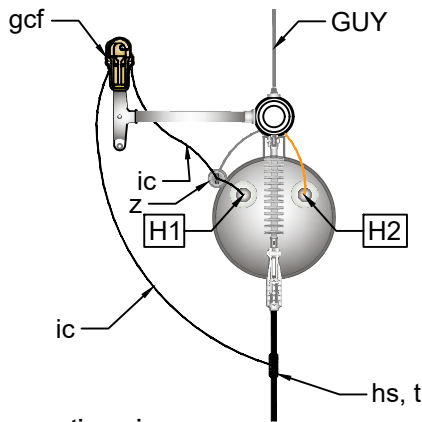
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TITLE		1Ø TRANSFORMER 120-240 ON 1Ø TANGENT	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 3	DRAWING NO #	G75



TOP VIEW



NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: Greater than 50 kVA.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

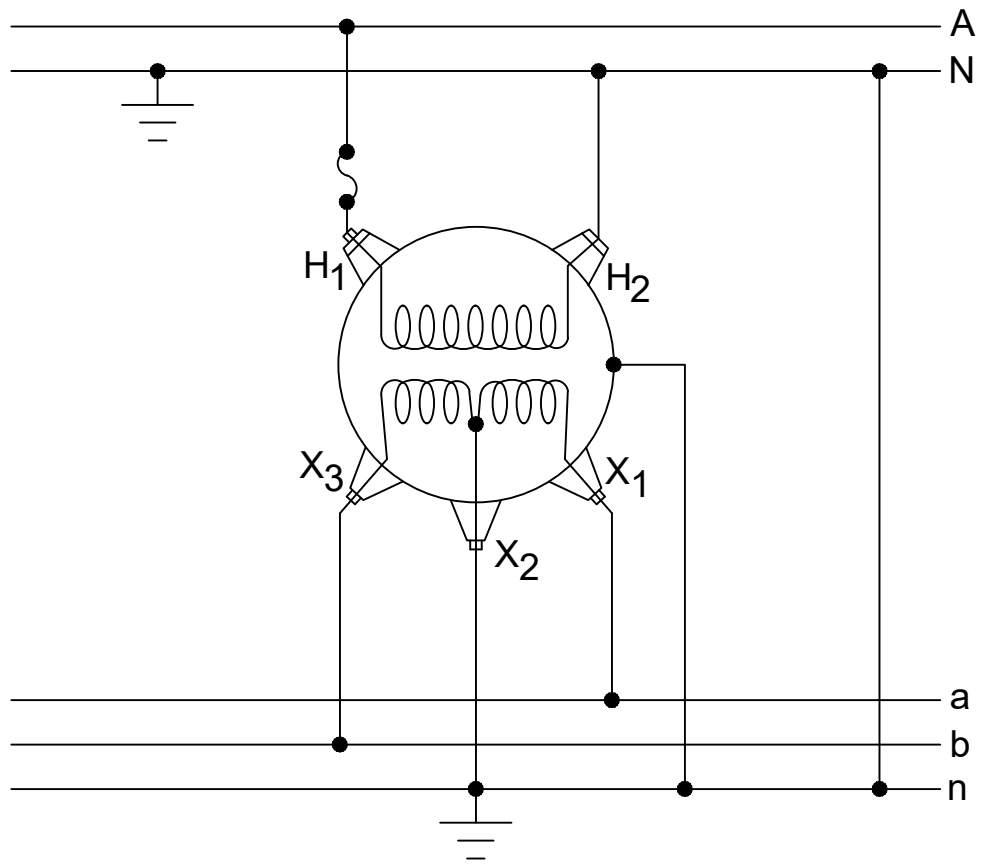
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	l	2	Square Nut, 3/4"
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
e	2	Lock Nut 5/8"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
ga	1	Guard, Arrester	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrester
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
k	2	Square Nut 5/8"			



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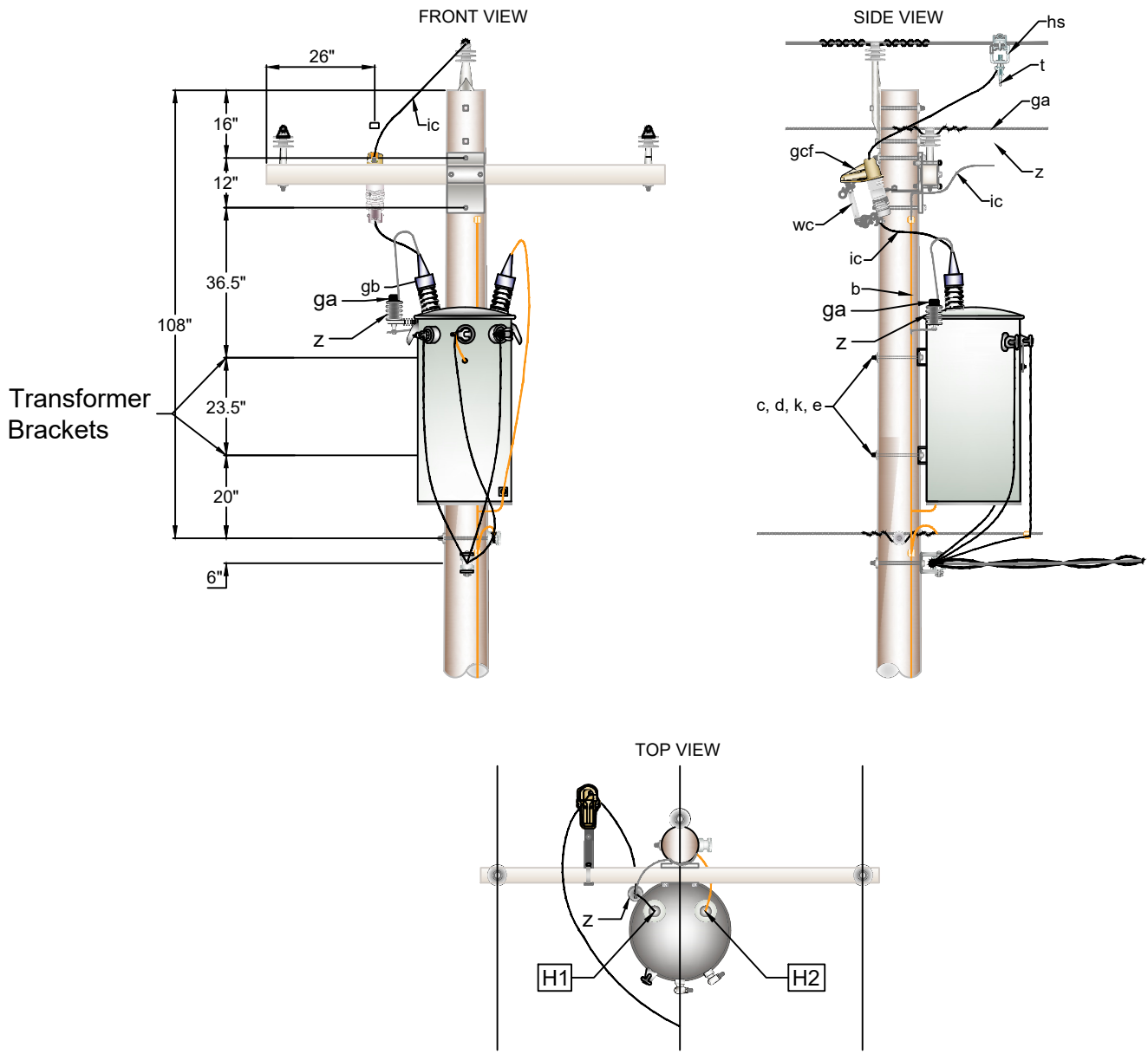
TITLE		1Ø TRANSFORMER 120-240 ON 1Ø DEADEND	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G75



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TITLE		1Ø TRANSFORMER 120-240	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS		TECH
PAGE	3 OF 3	DRAWING NO #	G75



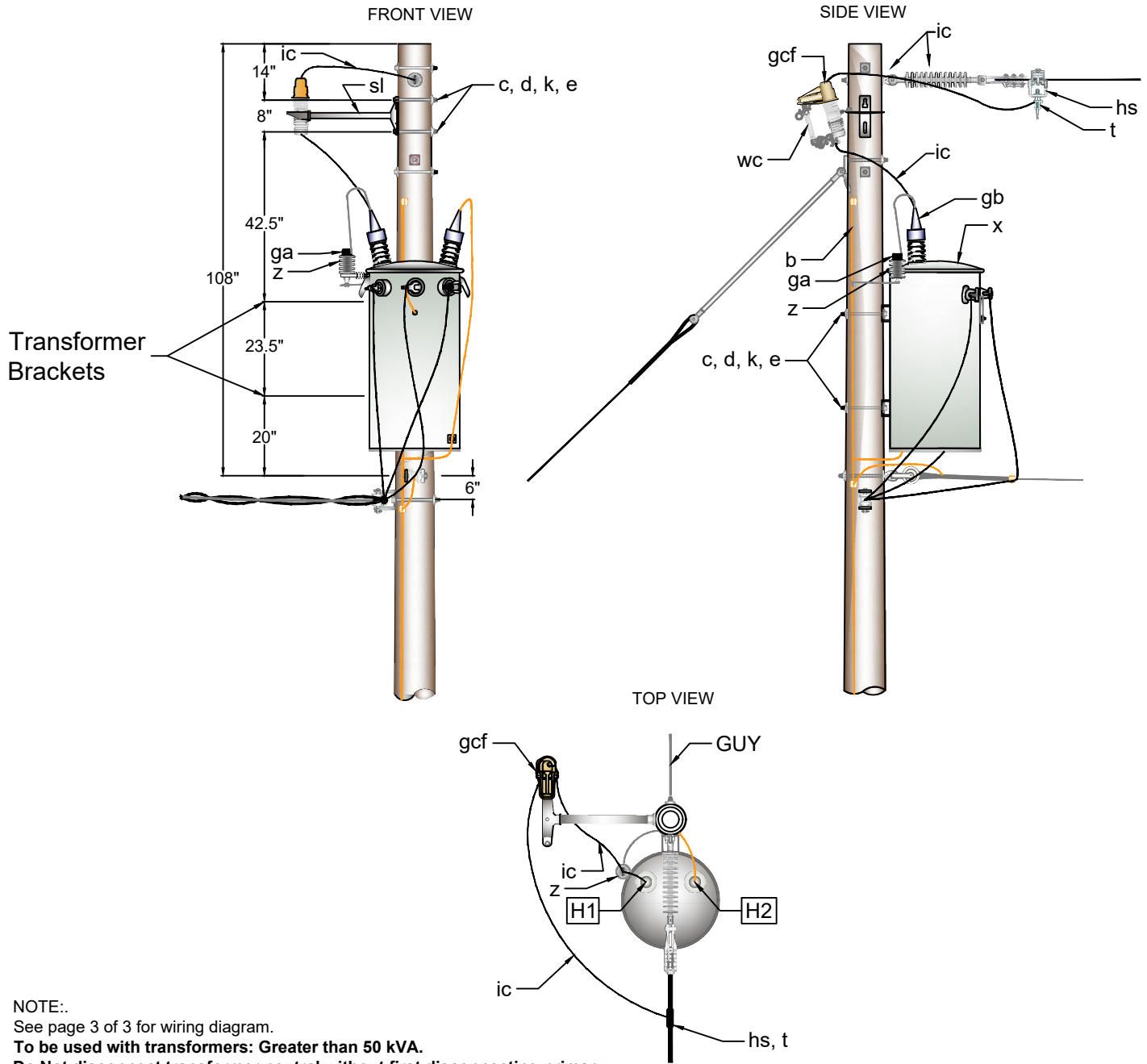
NOTE:  
 See page 3 of 3 from G10 for wiring diagram.  
**To be used with transformers: Greater than 50 kVA.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
ga	1	Guard, Arrester	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrester
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
l	2	Square Nut, 3/4"			



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TITLE		1Ø TRANSFORMER ON 3Ø POLE TANGENT	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 2	DRAWING NO #	G76



NOTE:  
 See page 3 of 3 for wiring diagram.  
**To be used with transformers: Greater than 50 kVA.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

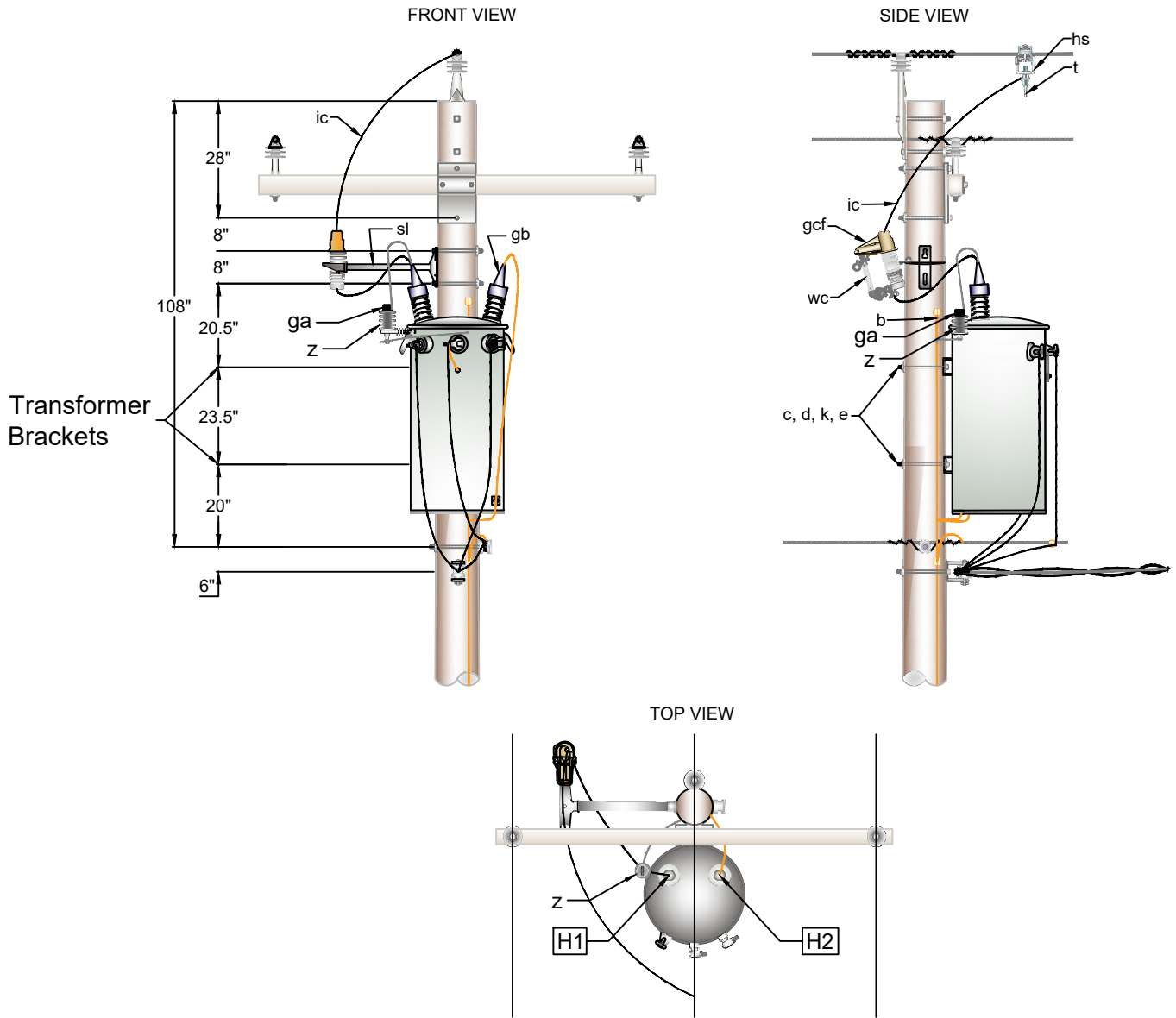
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
ga	1	Guard, Arrester	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrester
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
l	2	Square Nut, 3/4"			



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TITLE			
1Ø TRANSFORMER ON		1Ø POLE DEADEND	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	2 OF 2	DRAWING NO #	G76



NOTE:  
 See page 3 of 3 from G10 for wiring diagram.  
**To be used with transformers: Greater than 50 kVA.**  
**Do Not disconnect transformer neutral without first disconnecting primary.**  
**Must specify framing.**

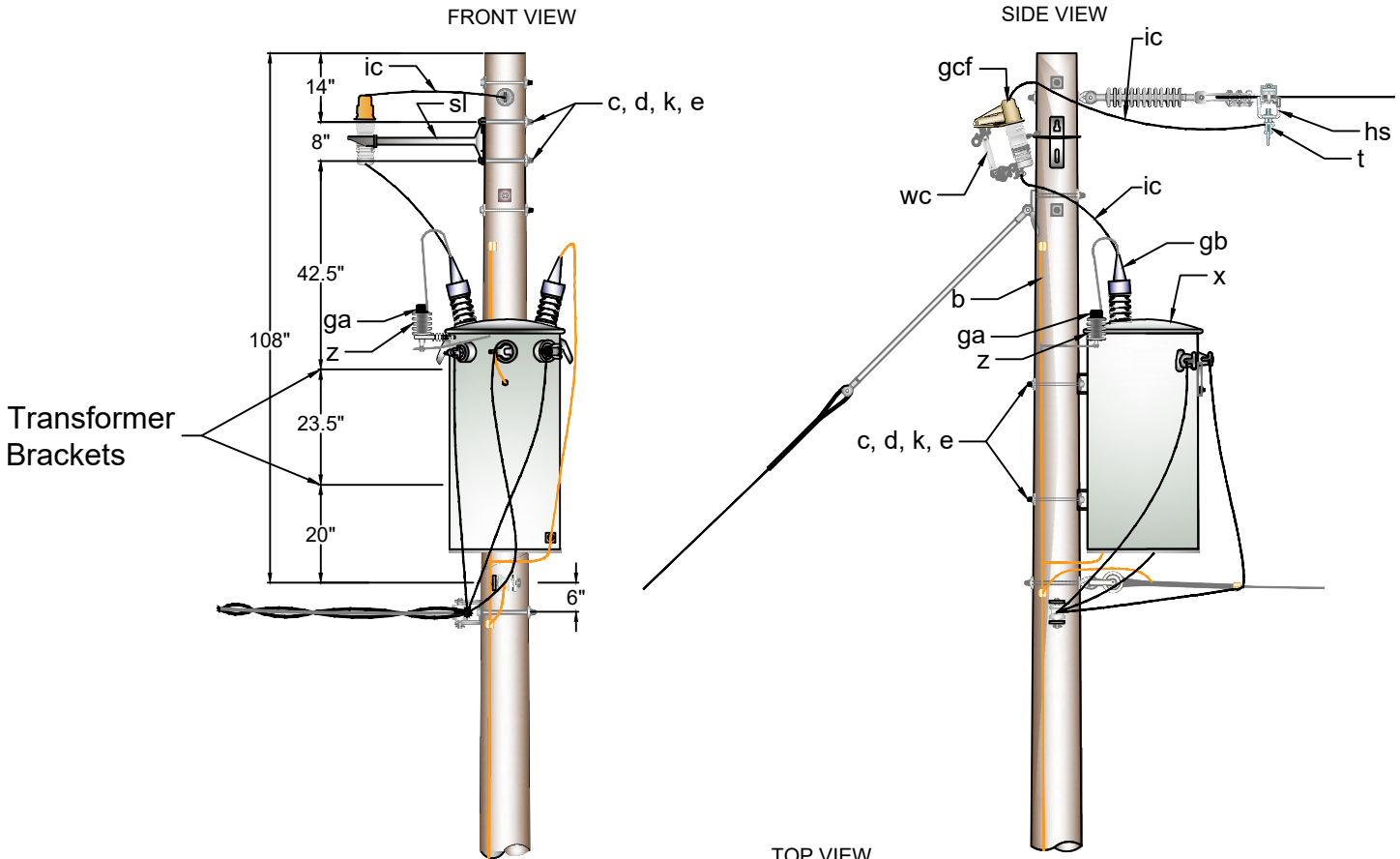
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	l	2	Square Nut, 3/4"
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
e	2	Lock Nut 5/8"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
ga	1	Guard, Arrestor	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrestor
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
k	2	Square Nut 5/8"			



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TITLE			
1Ø TRANSFORMER ON TANGENT 3Ø POLE WITH STANDOFF BRACKET			
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	1 OF 2	DRAWING NO #	G76S



**NOTE:**

See page 3 of 3 for wiring diagram.

**To be used with transformers: Greater than 50 kVA.**

**Do Not disconnect transformer neutral without first disconnecting primary.**

**Must specify framing.**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	l	2	Square Nut, 3/4"
b	As Req'd.	Wire, #4 Copper	o	2	Bolt, Machine 3/4" x Req'd. Length
d	4	Washer, Sq 2-1/4"	p	2	Locknut, 3/4"
e	2	Lock Nut 5/8"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
ga	1	Guard, Arrestor	t	1	Clamp, HL
gb	2	Guard, Bushing	wc	1	Cutout
gcf	1	Guard, Cutout	x	1	Transformer
hs	1	Stirrup, HL	z	1	Lightning Arrestor
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Connector
k	2	Square Nut 5/8"			



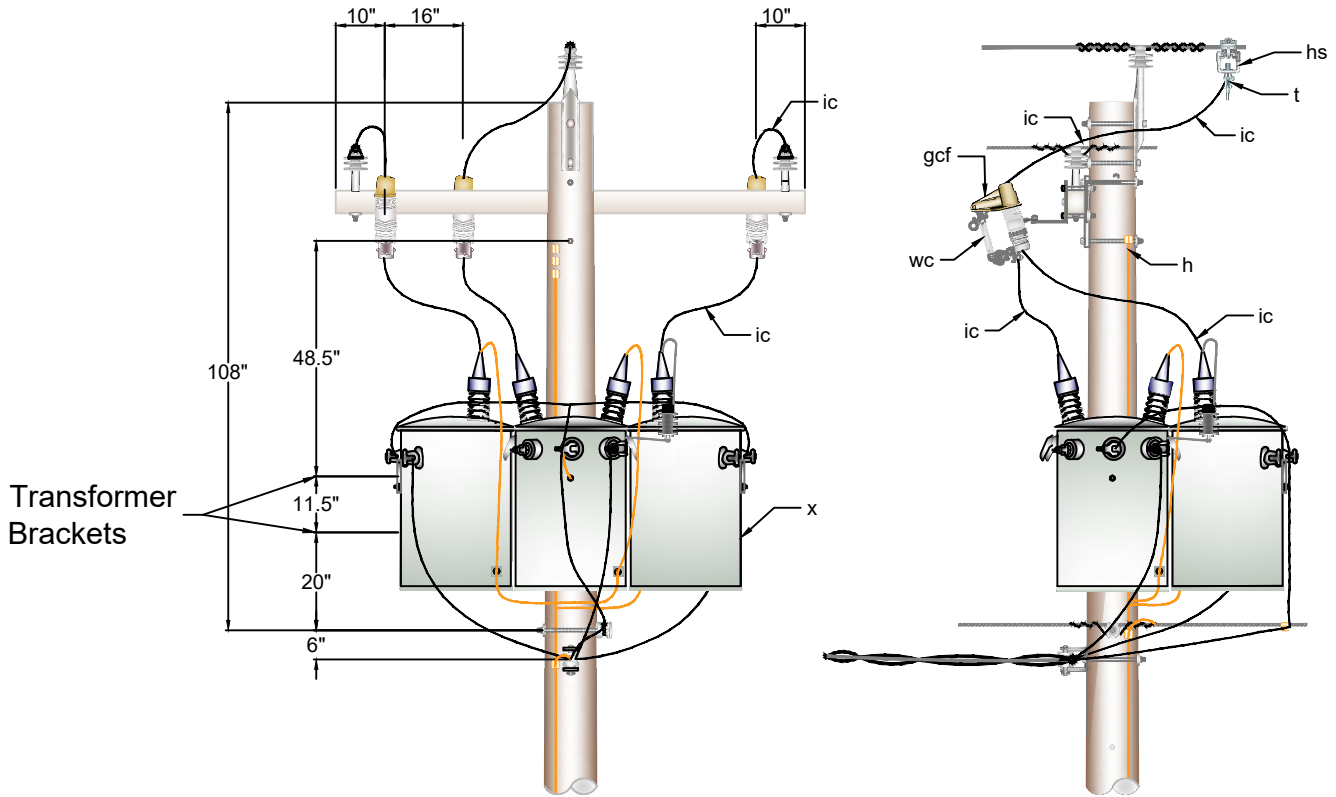
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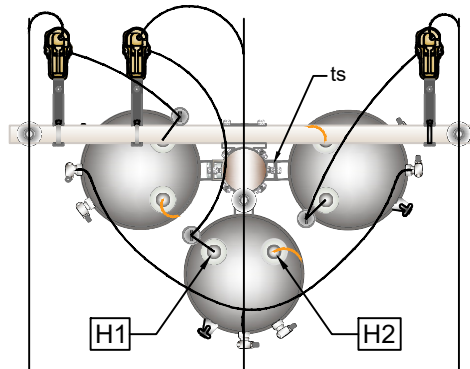
TITLE		1Ø TRANSFORMER ON DEADEND 1Ø POLE WITH STANDOFF BRACKET	
REV NO	REV BY	ISSUE DATE	12/26/2026
SCALE	NTS	TECH	
PAGE	2 OF 2	DRAWING NO #	G76S

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

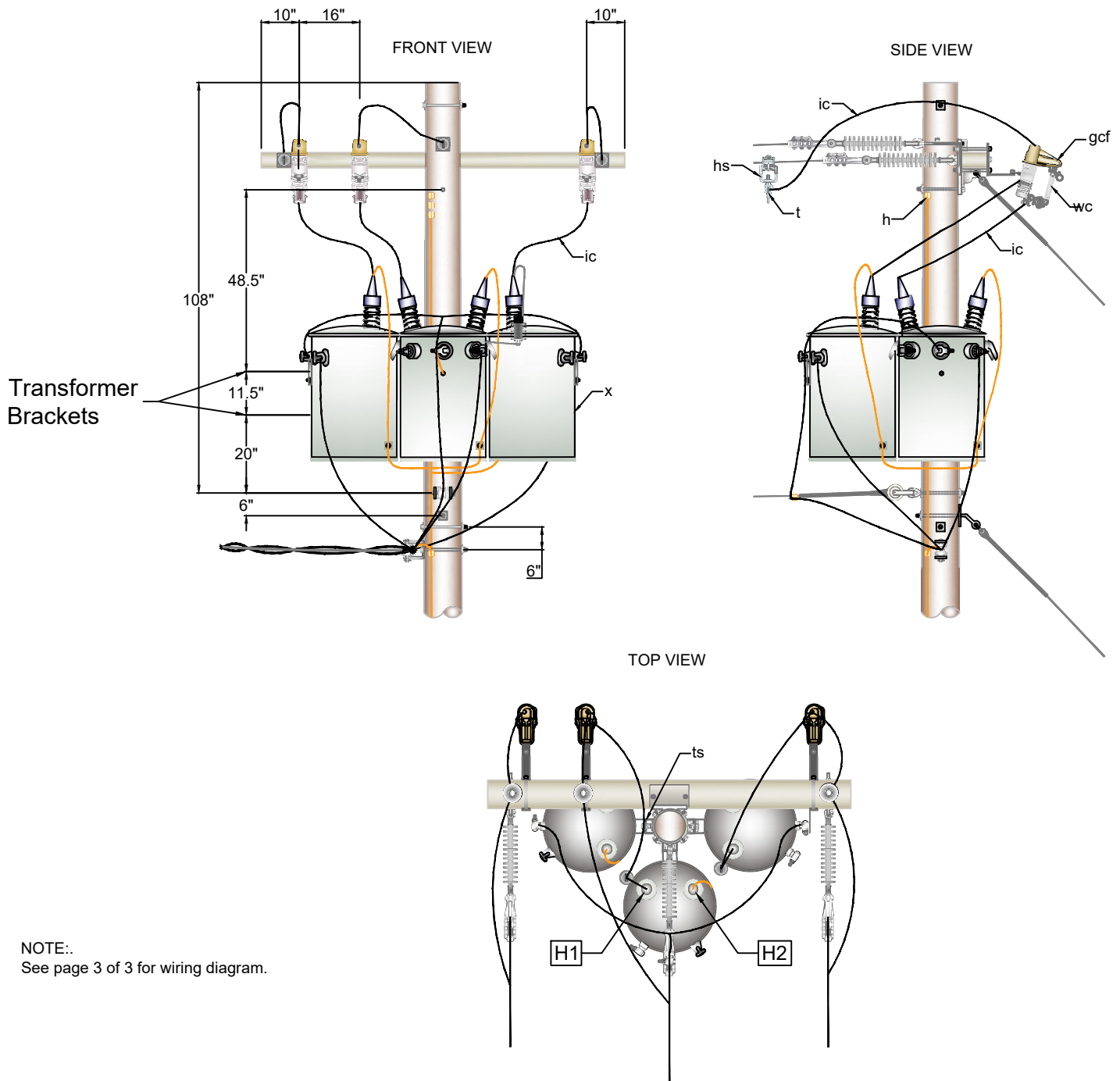
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	2	Washer, Square 2 - 1/4"	k	2	Square Nut, 5/8"
e	2	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



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TITLE			
3Ø TRANSFORMER BANK WYE-WYE 120-208 ON TANGENT			
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	1 OF 3	DRAWING NO #	G311



NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	2	Washer, Square 2 - 1/4"	k	2	Square Nut, 5/8"
e	2	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector

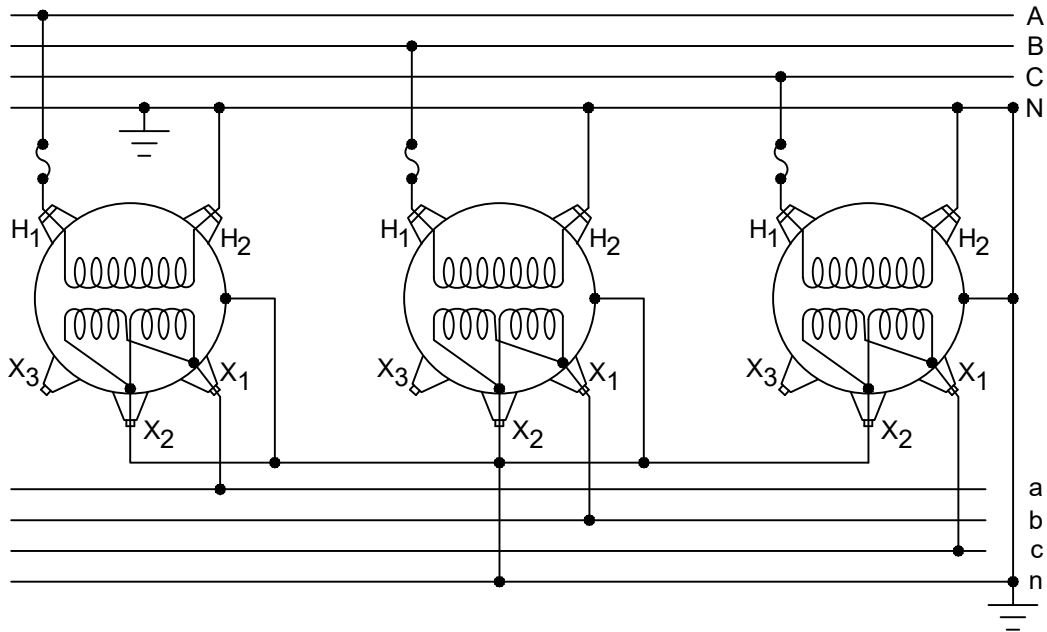
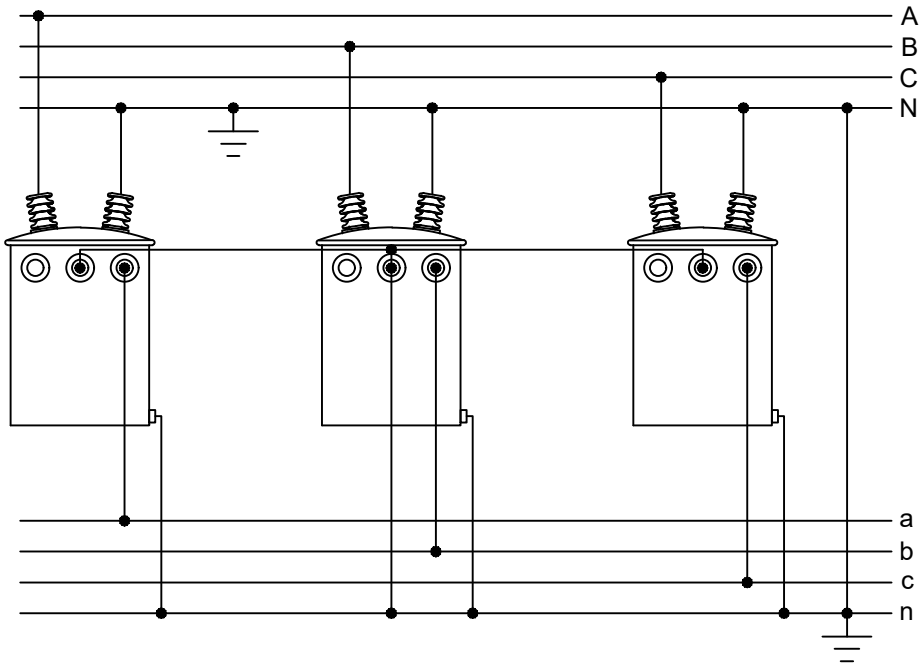


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3Ø TRANSFORMER BANK  
WYE-WYE 120-208 ON DEADEND

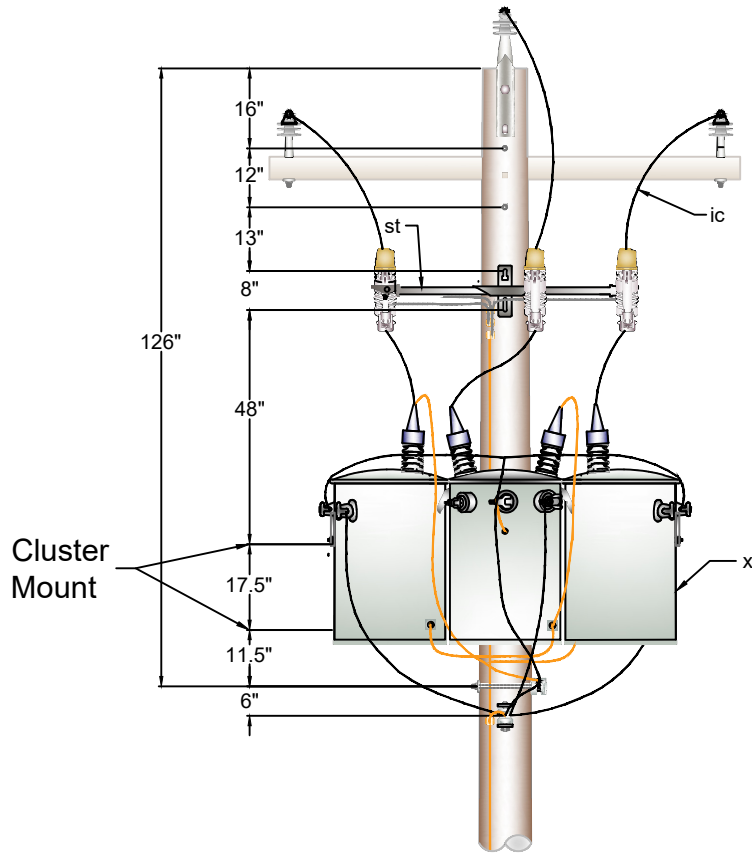
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SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G311



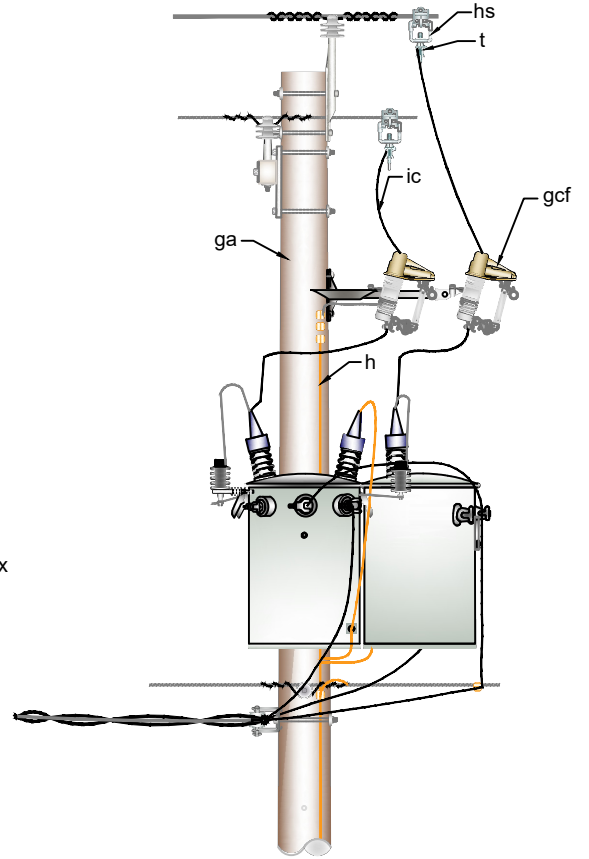
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 P.O. BOX 1059  
 BRENHAM, TX 77834  
 (979) 337-7400

TITLE		3Ø TRANSFORMER BANK WYE-WYE 120-208	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	3 OF 3	DRAWING NO #	G311

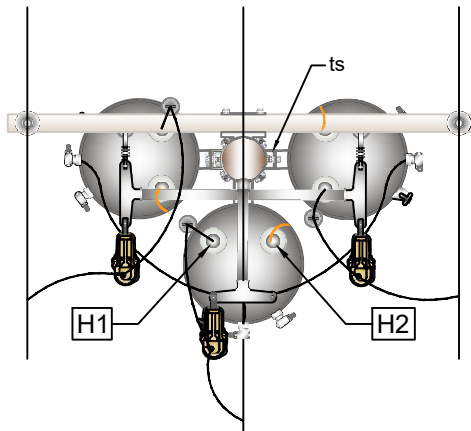
FRONT VIEW



SIDE VIEW



TOP VIEW



NOTE: See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrestor 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrestor	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrestor
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			

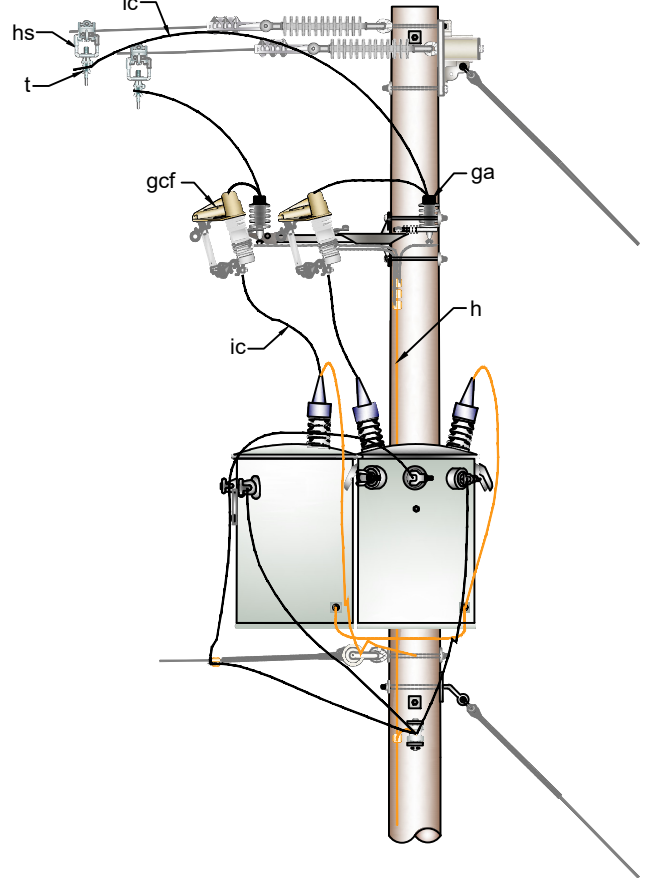
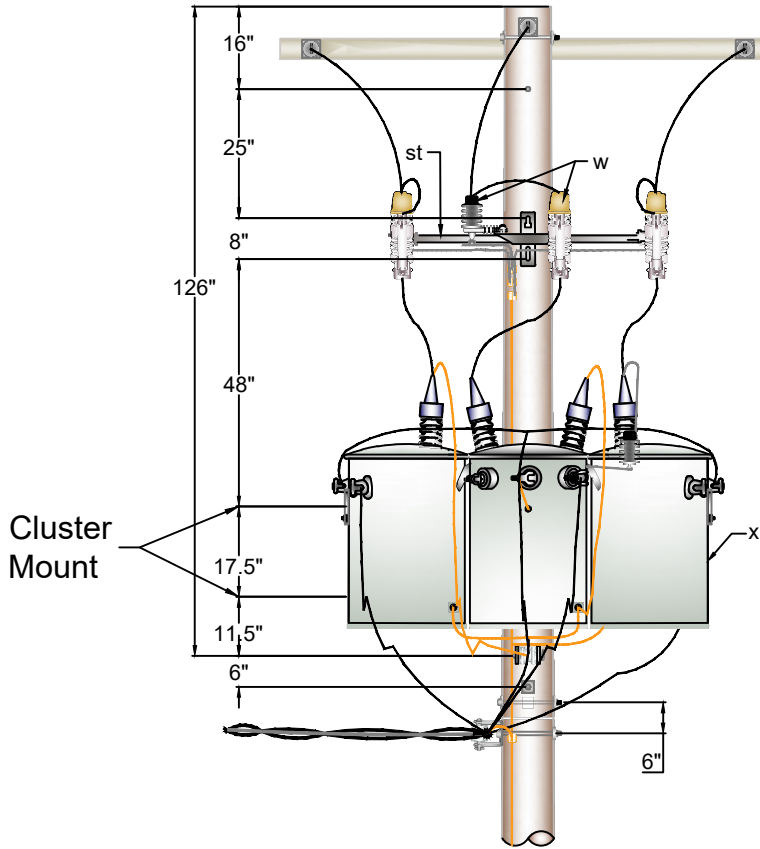


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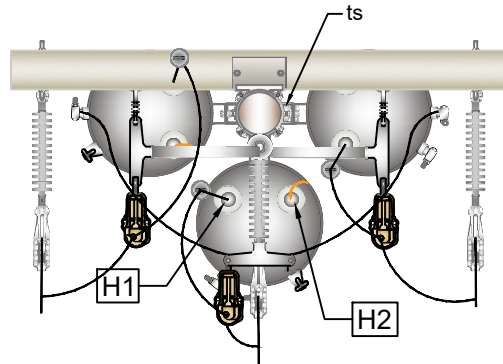
REV NO		REV BY	ISSUE DATE	TITLE	
			12/26/2025	3Ø TRANSFORMER BANK WYE-WYE 120-208 ON TANGENT	
SCALE		NTS		TECH	
PAGE		1 OF 3		DRAWING NO # G311S	

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

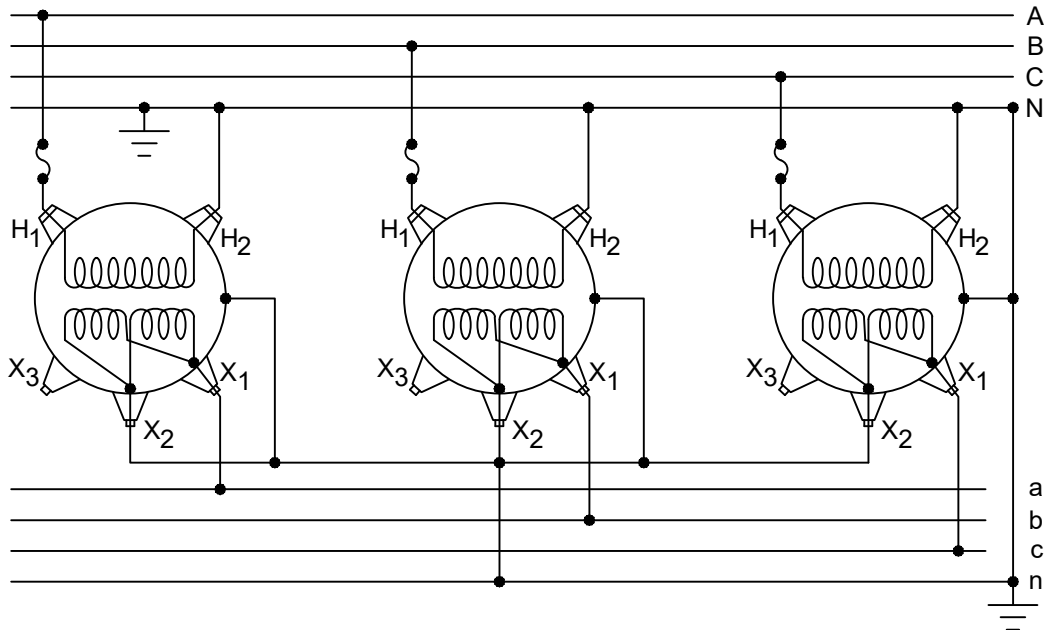
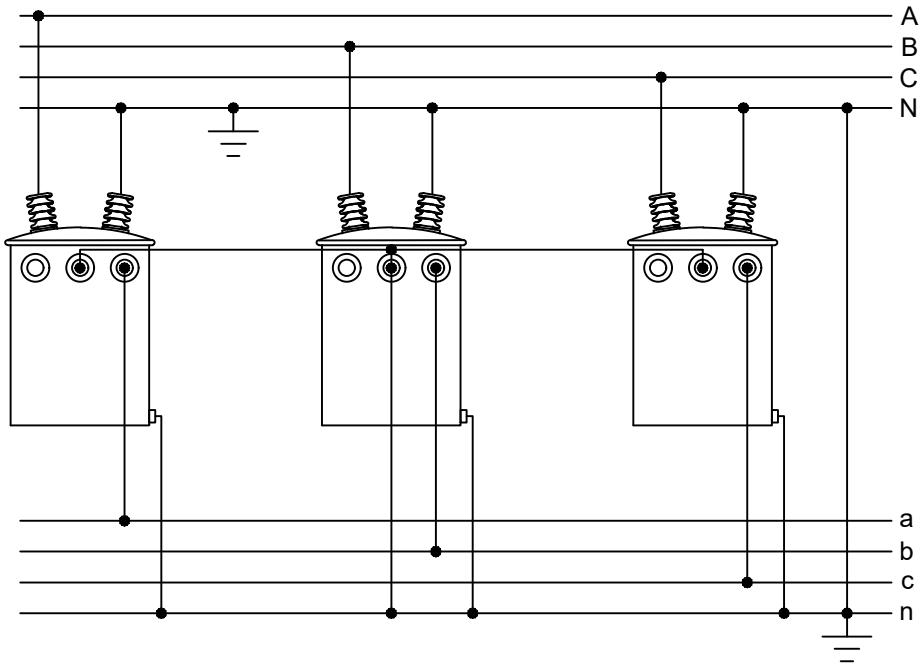
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrestor 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrestor	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



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TITLE			
3Ø TRANSFORMER BANK WYE-WYE 120-208 ON DEADEND			
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	2	OF	3
DRAWING NO #			G311S

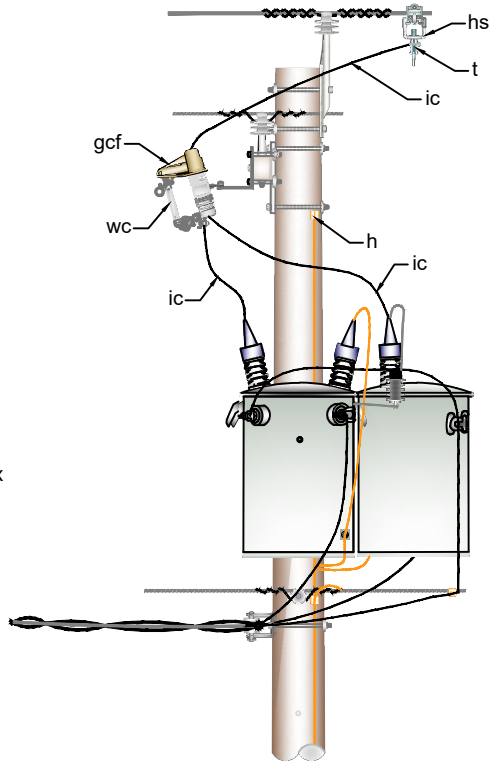
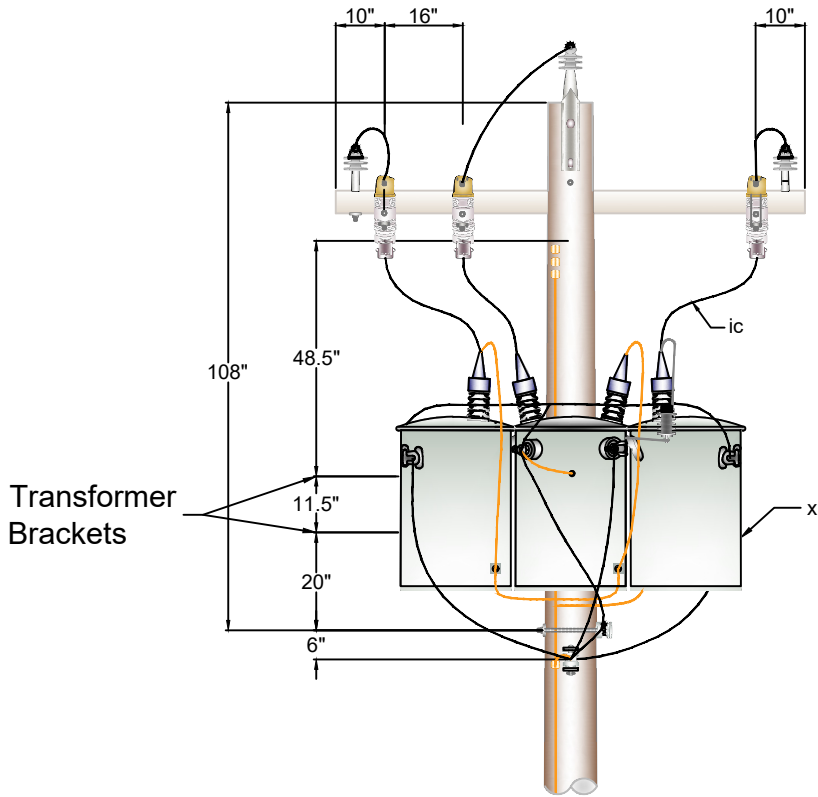


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TITLE		3Ø TRANSFORMER BANK WYE-WYE 120-208	
REV NO	REV BY	ISSUE DATE	12/26/2026
SCALE	NTS	TECH	
PAGE	3 OF 3	DRAWING NO #	G311S

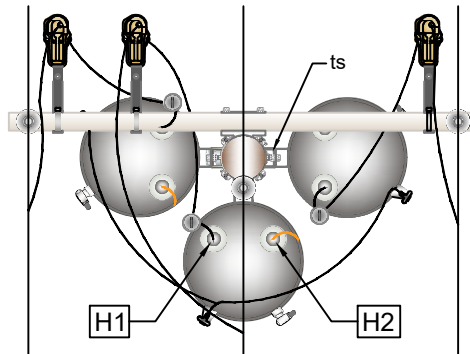
FRONT VIEW

SIDE VIEW



Transformer Brackets

TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	2	Washer, Square 2 - 1/4"	k	2	Square Nut, 5/8"
e	2	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector

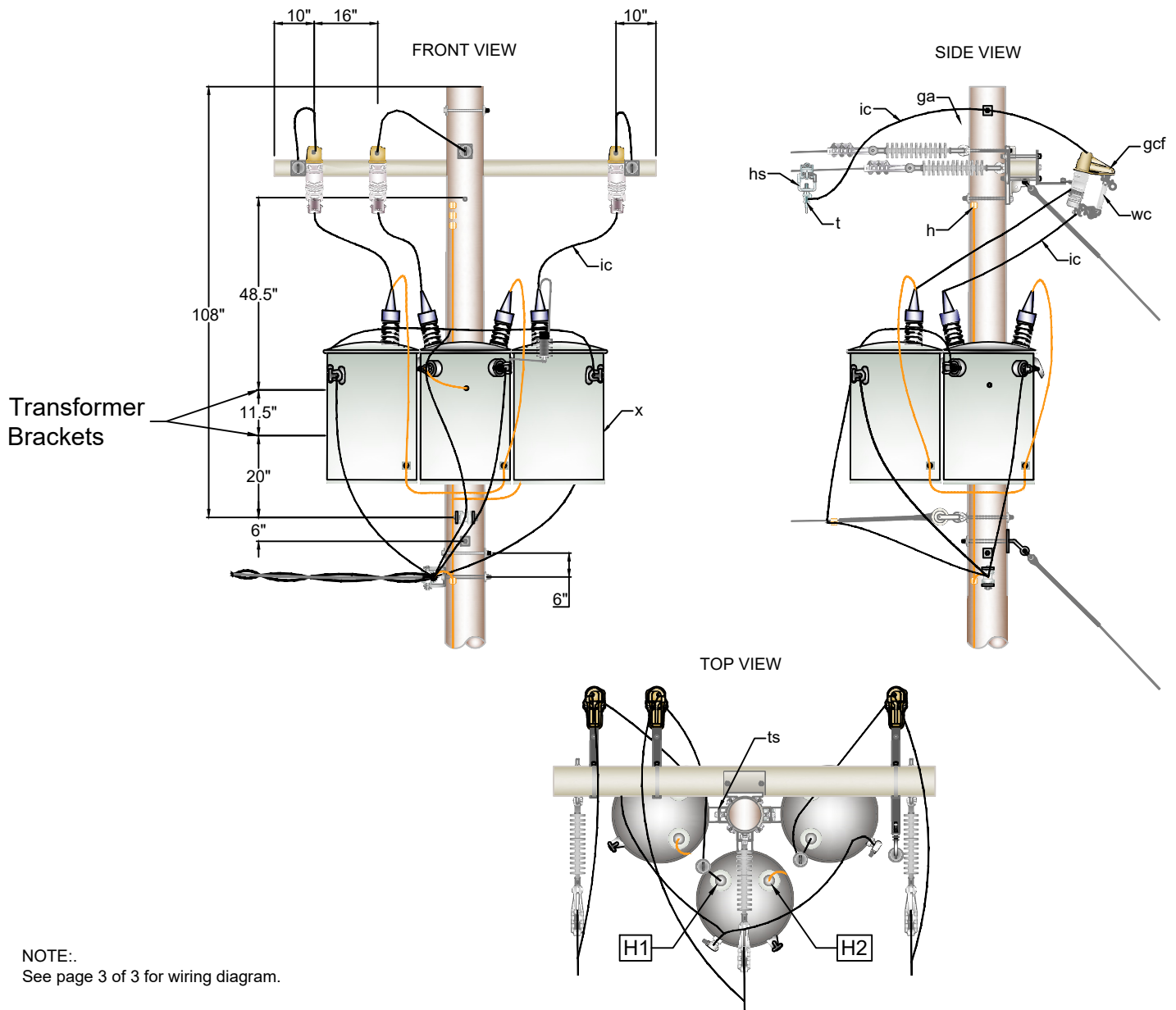


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3Ø TRANSFORMER BANK  
WYE-WYE 277-480 ON TANGENT

REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	1 OF 3	DRAWING NO #	G312



NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	2	Washer, Square 2 - 1/4"	k	2	Square Nut, 5/8"
e	2	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector

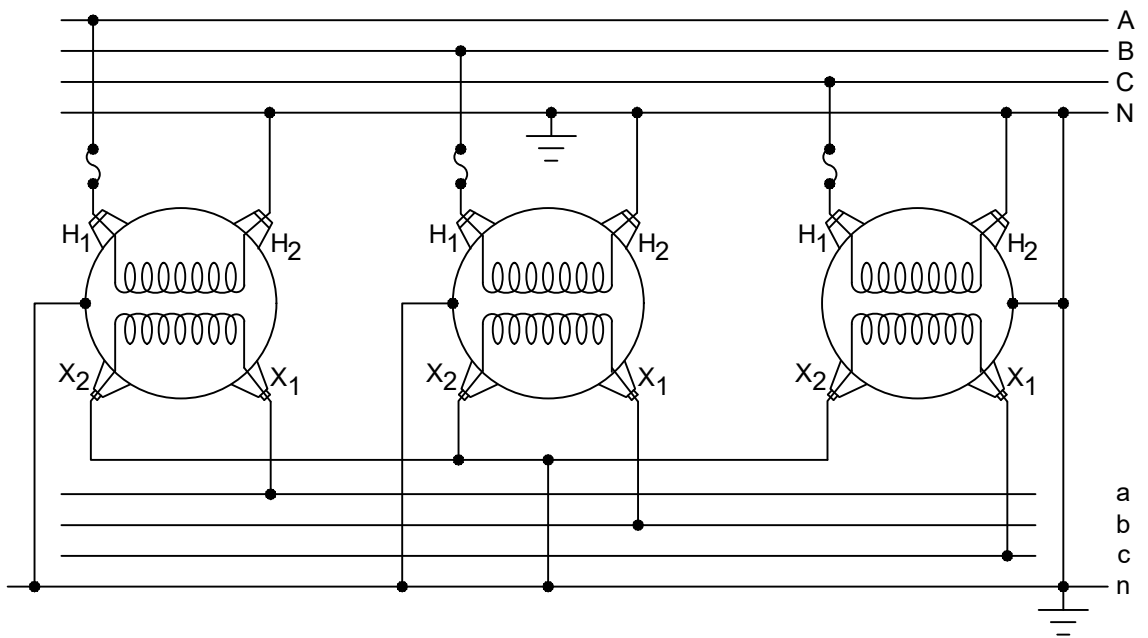
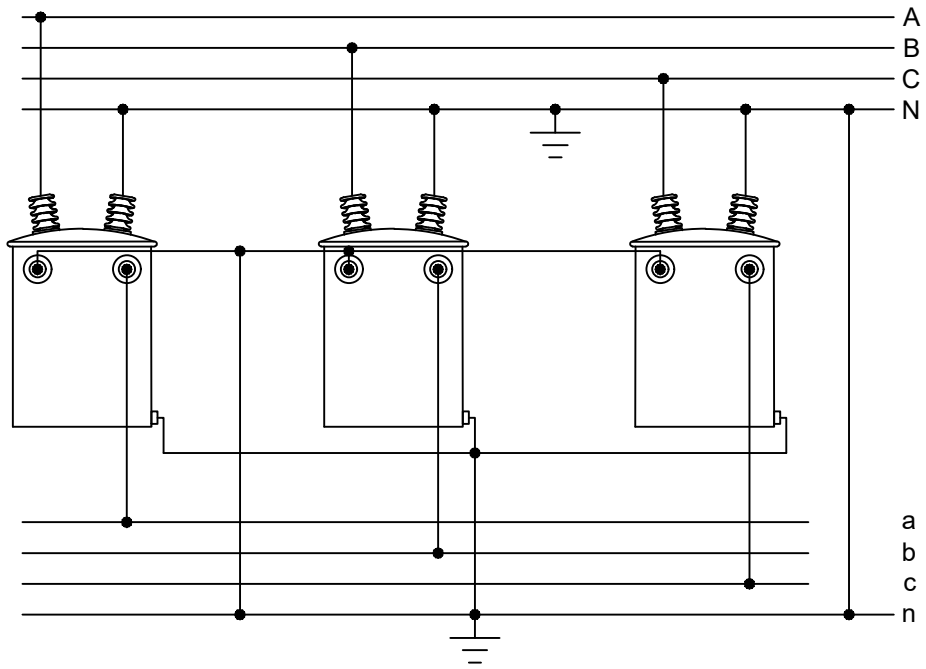


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REV NO		REV BY	ISSUE DATE
			12/26/2025
SCALE		TECH	
NTS			
PAGE		DRAWING NO #	
2 OF 3		G312	

3Ø TRANSFORMER BANK  
WYE-WYE 277-480 ON DEADEND



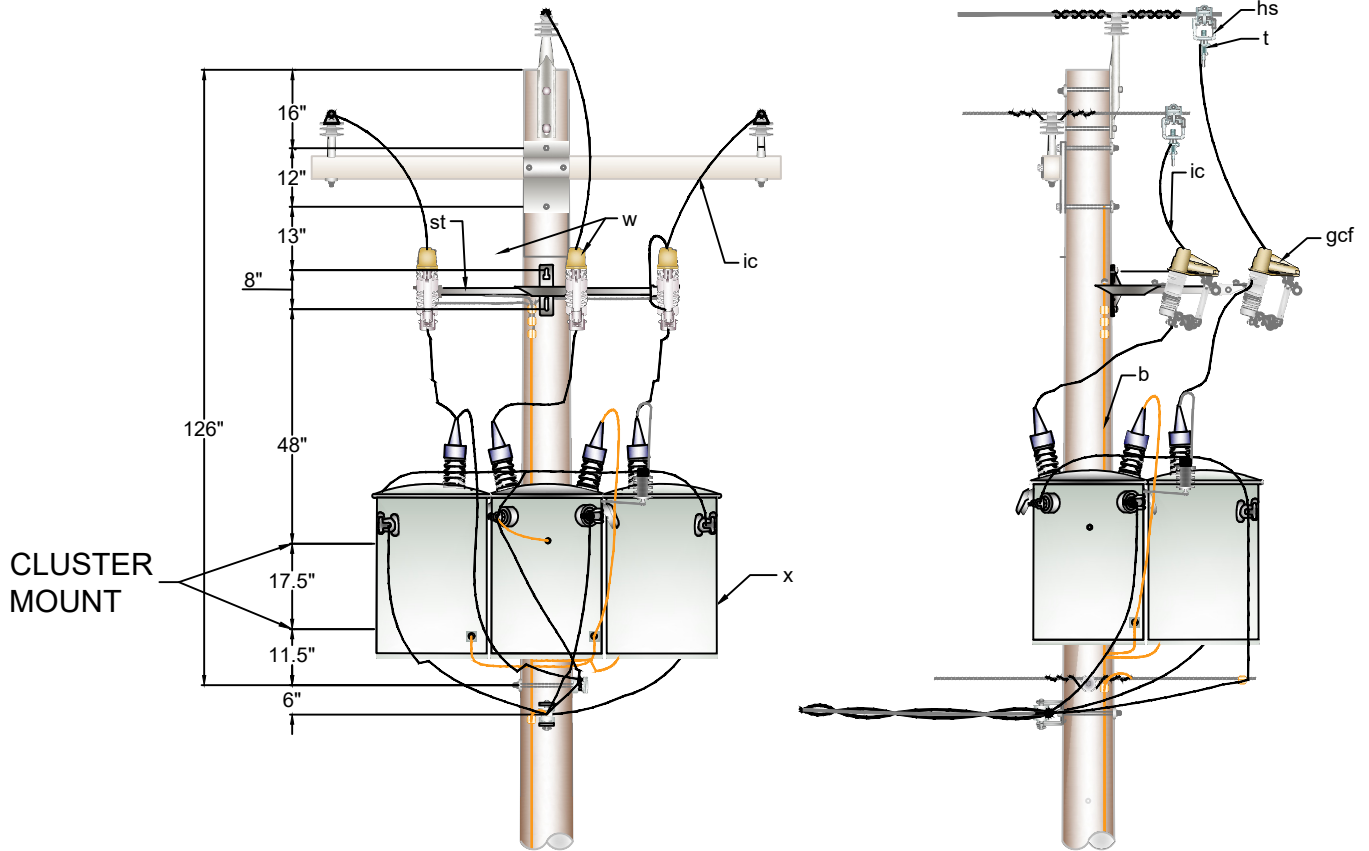
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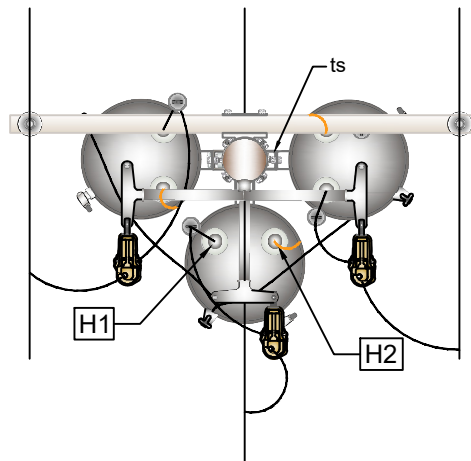
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REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	3 OF 3	DRAWING NO #	G312

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



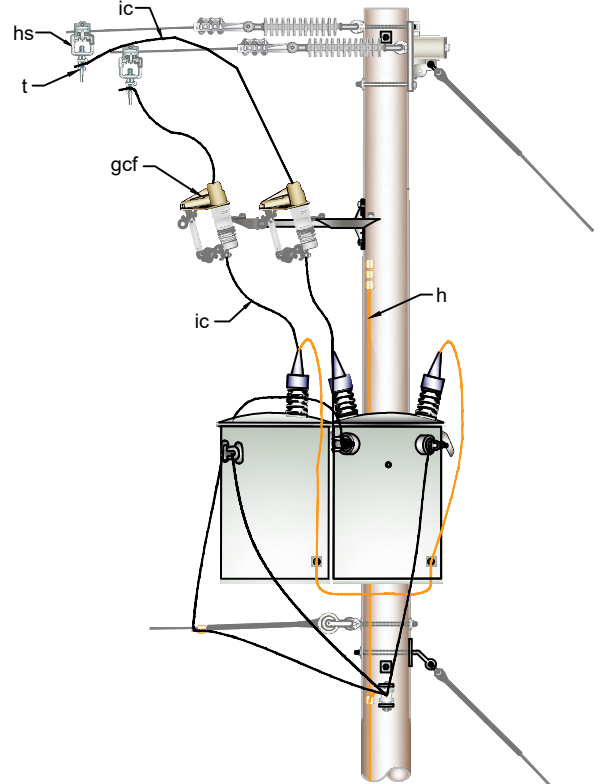
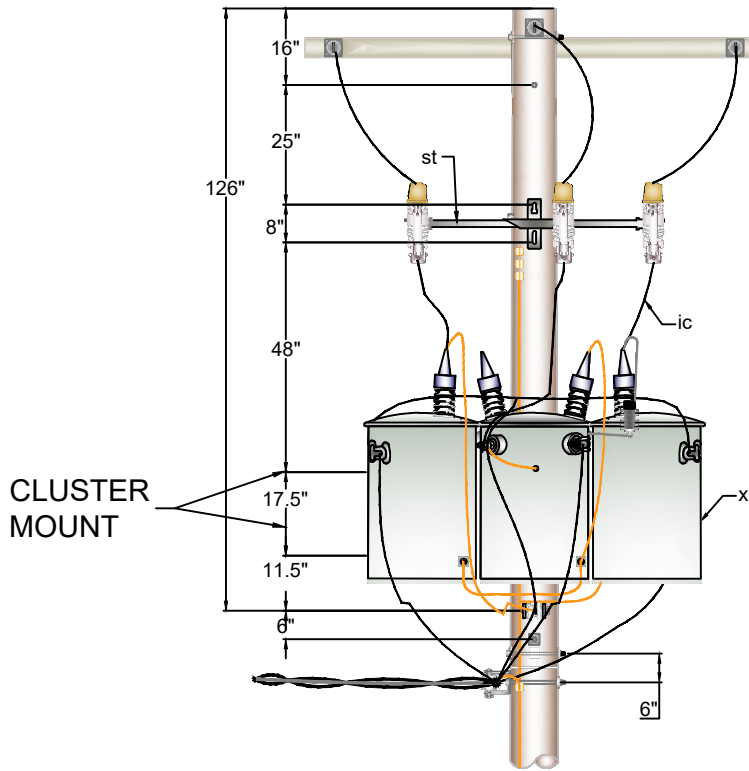
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TITLE			
3Ø TRANSFORMER BANK WYE-WYE 277-480 ON TANGENT			
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	1 OF 3	DRAWING NO #	G312S

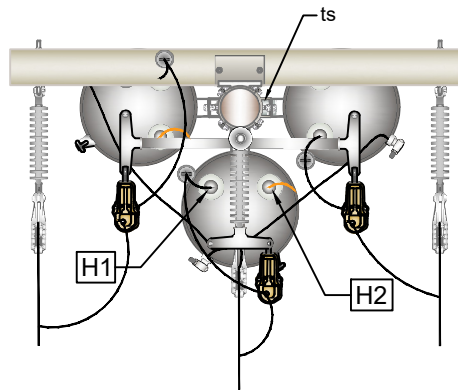
FRONT VIEW

SIDE VIEW



CLUSTER MOUNT

TOP VIEW



NOTE:.  
See page 3 of 3 for wiring diagram.

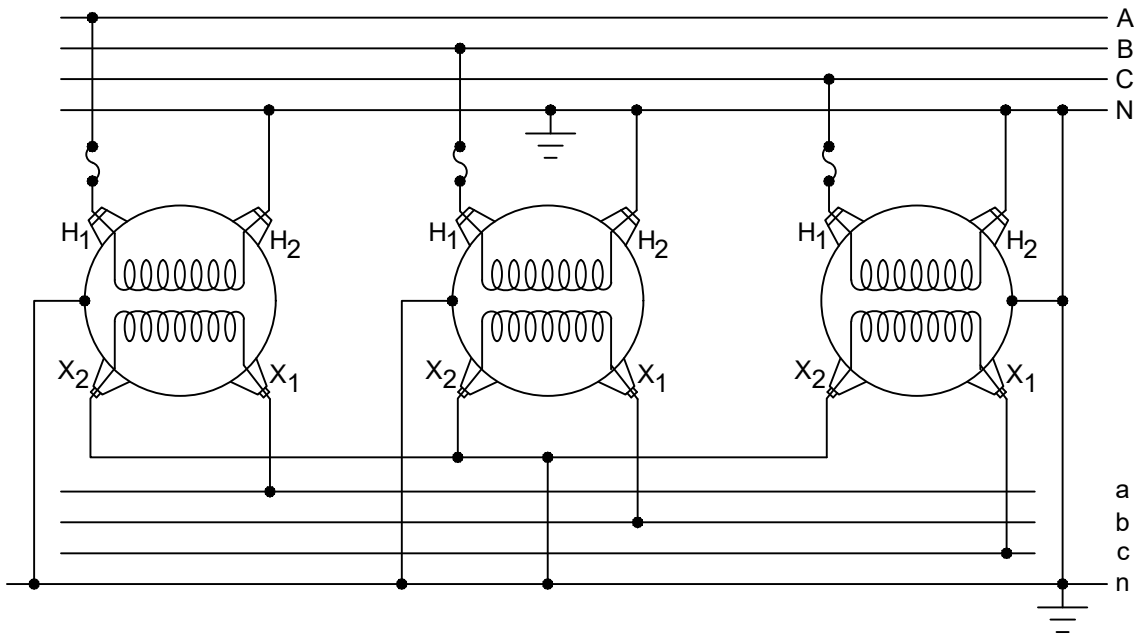
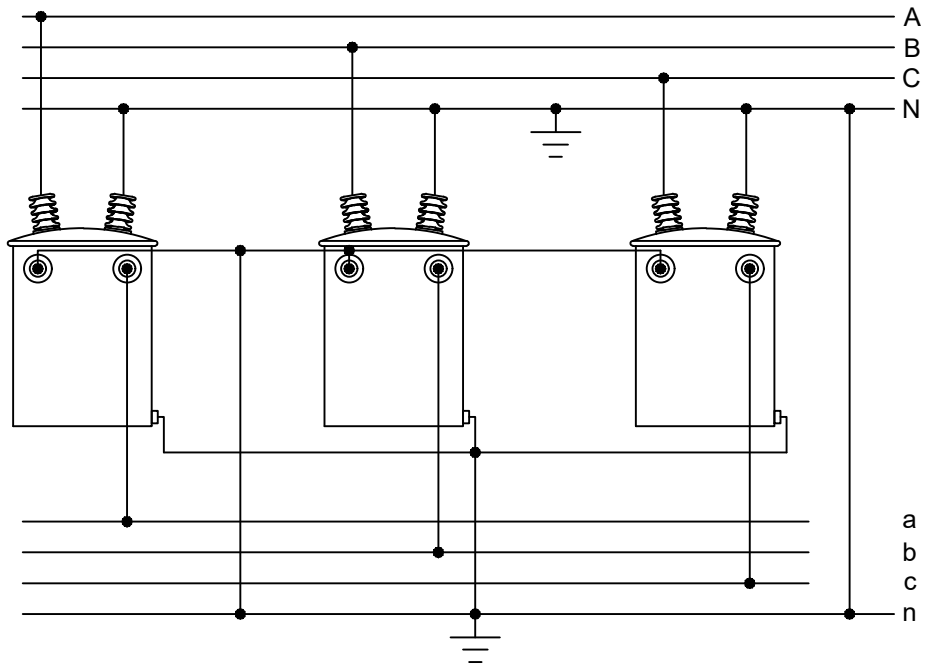
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



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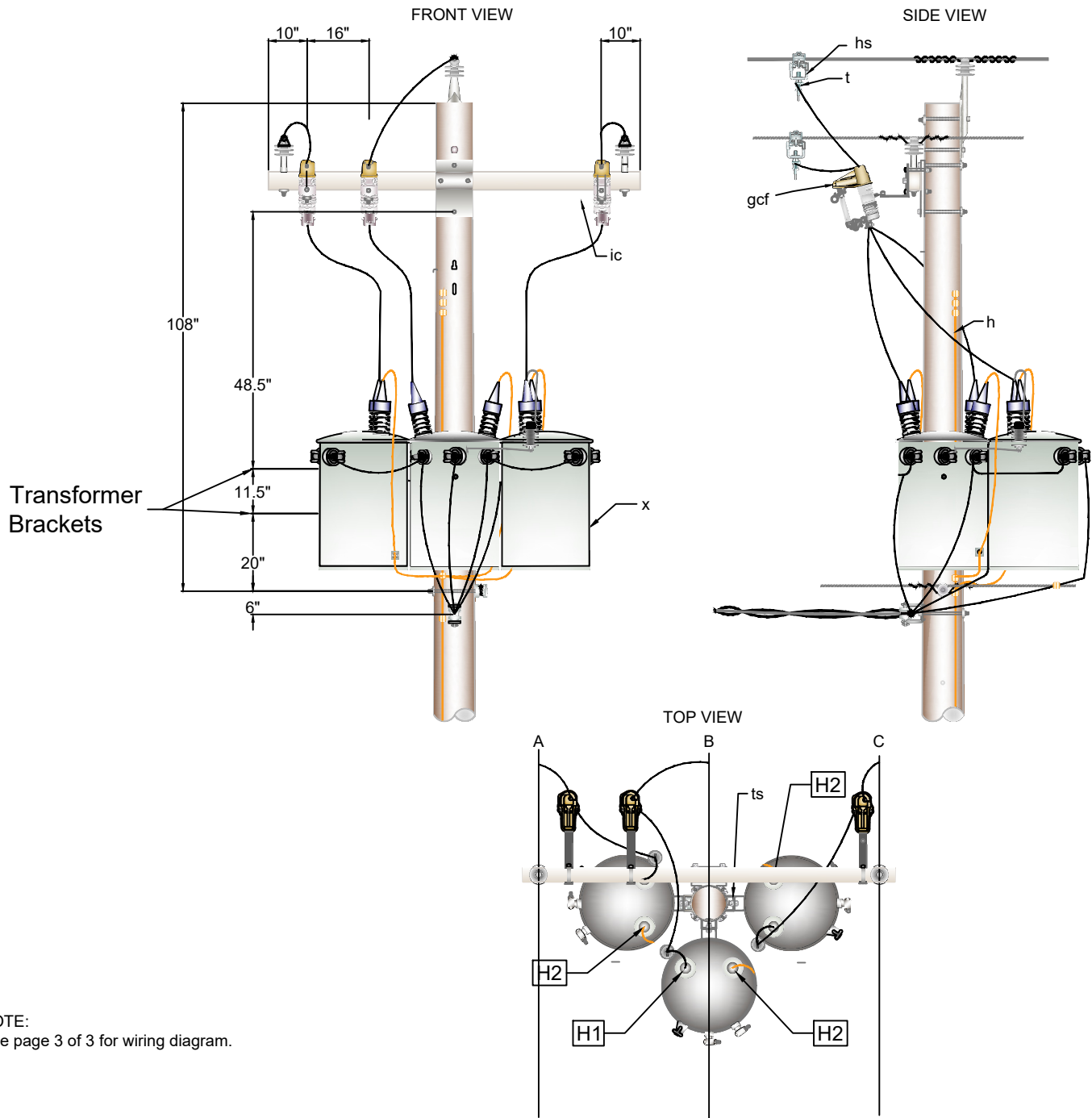
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REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G312S



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TITLE		3Ø TRANSFORMER BANK WYE-WYE 277-480	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	3 OF 3	DRAWING NO #	G312S



NOTE:  
See page 3 of 3 for wiring diagram.

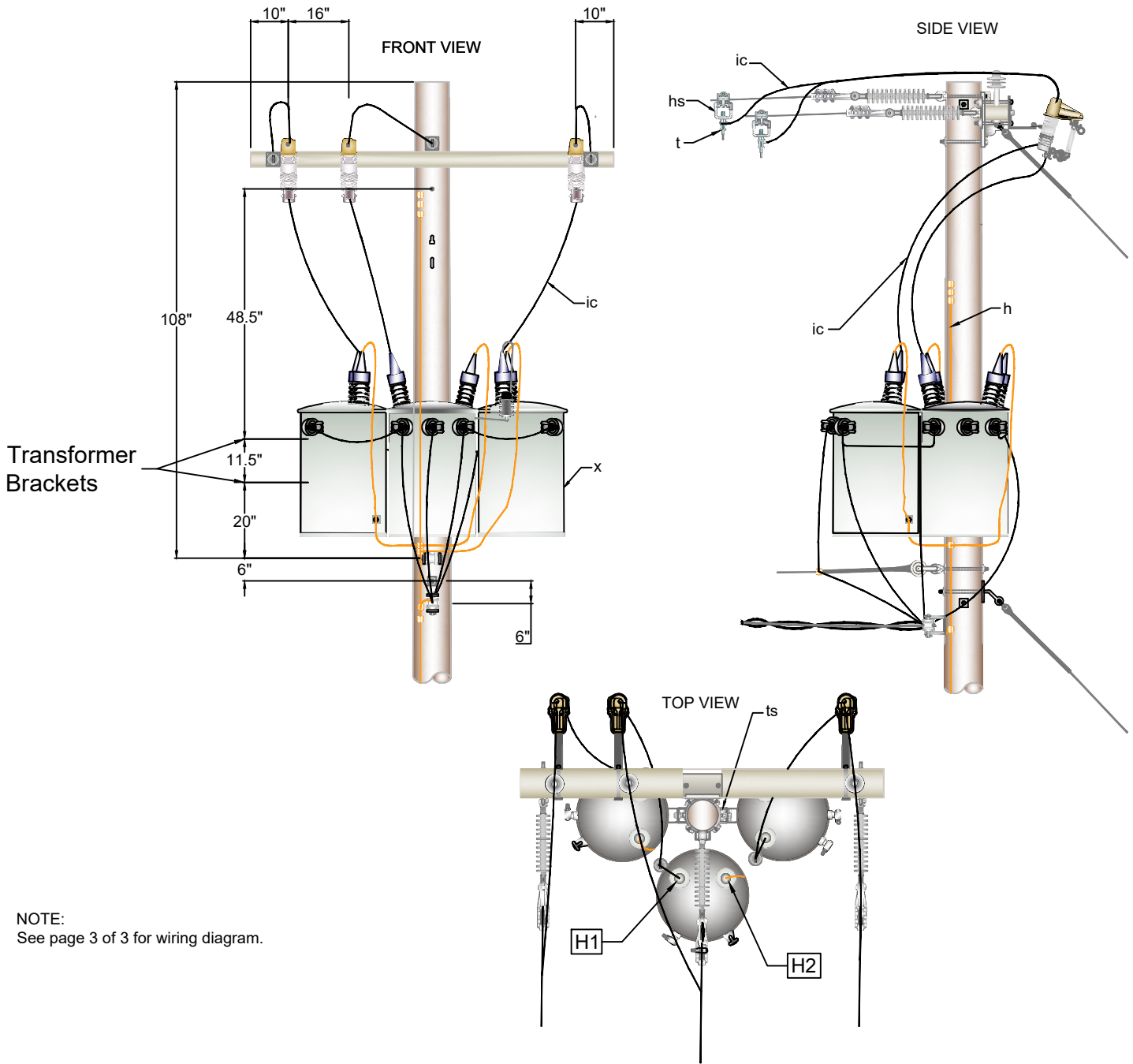
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



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TITLE		3Ø TRANSFORMER BANK WYE-DELTA 120/240 ON TANGENT	
REV NO	REV BY	ISSUE DATE	12/29/2025
SCALE	NTS	TECH	
PAGE	1 OF 3	DRAWING NO #	G313



Transformer Brackets

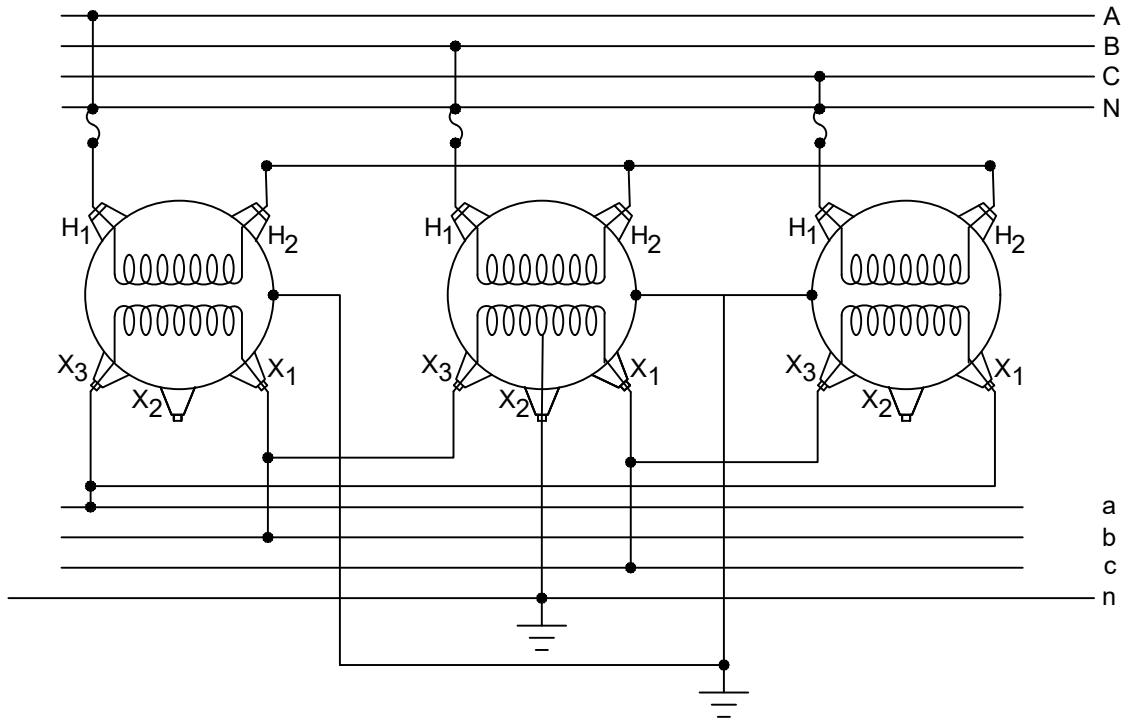
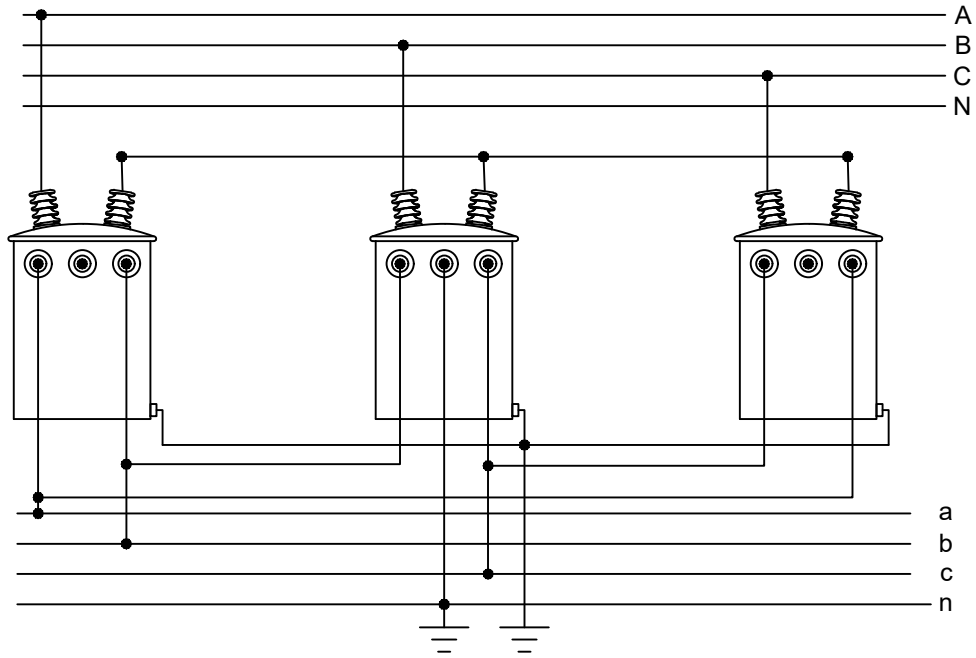
NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



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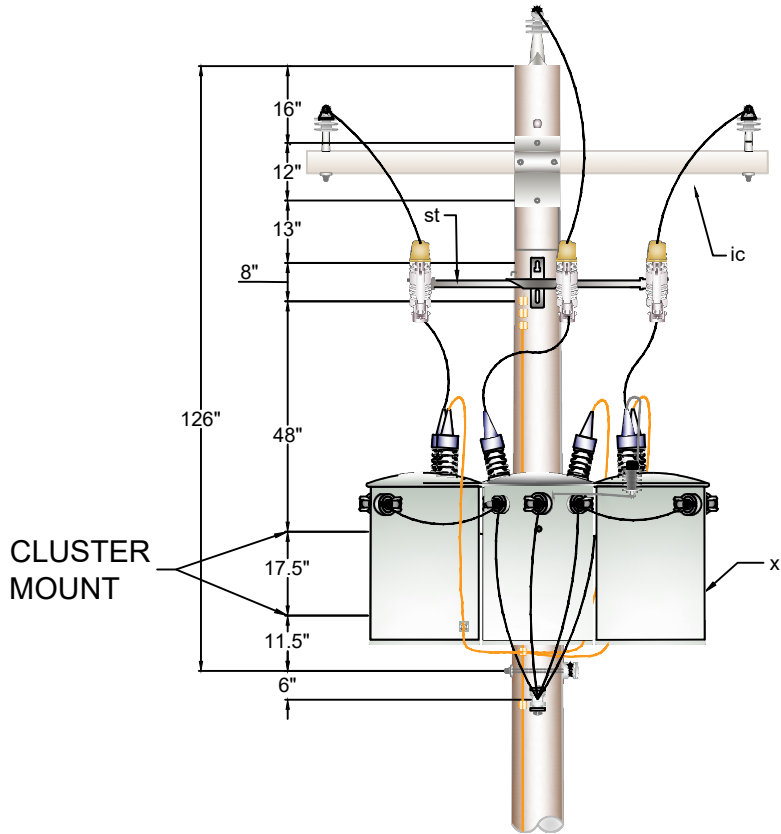
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REV NO	REV BY	ISSUE DATE	12/29/2025
SCALE	NTS		TECH
PAGE	2	OF	3
DRAWING NO #		G313	



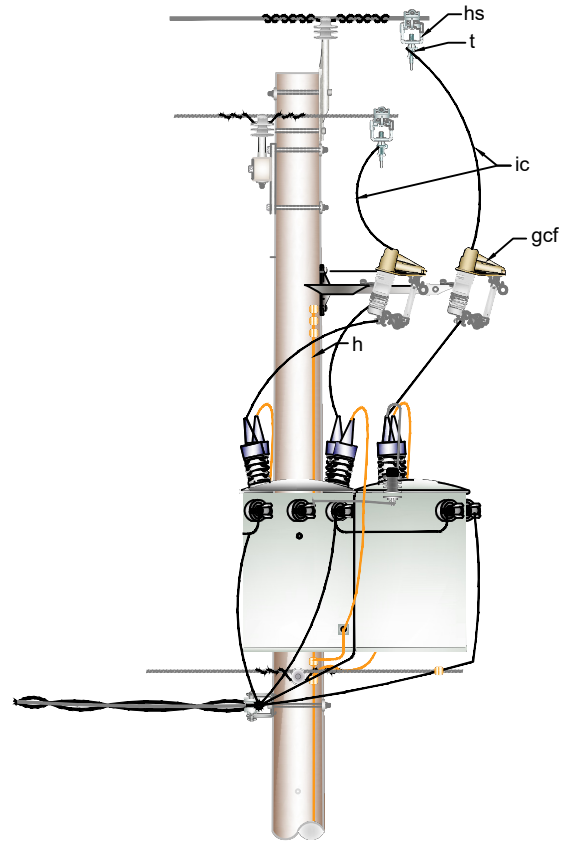
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TITLE		3Ø TRANSFORMER BANK WYE-DELTA 120/240	
REV NO	REV BY	ISSUE DATE	12/29/2025
SCALE	NTS	TECH	
PAGE	3 OF 3	DRAWING NO #	G313

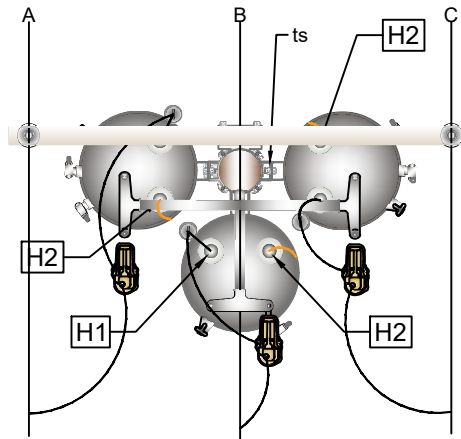
FRONT VIEW



SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector

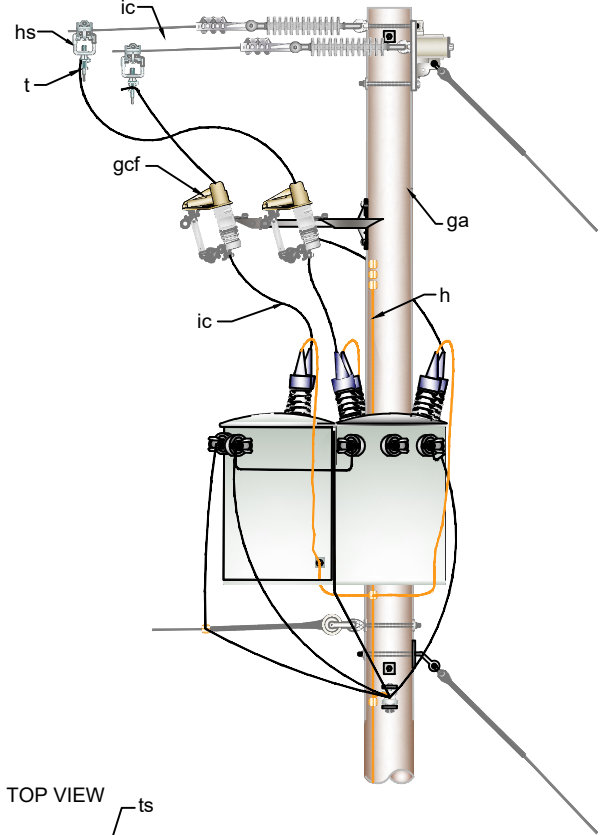
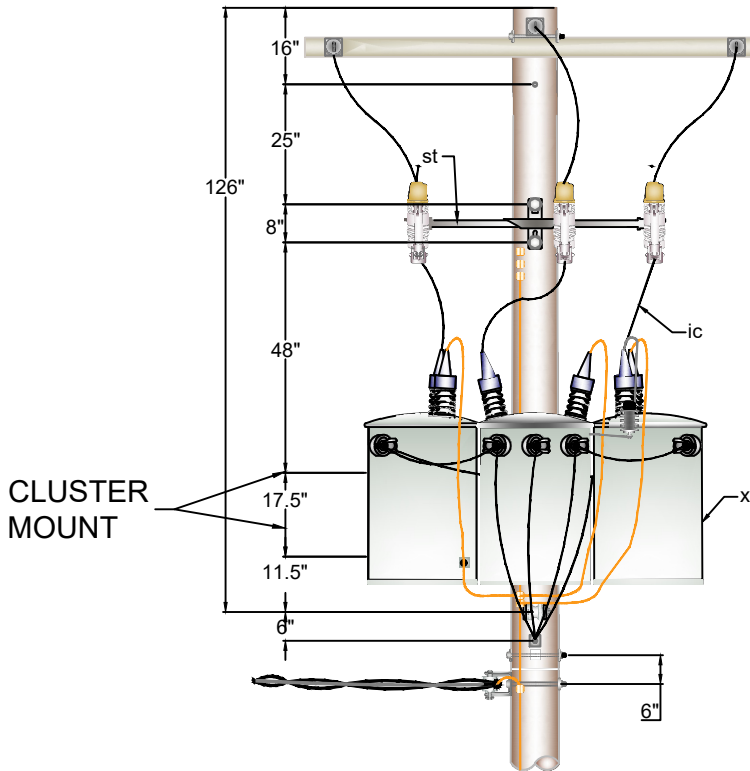


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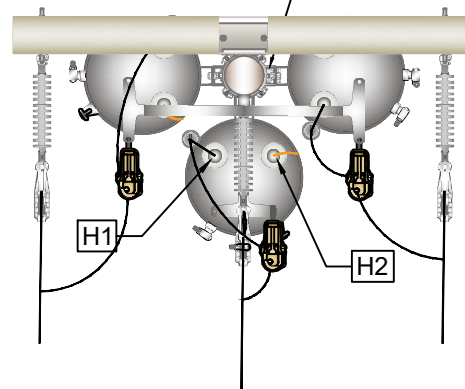
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REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 3	DRAWING NO #	G313S

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

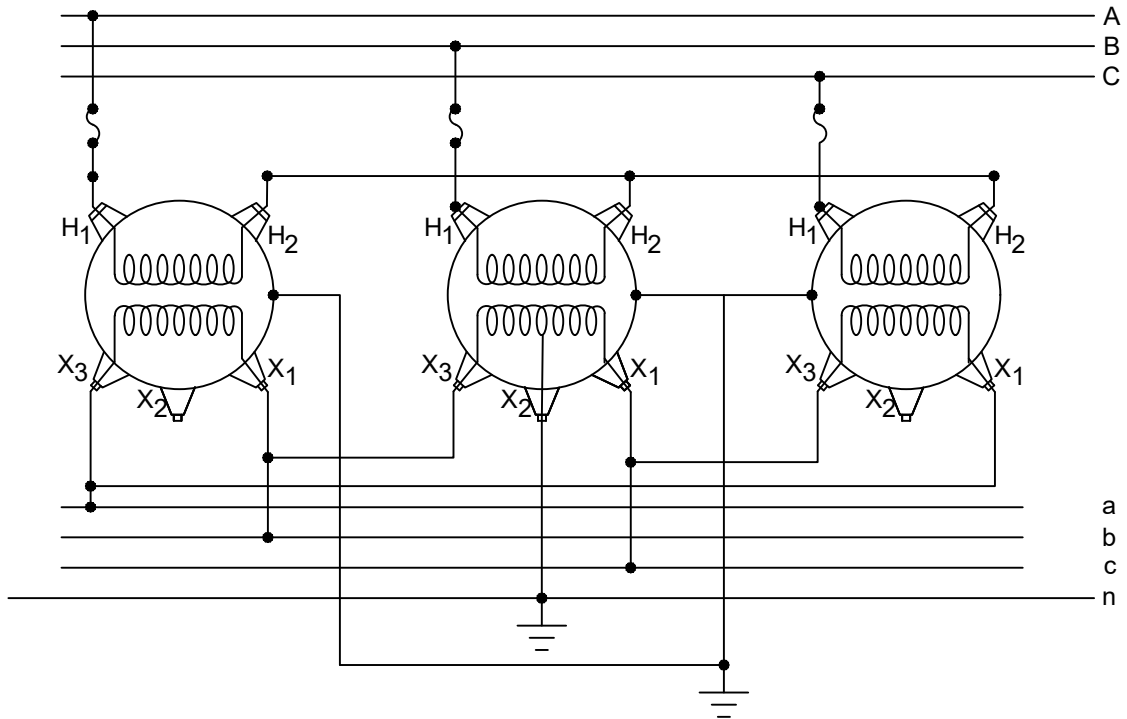
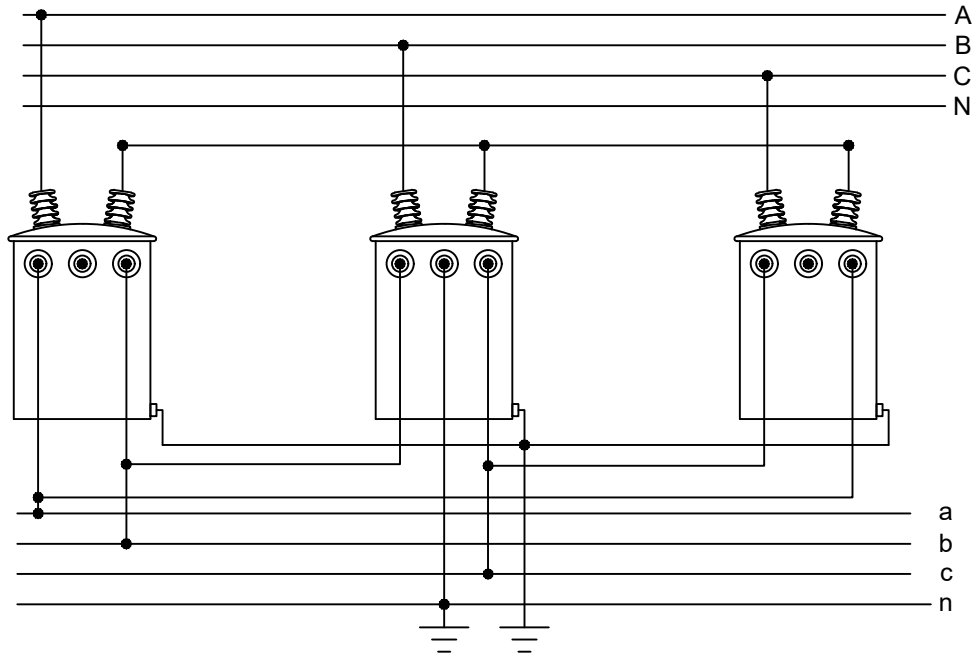
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
d	4	Washer, Square 2 - 1/4"	k	4	Square Nut, 5/8"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	3	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector



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TITLE		3Ø TRANSFORMER BANK WYE-DELTA 120/240 ON DEADEND	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G313S



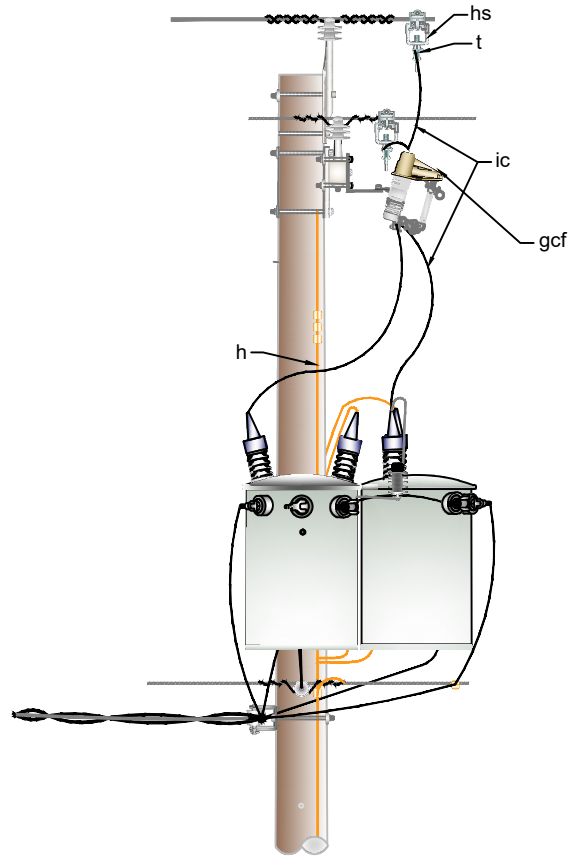
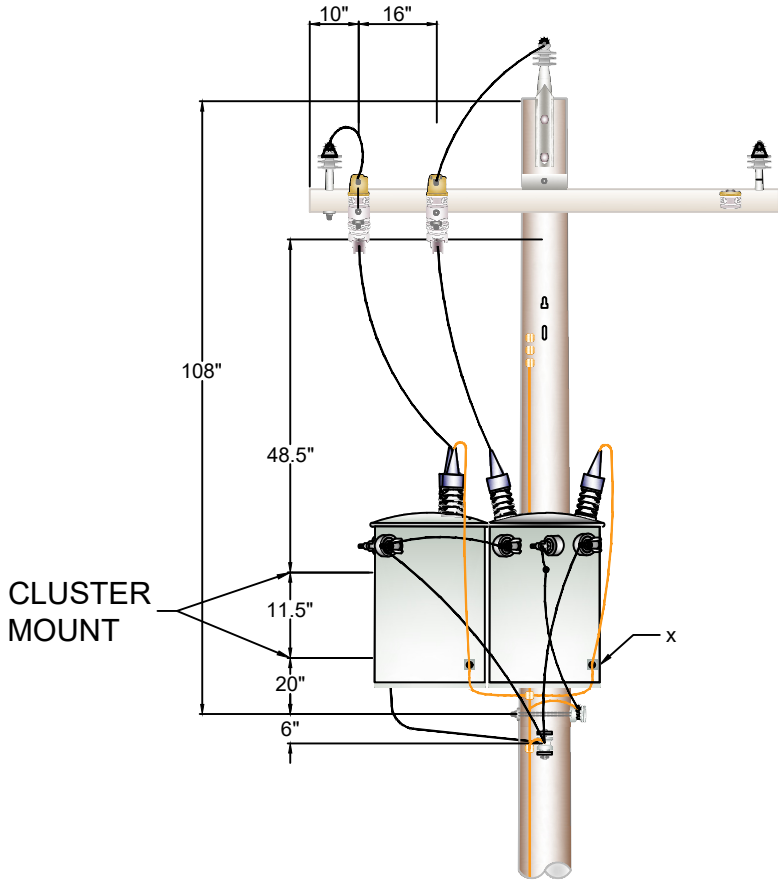
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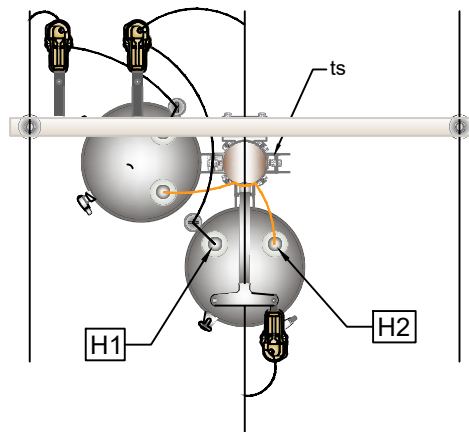
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REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	3 OF 3	DRAWING NO #	G313S

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

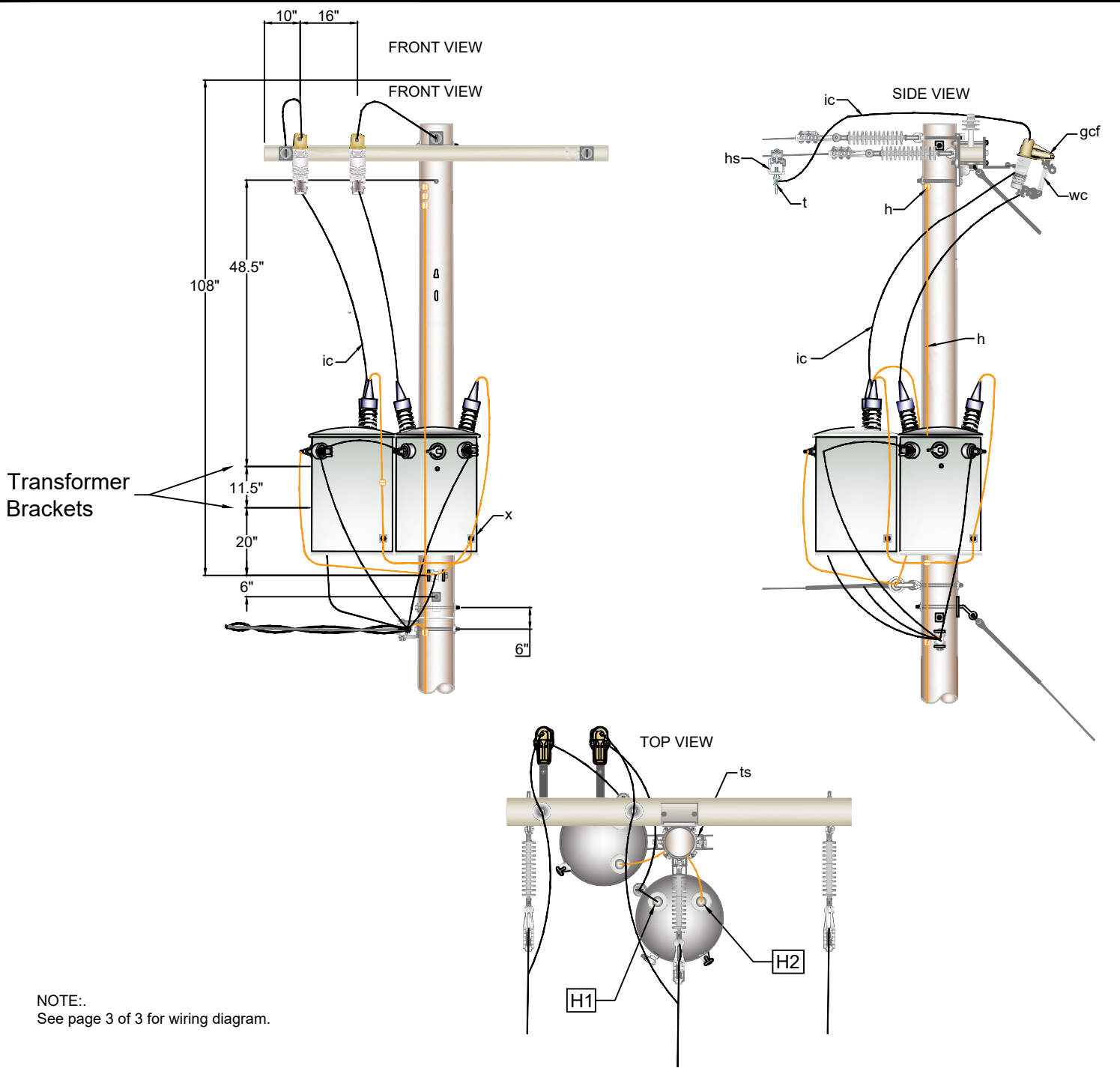
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrester 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	2	Guard, Arrester	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



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TITLE			
3Ø TRANSFORMER BANK WYE-OPEN DELTA 120/240 ON TANGENT			
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	1 OF 3	DRAWING NO #	G314



Transformer Brackets

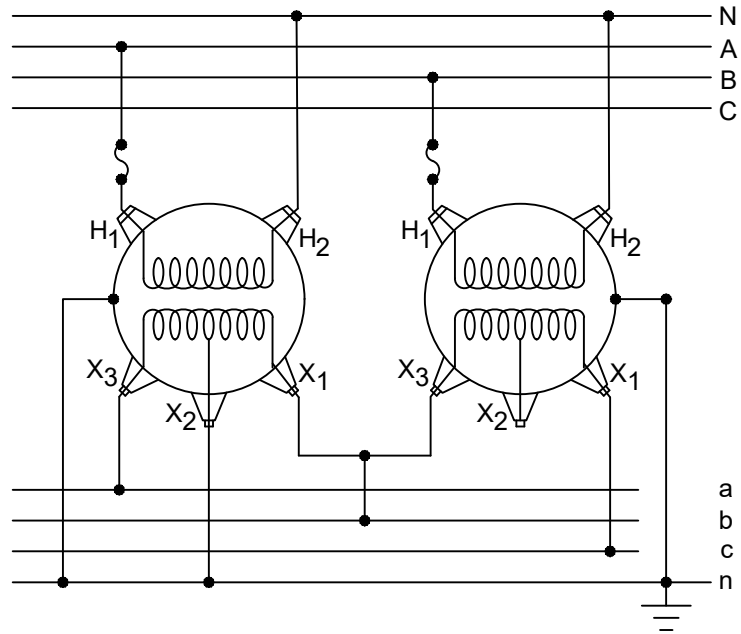
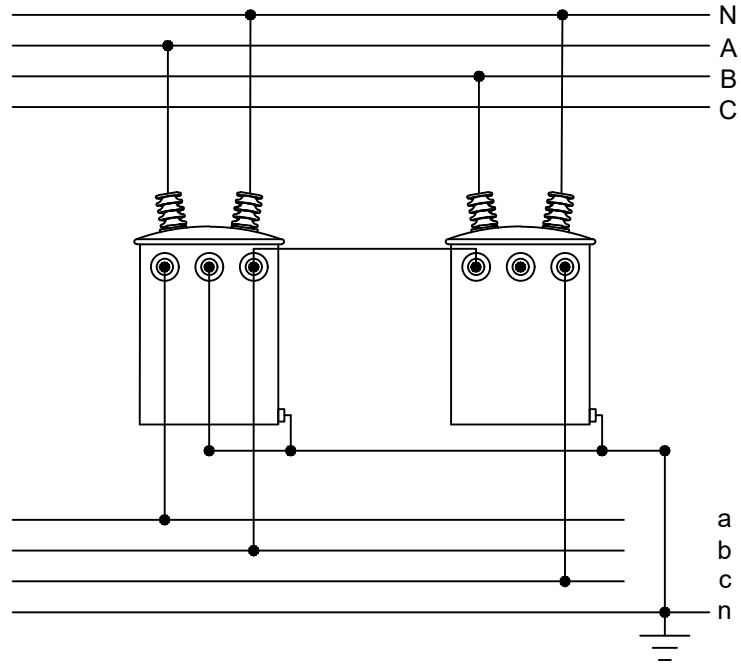
NOTE:  
See page 3 of 3 for wiring diagram.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrestor 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	2	Guard, Arrestor	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrestor
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



CITY OF BRENHAM ELECTRIC SYSTEM  
 200 W. VULCAN STREET  
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 BRENHAM, TX 77834  
 (979) 337-7400

TITLE		3Ø TRANSFORMER BANK WYE-OPEN DELTA 120/240 ON DEADEND	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G314



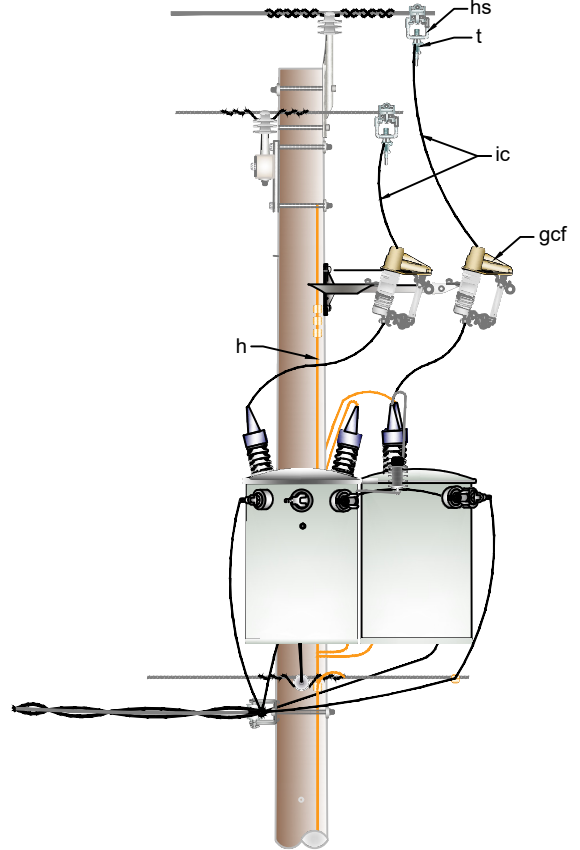
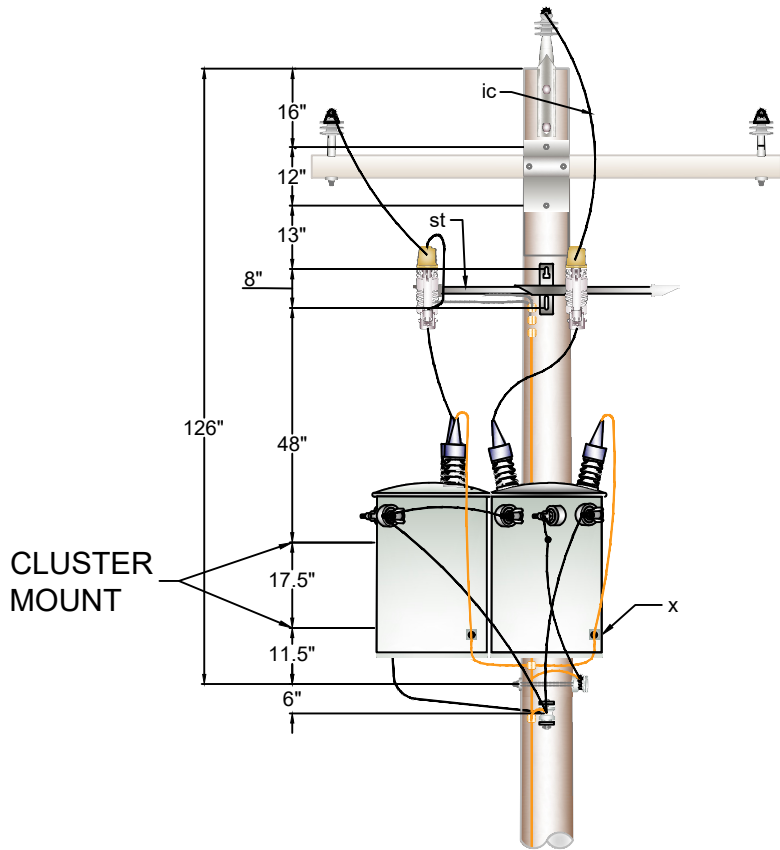
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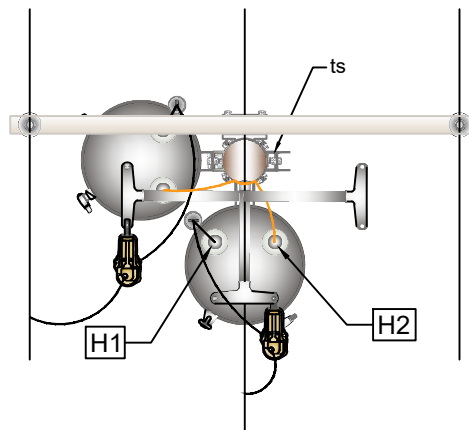
TITLE		3Ø TRANSFORMER BANK WYE-OPEN DELTA 120/240	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	3 OF 3	DRAWING NO #	G314

FRONT VIEW

SIDE VIEW



TOP VIEW



NOTE:  
See page 3 of 3 for wiring diagram.

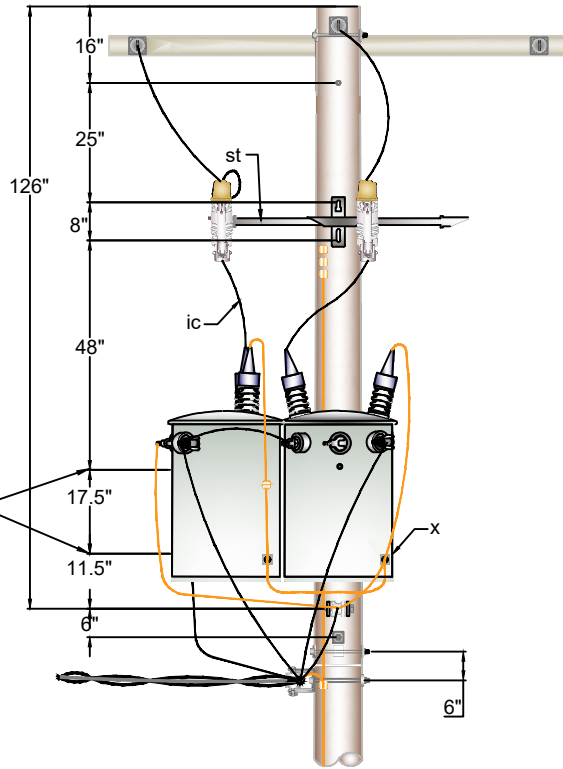
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrestor 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	2	Guard, Arrestor	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrestor
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



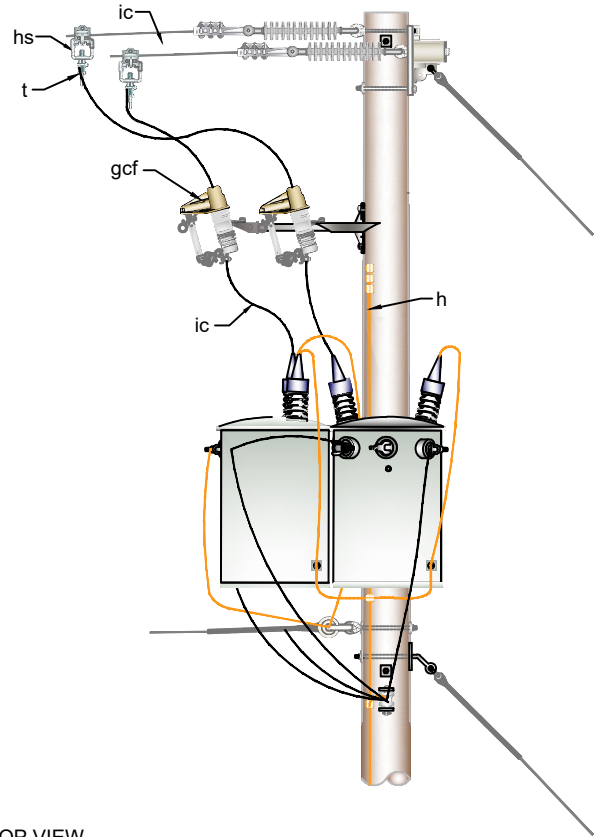
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TITLE		3Ø TRANSFORMER BANK WYE-OPEN DELTA 120/240 ON TANGENT	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	1 OF 3	DRAWING NO #	G314S

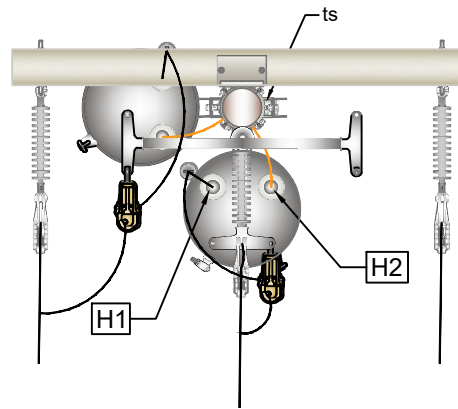
FRONT VIEW



SIDE VIEW



TOP VIEW



NOTE:.  
See page 3 of 3 for wiring diagram.

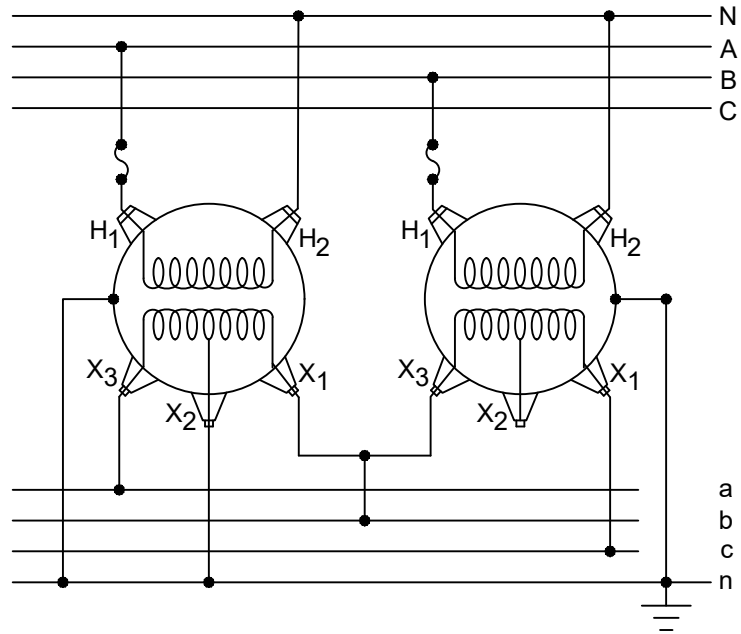
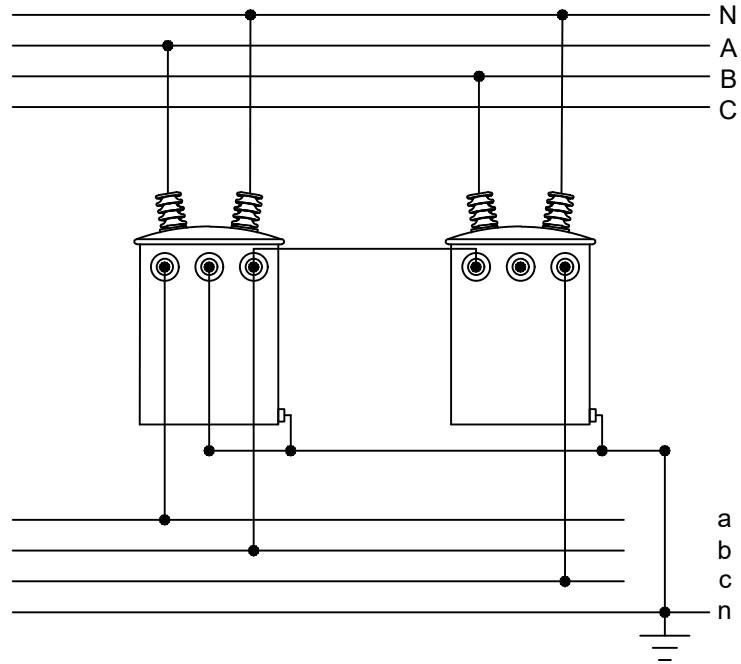
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	4	Square Nut, 5/8"
d	4	Washer, Square 2 - 1/4"	st	1	Bracket, 3Ø Cutout / Arrestor 24"
e	4	Lock Nut, 5/8"	t	3	Clamp, HL
ga	2	Guard, Arrestor	ts	1	Rack, 3Ø Transformer
gb	6	Guard, Bushing	wc	3	Cutout
gcf	3	Guard, Cutout	x	3	Transformer
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrestor
hs	3	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



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TITLE		3Ø TRANSFORMER BANK WYE-OPEN DELTA 120/240 ON DEADEND	
REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS	TECH	
PAGE	2 OF 3	DRAWING NO #	G314S



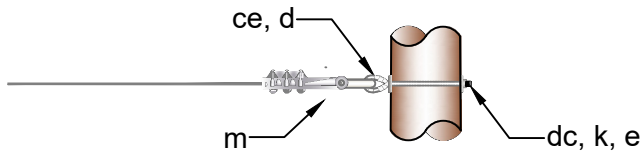
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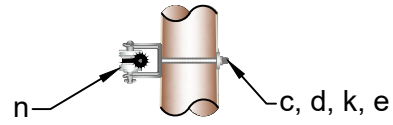
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REV NO	REV BY	ISSUE DATE	12/26/2025
SCALE	NTS		TECH
PAGE	3 OF 3	DRAWING NO #	G314S

# **Neutral, Secondary, & Service** **Assemblies**

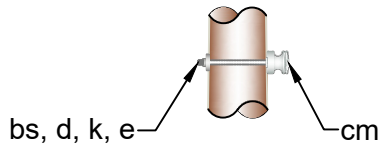
**Miscellaneous**



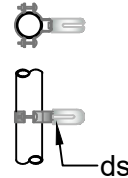
J6



K14



J8



K17



K10



K18

Item	Item Description	Item Quantity					
		J6	J8	K10	K14	K17	K18
ar	Wireholder, Screw Type			1			
bs	Bolt, Upset Sgl 5/8" x Req'd. Length		1				
c	Bolt, Machine 5/8" x Req'd. Length				1		
ce	Bolt, Eye 5/8" x Req'd. Length	1					
cm	Insulator, 3" Spool		1				
d	Washer, Sq 2-1/4"	1	1		1		
dc	Washer, Curved 3-1/2"	1					
ds	Wireholder, Pipe Max 2-1/2" Conduit					1	
e	Lock Nut 5/8"	1	1		1		
k	Square Nut 5/8"	1	1		1		
m	Shoe, DE	1					
n	Clevis, Insulated Rack 3" Spool				1		
vj	Clamp, Wedge						1
	Preform	As Req'd.					
	Connector	As Req'd.					
	Tie Wire	As Req'd.					
	Armor Rod	As Req'd.					

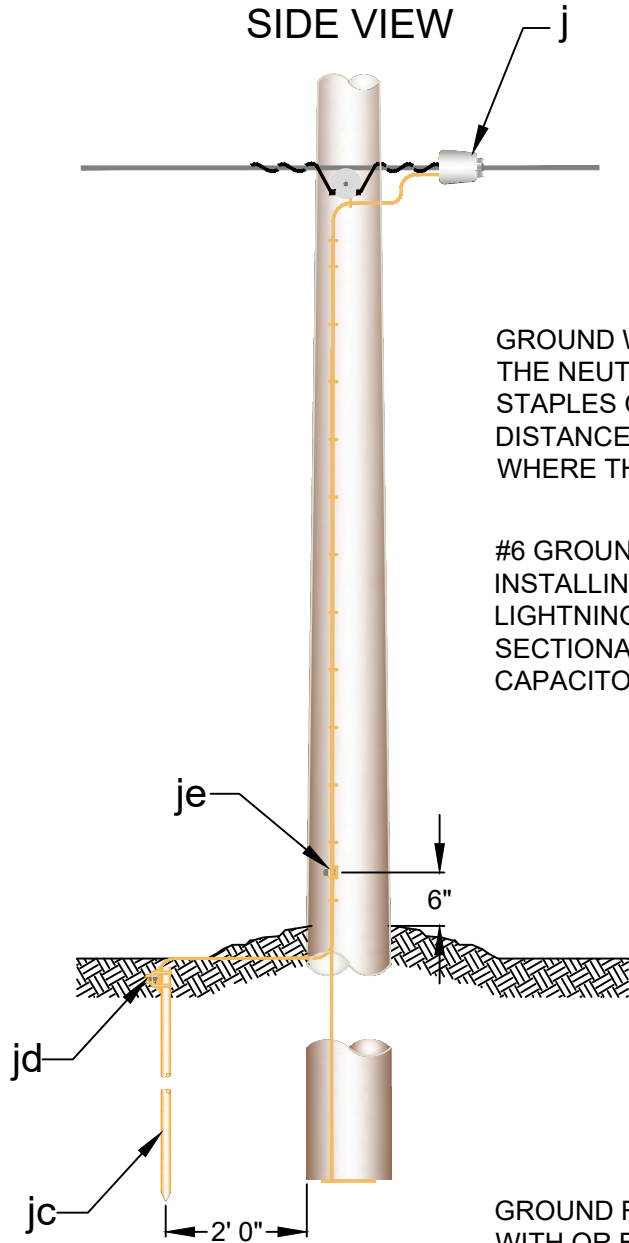


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TITLE NEUTRAL, SECONDARY, & SERVICE ASSEMBLIES			
REV NO	REV BY	ISSUE DATE	012/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO.#	J6, J8, K14, K10, K17, K18

# **Grounding Specification**

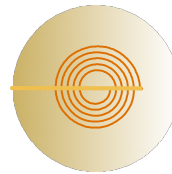


SIDE VIEW

GROUND WIRE IS TO BE INSTALLED ON THE QUADRANT NEAREST THE NEUTRAL.  
 STAPLES ON GROUND WIRE SHALL BE 2' 0" APART EXCEPT FOR A DISTANCE OF 8' 0" ABOVE GROUND AND 8' 0" FROM TOP OF POLE WHERE THEY SHALL BE 6" APART.

#6 GROUND WIRE WITH GROUND ROD SHALL BE USED WHEN INSTALLING EQUIPMENT INCLUDING BUT NOT LIMITED TO: LIGHTNING ARRESTERS, OIL CIRCUIT RECLOSERS, SECTIONALIZERS, TRANSFORMERS, CUTOUTS, AND CAPACITORS.

BOTTOM VIEW



GROUND ROD SHALL BE FLUSH WITH OR BELOW FINISHED GRADE.

Item	Item Quantity	Item Description
j	1	Connector
jb	1	Staples, 1 lb.
jc	1	Rod, 5/8" x 8' Ground
jd	1	Clamp, Ground Rod
je	As Req'd.	Connector, Split Bolt
h	As Req'd.	Wire, #6 Copper

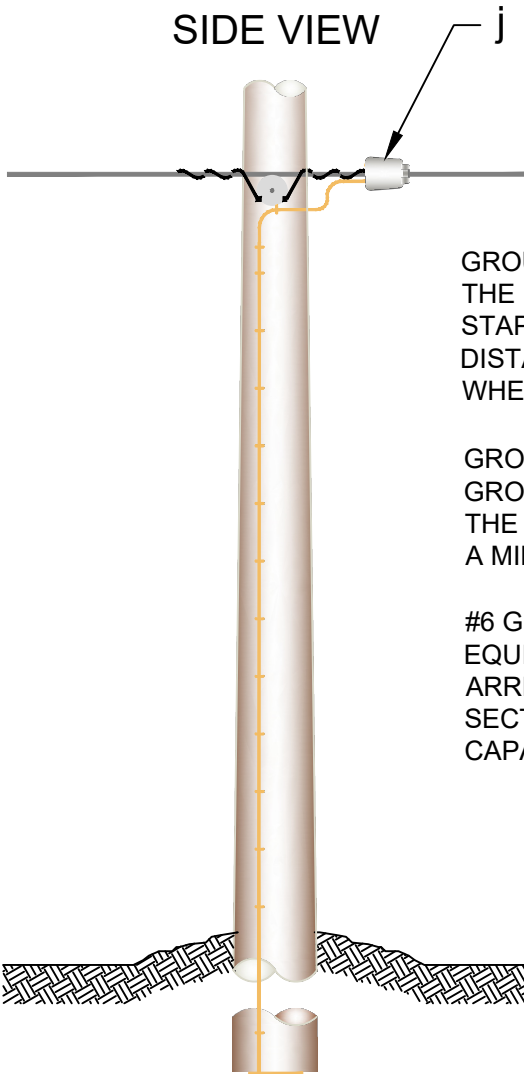


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REV NO		REV BY	ISSUE DATE	TITLE	
			12/12/2025	COPPER POLE GROUND DRIVEN ROD TYPE	
SCALE		NTS		TECH	
PAGE		1 OF 1		DRAWING NO # M2-11	

**SIDE VIEW**



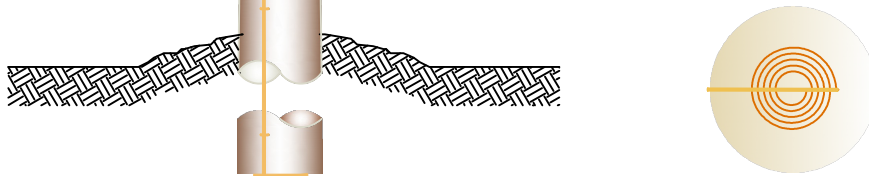
GROUND WIRE IS TO BE INSTALLED ON THE QUADRANT NEAREST THE NEUTRAL.

STAPLES ON GROUND WIRE SHALL BE 2' 0" APART EXCEPT FOR A DISTANCE OF 8' 0" ABOVE GROUND AND 8' 0" FROM TOP OF POLE WHERE THEY SHALL BE 6" APART.

GROUND WIRE AND BUTT COIL ARE ONE CONTINUOUS WIRE. GROUND WIRE SHALL CROSS OVER THE COILED PORTION OF THE GROUND WIRE AND BE STAPLED TO THE BUTT OF THE POLE. A MINIMUM OF 5 CONCENTRIC CIRCLES IS RECOMMENDED.

#6 GROUND WIRE SHALL BE USED WHEN NOT INSTALLING EQUIPMENT INCLUDING BUT NOT LIMITED TO: LIGHTNING ARRESTERS, OIL CIRCUIT RECLOSERS, VOLTAGE REGULATORS, SECTIONALIZERS, TRANSFORMERS, CUTOUTS, AND CAPACITORS.

**BOTTOM VIEW**



Item	Item Quantity	Item Description
j	1	Connector
jb	1	Staples, 1 lb.
h	As Req'd.	Wire, #6 Copper



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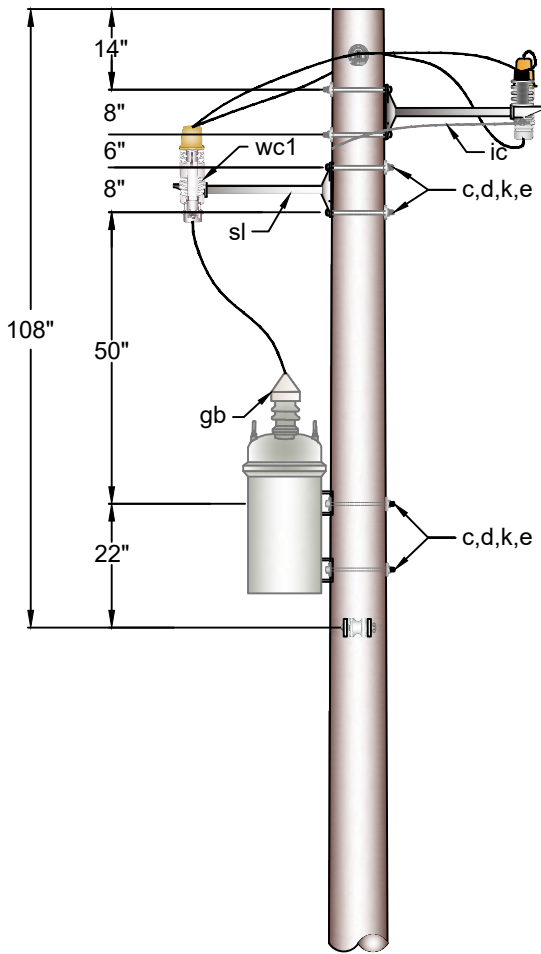
200 W. VULCAN STREET  
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TITLE		COPPER POLE GROUND BUTT COIL TYPE	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M2-12

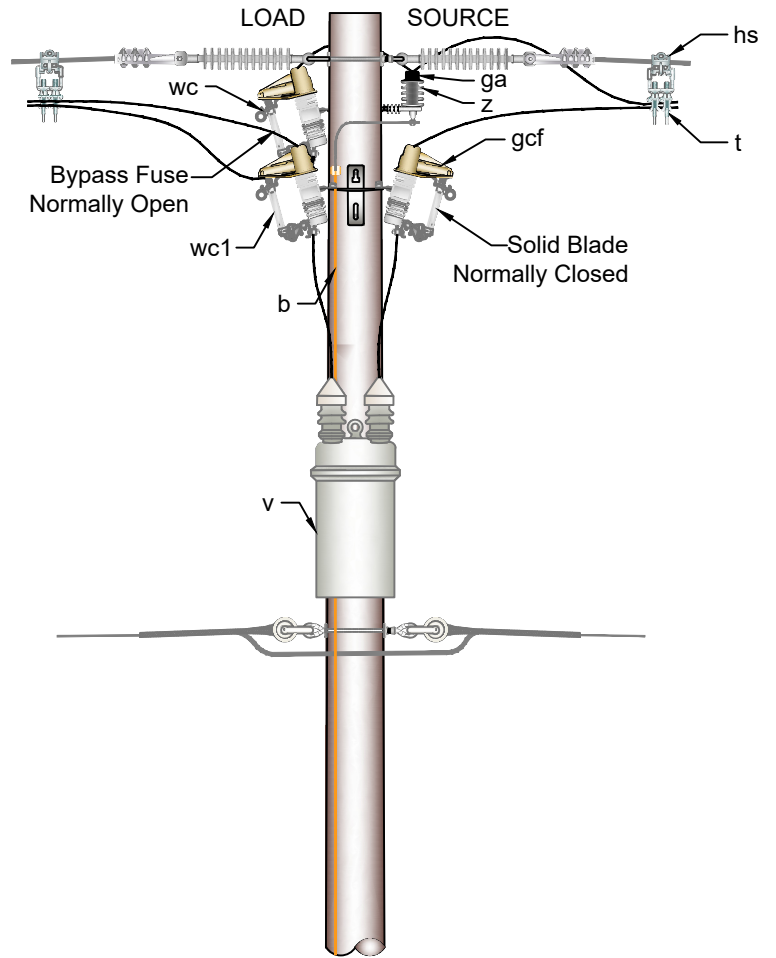
# **Line Protection**

**Lightning Arrester, Line Cutout, OCR, etc.**

FRONT VIEW



SIDE VIEW



Note:  
 Size insulated jumpers based on primary conductor sizes.  
 Handle side bushing shall always be on source side.  
 OCR and bypass fuse sizes will be specified. Hang bypass fuses on pole.  
 Double deadend framing for primary and neutral not included in materials. Refer to A6 or VA6.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd.	Wire, #4 Copper	k	6	Square Nut 5/8"
c	6	Bolt, Machine 5/8" x Req'd. Length	sl	2	Bracket, 1Ø Cutout/Arrestor 24"
d	6	Washer, Sq 2-1/4"	t	4	Clamp, HL
e	6	Lock Nut 5/8"	v	1	Recloser, Oil Circuit
ga	1	Guard, Arrestor	wc	1	Cutout
gb	2	Guard, Bushing	wc1	2	Cutout, Solid Blade
gcf	3	Guard, Cutout	z	1	Lightning Arrestor
hs	2	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Jumpers

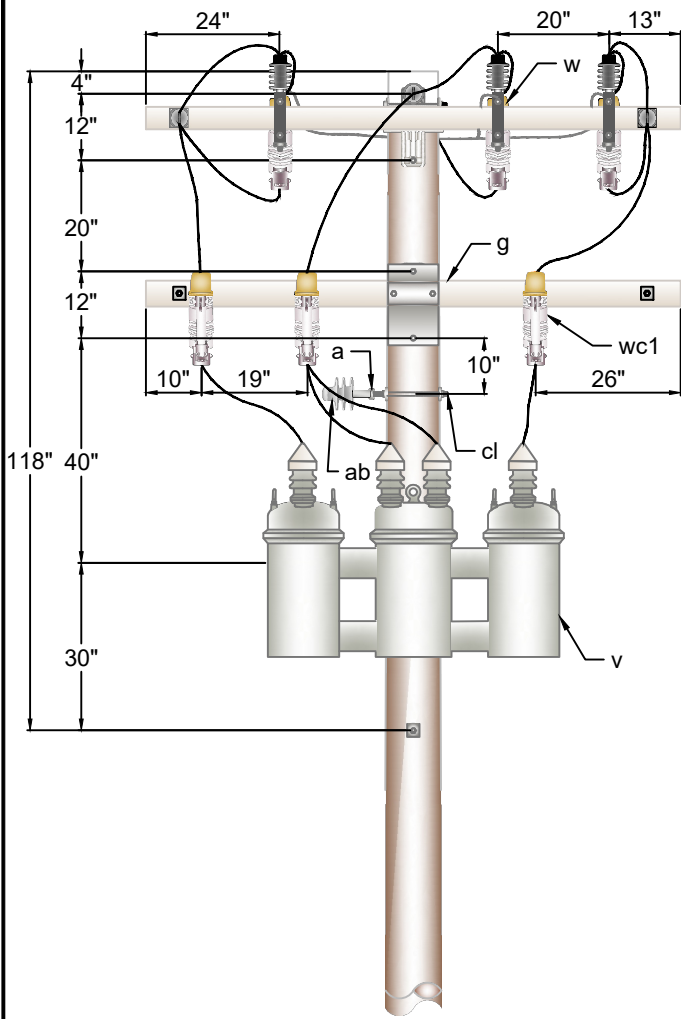


CITY OF BRENHAM ELECTRIC SYSTEM

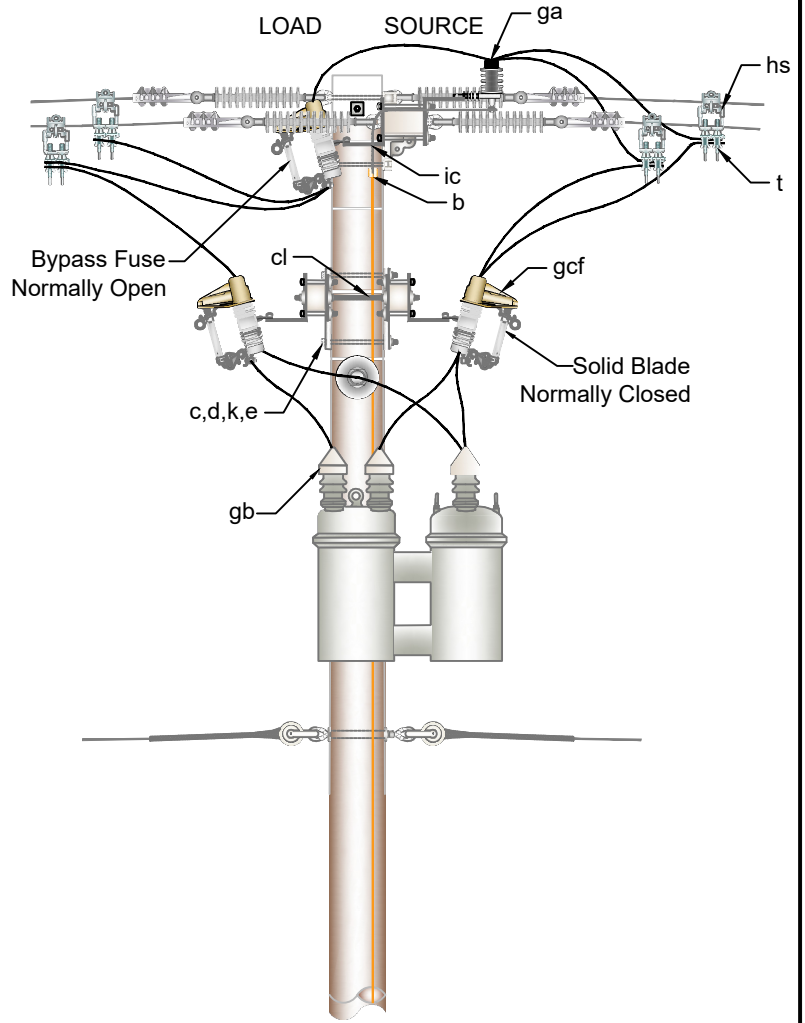
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TITLE		1Ø OCR WITH STANDOFF BRACKET	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-23

FRONT VIEW



SIDE VIEW



Note:

Size insulated jumpers based on primary conductor sizes.  
 Handle side bushing shall always be on source side.  
 OCR and bypass fuse sizes will be specified. Hang bypass fuses on pole.  
 Double deadend framing for primary and neutral not included in materials. Refer to C8 or VC8.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
a	1	Pin, Adapter	hs	6	Stirrup, HL
ab	1	Insulator, Pin Type (15kv)	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
b	As Req'd.	Wire, #4 Copper	k	12	Square Nut 5/8"
c	2	Bolt, Machine 5/8" x Req'd. Length	t	12	Clamp, HL
cl	3	Bolt, Dbl Arming 5/8" x Req'd. Length	ts	1	Rack, Small Cluster
d	10	Washer, Sq 2-1/4"	v	3	Recloser, Oil Circuit
e	12	Lock Nut 5/8"	w	3	Cutout & Arrester combination
g	2	Xarm Fbgl's 8'	wc1	6	Cutout, Solid Blade
ga	3	Guard, Arrester		As Req'd.	Connector
gb	6	Guard, Bushing		As Req'd.	Jumpers
gcf	9	Guard, Cutout			

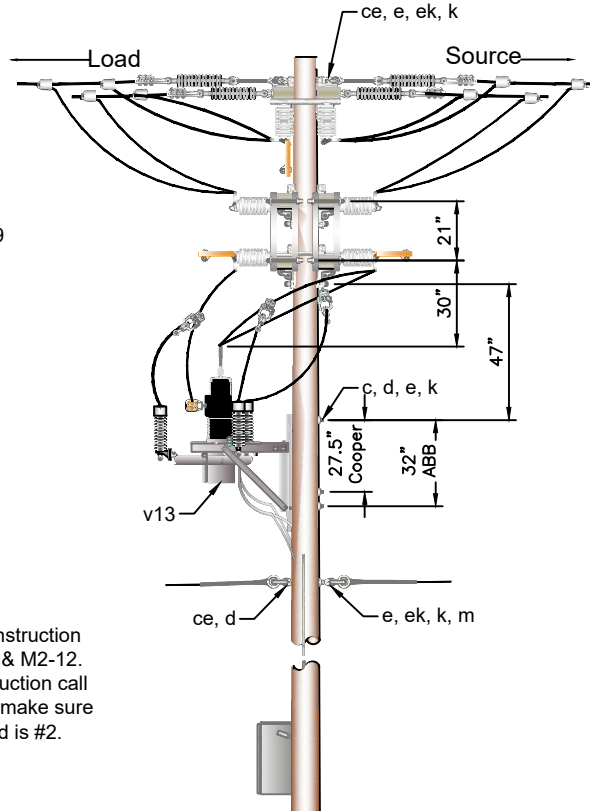
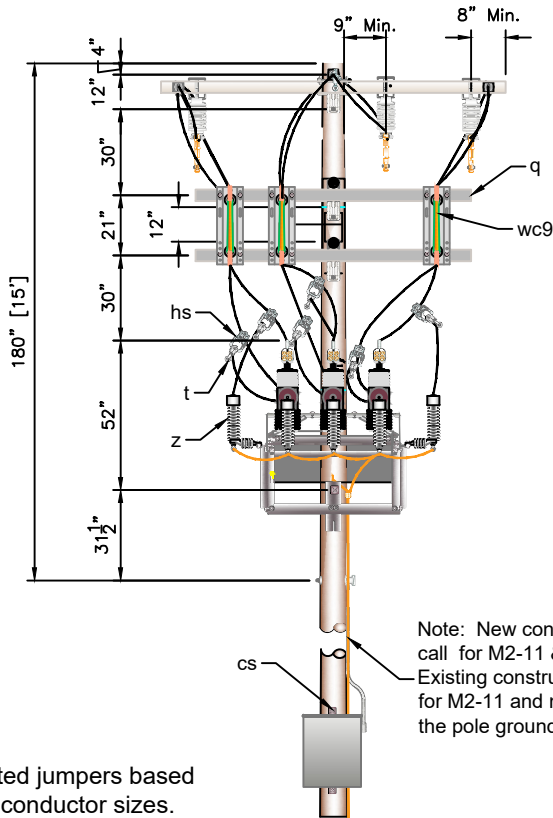
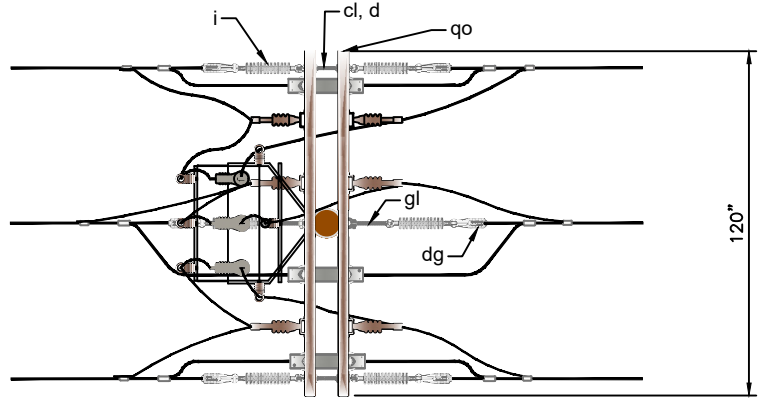


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TITLE THREE 1Ø OCR'S ON CLUSTER MOUNT

REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-24.1



Note: New construction call for M2-11 & M2-12. Existing construction call for M2-11 and make sure the pole ground is #2.

Note:  
Size insulated jumpers based on primary conductor sizes.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	43	Bolt, Machine 5/8" x Req'd. Length	k	62	Square Nut 5/8"
ce	2	Bolt, Eye 5/8" x Req'd. Length	m	2	Clevis, Insulated 4" Spool
cl	4	Bolt, Dbl Arming 5/8" x Req'd. Length	q	4	Xarm, DE Fbgls 8'
cs	2	Screw, Lag 1/2" x 4 1/2"	qo	2	Xarm, DE Fbgls 10'
d	60	Washer, Sq 2-1/4"	t	6	Clamp, HL
dg	6	Dead End Grip (Sized to Fit)	v13	1	Recloser, 3Ø Electronic
e	61	Lock Nut 5/8"	wc9	9	Switch Knife Blade, 900A
ek	2	Nut, Eye 5/8"	z	6	Lightning Arrestor
gl	2	Link, Insulated 24"		As Req'd.	Connectors
hs	6	Stirrup, HL		As Req'd.	Jumpers
i	6	Insulator Suspension ( 15kV )			



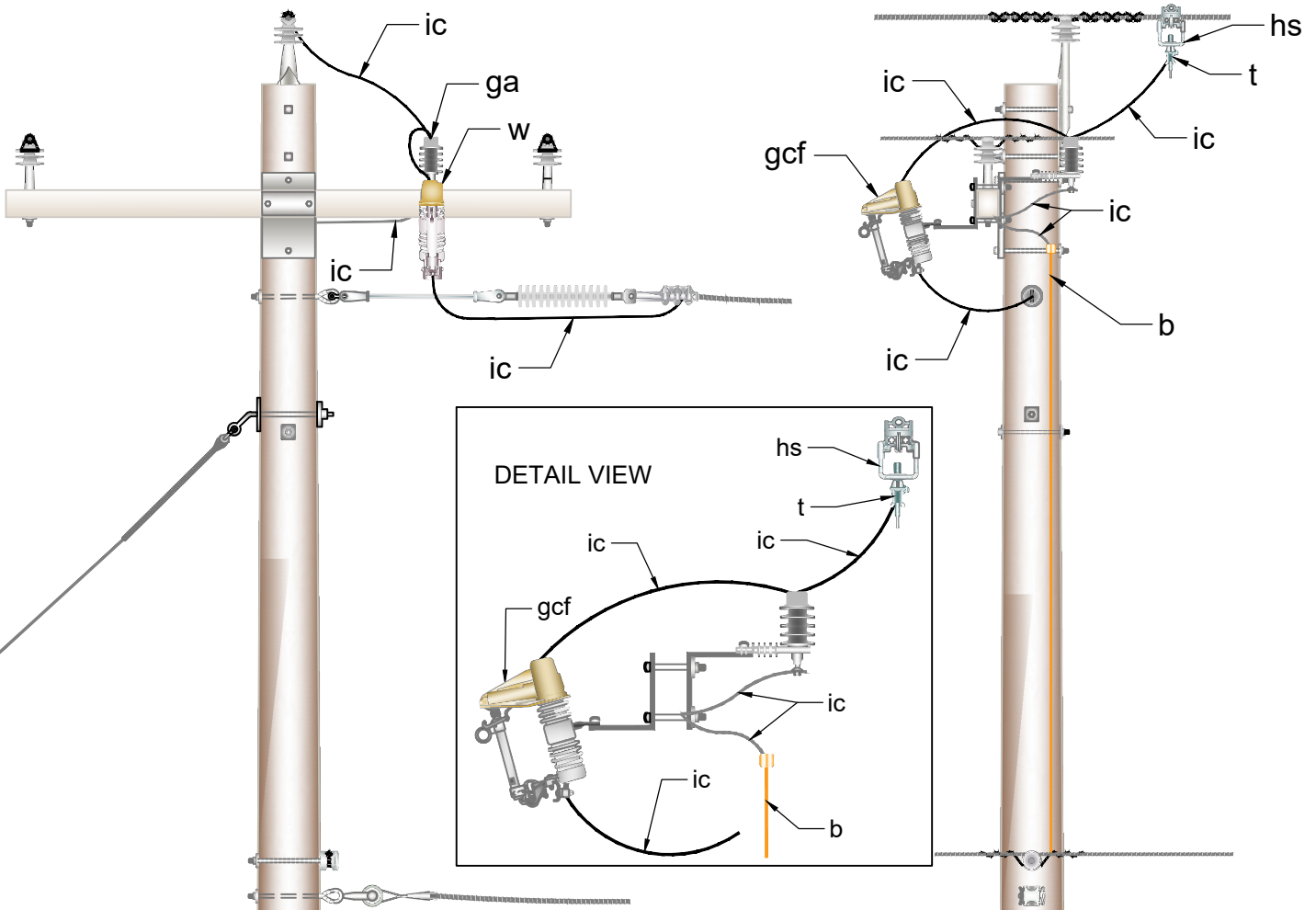
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TITLE			
<b>3Ø ELECTRONIC RECLOSER</b>			
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-31

REAR VIEW

SIDE VIEW



Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd.	Wire, #4 Copper	ic	As Req'd	Wire, 5kv Insulated (#4 CU Stranded)
ga	1	Guard, Arrestor	t	1	Clamp, HL
gcf	1	Guard, Cutout	wc	1	Cutout
hs	1	Stirrup, HL	z	1	Lighting Arrestor
				As Req'd	Connector

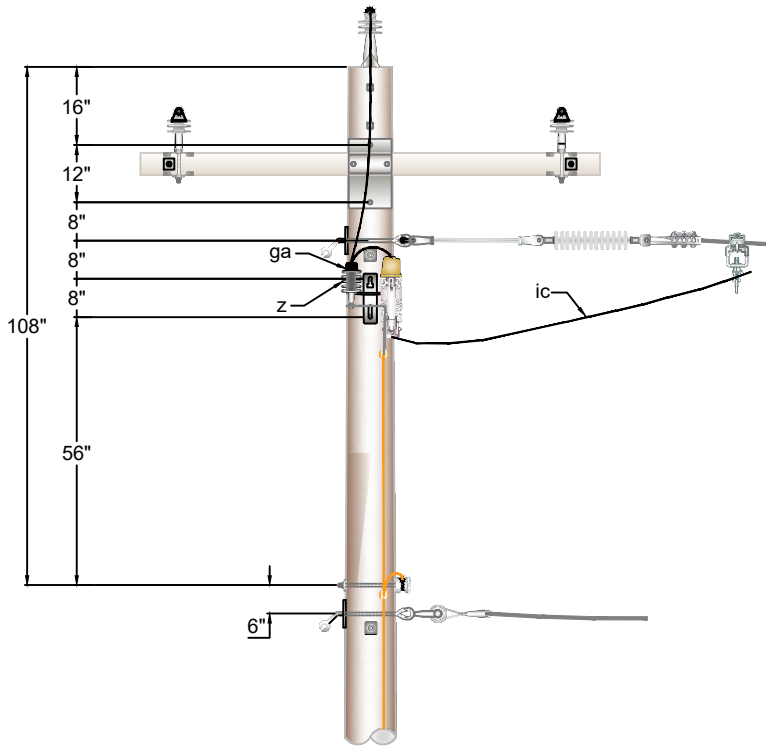


CITY OF BRENHAM ELECTRIC SYSTEM

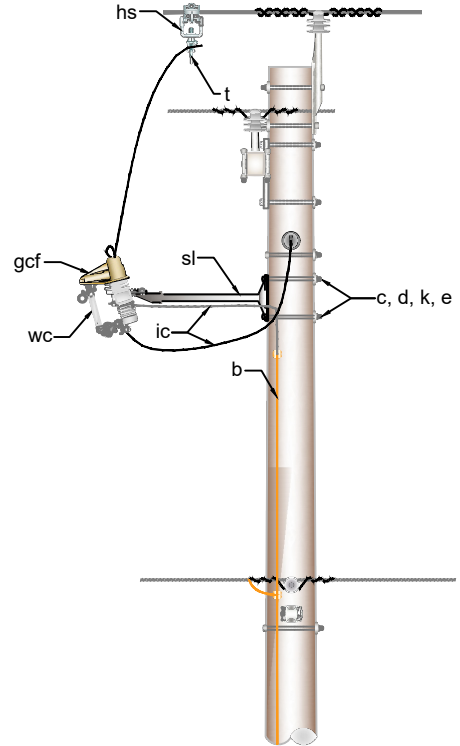
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TITLE			
CUTOUT / ARRESTOR COMBINATION			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1	OF	1
DRAWING NO #			M5-50

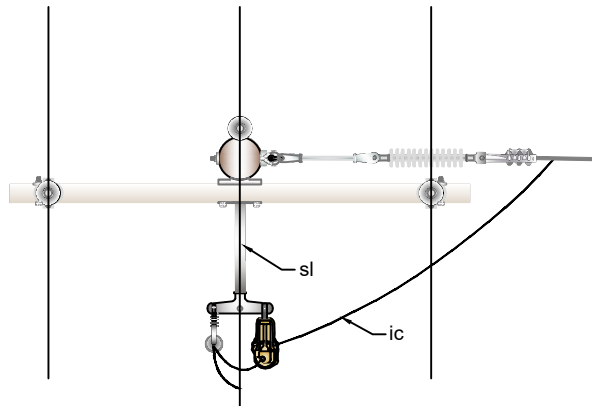
FRONT VIEW



SIDE VIEW



TOP VIEW



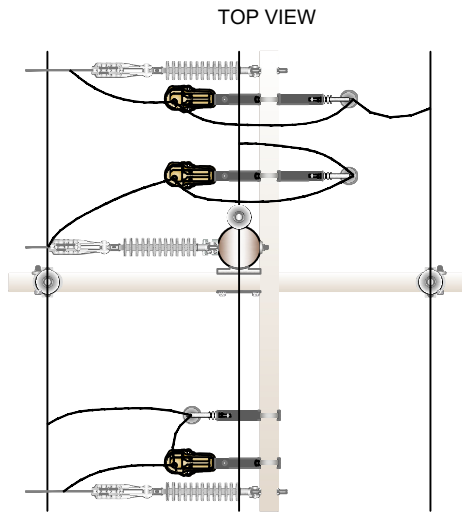
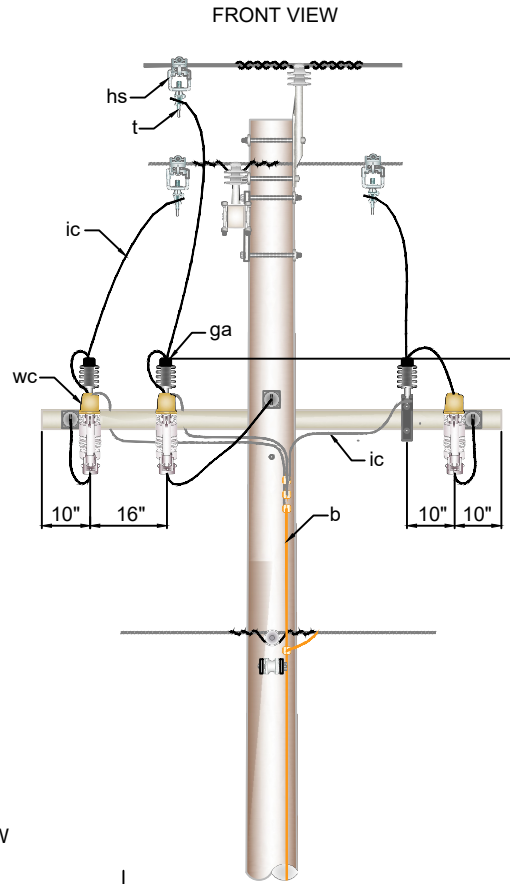
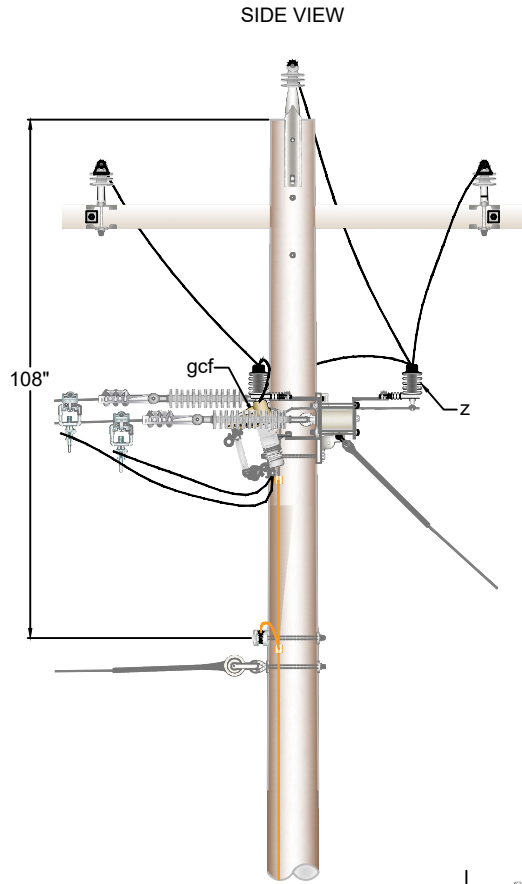
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd	Wire, #4 Copper	ic	As Req'd	Wire, 5kv Insulated (#4 CU Stranded)
c	2	Bolt, Machine 5/8" x Req'd. Length	k	2	Square Nut 5/8"
d	2	Washer, Sq 2-1/4"	sl	1	Bracket, 1Ø Cutout/Arrestor 24"
e	2	Lock Nut 5/8"	t	2	Clamp, HL
ga	1	Guard, Arrester	wc	1	Cutout
gcf	1	Guard, Cutout	z	1	Lightning Arrester
hs	2	Stirrups, HL		As Req'd.	Connector



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TITLE			
CUTOUT & ARRESTER ON		STANDOFF BRACKET	
REV NO	REV BY	ISSUE DATE	12/12/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	M5-51



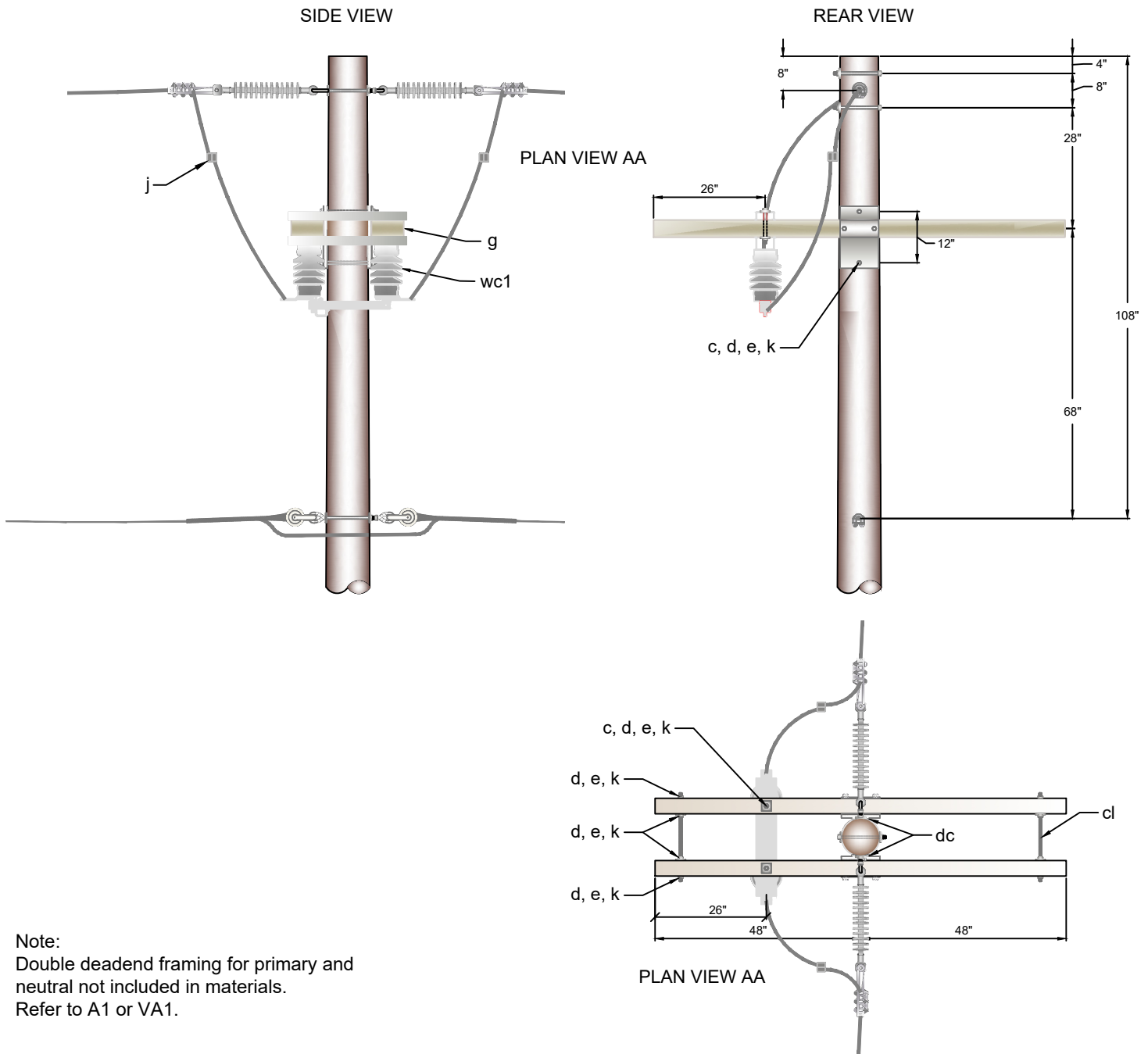
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
b	As Req'd.	Wire, #4 Copper	t	6	Clamp, HL
ga	3	Guard, Arrester	wc	3	Cutout
gcf	3	Guard, Cutout	z	3	Lightning Arrester
hs	6	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)			



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TITLE			
THREE CUTOUTS & LIGHTNING ARRESTORS ON CROSSARM			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	M5-53

# Switches



Note:  
 Double deadend framing for primary and  
 neutral not included in materials.  
 Refer to A1 or VA1.

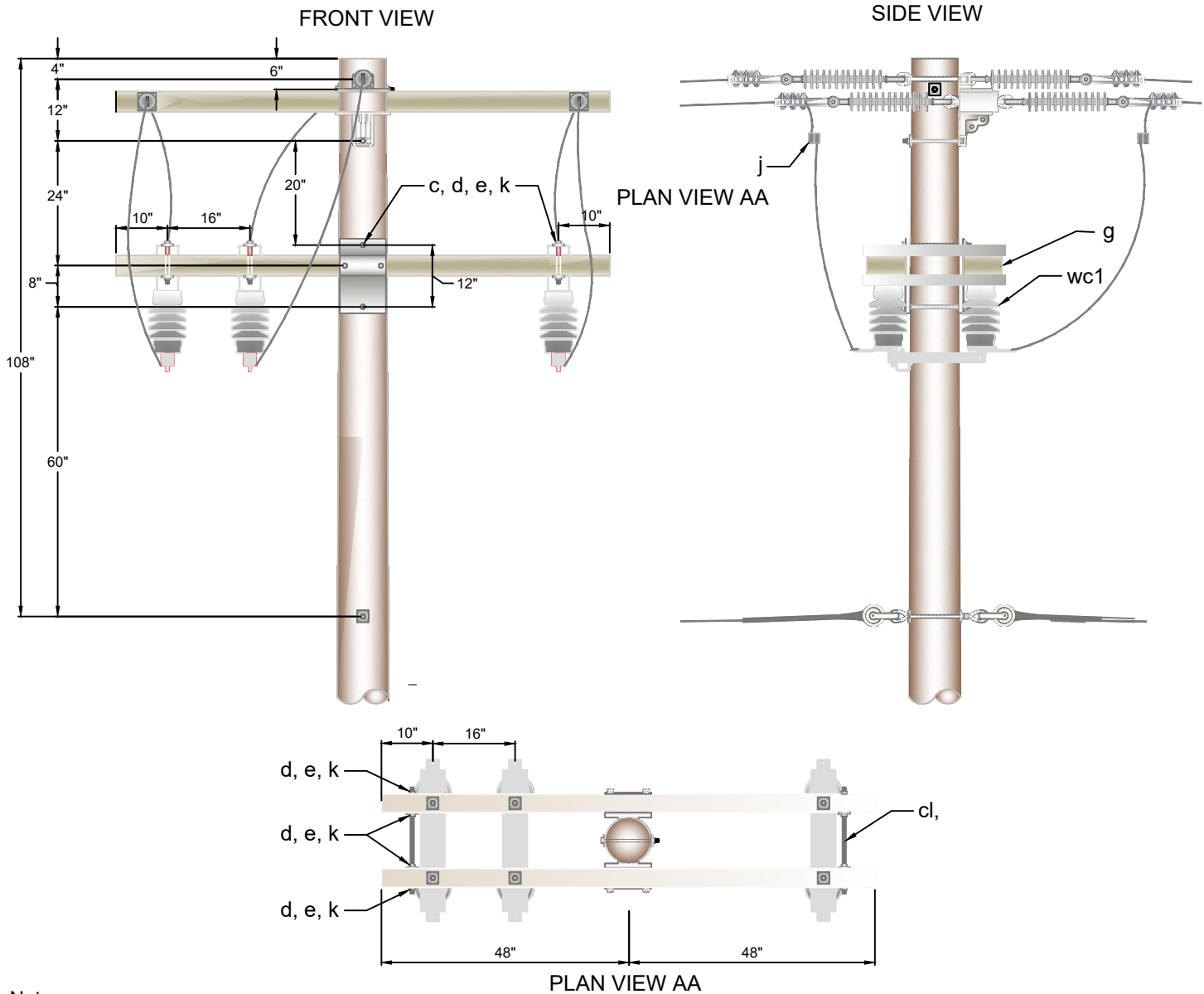
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length
d	16	Washer, Sq 2-1/4"	wc1	1	Switch Knife Blade (600A)
e	12	Lock Nut 5/8"	j	2	Connector, Wedge
g	2	Xarm, fbgl 8'		As Req'd.	Jumper
k	12	Square Nut 5/8"			



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 (979) 337-7400

TITLE		1Ø SWITCH, DISCONNECT (600A)	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-2



Note:  
 Double deadend framing for primary and  
 neutral not included in materials.  
 Refer to C8 or VC8.

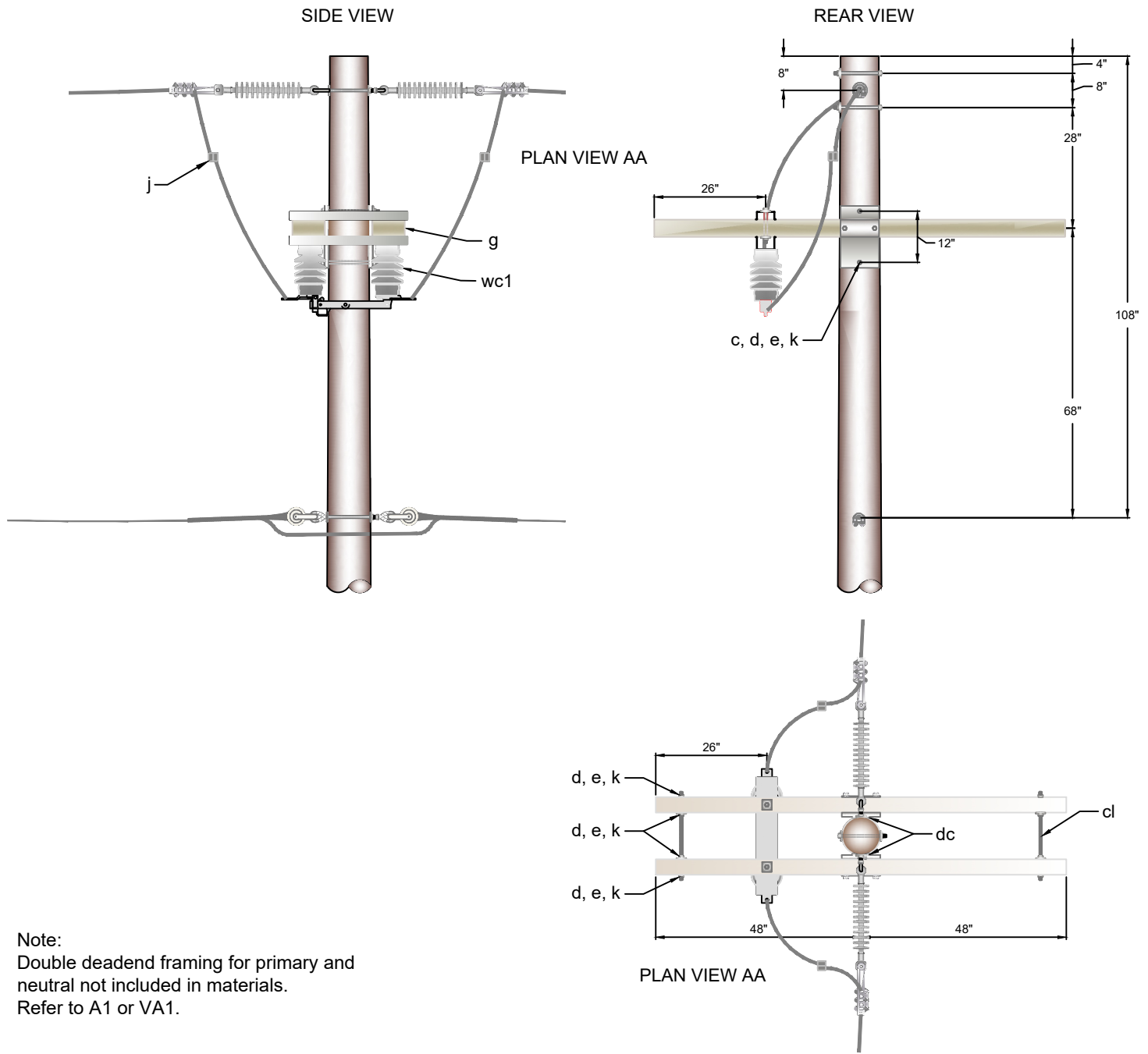
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	8	Bolt, Machine 5/8" x Req'd. Length	cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length
d	20	Washer, Sq 2-1/4"	wc1	3	Switch Knife Blade (600A)
e	16	Lock Nut 5/8"	j	6	Connector, Wedge
g	2	Xarm, fbgl 8'		As Req'd.	Jumper
k	16	Square Nut 5/8"			



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REV NO		REV BY	ISSUE DATE	TITLE	
			12/22/2025	3Ø SWITCH, DISCONNECT (600A)	
SCALE		NTS	TECH		
PAGE		1 OF 1	DRAWING NO #		M3-2A



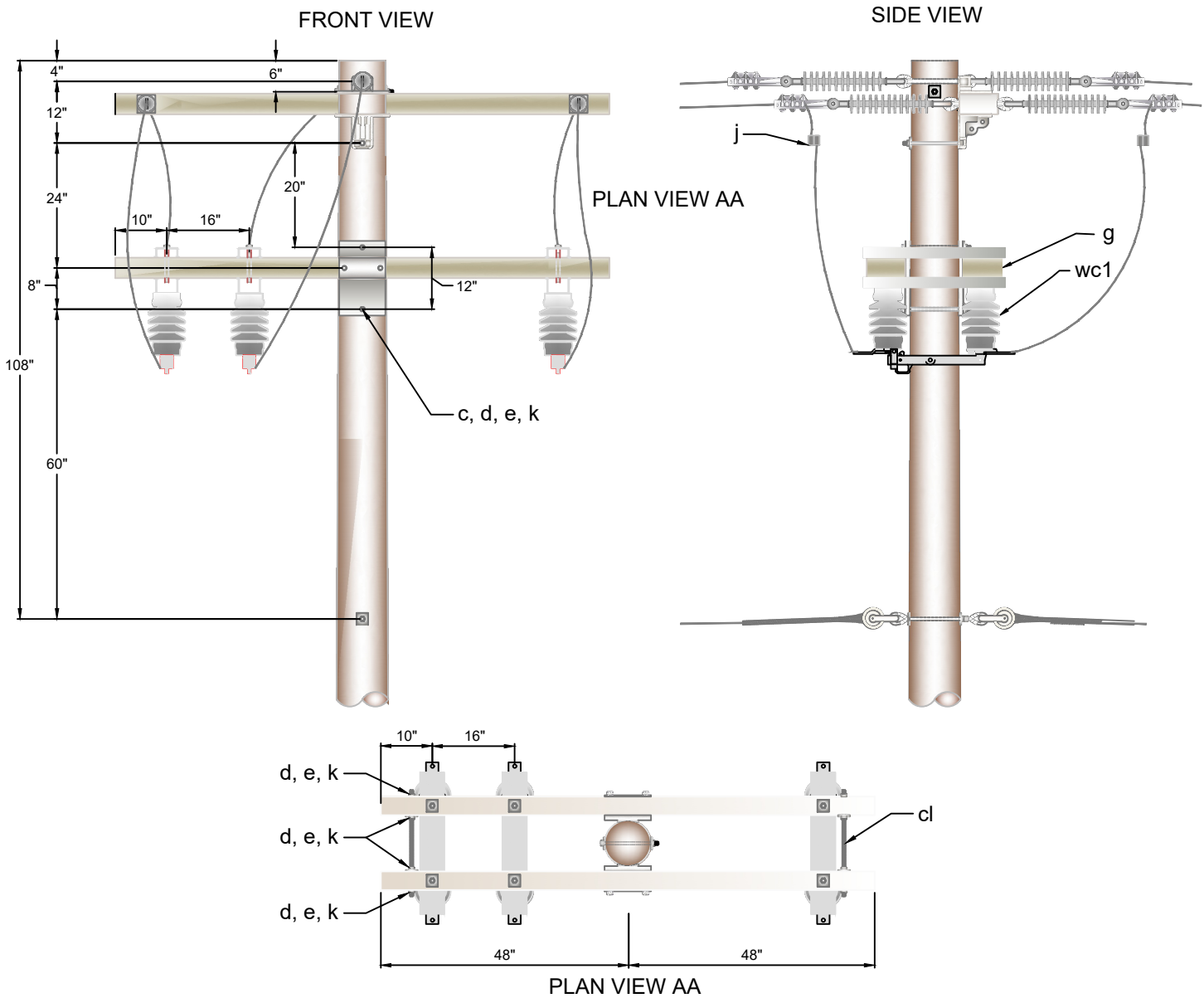
Note:  
 Double deadend framing for primary and  
 neutral not included in materials.  
 Refer to A1 or VA1.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	4	Bolt, Machine 5/8" x Req'd. Length	k	12	Square Nut 5/8"
d	16	Washer, Sq 2-1/4"	cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length
dc	2	Washer, Curved 3 1/2"	wc1	1	Switch Knife Blade (900A)
e	12	Lock Nut 5/8"	j	2	Connector, Wedge
g	2	Xarm, fbgl's 8'		As Req'd.	Jumper



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TITLE		1Ø SWITCH, DISCONNECT (900A)	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-3



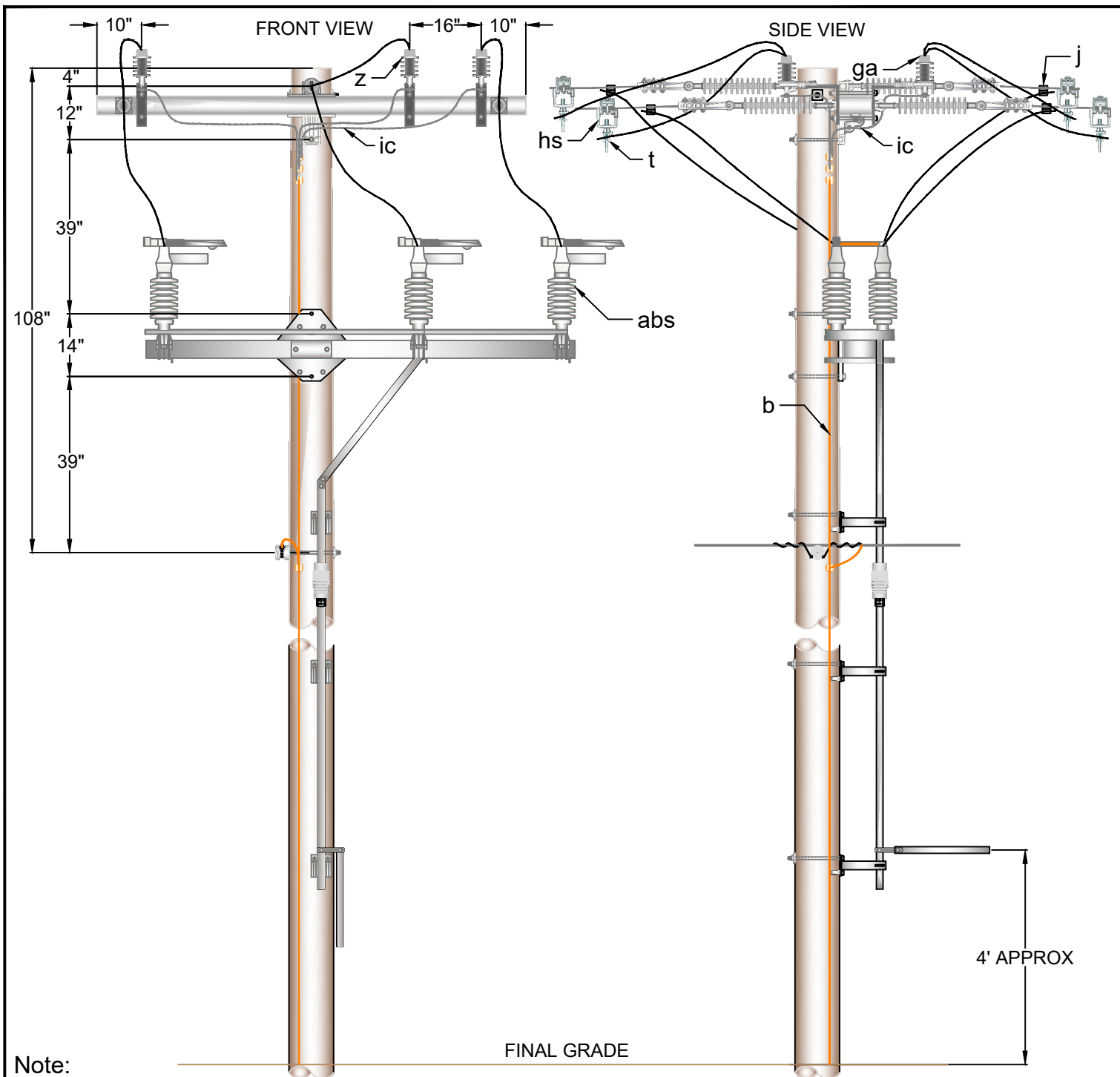
Note:  
 Double deadend framing for primary and neutral not included in materials.  
 Refer to C8 or VC8.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	8	Bolt, Machine 5/8" x Req'd. Length	cl	2	Bolt, Dbl Arming 5/8" x Req'd. Length
d	20	Washer, Sq 2-1/4"	wc1	3	Switch Knife Blade (900A)
e	16	Lock Nut 5/8"	j	6	Connector, Wedge
g	2	Xarm, fbgl's 8'		As Req'd.	Jumper
k	16	Square Nut 5/8"			



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TITLE		3Ø SWITCH, DISCONNECT (900A)	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M3-3A



**Note:**

Wire size based on conductor sizes.

A minimum of one standoff bracket shall be used for each section of pipe between each union.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
abs	1	Switch, Air Brake	j	12	Clamp, Wedge
b	As Req'd.	Wire, #4 Copper	t	6	Clamp, HL
ga	6	Guard, Arrester	z	6	Lightning Arrester
hs	6	Stirrup, HL		As Req'd.	Jumper
ic	As Req'd.	Wire, 5kV Insulated (#4 CU Stranded)			



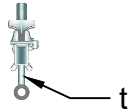
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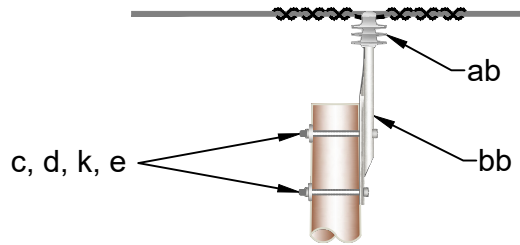
TITLE			
AIR BREAK SWITCH			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1 OF 1		DRAWING NO # M3-15

# **Primary Assemblies**

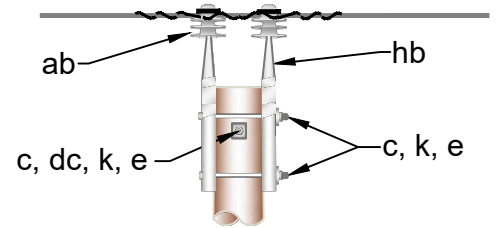
**Miscellaneous**



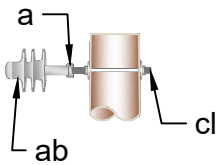
M5-1



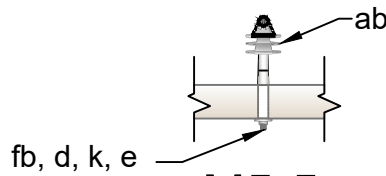
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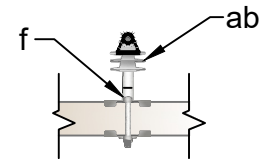
M5-3



M5-4



M5-5



VM5-5

Item	Item Description	Item Quantity					
		M5-1	M5-2	M5-3	M5-4	M5-5	VM5-5
a	Pin, Adapter				1		
ab	Insulator, Pin Type (15kv)		1	2	1	1	1
bb	Pin, Pole Top 1"		1				
c	Bolt, Machine 5/8" x Req'd. Length		2	3			
cl	Bolt, Dbl Arming 5/8" x Req'd. Length				1		
d	Washer, Sq 2-1/4"		2		2	1	
dc	Washer, Curved 3-1/2"			2			
e	Lock Nut 5/8"		2	3	2	1	
f	Pin, Xarm Clamp Type 1"						1
fb	Pin, Xarm Steel 1"					1	
hb	Pin, Pole Top 1"			2			
k	Square Nut 5/8"		2	3	2	1	
t	Clamp, HL	1					
	Connector	As Req'd.					
	Jumper	As Req'd.					
	Preform	As Req'd.					
	Tie Wire	As Req'd.					

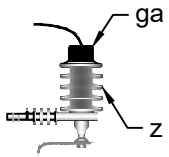


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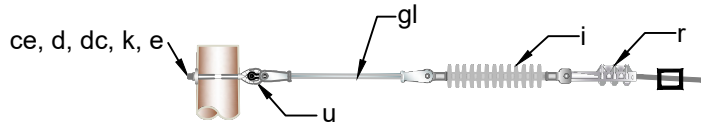
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PRIMARY ASSEMBLIES

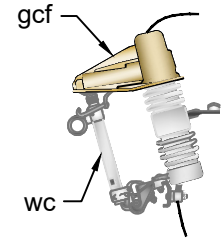
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 of 7	DRAWING NO. #	M5 & VM5 SERIES



M5-6



M5-8



M5-9

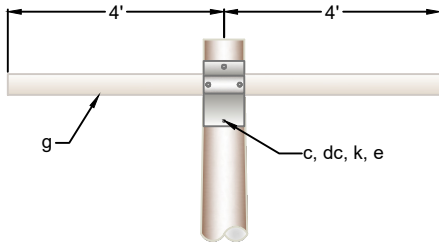
Item	Item Description	Item Quantity		
		M5-6	M5-8	M5-9
ce	Bolt, Eye 5/8" x Req'd. Length		1	
d	Washer, Sq 2-1/4"		1	
dc	Washer, Curved 3-1/2"		1	
e	Lock Nut 5/8"		1	
ga	Guard, Arrester	1		
gcf	Guard, Cutout			1
gl	Link, Insulated 24"		1	
i	Insulator, Suspension (15kv)		1	
k	Square Nut 5/8"		1	
r	Clamp, DE		1	
u	Shackle, Anchor		2	
wc	Cutout			1
z	Lightning Arrester	1		
	Connector	As Req'd.		
	Jumper	As Req'd.		



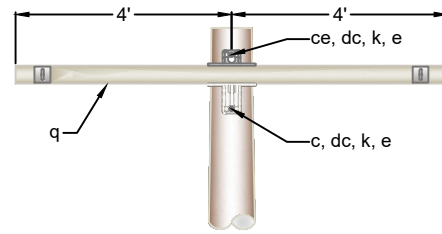
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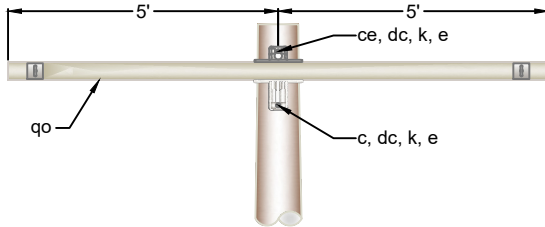
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REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	2 of 7		DRAWING NO # M5 & VM5 SERIES



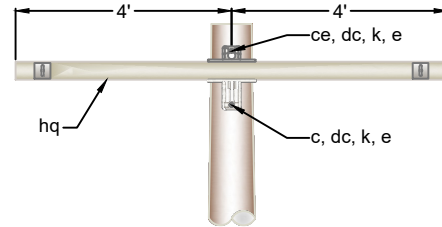
M5-14



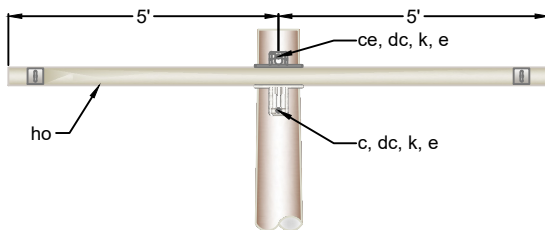
M5-15



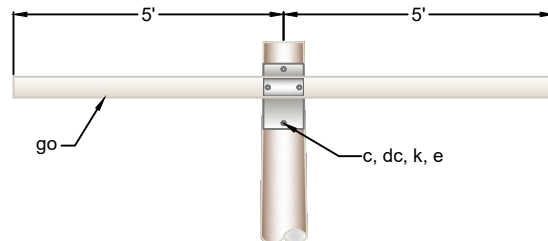
M5-15.1



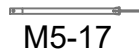
VM5-15



VM5-15.1



M5-16



M5-17

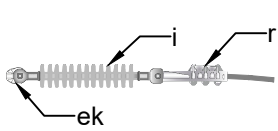
Item	Item Description	Item Quantity						
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c	Bolt, Machine 5/8" x Req'd. Length	2	1	1	1	1	2	
cb	Xarm Brace							1
ce	Bolt, Eye 5/8" x Req'd. Length		1	1	1	1		
cs	Screw, Lag 1/2" x 4-1/2"							1
dc	Washer, Curved 3-1/2"	2	2	2	2	2	2	
e	Lock Nut 5/8"	2	2	2	2	2	2	
g	Xarm Fbgls 8'	1						
go	Xarm Fbgls 10'						1	
ho	Xarm DE Fbgls 10' HD					1		
hq	Xarm DE Fbgls 8' HD				1			
k	Square Nut 5/8"	2	2	2	2	2	2	
q	Xarm DE Fbgls 8'		1					
qo	Xarm DE Fbgls 10'			1				



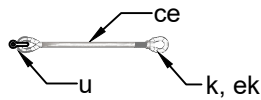
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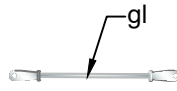
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REV NO	REV BY	ISSUE DATE	12/22/2025
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PAGE	3 OF 7		DRAWING NO # M5 & VM5 SERIES



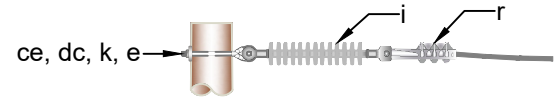
M5-20.1P



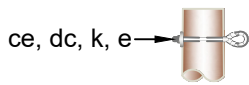
M5-21



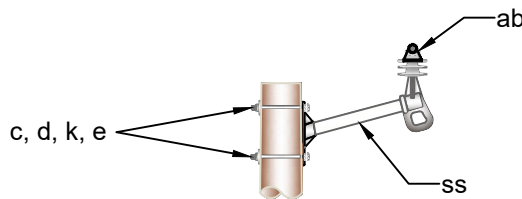
M5-23



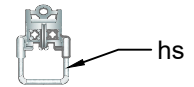
M5-24



M5-25



M5-27



M5-28

Item	Item Description	Item Quantity						
		M5-20.1P	M5-21	M5-23	M5-24	M5-25	M5-27	M5-28
ab	Insulator, Pin Type (15kv)						1	
c	Bolt, Machine 5/8" x Req'd. Length						2	
ce	Bolt, Eye 5/8" x Req'd. Length		1		1	1		
d	Washer, Sq 2-1/4"						2	
dc	Washer, Curved 3-1/2"				2	2		
e	Lock Nut 5/8"				1	1	2	
ek	Eye Nut 5/8"	1	1					
gl	Link, Insulated 24"			1				
hs	Stirrup, HL							1
i	Insulator, Suspension (15kv)	1			1			
k	Square Nut 5/8"		1		1	1	2	
r	Clamp, DE	1			1			
ss	Bracket, Standoff 18"-1"						1	
u	Shackle, Anchor		1					
	Connector	As Req'd.						
	Jumper	As Req'd.						
	Preform	As Req'd.						
	Tie Wire	As Req'd.						

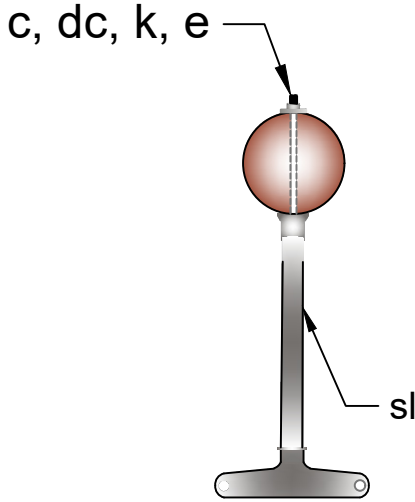


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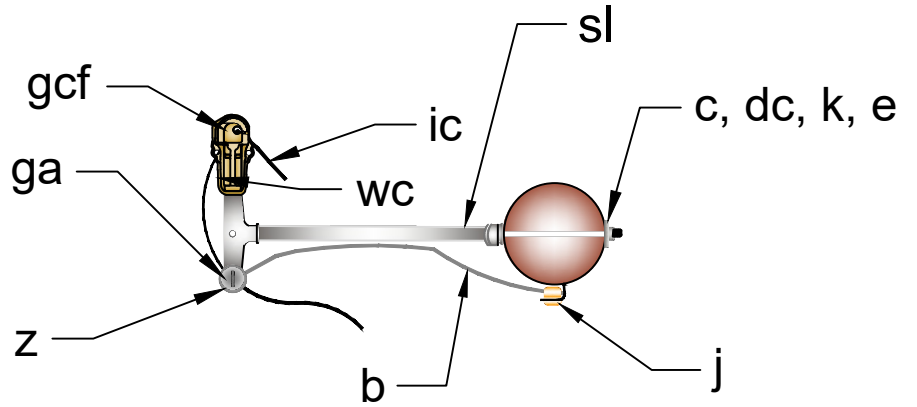
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PRIMARY ASSEMBLIES		ISSUE DATE	12/22/2025
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SCALE	NTS	DRAWING NO #	M5 & VM5 SERIES
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TOP VIEW



M5-29

TOP VIEW



M5-29.1

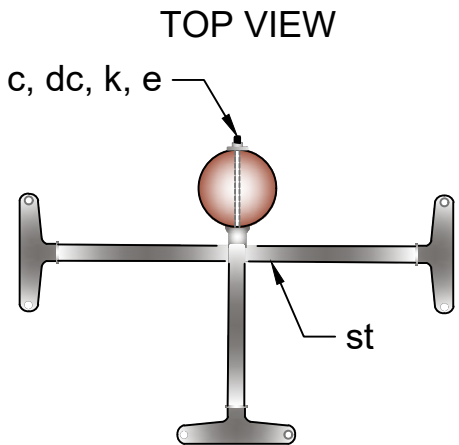
Item	Item Description	Item Quantity	
		M5-29	M5-29.1
b	Wire, #4 Copper	As Req'd	As Req'd
c	Bolt, Machine 5/8" x Req'd. Length	2	2
dc	Washer, Curved 3-1/2"	2	2
e	Lock Nut 5/8"	2	2
ga	Guard, Arrestor		1
gcf	Guard, Cutout		1
ic	Wire, 5kva Insulated (#4 Cu Stranded)		As Req'd
j	Connector, Wedge		1
k	Square Nut 5/8"	2	2
sl	Bracket, 1Ø Cutout/Arrestor 24"	1	1
wc	Cutout		1
z	Lightning Arrestor		1



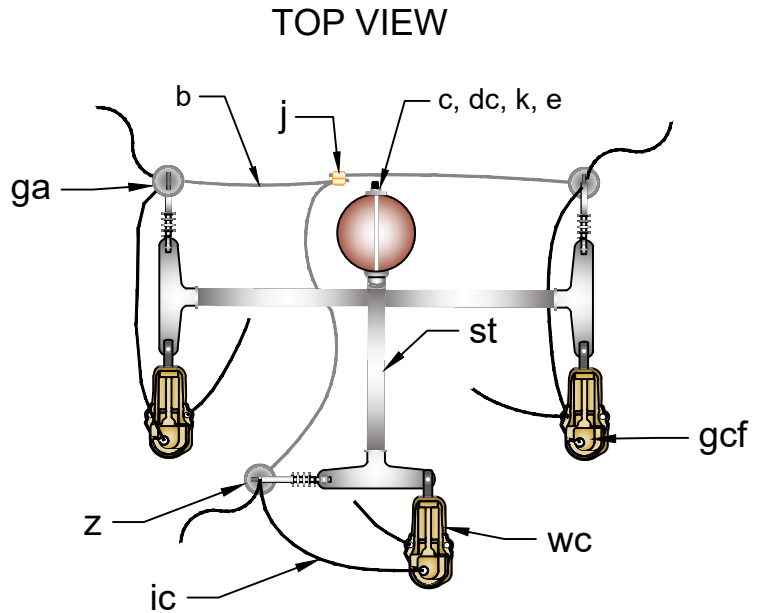
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TITLE			
PRIMARY ASSEMBLIES			
REV NO	REV BY	ISSUE DATE	12/12/2025
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M5-30



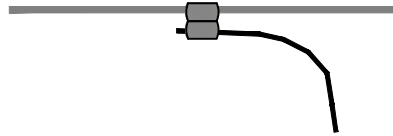
M5-30.1

Item	Item Description	Item Quantity	
		M5-30	M5-30.1
c	Bolt, Machine 5/8" x Req'd. Length	2	2
b	Wire, #4 Copper		As Req'd
dc	Washer, Curved 3-1/2"	2	2
e	Lock Nut 5/8"	2	2
ga	Guard, Arrestor		3
gcf	Guard, Cutout		3
ic	Wire, 5kv Insulated (#4 Cu Stranded)		As Req'd
j	Connector, Wedge		3
k	Square Nut 5/8"	2	2
st	Bracket, 3Ø Cutout/Arrestor 24"	1	1
wc	Cutout		3
z	Lightning Arrestor		3

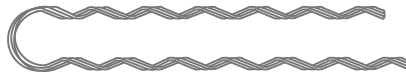


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TITLE			
PRIMARY ASSEMBLIES			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
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M5 & VM5 SERIES			



M5-31



M5-32

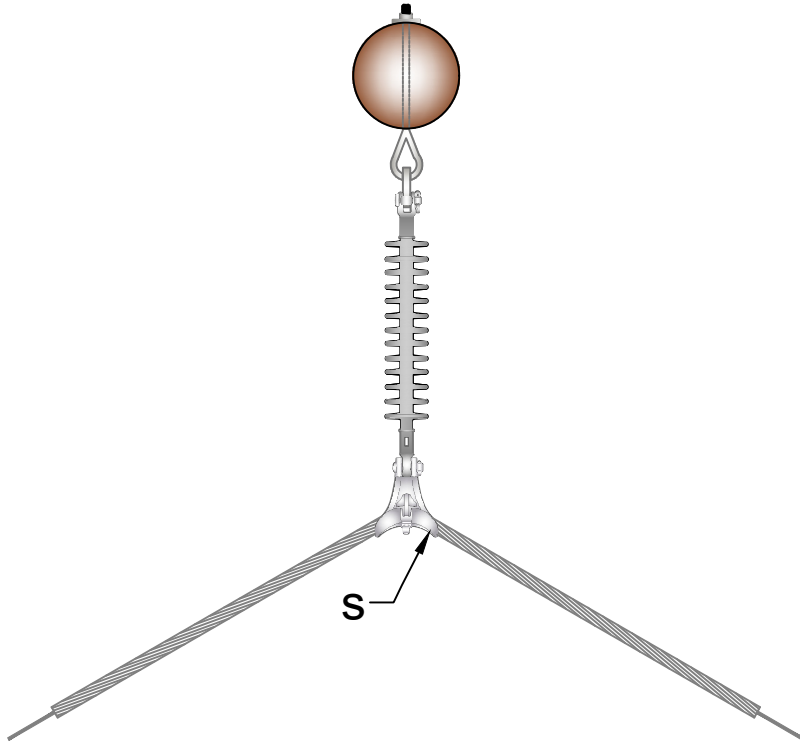
Item	Item Description	Item Quantity	
		M5-31	M5-32
dg	Deadend Grip		1
j	Connector, Wedge	1	



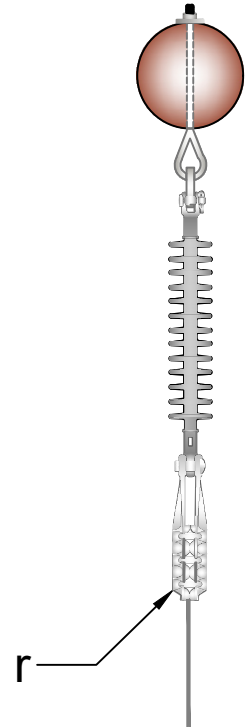
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TITLE		
PRIMARY ASSEMBLIES		
REV NO	REV BY	ISSUE DATE 12/22/2025
SCALE	NTS	TECH
PAGE 7	OF 7	DRAWING NO # M5 & VM5 SERIES



M41-10



M42-11

Item	Item Description	Item Quantity	
		M41-10	M42-11
r	Shoe, DE		1
s	Shoe, Angle	1	



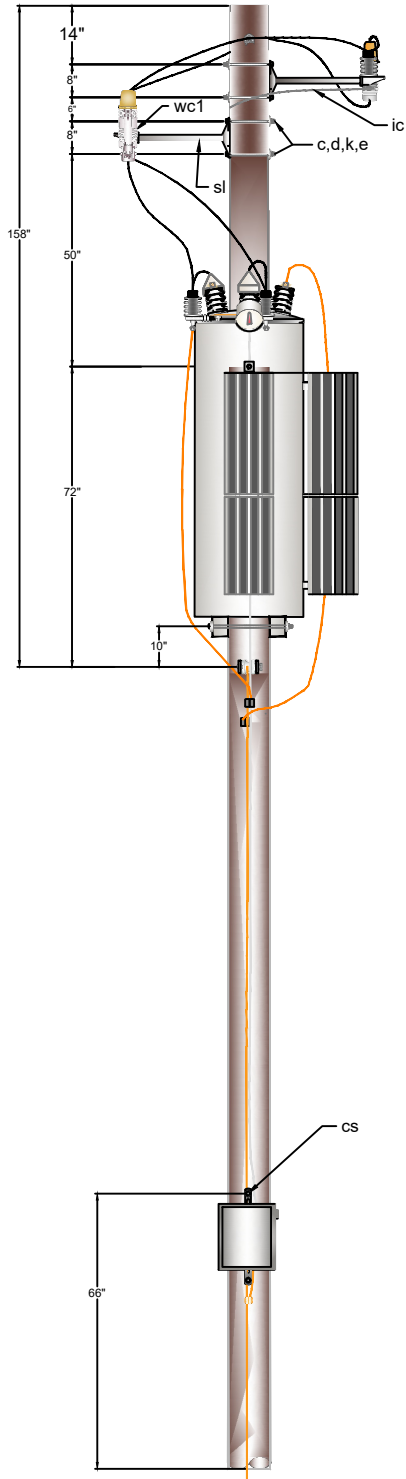
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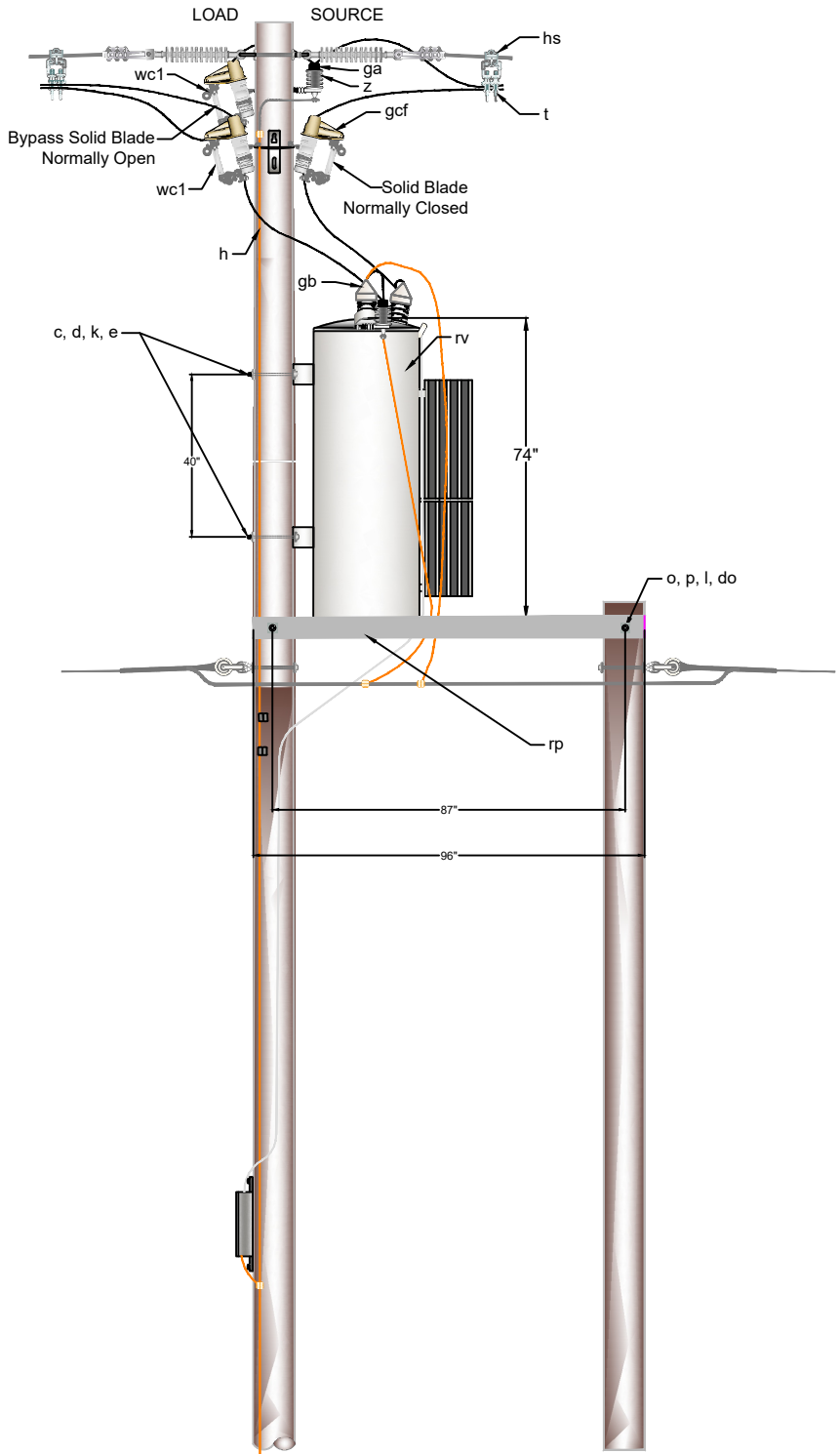
TITLE			
DEAD-END & ANGLE SHOES			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M41-10 & M42-11

# Regulator

FRONT VIEW



SIDE VIEW



Note:  
 Size insulated jumpers based on ampacity of regulator.  
 Double deadend framing for primary and neutral not included in materials. Refer to A6 or VA6.  
 Bypass shall be solid blade.



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REV NO		REV BY		ISSUE DATE	
SCALE		TECH		12/23/2025	
PAGE		DRAWING NO #		M7-11	
1		OF 2			

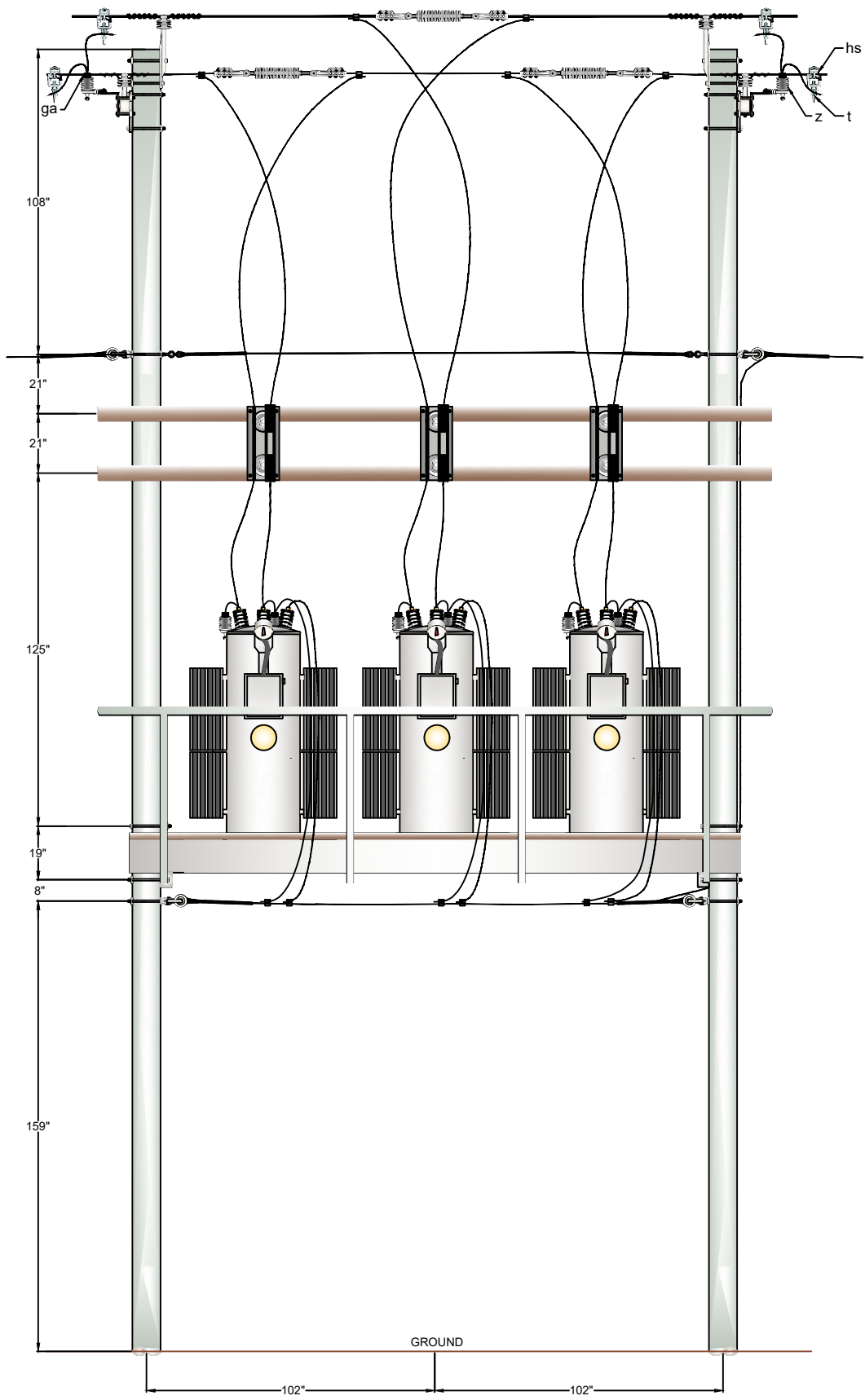
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
c	6	Bolt, Machine 5/8" x Req'd. Length	l	2	Square Nut 3/4"
cs	2	Screw, Lag 1/2" x 4 1/2"	o	2	Bolt, Machine 3/4" x Req'd. Length
d	6	Washer, Sq 2-1/4"	p	2	Lock Nut 3/4"
do	4	Washer, Sq 2-1/2"- 13/16" Hole	rp	1	Regulator Platform Planks 2" x 8" x 16'
e	6	Lock Nut 5/8"	rv	1	Regulator, 7960 V
ga	3	Guard, Arrester	sl	2	Bracket, 1Ø Cutout/Arrester 24"
gb	2	Guard, Bushing	t	4	Clamp, HL
gcf	3	Guard, Cutout	wc1	3	Cutout, Solid Blade
h	As Req'd.	Wire, #6 Copper	z	3	Lightning Arrester
hs	2	Stirrup, HL		As Req'd.	Connector
ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)		As Req'd.	Jumpers
k	6	Square Nut 5/8"			



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TITLE		1Ø VOLTAGE REGULATOR	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS		TECH
PAGE	2 OF 2	DRAWING NO #	M7-11

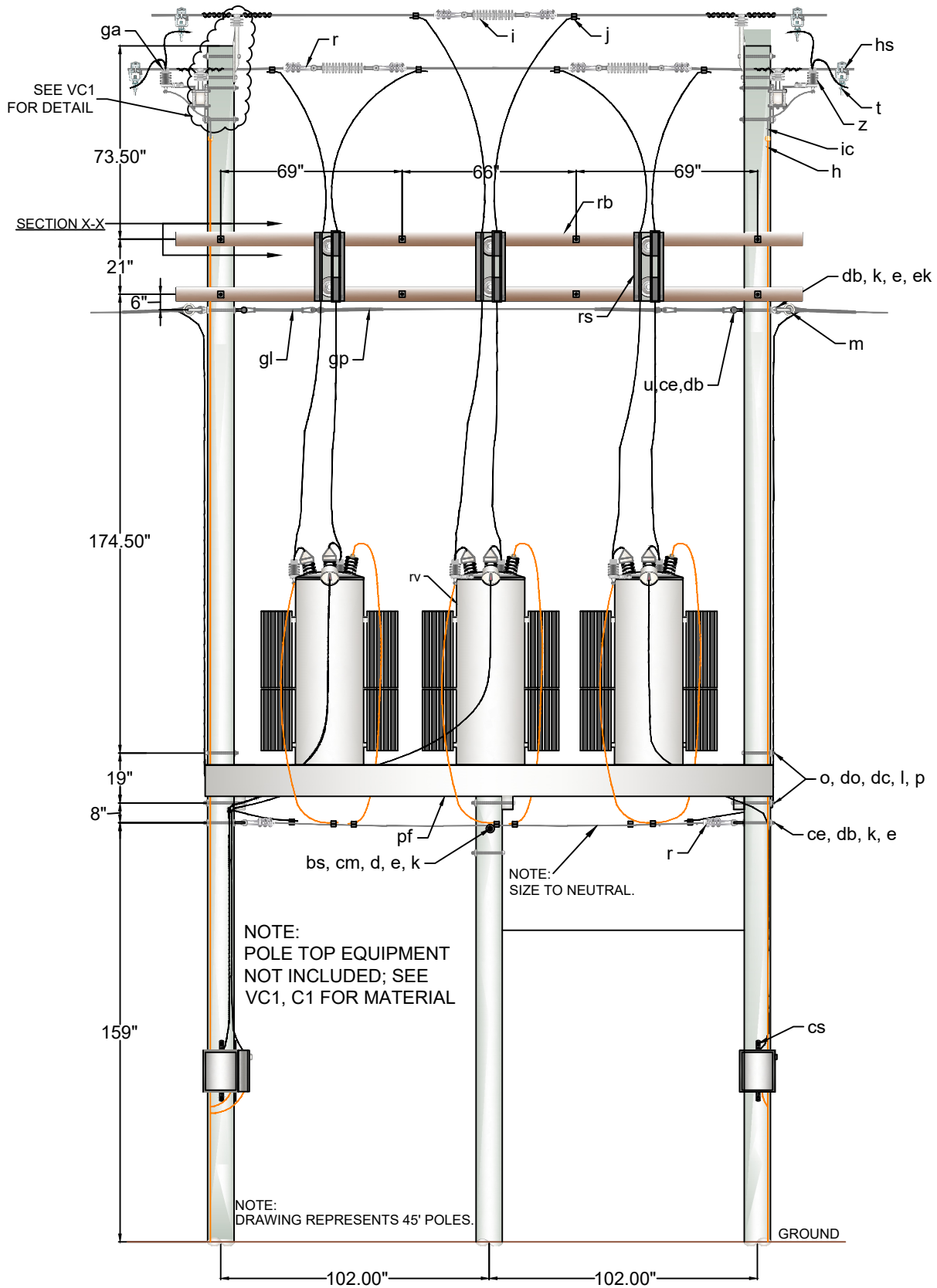


CITY OF BRENHAM ELECTRIC SYSTEM

200 W. VULCAN STREET  
 P.O. BOX 1059  
 BRENHAM, TX 77834  
 (979) 337-7400

VOLTAGE REGULATOR

REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M7-12



NOTE:  
POLE TOP EQUIPMENT  
NOT INCLUDED; SEE  
VC1, C1 FOR MATERIAL

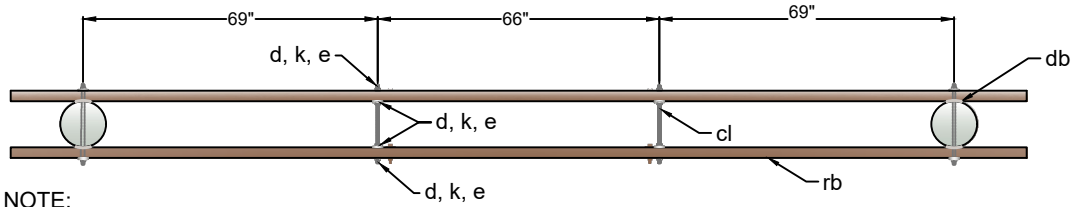
NOTE:  
DRAWING REPRESENTS 45' POLES.



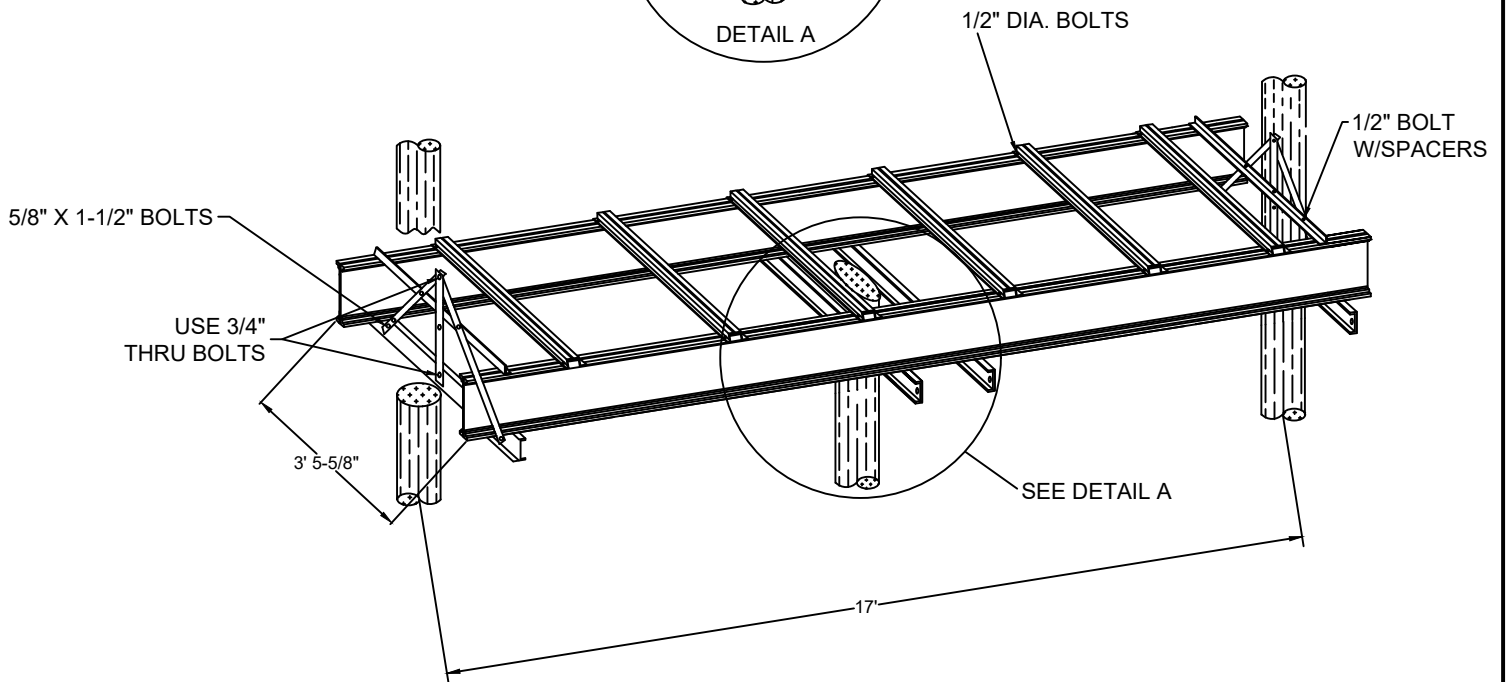
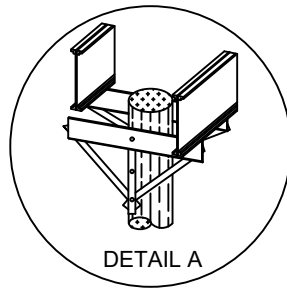
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200 W. VULCAN STREET  
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(979) 337-7400

TITLE		3Ø VOLTAGE REGULATOR	
REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS		TECH
PAGE	1 OF 3	DRAWING NO #	M7-13

SECTION X-X



NOTE:  
USE DOUBLE ARM ON TOP TO HELP SUPPORT SWITCHES.



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REV NO		REV BY		ISSUE DATE	
SCALE		NTS		TECH	
PAGE		2 OF 3		DRAWING NO #	
				M7-13	
				12/23/2025	

**Material For Regulator Rack Installation and Neutral**

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
bs	1	Bolt, upset single 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
ce	4	Bolt, Eye 5/8" x Req'd. Length	j	20	Clamp, Wedge
cl	8	Bolt, Dbl Arming 5/8" x Req'd. Length	k	28	Square Nut 5/8"
cm	1	Insulator, 3" Spool	l	6	Square Nut 3/4"
cs	6	Screw, Lag, 1/2" x 4 1/2"	m	2	Clevis, Insulated Swing 4" Spool
d	13	Washer, Sq 2-1/4" - 11/16" Hole,	o	6	Bolt, Machine 3/4" x Req'd. Length
db	15	Washer, Crvd 3"x3"x1/4"-11/16" Hole	p	6	Lock Nut 3/4"
dc	6	Washer, Curved 3-1/2" - 13/16" Hole	pf	1	Platform, 18' Aluminum
do	6	Washer, Sq 2-1/2" - 13/16" Hole	r	8	Clamp, DE
e	28	Lock Nut 5/8"	rb	4	Regulator Platform Beams 4"x6"x18'
ek	2	Eye Nut 5/8"	rs	3	Switch, Regulator Bypass
ga	12	Guard, Arrester	rv	3	Regulator 7960V
gl	2	Link, Insulated 24"	t	6	Clamp, HL
gp	2	Preform, Guy	u	2	Shackle, Anchor
h	As Req'd.	Wire, #6 Copper	z	12	Lightning Arrester
hs	6	Stirrup, HL		As Req'd.	Preform
i	3	Insulator, Suspension (15kv)		As Req'd.	Connector



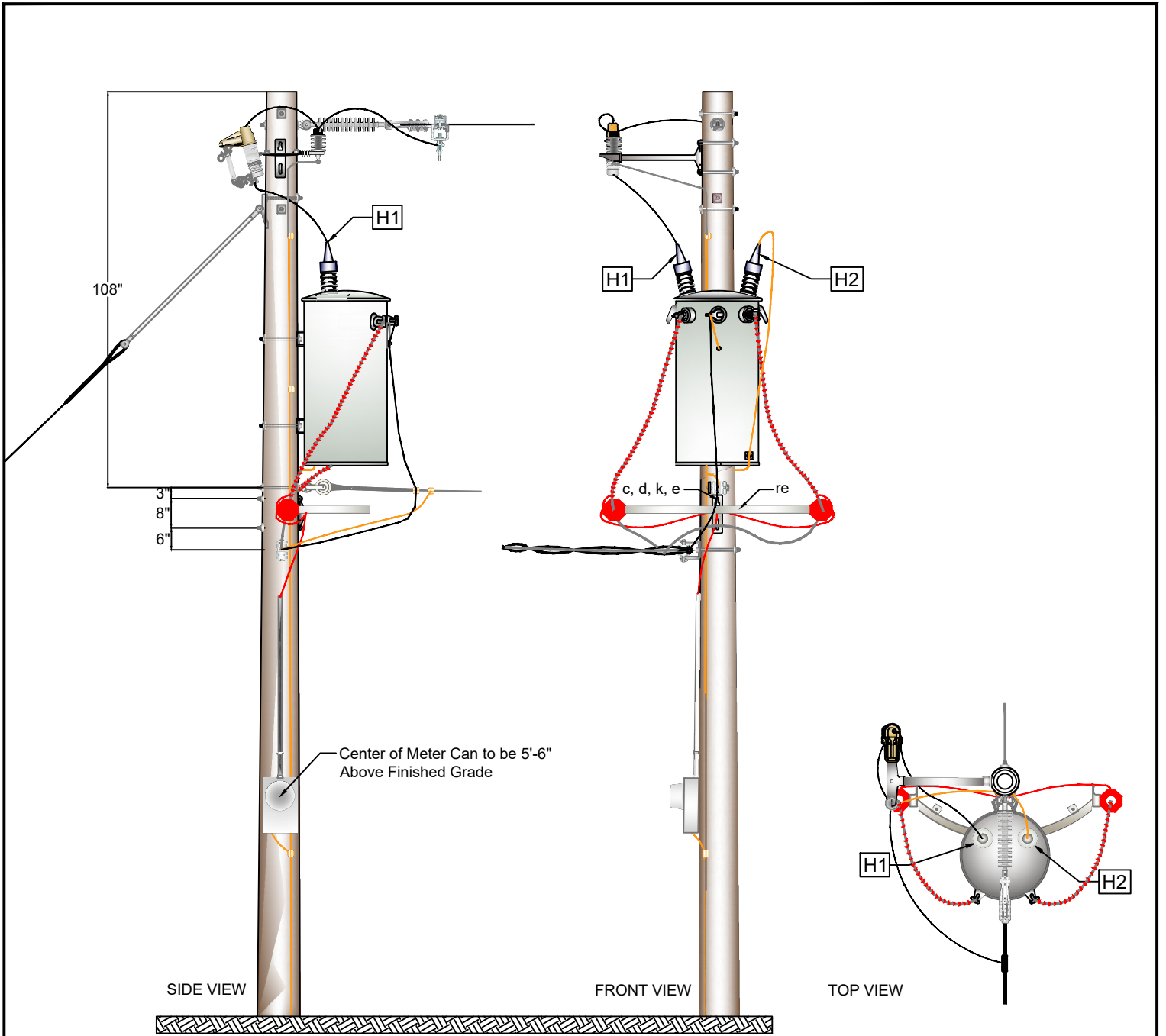
CITY OF BRENHAM ELECTRIC SYSTEM

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3Ø VOLTAGE REGULATOR

REV NO	REV BY	ISSUE DATE	12/23/2025
SCALE	NTS		TECH
PAGE	3 OF 3	DRAWING NO #	M7-13

# **Metering Assembly**



Note: CT's will be sized by COB and wiring will be completed under COB direction.

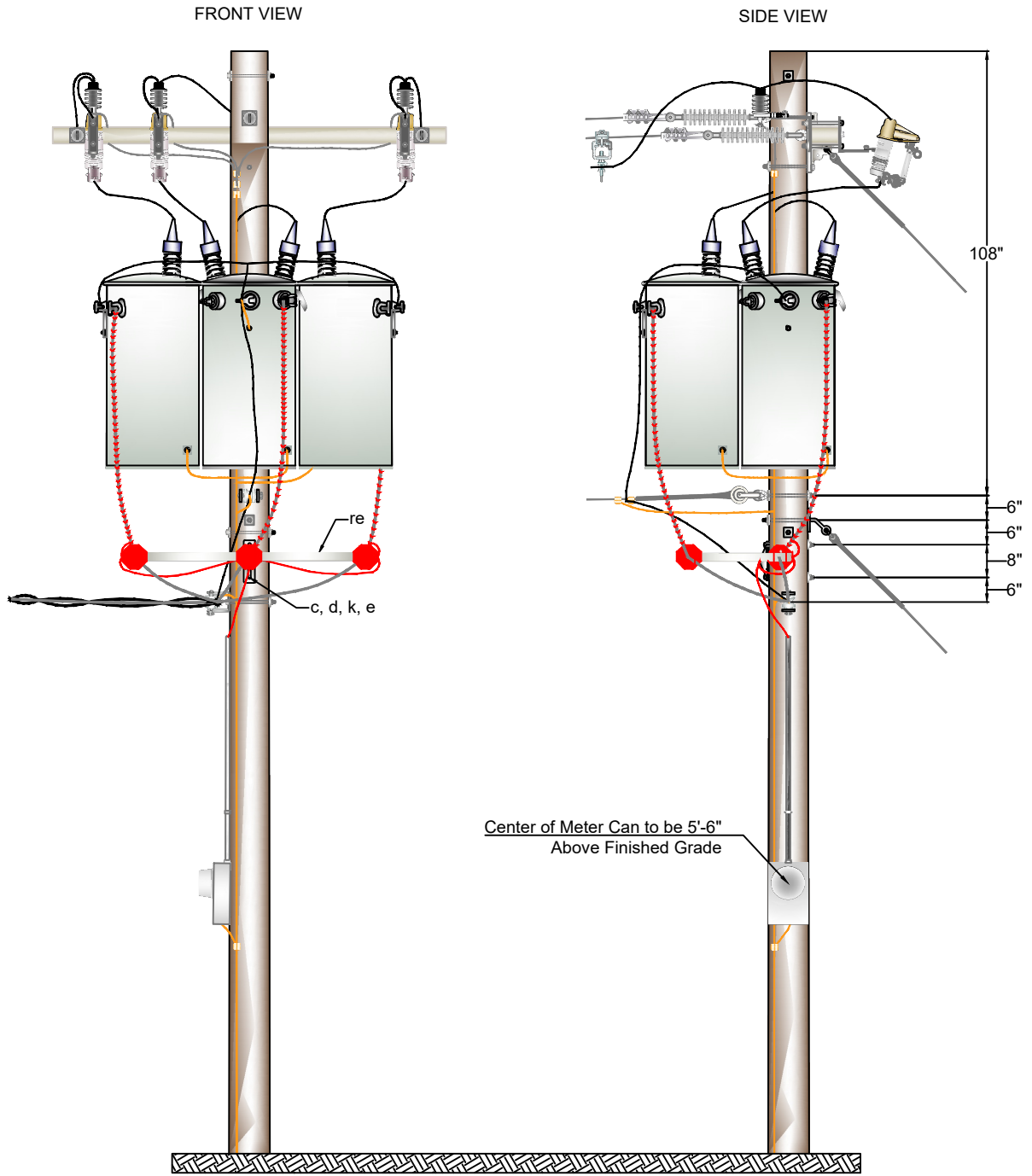
Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length
d	2	Washer, Sq 2-1/4"
e	2	Lock Nut 5/8"
k	2	Square Nut 5/8"
re	1	Rack, 3Ø Equipment



CITY OF BRENHAM ELECTRIC SYSTEM

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TITLE			
METERING ASSEMBLY		CT'S ON 1Ø POLE	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1 OF 1	DRAWING NO #	M8-1CT



Note: CT's will be sized by City of Brenham and wiring will be completed under City of Brenham direction.

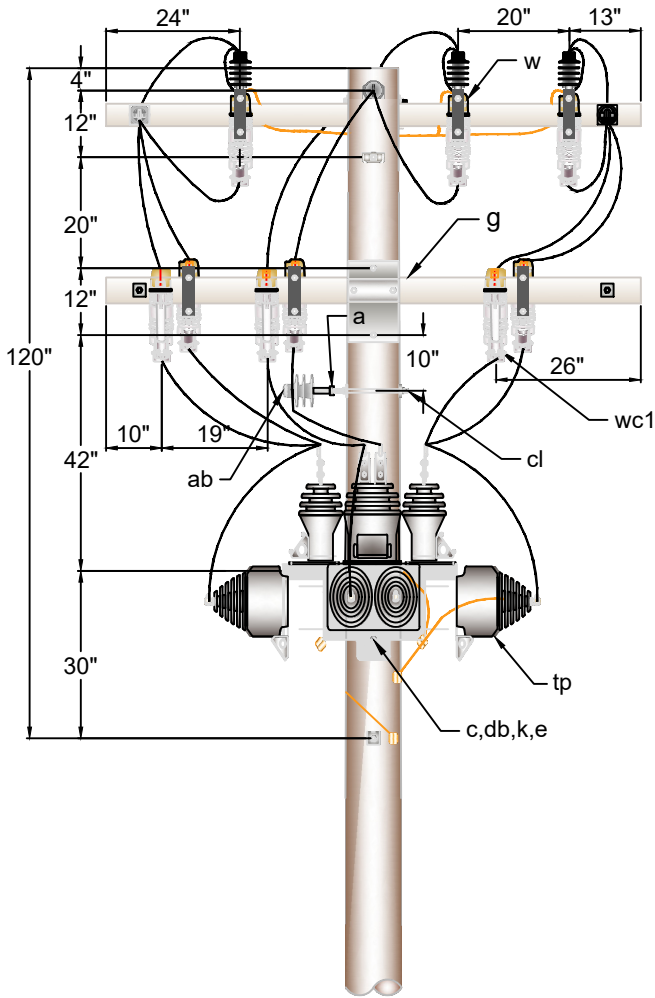
Item	Item Quantity	Item Description
c	2	Bolt, Machine 5/8" x Req'd. Length
d	2	Washer, Sq 2-1/4"
e	2	Lock Nut 5/8"
k	2	Square Nut 5/8"
re	1	Rack, 3Ø Equipment



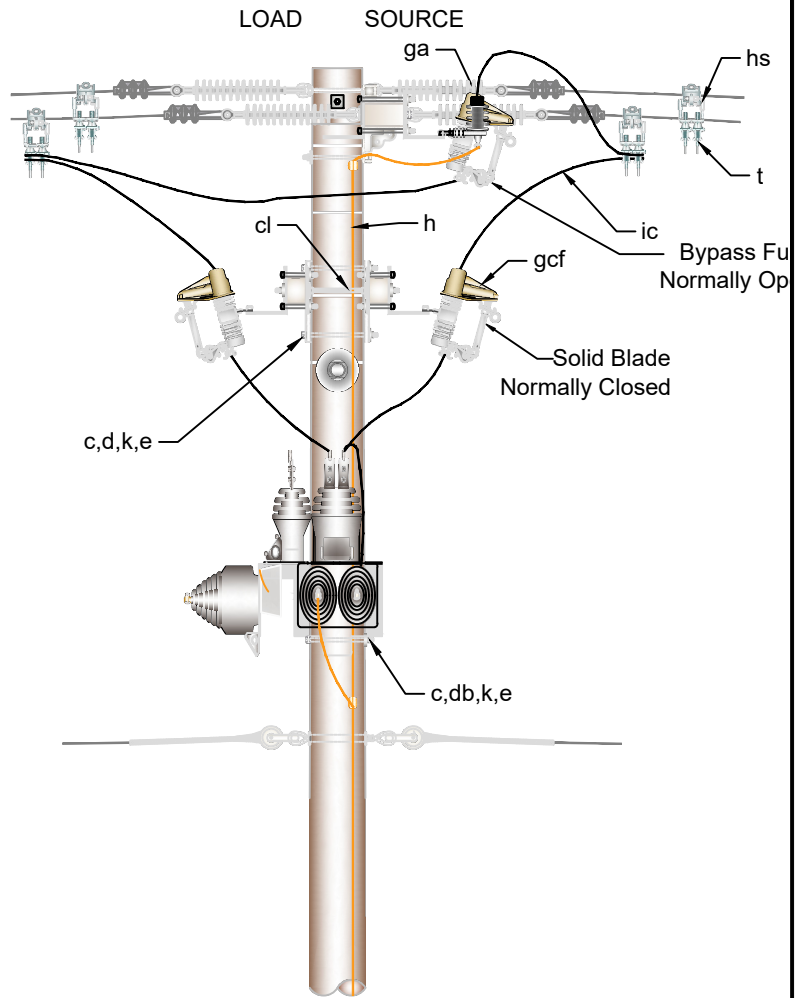
CITY OF BRENHAM ELECTRIC SYSTEM  
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TITLE		METERING ASSEMBLY CT'S ON 3Ø POLE	
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS	TECH	
PAGE	1 OF 1	DRAWING NO #	M8-3CT

FRONT VIEW



SIDE VIEW



Note:  
 Size insulated jumpers based on primary conductor sizes.  
 Double deadend framing for primary and neutral not included in materials. Refer to C8 or VC8.

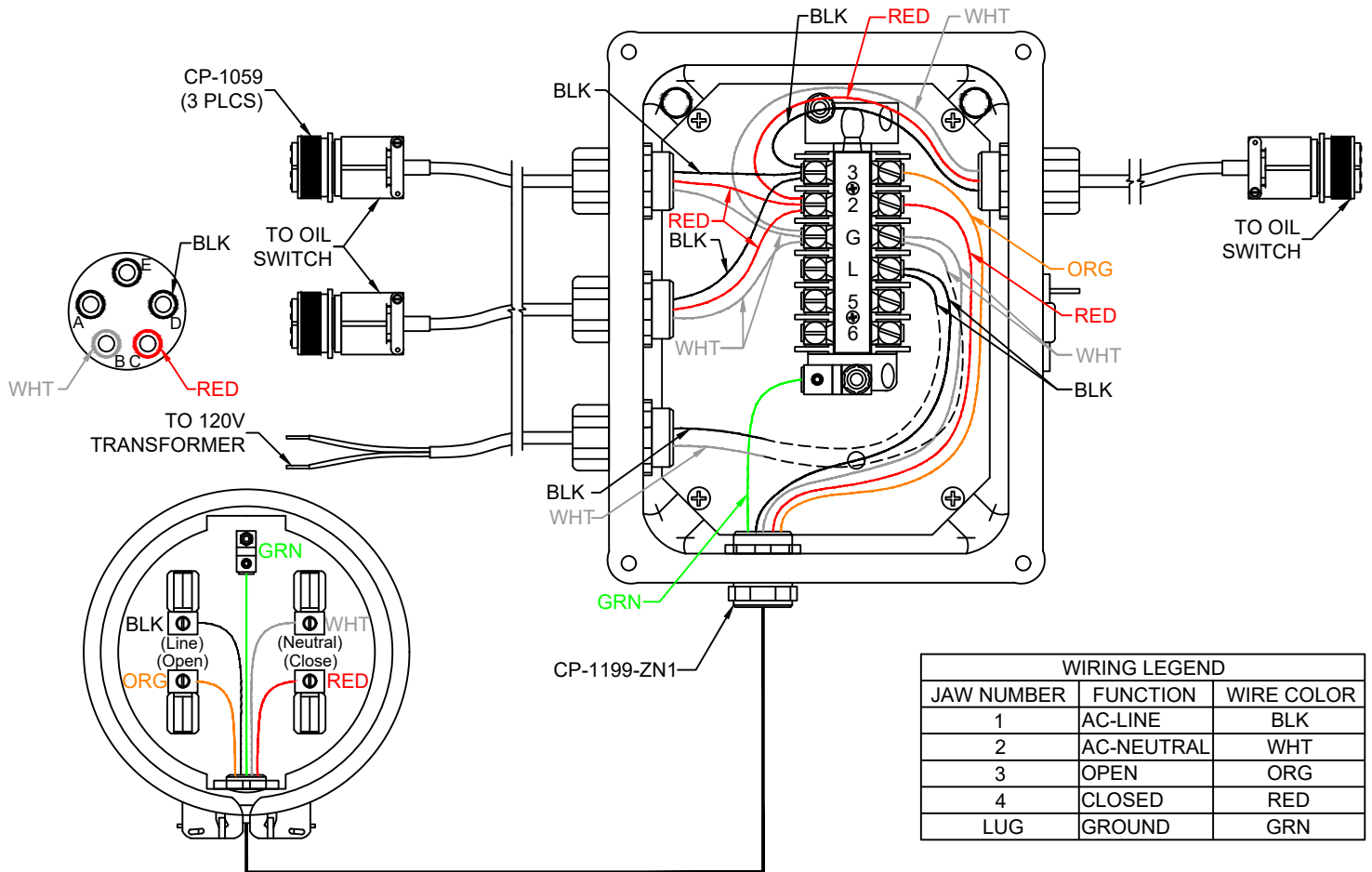
Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
a	1	Pin, Adapter	h	As Req'd.	Wire, #6 Copper
ab	1	Insulator, Pin Type (15kv)	hs	6	Stirrup, HL
c	4	Bolt, Machine 5/8" x Req'd. Length	ic	As Req'd.	Wire, 5kv Insulated (#4 CU Stranded)
cl	1	Bolt, Dbl Arming 5/8" x Req'd. Length	k	7	Square Nut 5/8"
cv	3	Transf. CT Primary (Size as Req'd.)	t	12	Clamp, HL
d	4	Washer, Sq 2-1/4"	tp	3	Transformer PT Primary 70.1 ro 7960V-120V
db	4	Washer, Curved 3" x 3" x 1/4" - 11/16" Dia. Hole	w	3	Cutout & Arrester combination
e	6	Lock Nut 5/8"	wc1	6	Cutout, Solid Blade
g	2	Xarm Fbgl's 8'		As Req'd.	Connector
ga	3	Guard, Arrester		As Req'd.	Jumpers



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TITLE			
PRIMARY METERING WITH BYPASS SWITCH			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	1 OF 2	DRAWING NO #	M8-16

# Capacitor



WIRING LEGEND		
JAW NUMBER	FUNCTION	WIRE COLOR
1	AC-LINE	BLK
2	AC-NEUTRAL	WHT
3	OPEN	ORG
4	CLOSED	RED
LUG	GROUND	GRN



CITY OF BRENHAM ELECTRIC SYSTEM

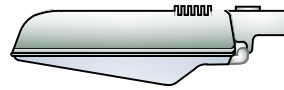
200 W. VULCAN STREET  
P.O. BOX 1059  
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TITLE			
		3Ø CAPACITOR with VACUUM SWITCH	
REV NO	REV BY	ISSUE DATE	10/06/2015
SCALE	NTS	TECH	J.K.
PAGE	2 of 2	DRAWING NO #	M9-13

# Lighting



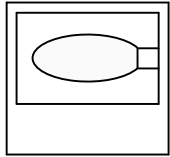
LIGHT, ARM 24"  
L5-1



LIGHT COBRA  
L3-1, L3-2,



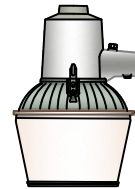
LIGHT, PHOTO CONTROL 120V  
L7-1



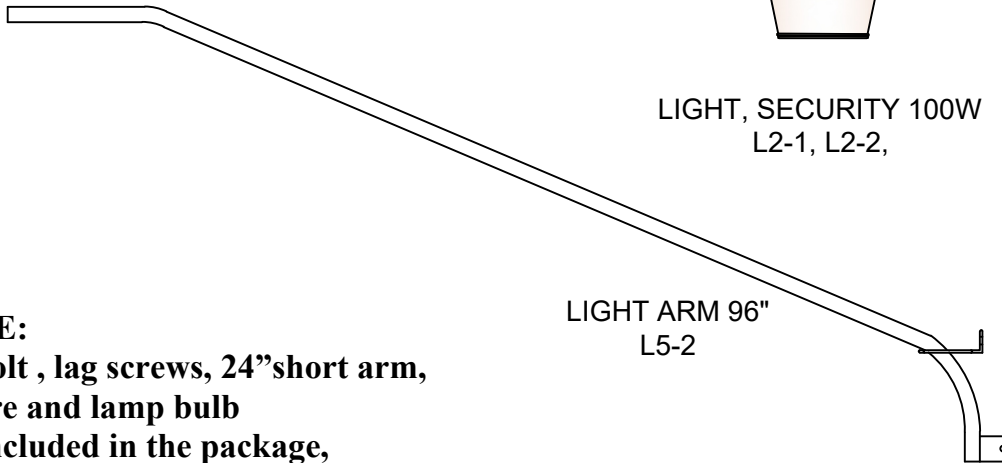
FLOOD LIGHT  
L4-1, L4-2, L4-3



LIGHT, LAMP  
L6-1, L6-2, L6-3, L6-4, L6-5



LIGHT, SECURITY 100W  
L2-1, L2-2,



LIGHT ARM 96"  
L5-2

**NOTE:**  
5/8 bolt , lag screws, 24"short arm,  
fixture and lamp bulb  
are included in the package,  
but the photo cell eye is ordered separate.

Item	Item Quantity	Item Description	Item	Item Quantity	Item Description
I5-1	1	Light, Arm 24"	I6-2	1	Light Lamp 250W HPS
I5-2	1	Light, Arm 96"	I6-3	1	Light Lamp 250W MH
I3-1	1	Light, Cobra 250W (Kit) HPS	I6-4	1	Light Lamp 400W HPS
I3-2	1	Light, Cobra 400W (Kit) MH	I6-5	1	Light, Lamp 400W MH
I4-1	1	Light, Flood 100W HPS (Kit)	I7-1	1	Light, Photo Control 120V
I4-3	1	Light, Flood 400W MH (Kit)	I2-1	1	Light, Security 100W (Kit)
I6-1	1	Light Lamp 100W HPS	I4-2	1	Light, Flood 250W HPS (Kit)
			I2-2	1	Light, Security 100w (Head only)



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TITLE			
LIGHTING			
REV NO	REV BY	ISSUE DATE	12/22/2025
SCALE	NTS		TECH
PAGE	2	OF	2
		DRAWING NO #	