SPECIFICATIONS,

CONSTRUCTION DRAWINGS,

AND MATERIAL

SELECTION LISTS

GALLATIN DEPARTMENT OF ELECTRICITY
135 JONES STREET
GALLATIN, TN 37066

MARK KIMBELL - MANAGER

SPECIFICATIONS

1. GENERAL

All Construction work shall be done in a through and workman-like manner in accordance with the Staking Sheets, Plans and Specifications, and the Construction Drawings.

The Line Foreman shall correct and make complete all stores requisitions and retirement sheets. The Line Foreman before making any design changes to Staking Sheets, Plans and Specifications, and the Construction Drawings shall get approval of Engineer or System Engineer.

The current edition of the National Electrical Safety Code shall be followed except where local regulations are more stringent, in which case local regulations shall govern.

2. POLE SETTING AND HANDLING

Handle poles carefully. Do not drop them from transportation vehicles. In distributing poles, use the large, choice close-grained poles for transformers, deadend, angles, junctions, and corner applications.

Poles shall be immediately set and plumbed after hole excavation.

The minimum setting depth in soil shall be as follows:

Length of Pole (Feet)	Setting Depth (Feet)
30	5.5
35	6.0
40	6.0
45	6.5
50	7.0
55	7.5
60	8.0
65	8.5
70	9.0
75	9.5
80	10.0
85	10.5
90	11.0
95	11.5
100	12.0

On sloping ground, always measure the depth of the hole from the low side of the slope.

Foreign Material and excessive loose dirt shall be removed from the hole prior to setting the pole.

Dig all holes approximately eight inches larger than the butt diameter of the pole and at least as large at the bottom of the hole as at the top of the hole.

Pole tamping and back-filling shall be as follows:
All distribution poles shall be mechanically tamped thoroughly with earth back-fill around the poles for the full depth of the hole.

Mechanical tamping shall be in maximum of six-inch layers. Bank excess dirt up around pole. Refill and thoroughly tamp to the ground line any settlement that occurs before completion of project.

Poles shall be set in alignment and plumb with and across the line, except at angles where vertical, suspension insulators of offset framing is used. Poles set on these type angles shall be offset on the bisector of the angle so that the conductors shall hang directly over the point of intersection and in line with the poles in both directions either side of the angle.

When raking is required for angle poles, they shall be raked one inch for each 10 feet of pole out of the ground.

Where tall poles are used to clear buildings, signs, foreign wire crossings, railroads, and other obstacles, grade the line each way to prevent up-strain on pin or post type insulators. Where practical set poles in line with existing poles and do not set in locations which will restrict passage of pedestrians or vehicles. The exact location of guyed poles shall be adjusted to provide suitable locations for down guys and anchors.

Do not cut the top of poles except under very exceptional conditions and upon approval by the Line Forman. If the top is cut, cover with an approved pole cap. **Do not**, under any circumstances, cut off the butt of any pole.

Do not frame poles that have sweeps or crooks across the line.

Take care when setting poles so as not to damage the surface of the pole.

Field drilled holes shall be in line with the strain or at right angles to the assembly they support.

3. POLE TOP ASSEMBLIES

All angle structures in the specifications showing a degree of angle, shall be for information only and shall be used as a guide only, see the System Engineer and/or Engineer for specific design data.

Pole top assemblies shall be framed so that alternate crossarms face in opposite directions, except at deadends where the crossarms of the last two poles on either of the deadend shall be on the side facing the deadend. On unusually long spans, the crossarms shall be on the side of the pole away from the long span.

Level all crossarms. Those on tangent and deadend construction shall be at right angles to the conductors they support. Balance the conductor loading equally between the supports.

4. INSULATORS

Exercise care in handling and installing insulators and in assembling suspension units. Align suspension units with the bisector of the line angle on vertical angle construction. Insure that all cotter keys are in place.

On pin and post type insulators, insure that the insulator has "bottomed out" on the pin threads and in no case shall the insulator be unscrewed more than one-half turn so that the conductor will lay in proper alignment inside the groove of the insulator on tangent poles, and on the side groove away from the direction of the strain at angles.

Install horizontal mounted insulators at right angles to the conductors they support.

Thoroughly clean all insulators immediately before installing them on the structures.

5. CONDUCTORS AND APPURTENANCES

All poles shall be plumb before stringing conductors.

Carefully handle conductors. Do not drag conductors over sharp objects nor allow them to be stepped upon or run over by vehicles. Avoid kinking, twisting or abrading the conductors in any manner. Inspect the conductor as it is unreeled for cuts, abrasions, and other injuries. Cut out the faulty sections and splice the conductor as required.

Install the conductors and accessories in accordance with manufacturer's recommendation. Pull the conductors over suitable rollers or stringing blocks. Properly mount on the pole or crossarm to insure proper sagging. Prevent binding while stringing.

Sag all conductors in accordance with tables, which will be furnished by the Engineer. Where new and existing conductors are strung together, sag both conductors with sag tables, unless otherwise specified by the Engineer.

Conductors shall be sagged by an approved method and conductors shall remain in the stringing blocks a sufficient amount of time to allow equalizing the sags and tensions between supports for the length of conductor sagged.

Conductors shall be strung by controlled-tension method when "pulling in" over or in close proximity to existing energized lines and when "pulling in" over roads, highways or streets or areas where low conductors would cause any type of hazardous situation. Large conductors

shall be strung using blocks. The stringing equipment shall have groove sizes that will in no way damage the conductor, and capable of maintaining preset tensions and pulling speed. Maintain sufficient continuous tension to keep conductors clear of the ground or obstructions that could cause damage to or by the conductor. The Line Foreman shall determine that the pulling tension and the location of the tensioner or puller shall not overload the first or last structure.

Locate the cable pullers, tensioners and pulling machine as near mid-span as possible. In no case shall the slope of the conductor between the machine and the stringing block at the first or last structure be steeper than three horizontals to one vertical. The length of conductor sagged in one operation shall be limited to the length that can be sagged satisfactorily, or as approved by the Engineer. Sag conductor in as level and as average a ground span as possible. Do not sag in spans adjacent to deadends, angles, unreasonably short or long spans with splices, and preferably not in spans where the grading of the line changes.

Exercise utmost care when installing parallel groove clamps where specified. Clean the contact surface of the clamp and the wire. Bolts shall be brought down hard, but the threads shall not be over-stressed.

Use proper size connectors and only those approved which will cause no galvanic action where conductors are of dissimilar metals.

Existing conductors to be connected to transformers, line equipment, or other conductors shall be thoroughly cleaned and connections made as would be for new conductors.

6. SPLICES AND TIES

There shall not be more than one splice per conductor in any span unless approved by Engineer. Do not locate any splice within 10 feet of any conductor support. Cut out and re-splice improperly located splices, injured portions, or imperfect splices. Do not leave bent or curved splices in the conductors.

Clean the contact surface thoroughly before splicing and carefully follow manufacturer's recommendations. Use the proper die and crimping tool that is mated to the splice. Insure that the proper spacing and number of crimps are made.

Use the manufacturer's recommended inhibitor when splicing and installing connectors to aluminum conductors.

Splices and compression connectors on conductors larger than 0.60 inches diameter shall be hydraulically crimped.

Ties shall be of the type and configuration as required for the conductor and support used, and in accordance with the specification drawings. Tie wire shall be tightly drawn around the conductor support and armor rod so that no air space occurs.

7. HOT-LINE CLAMPS, JUMPERS AND CONNECTORS

Use proper size connectors and only those which will not cause galvanic action where conductors are of dissimilar metals. The contact surfaces of clamps and conductors shall be cleaned and bright using a steel brush as the principal cleaning medium. Where bolted connectors are approved, the bolts shall be brought down hard, but the threads shall not be over-stressed. Use a suitable inhibitor on aluminum surfaces for all connectors, hot-line clamps, etc.

Install hot-line clamps so that they are permanently bonded to the load side of the line allowing the jumper to be de-energized when the clamp is disconnected from the supply line.

Allow sufficient, but not excessive slack in jumpers and other leads. Make them neat and uniform in appearance and in general run in horizontal and vertical planes with rounded turns. Support all jumpers to prevent excessive movement between supports and to clear all conflicts as required by the NESC.

At points of deadends, taps and take-offs of the main supply line, the conductor tails shall be left long enough to be used as jumpers and such that splices or connectors shall be limited to one per phase.

Size each jumper, whether existing or new to be at least as large as the conductor on the load size. The leads on equipment such as transformers, lightning arresters, etc., shall be a minimum of #4 copper.

Use only bronzed hot-line clamps of proper size and attach to compression bails of #2 copper rod. Insure the contact surfaces of the conductor are cleaned and a suitable inhibitor applied on aluminum surfaces.

8. GROUNDS AND GROUND RODS

When ground rods are specified, drive ground rods the full length in undisturbed earth a minimum of 2′ – 0″ from the surface of the pole, with the top of the rod and the grounding jumper a minimum of 1′ – 0″ below natural grade. Install ground rods at all transformer and equipment locations and at other locations as specified by the Engineer.

Interconnect all equipment grounds, neutral wires and protective equipment and attach to common pole ground wire.

Install all pole grounds in accordance with the guide and assembly drawings.

Where distribution under build is present, the under build system neutral shall be interconnected with the top circuit line pole ground wire. In cases where separate pole ground wires are used for the two systems, they shall be interconnected both above and below ground.

Sufficiently tighten offset down-lead wires to make a secure assembly of uniform appearance. Maintain evenly spaced distance between the offset down-lead wire and the adjacent phase conductor.

9. Guys

Provide guys at all points of unbalanced strain in conductors and structures at corners, junctions and deadends. Attach guys to poles at the load centers and in accordance with the assembly drawings.

Provide span guys at all locations where down guys cannot be used, at all unbalances on crossarms, and use stub poles where required to obtain proper guying and clearance requirements. Do not install any guys in violation of NESC requirements.

Install each guy centered on the pole without pulling to either side or causing an unequal strain on guy hooks, clamps or sections of the guy and hardware. Neatly serve all guy tails or install guy clips.

All guys shall be bonded to the pole grounding system with conductor of minimum #4 copper. Grounding connectors of the guy and the system ground wire shall be compression type suitable for dissimilar metals. Neatly serve all guy tails and/or use guy clips.

Guys shall be placed before the conductors are strung and shall be attached to the pole as specified herein. Insure proper adjustment of guys when stringing operations are being performed so that loading on structures will be balanced.

Guy primaries and secondaries separately. Where more than one guy is required at these positions, their attachment shall be separate unless specified on the assembly and guide drawings. Guy guards shall be installed on all guys; they shall be securely tightened to the guy.

10. ANCHORS

Locate anchors as far as practical from street crossing, driveways, crosswalks and footpaths.

Provide as specified by the Engineer and anchor of proper holding capacity for the load involved. The proper size twin-eye or triple-eye rod shall be used when attaching multiple guys.

Install all anchor rods in line with the strain and the guy slope. Do not install anchor rods vertically and then bend or trench them into position. Leave 6 inches of the rod exposed above final grade. Where final grade is not easily identified, Line Foreman shall use his best judgement in determining the placement of the rod. In no case shall the eye of the rod be covered by soil. On expanding anchors, use an auger that will excavate a hole just large enough to accommodate the un-expanded anchor, such that, upon installations and expansion of the anchors the maximum holding capacity can be obtained. Do not use a large auger such as the pole auger.

11. HARDWARE AND BOLTS

Securely tighten all hardware.

Provide a washer at each point where a bolt head or nut bears on the surface of a pole or crossarm.
Bore boltholes so that they will be in a level plane and in line with deadend pulls, at right angles to the line in tangent construction, and bisecting the line angle at angles made without deadending.

Carefully select bolts for proper length. Bolts shall extend at least one-half inch and not more than three inches beyond the nuts. Eyebolts shall be in line with the strain at all deadends, and shall bisect the line angles and at all angles made that are not deadends. All bolts shall be in a level plane to the hardware attached.

Do not cut off bolts that are too long (unless approved by GDE Line Foreman). Replace bolts with proper length bolts.

12. LIGHTING FIXTURES AND APPURTENANCES

Bond the fixture mounting brackets to ground using a separate grounding jumper of at least the same conductivity as the fixture neutral wire.

Use proper size mounting bolts and lag screws in strap type brackets where required.

Make conductor leads neat and uniform in appearance and they shall not conflict with climbing space. Leads that require splicing shall be the same size, type, and color-code integral to the fixture. Splices shall be made with suitable compression connectors and made weatherproof.

Mount lighting fixtures on pole change-outs at approximately the same height as the existing lighting system unless otherwise specified by the Engineer.

Project the direction of lighting square with roadways, the object or area to be lighted, and at an angle to provide maximum illumination.

13. SECONDARIES AND SERVICES

Secondary and service conductors shall be covered open wires or multi –conductor cable.

The conductors shall be sagged and installed in accordance to the NESC. Do not install so as to cause undue stress on the pole or customer's termination point.

Secondaries and services shall be installed so as not to conflict or obstruct climbing space. New conductors shall not be spliced. Existing conductors shall not have more than one splice per conductor in any span, and splicing sleeves shall be located at least 10 feet from the conductor support. Where the same conductor or cables are used for secondary off build service drops they may be installed in one continuous run provided that service is only one isolated meter location. Multiple service drops locations shall have separate supports.

On tangent construction with spool type insulators, place and tie conductors on the inside s of racks and crevices do the strain is balanced on the insulator and not on e ties. Tangent supports shall be right angles to the conductor and at angles on the bisector of the line angle.

14. TRANSFORMERS AND LINE PROTECTIVE EQUIPMENT

Handle all equipment carefully. Transformers and equipment placed temporarily on the ground shall be on a solid level surface.

Install all equipment in accordance with the assembly and specification drawings. Where these drawings are not sufficiently explicit, install the equipment in accordance with the NESC, manufacturer, or as approved by the Engineer and/or System Engineer.

Adjust to manufacturer's recommendation the external gap electrodes of all lightning arresters. Take care that the adjusted gap is not disturbed when the equipment is being installed and check gap after installation.

Install transformers and other equipment in a proper quadrant on the pole so as not to conflict with climbing space and maintain a practical order to facilitate services or other equipment.

Cover secondary terminals with moisture seals or on small conductor's dress the ends downward to prevent entry of moisture using a minimum bending radius six times the overall cable diameter.

15. SWITCHES

Install switches so that when the switch is open, the blades are in the de-energized position if possible.

Use proper size connectors for terminal pads or as approved by the Engineer.

All switch handles shall be grounded to the pole ground and a six-foot by six-foot ground mat installed around each switch handle.

16. MISCELLANEOUS

Pole caps shall be formed to fit securely to the contours of the pole surface. Each edge shall extend at least two inches down the side of the pole. Nail each overlapping edge and in no case use less than ten nails.

17. RETIREMENTS

Do not place removed materials or equipment where it will be damaged by or cause damage to vehicular traffic, livestock persons and property. Immediately remove materials from job site.

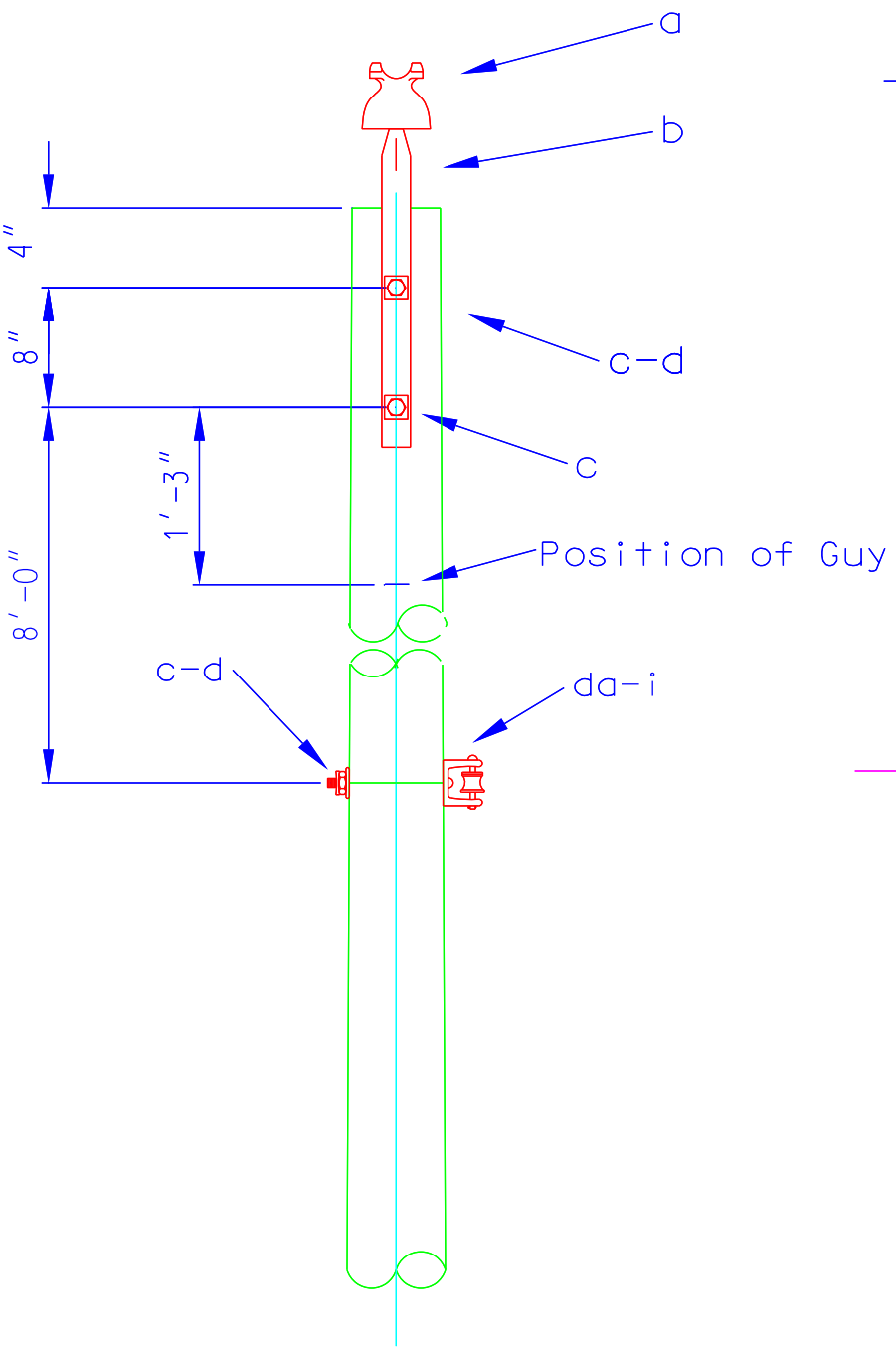
When back-filling holes at pole removal locations, do not dig holes in the landscape to obtain back fill. Obtain back fill dirt by scooping or scraping within the designated right-of-way or by fill dirt obtained locally. Do not dig seeded areas within highway or public right-of-way. Do not place foreign objects in back fill.

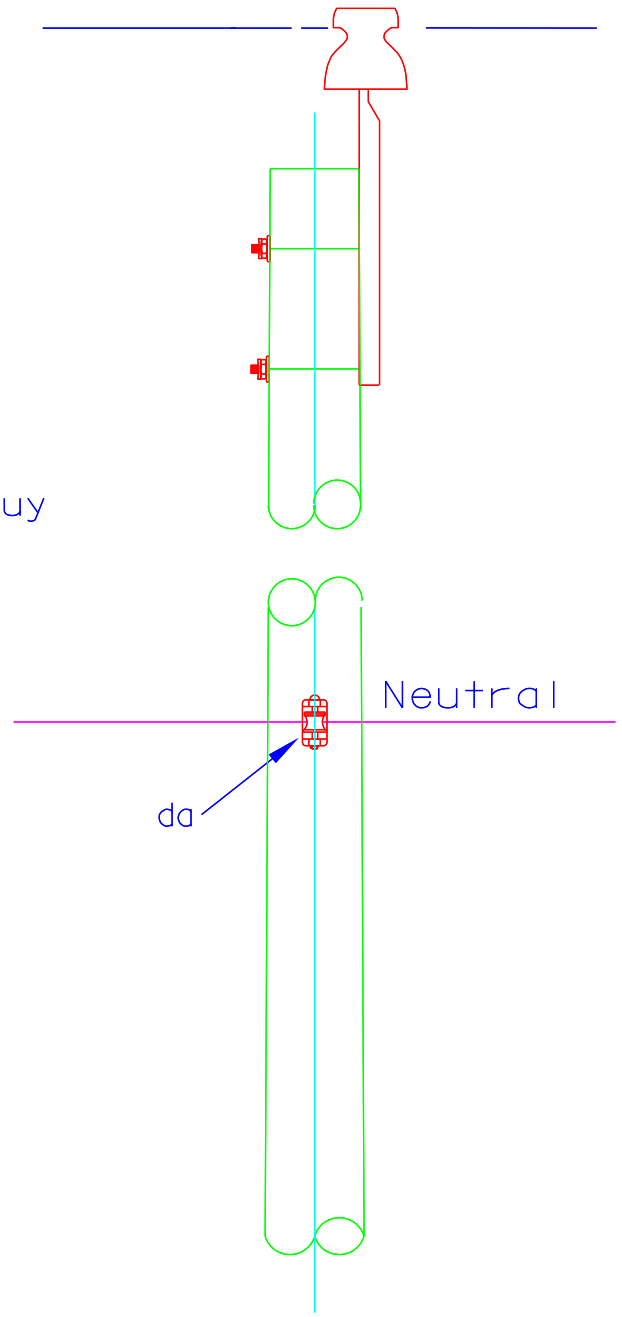
All topped poles shall be removed promptly after joint use utility is removed.

18. TEST MEASUREMENTS

New transformer installations and existing transformers that are reinstalled shall have voltage measurements performed with a certified calibrated, direct-reading, self-contained voltmeter. These measurements shall be preformed promptly after re-connection of the service and shall be performed at the service load center (meter location).

Voltage measurements not acceptable shall require the Line Foreman to adjust, rework, replace or reinstall equipment and appurtenances until satisfactory results are obtained.





ITEM	QTY	MATERIAL
c	3	Bolt, Machine, 5/8" x Req'd Length
da	1	Clevis, Neutral
a	1	Insulator, Pin Type
i	1	Insulator, Rack Large
b	1	Pin, Pole Type
d	3	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA

2- Maximum 5° line angle

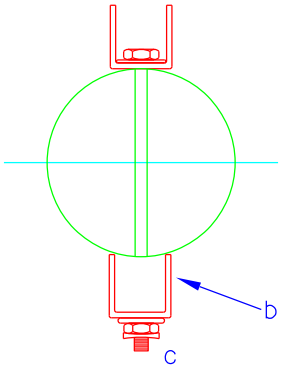
GDE

PRIMARY, SINGLE PHASE SMALL ANGLE STRUCTURE 0 TO 5 DEGREE ANGLE

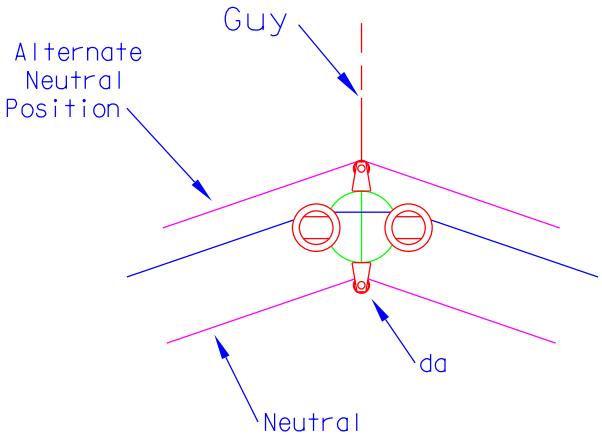
DATE: 7/17/23

STANDARD NUMBER

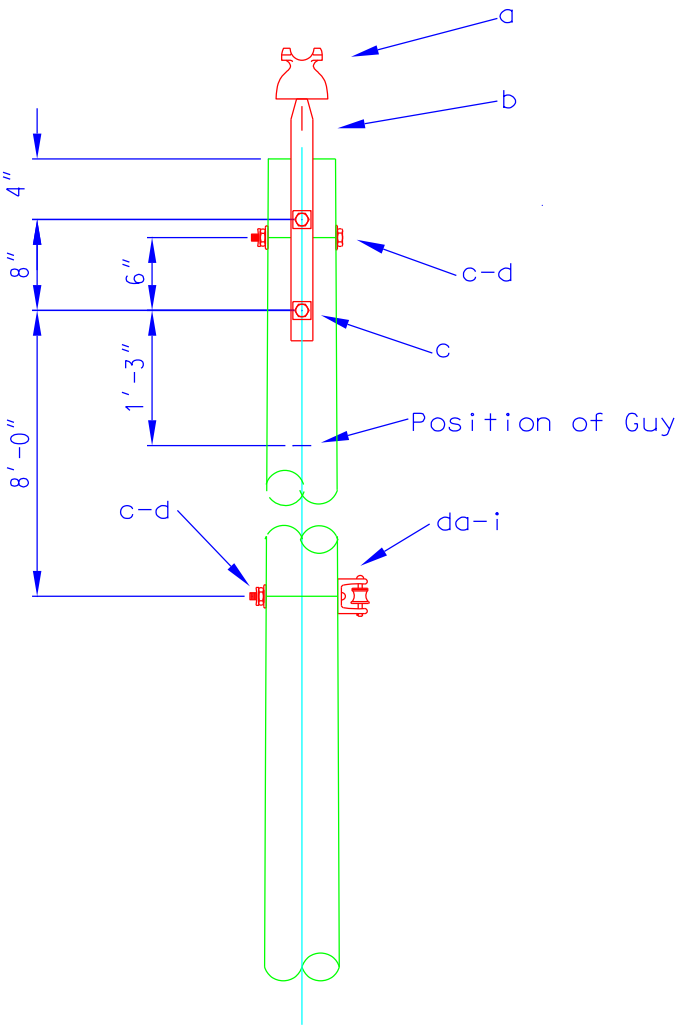
A1

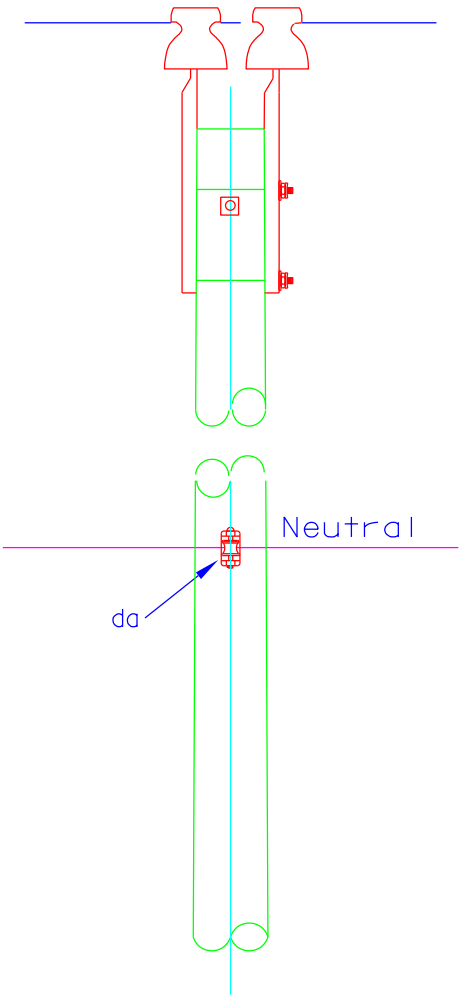


POLE TOP PIN ASSEMBLY



PLAN





NOTES:
1- Maximum conductor size 4/0AA

2- Maximum 20° line angle

ITEM	QTY	MATERIAL
c	4	Bolt, Machine, 5/8" x Req'd Length
da	1	Clevis, Neutral
a	2	Insulator, Pin Type
i	1	Insulator, Rack Large
b	2	Pin, Pole Type
d	3	Washer, 2 1/4" Square, 11/16"

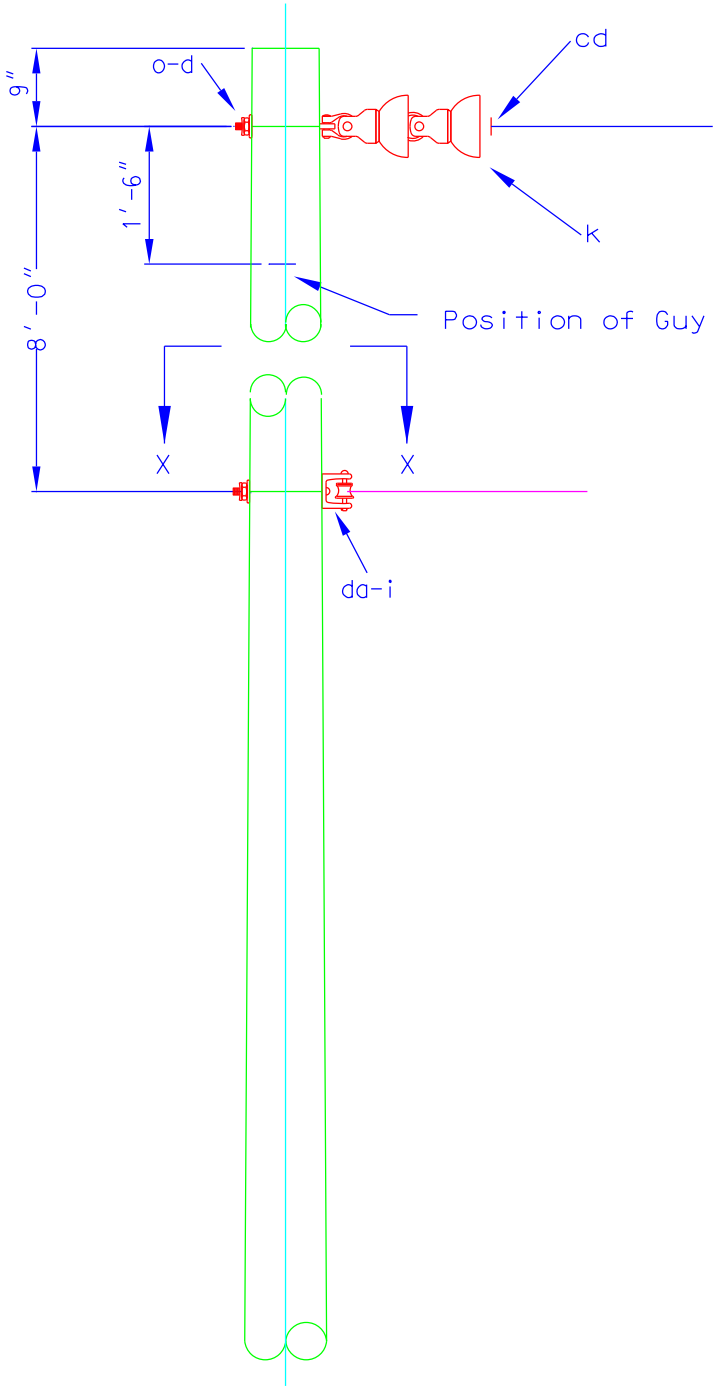
GDE

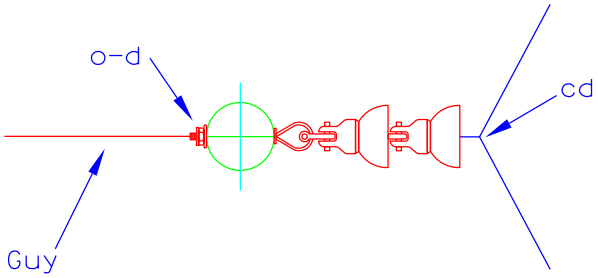
PRIMARY, SINGLE PHASE
MEDIUM ANGLE STRUCTURE
5 TO 20 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

A2





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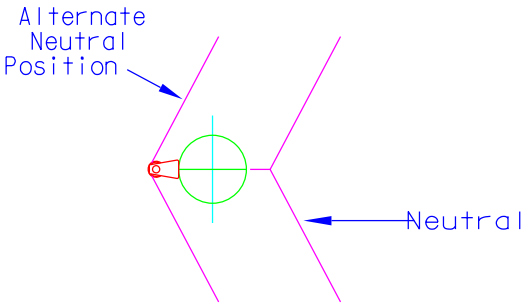


SECTION X-X

ITEM	QTY	MATERIAL
o	1	Bolt, Eye, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cd	1	Clamp, Angle #4-397
da	1	Clevis, Neutral
i	1	Insulator, Rack Large
k	1	Insulator, Suspension - Epoxy 15KV
d	3	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 60° line angle

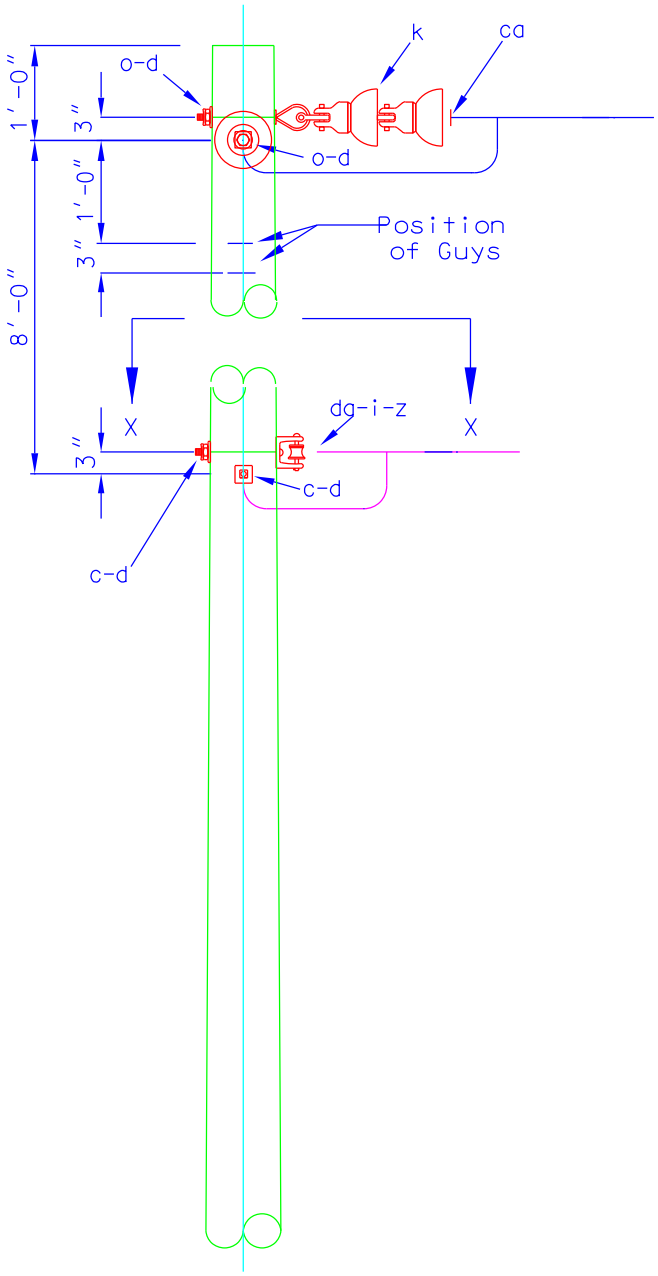
GDE

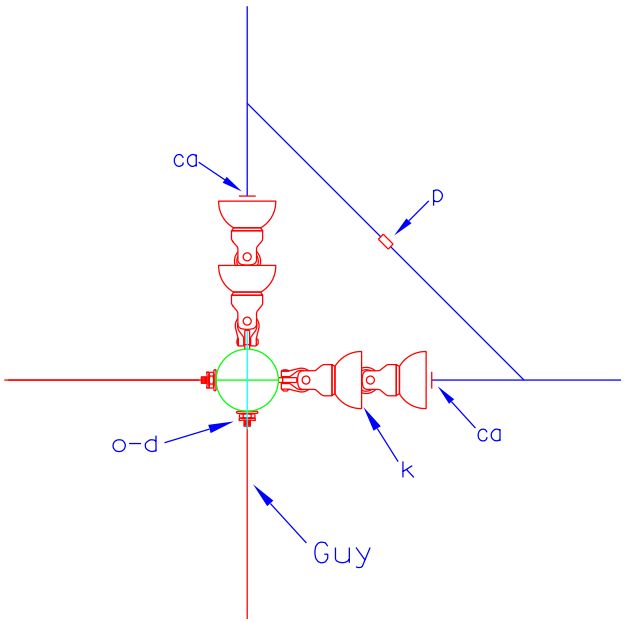
PRIMARY, SINGLE PHASE LARGE ANGLE STRUCTURE 20 TO 60 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

A3





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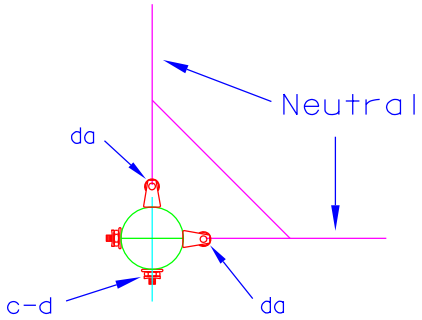


SECTION X-X

ITEM	QTY	MATERIAL
o	2	Bolt, Eye, 5/8" x Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
ca	2	Clamp, Strain #6-2/0
da	2	Clevis, Neutral
z	2	DE, Auto, Neutral #2-#4 ACSR
i	2	Insulator, Rack Large
k	2	Insulator, Suspension - Epoxy 15KV
d	6	Washer, 2 1/4" Square, 11/16"

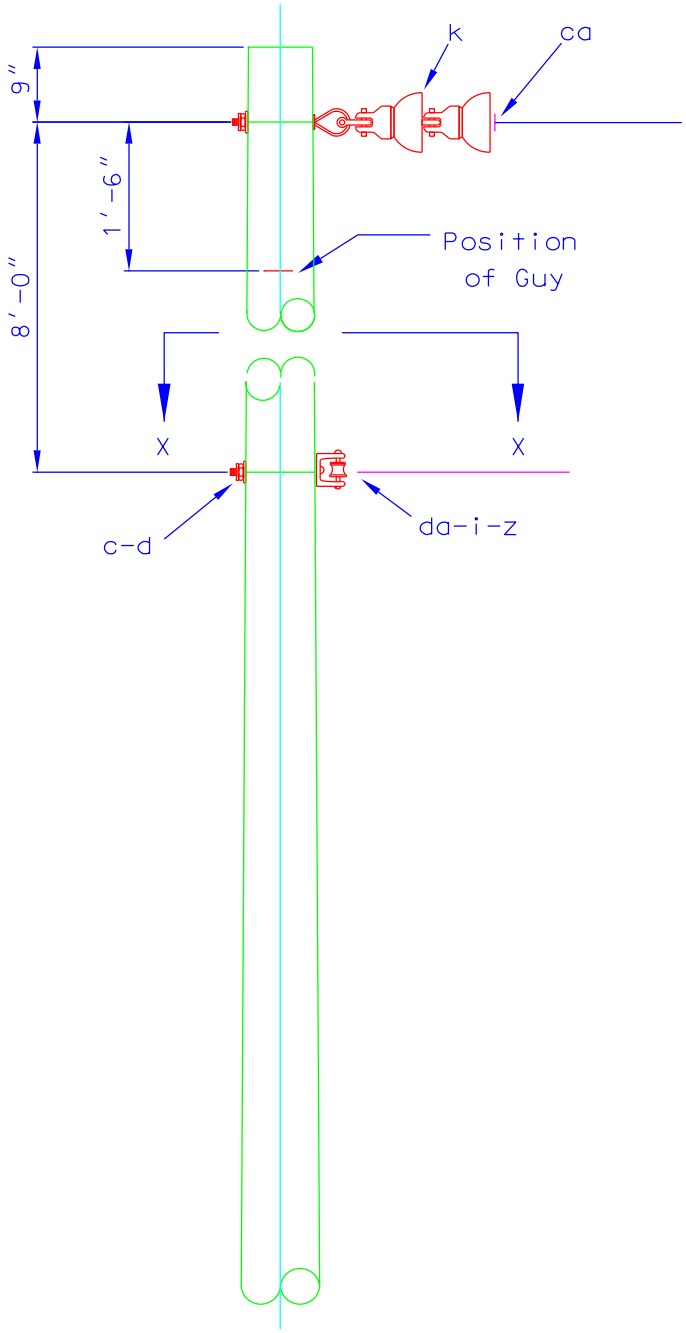
GDE

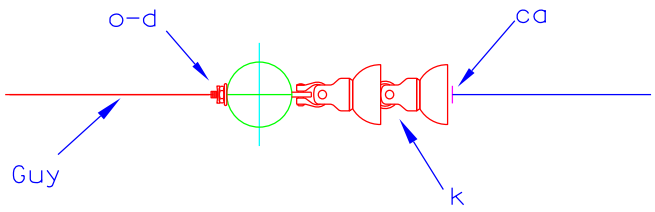
PRIMARY, SINGLE PHASE DEADEND STRUCTURE 60 TO 90 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

A4





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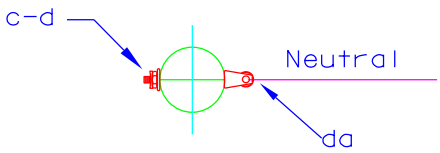


SECTION X-X

ITEM	QTY	MATERIAL
o	1	Bolt, Eye, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
ca	1	Clamp, Strain
da	1	Clevis, Neutral
z	1	DE, Auto, Neutral
i	1	Insulator, Rack Large
k	1	Insulator, Suspension - Epoxy 15kV
d	3	Washer, 2 1/4" Square, 11/16"

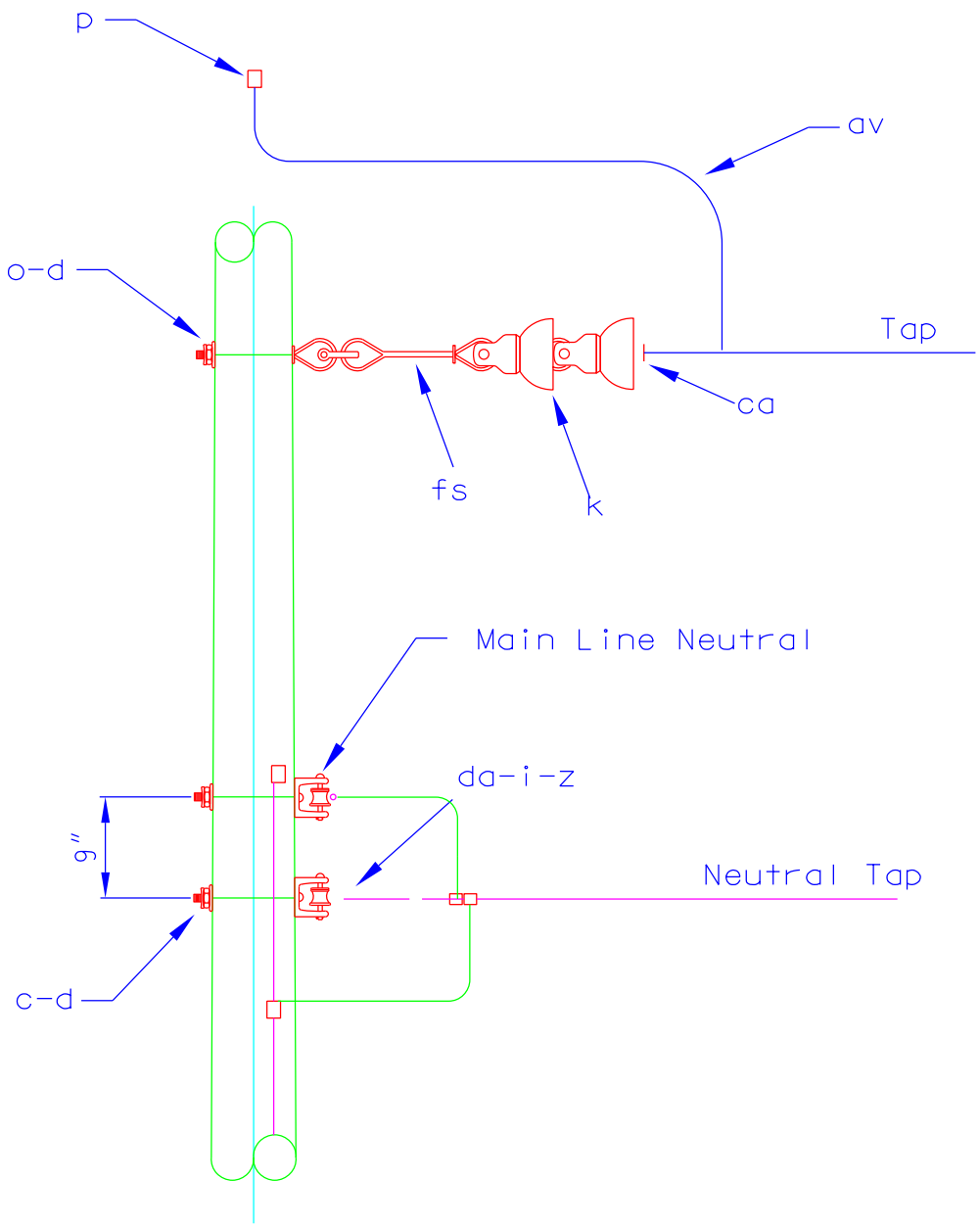
GDE

PRIMARY, SINGLE PHASE
DEADEND STRUCTURE
SINGLE DEADEND

DATE: 7/17/23

STANDARD NUMBER

A5



ITEM	QTY	MATERIAL
o	1	Bolt, Eye, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
ca	1	Clamp, Strain
da	1	Clevis, Neutral
z	1	DE, Auto, Neutral
i	1	Insulator, Rack Large
k	1	Insulator, Suspension - Epoxy 15kV
fs	1	Link, Insulating Fiberglass, 18"
d	3	Washer, 2 1/4" Square, 11/16"

NOTES:

1- On 40' poles place the tap neutral 9" above the main line neutral.

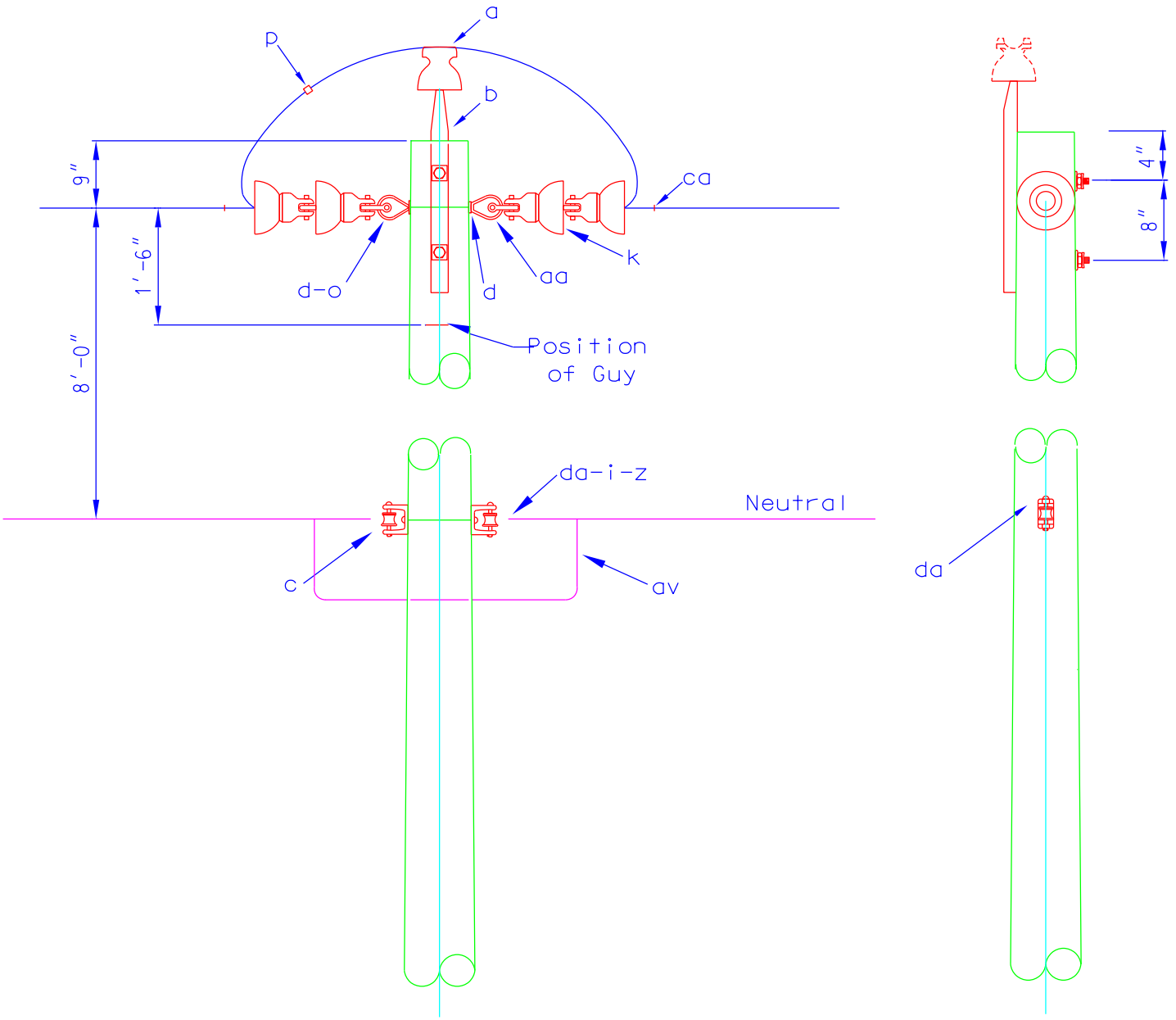
GDE

PRIMARY, SINGLE PHASE TAP ASSEMBLY

DATE: 7/17/23

STANDARD NUMBER

A5-2



ITEM	QTY	MATERIAL
o	1	Bolt, Eye, 5/8" x Req'd Length
c	3	Bolt, Machine, 5/8" x Req'd Length
ca	2	Clamp, Strain
da	2	Clevis, Neutral
z	2	DE, Auto, Neutral
a	1	Insulator, Pin Type
i	2	Insulator, Rack Large
k	2	Insulator, Suspension - Epoxy 15kV
aa	1	Nut, Eye 5/8"
b	1	Pin, Pole Top
d	4	Washer, 2 1/4" Square, 11/16"

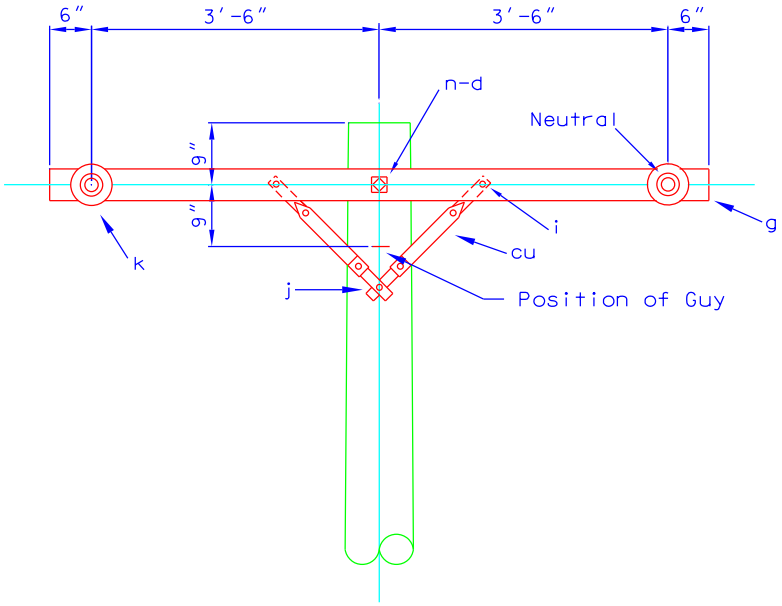
GDE

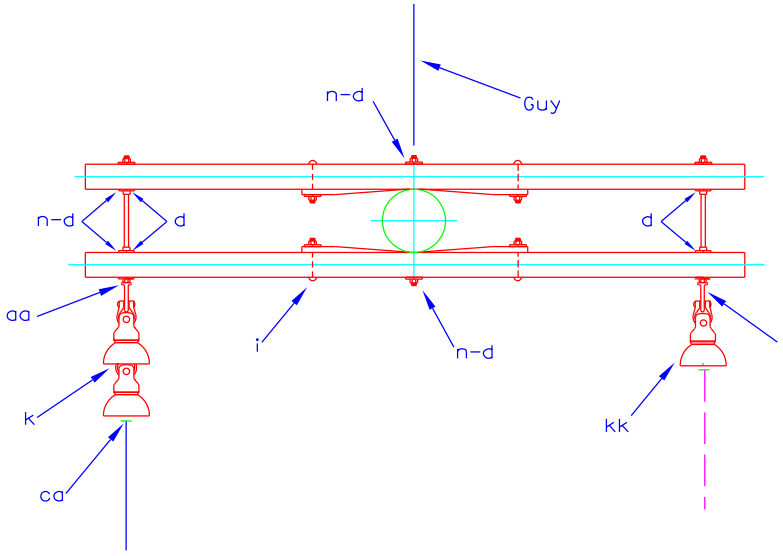
PRIMARY, SINGLE PHASE
VERTICAL DEADEND STRUCTURE
DOUBLE DEADEND

DATE: 7/17/23

STANDARD NUMBER

A6





PLAN

ITEM	QTY	MATERIAL
i	4	Bolt, Carriage $^{3}/_{8}$″ x 5″
n	3	Bolt, DA, $^{5}/_{8}$″ x Req'd Length
cu	4	Brace, Wood, 28″ Span
ca	2	Clamp, Strain
g	2	Crossarm, HD 8′ x 0″
kk	1	Insulator, Suspension - 6″ Bell
k	1	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye $^{5}/_{8}$″
j	2	Screw, Lag $^{1}/_{2}$″ x 4″
d	10	Washer, 2 $^{1}/_{4}$″ Square, $^{11}/_{16}$″

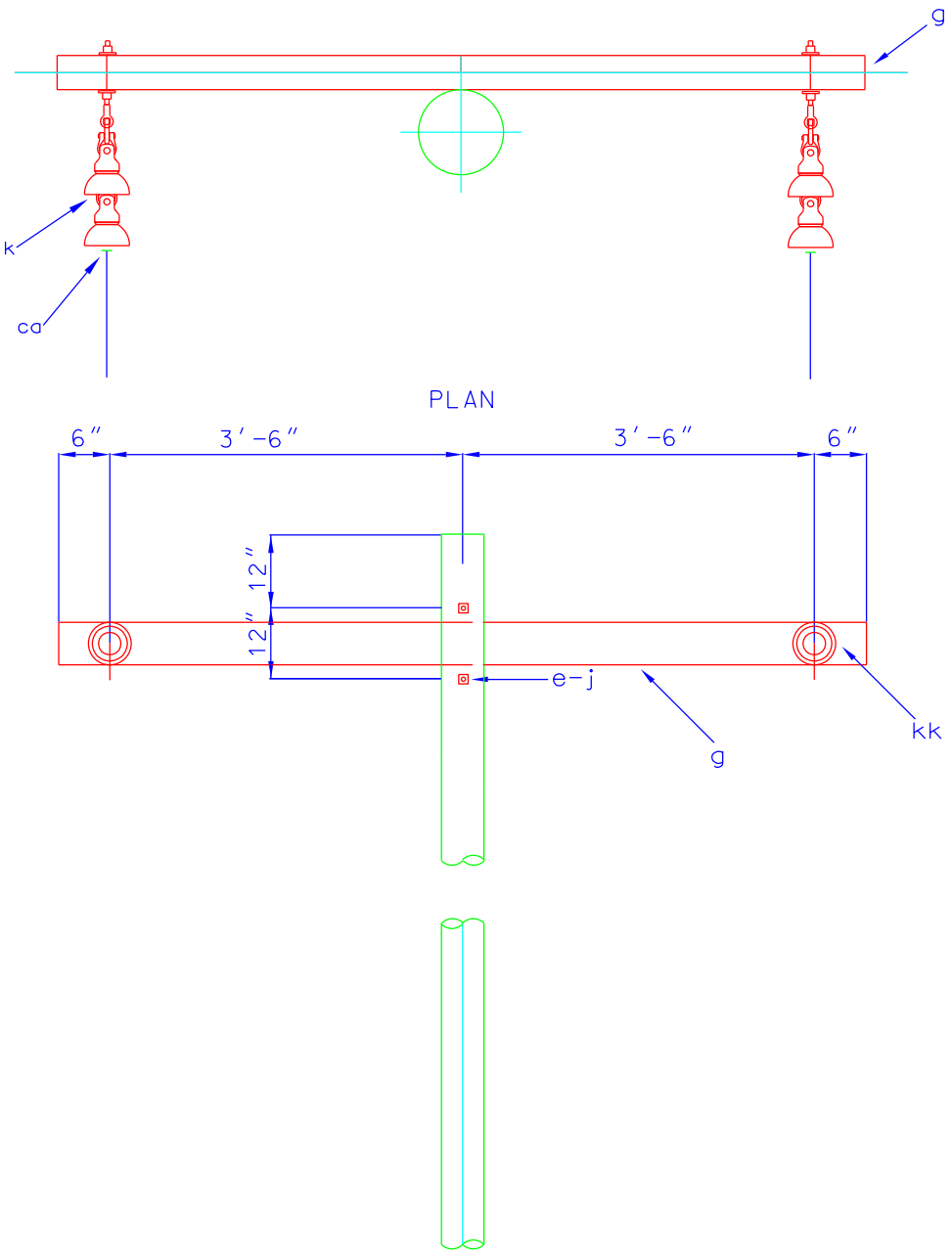
GDE

CROSSARM CONSTRUCTION PRIMARY, SINGLE PHASE DEADEND STRUCTURE

DATE: 5/17/23

STANDARD NUMBER

A7



ITEM	QTY	MATERIAL
e	2	Bolt, Machine, ¾″ x Req'd Length
ca	2	Clamp, Strain
g	1	Crossarm, FG Deadend 8′ x 0″
k	1	Insulator, Suspension - Epoxy 15KV
kk	1	Insulator, Suspension - 6″ Bell
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 4/0 AA

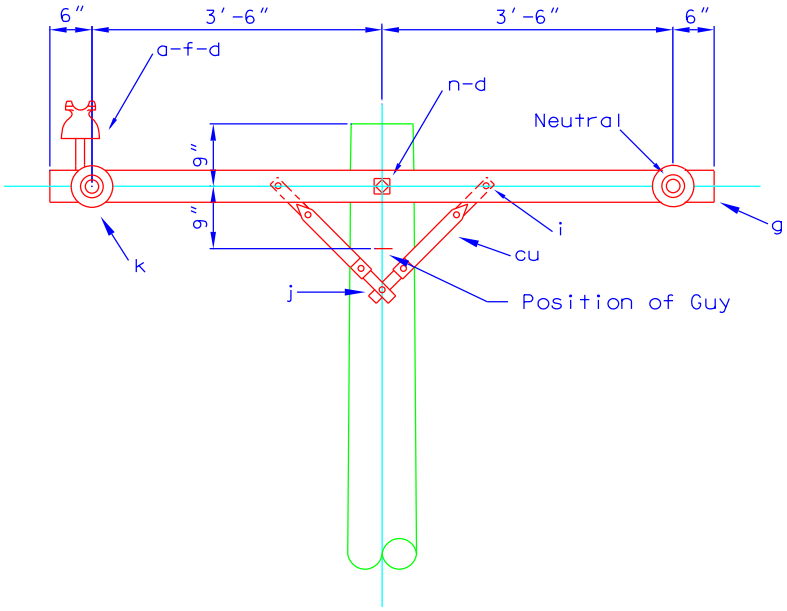
GDE

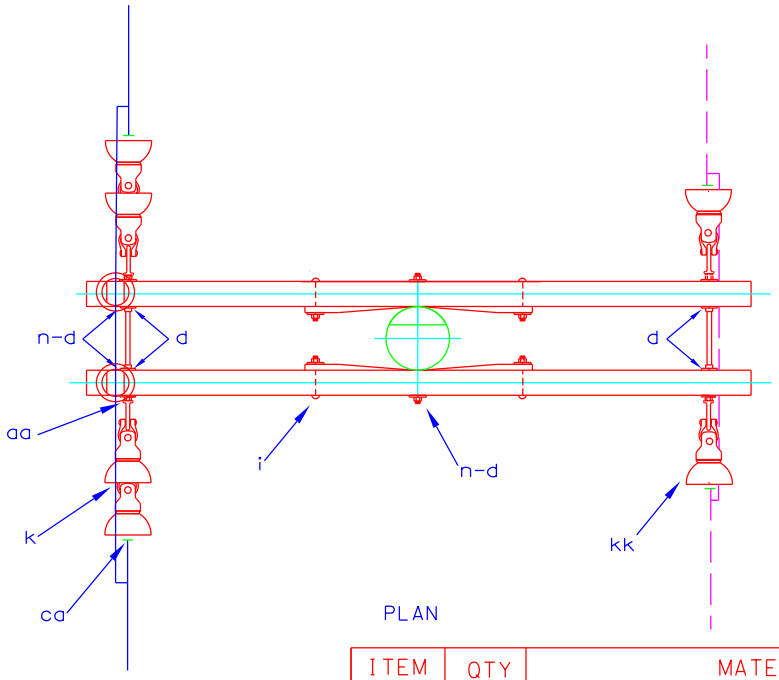
PRIMARY, SINGLE PHASE DEADEND STRUCTURE FIBERGLASS ARM

DATE: 6/22/23

STANDARD NUMBER

A7-F





PLAN

ITEM	QTY	MATERIAL
i	4	Bolt, Carriage 3/8" x 5"
n	3	Bolt, DA, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
ca	4	Clamp, Strain
g	2	Crossarm, HD 8' x 0"
a	2	Insulator, Pin Type
kk	2	Insulator, Suspension - 6" Bell
k	2	Insulator, Suspension - Epoxy 15kV
aa	4	Nut, Eye 5/8"
f	2	Pin, Crossarm 6"
j	2	Screw, Lag 1/2" x 4"
d	10	Washer, 2 1/4" Square, 11/16"

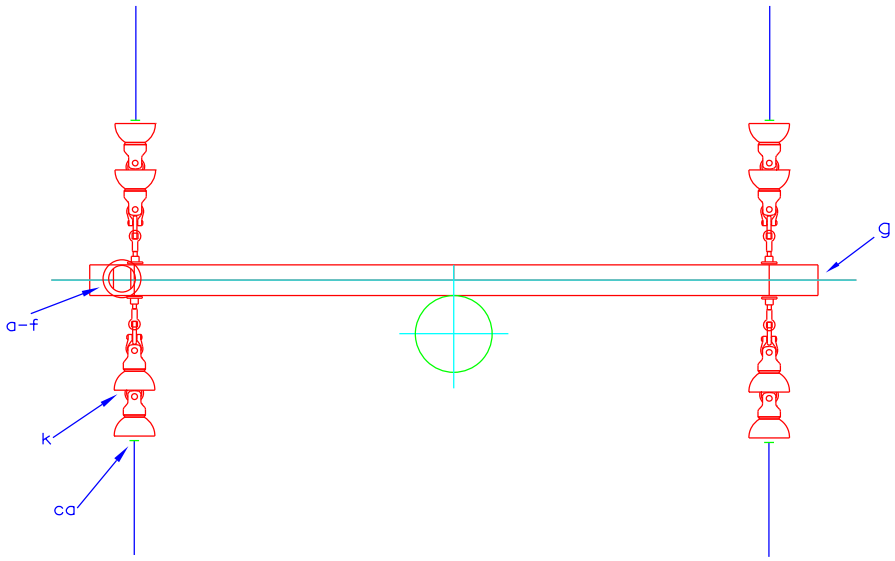
GDE

CROSSARM CONSTRUCTION
PRIMARY, SINGLE PHASE
DOUBLE DEADEND STRUCTURE

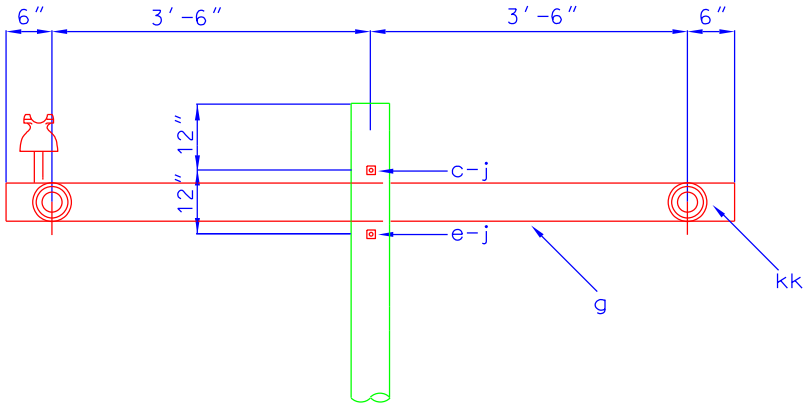
DATE: 5/17/23

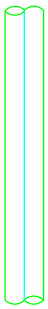
STANDARD NUMBER

A8



PLAN





ITEM	QTY	MATERIAL
c	1	Bolt, DA, ¾" x Req'd Length
e	1	Bolt, Machine, ¾" x Req'd Length
ca	4	Clamp, Strain
g	1	Crossarm, FG Deadend 8' x 0"
a	1	Insulator, Pin Type
k	2	Insulator, Suspension - Epoxy 15KV
kk	2	Insulator, Suspension - 6" Bell
f	1	Pin, Crossarm 6"
j	2	Washer, 4" Curved

NOTES:
1- Maximum conductor size 4/0 AA

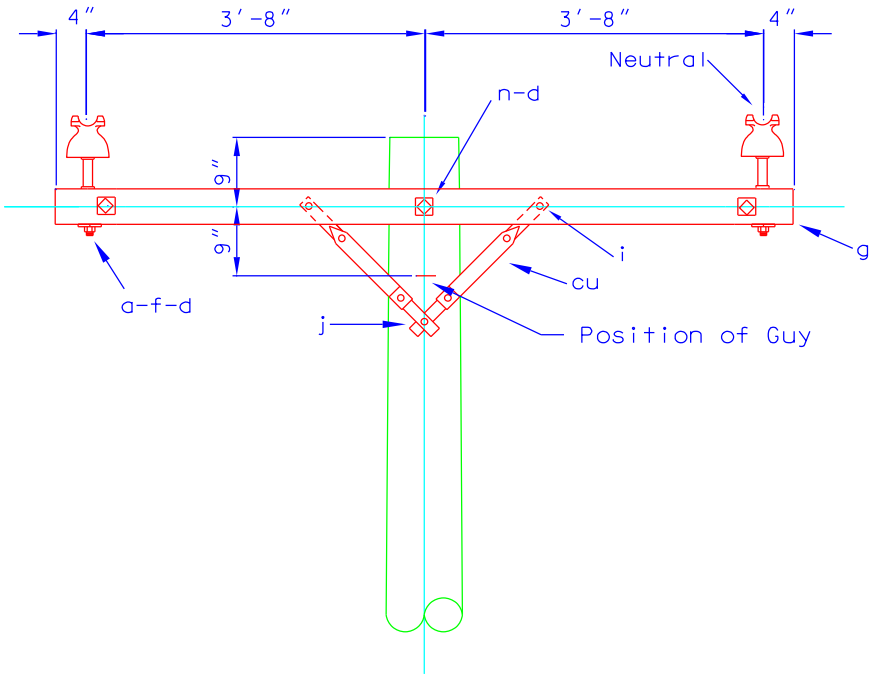
GDE

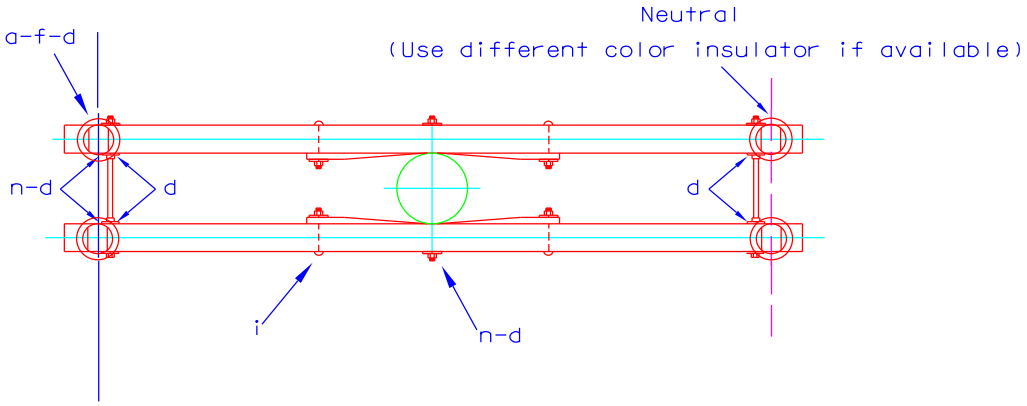
PRIMARY, SINGLE PHASE
DOUBLE DEADEND STRUCTURE
FIBERGLASS ARM

DATE: 6/22/23

STANDARD NUMBER

A8-F





PLAN

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 20° line angle

ITEM	QTY	MATERIAL
i	4	Bolt, Carriage $^{3}/_{8}$" x 5"
n	3	Bolt, DA, $^{5}/_{8}$" x Req'd Length
cu	4	Brace, Wood, 28" Span
g	2	Crossarm, HD 8' x 0"
a	4	Insulator, Pin Type
f	4	Pin, Crossarm 6"
j	2	Screw, Lag $^{1}/_{2}$" x 4"
d	10	Washer, 2 $^{1}/_{4}$" Square, $^{11}/_{16}$"

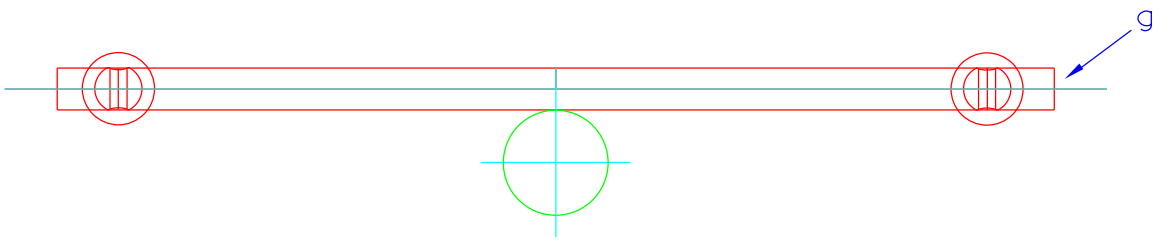
GDE

CROSSARM CONSTRUCTION PRIMARY, SINGLE PHASE DOUBLE LINE ARM

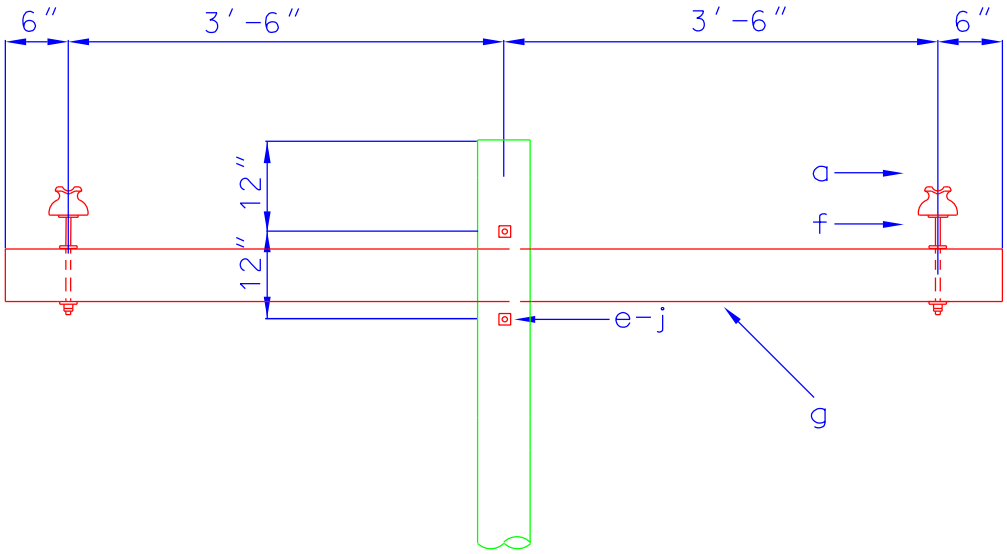
DATE: 5/17/23

STANDARD NUMBER

A9



PLAN



NOTES:

1- Maximum conductor size 4/0 AA

ITEM	QTY	MATERIAL
e	2	Bolt, Machine, ¾″ x Req'd Length
g	1	Crossarm, FG Tangent, 8′ x 0″
a	2	Insulator, Pin Type
f	2	Pin, Crossarm 6″
j	2	Washer, 4″ Curved

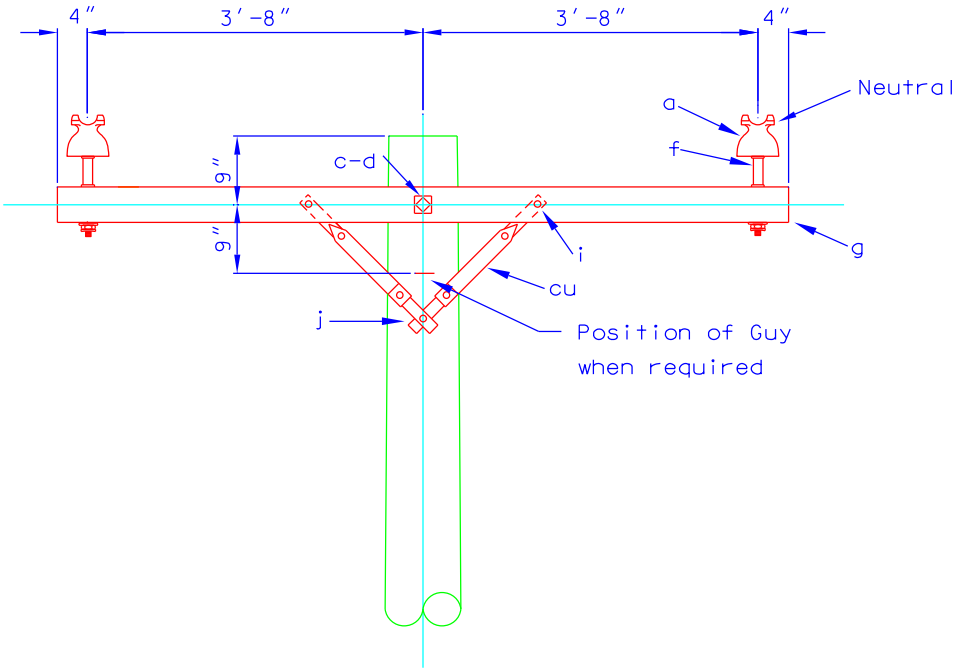
GDE

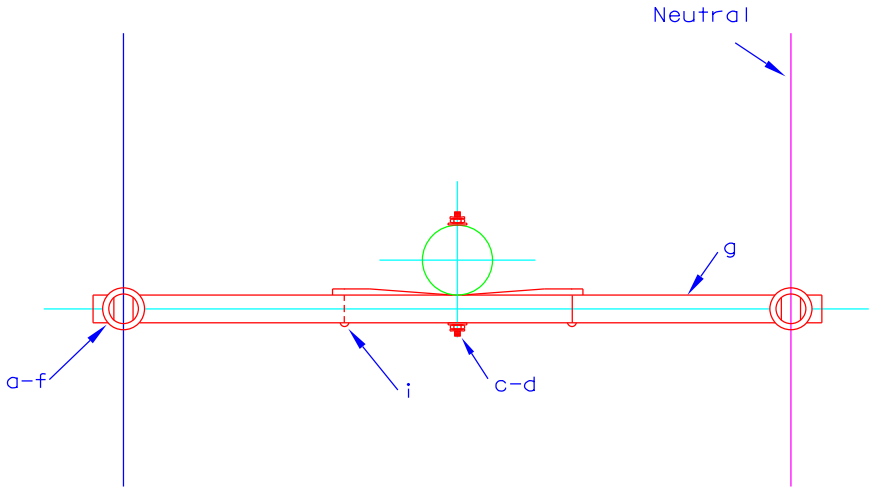
PRIMARY, SINGLE PHASE
DOUBLE LINE ARM
FIBERGLASS ARM

DATE: 6/22/23

STANDARD NUMBER

A9-F





PLAN

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 5° line angle

ITEM	QTY	MATERIAL
i	2	Bolt, Carriage $^{3}/_{8}$″ x 5″
c	1	Bolt, Machine, $^{5}/_{8}$″ x 14″
cu	2	Brace, Wood, 28″ Span
g	1	Crossarm, HD 8′ x 0″
a	2	Insulator, Pin Type
f	2	Pin, Crossarm 6″
j	1	Screw, Lag $^{1}/_{2}$″ x 4″
d	2	Washer, 2 $^{1}/_{4}$″ Square, $^{11}/_{16}$″

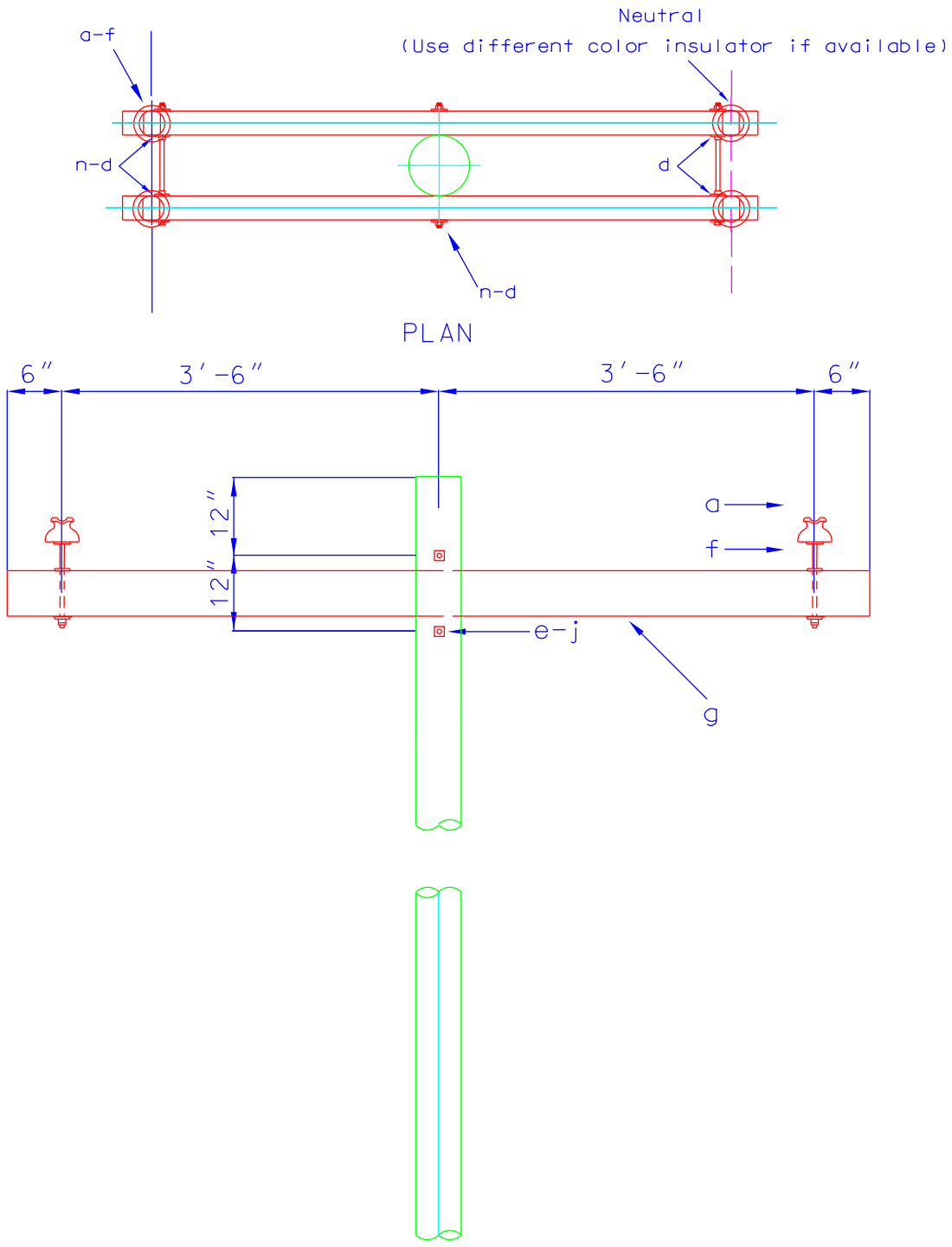
GDE

CROSSARM CONSTRUCTION PRIMARY, SINGLE PHASE SINGLE LINE ARM

DATE: 5/17/23

STANDARD NUMBER

A9-1



NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 20° line angle

ITEM	QTY	MATERIAL
n	2	Bolt, DA, $^{5}/_{8}$″ x Req'd Length
e	2	Bolt, Machine, $^{3}/_{4}$″ x Req'd Length
g	2	Crossarm, FG Tangent, 8′ x 0″
a	4	Insulator, Pin Type
f	4	Pin, Crossarm 6″
d	8	Washer, 2$^{1}/_{4}$″ Square, $^{11}/_{16}$″

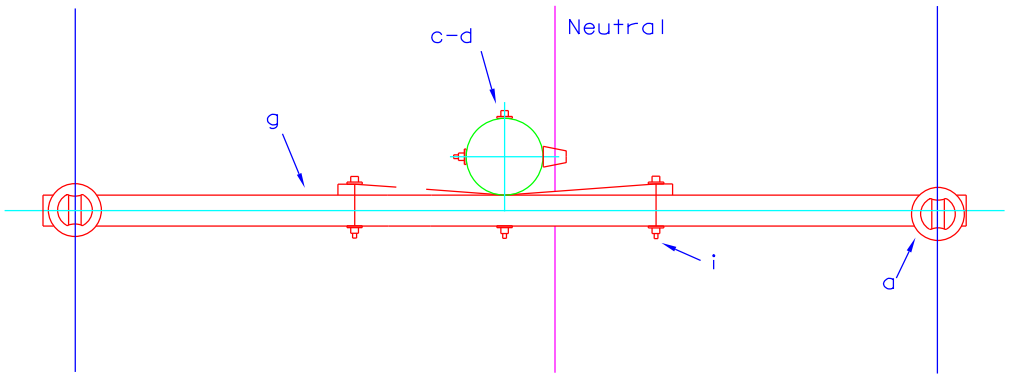
GDE

PRIMARY, SINGLE PHASE
DOUBLE LINE ARM
FIBERGLASS ARM

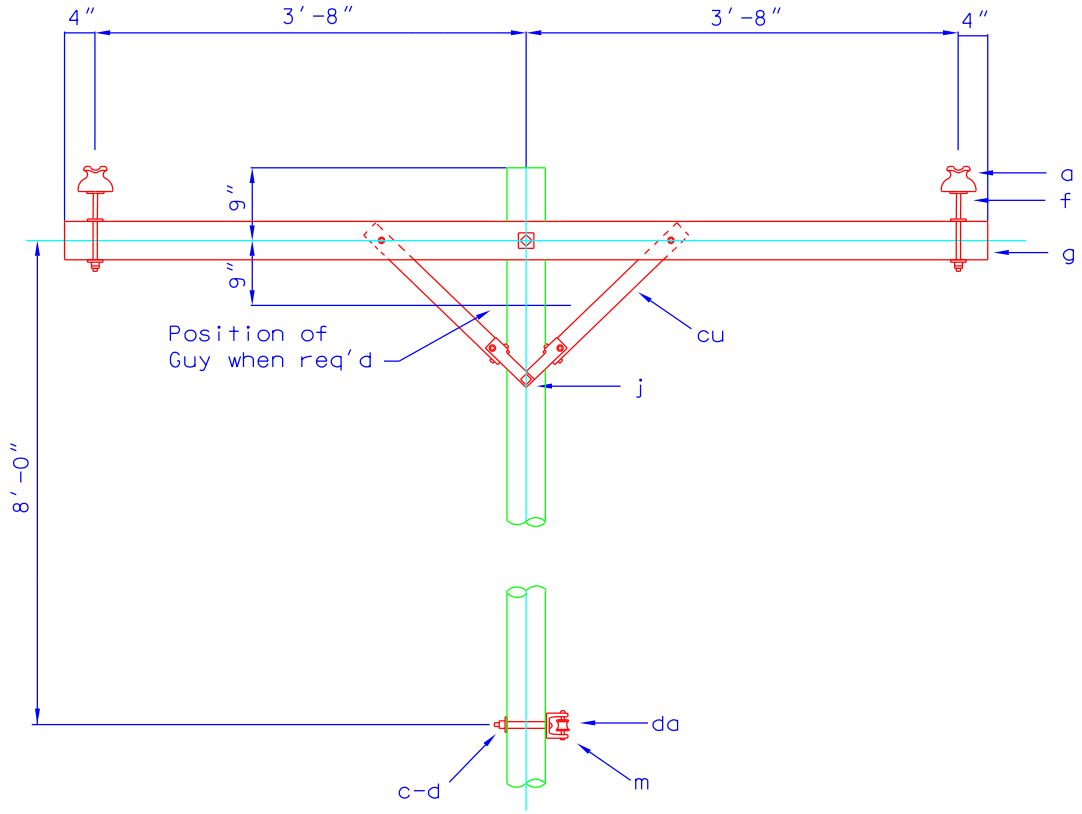
DATE: 6/23/23

STANDARD NUMBER

A9-2-F



PLAN



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 3/8" x 5"
c	2	Bolt, Machine, 5/8" x Req'd Length
cu	2	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8' - 0"
a	2	Insulatator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6"
j	1	Screw, Lag 1/2" x 4"
d	3	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 5° line angle

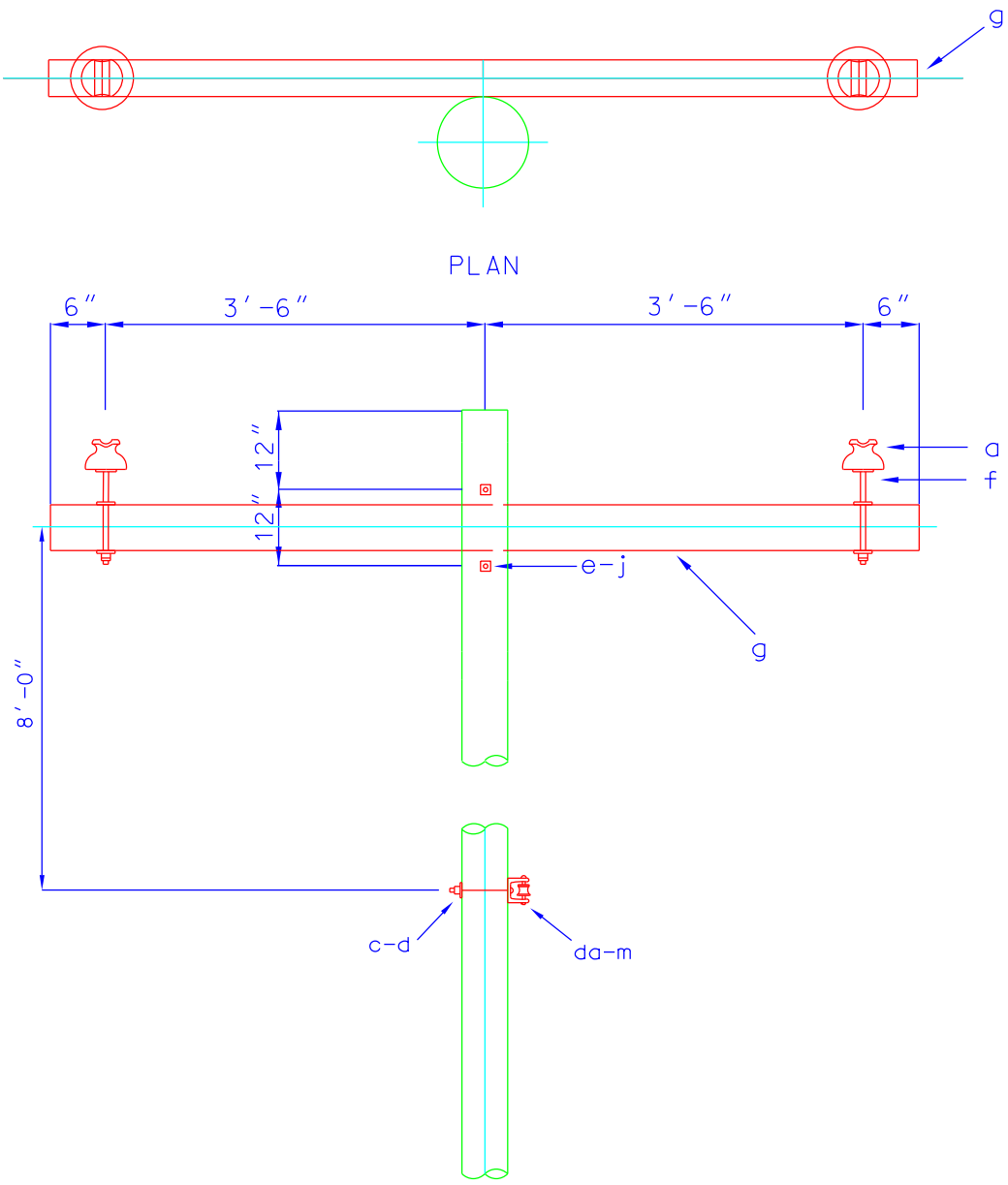
GDE

PRIMARY, TWO PHASE
SINGLE ARM
0 TO 5 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

B1



ITEM	QTY	MATERIAL
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 8′ x 0″
a	2	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6″
d	1	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 5° line angle

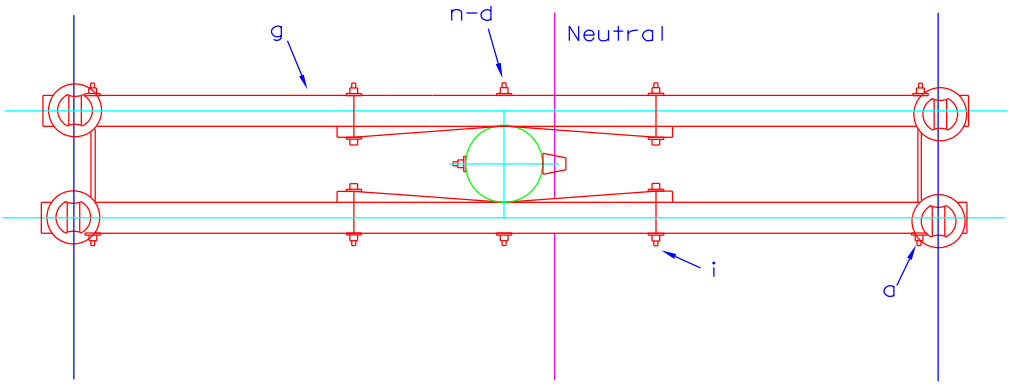
GDE

PRIMARY, TWO PHASE FIBERGLASS ARM 0 TO 5 DEGREE ANGLE

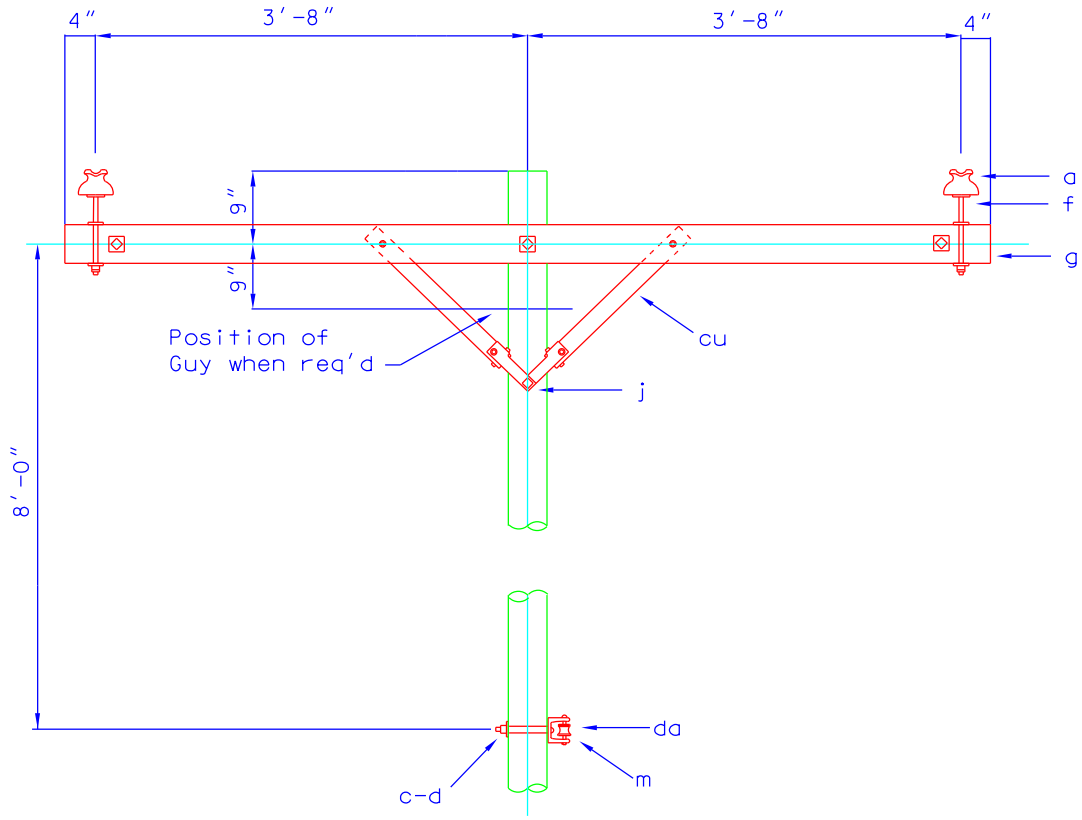
DATE: 7/17/23

STANDARD NUMBER

B1-F



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x 5"
n	3	Bolt, Double Arming, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
a	4	Insulatator, Pin Type
m	1	Insulator, Rack Large
f	4	Pin, Crossarm 6"
j	2	Screw, Lag 1/2" x 4"
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 20° line angle

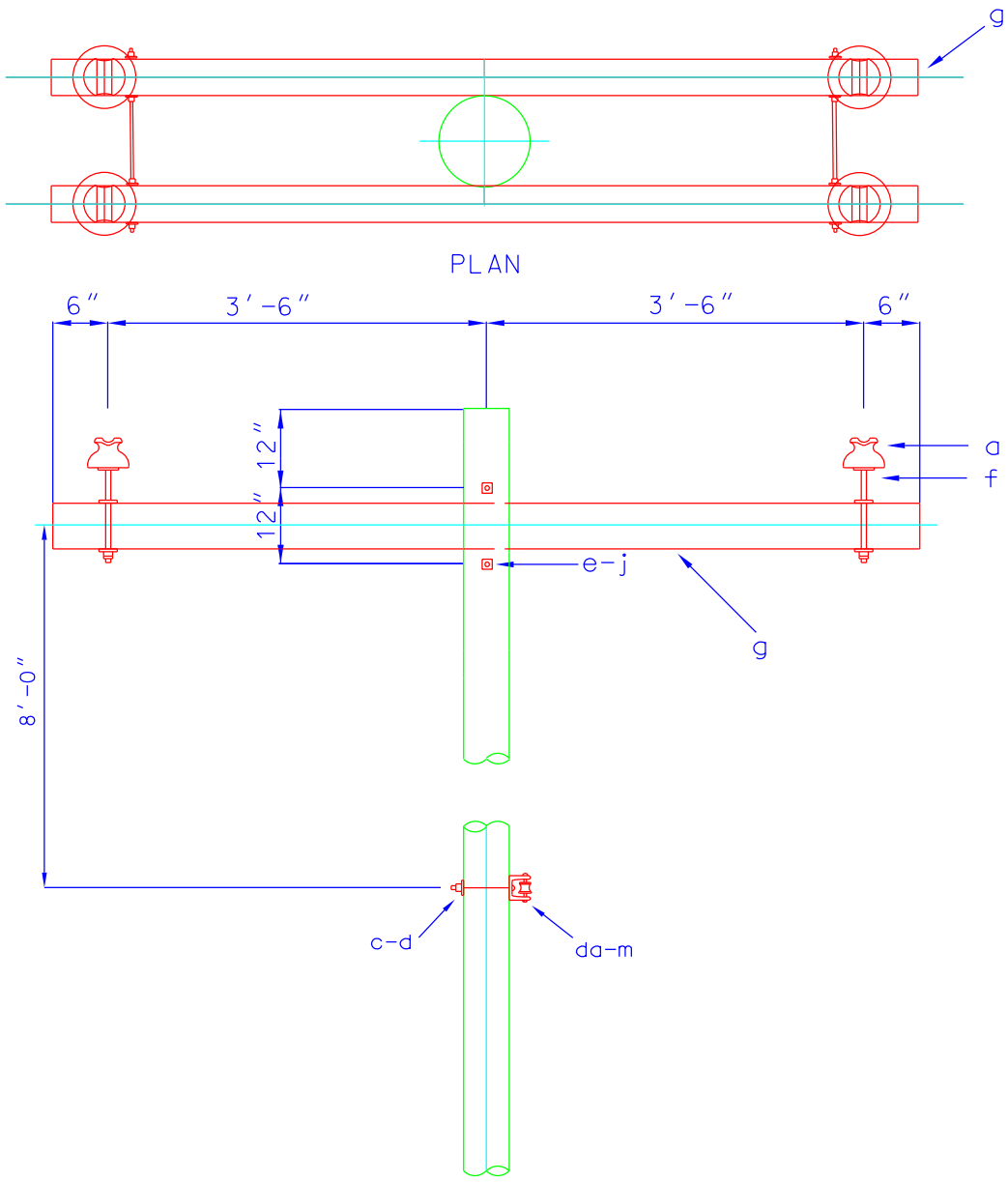
GDE

PRIMARY, TWO PHASE
DOUBLE LINE ARM
5 TO 20 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

B2



ITEM	QTY	MATERIAL
n	2	Bolt, DA, 5/8″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 8′ x 0″
a	2	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6″
d	1	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:

1- Maximum conductor size 4/0AA

2- Maximum 20° line angle

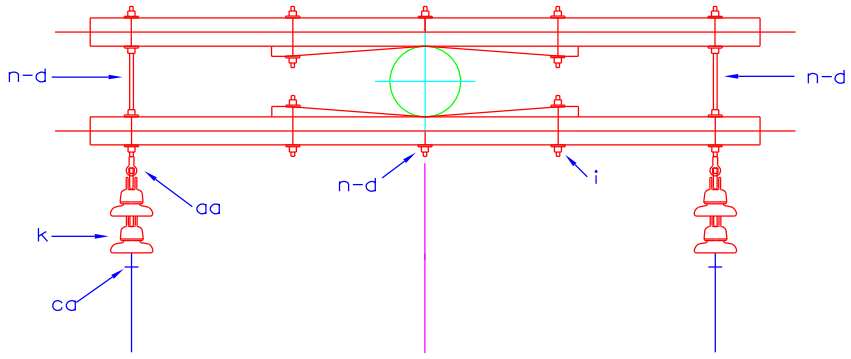
GDE

PRIMARY, TWO PHASE FIBERGLASS ARM 5 TO 20 DEGREE ANGLE

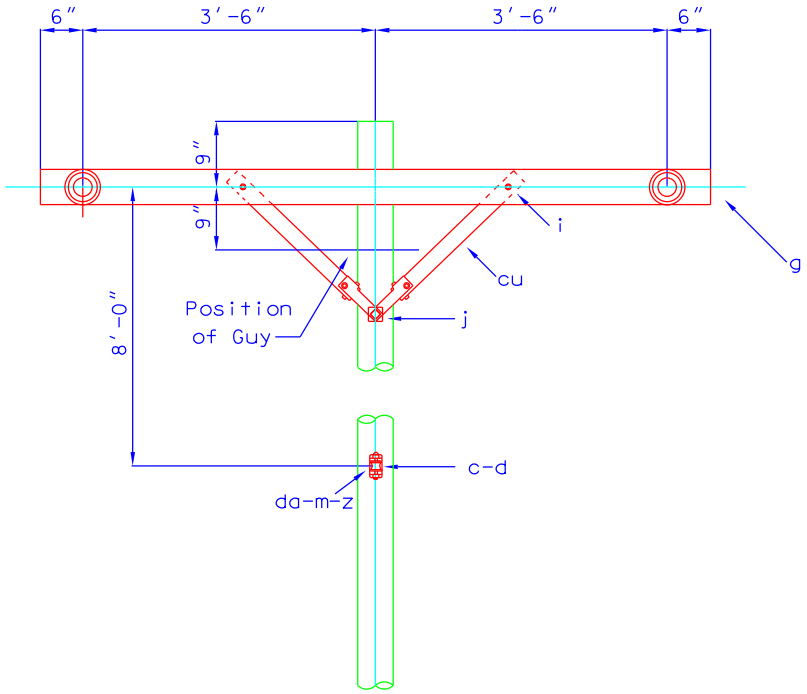
DATE: 7/17/23

STANDARD NUMBER

B2-F



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x 5"
n	3	Bolt, Double Arming, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
ca	2	Clamp, Strain #6 - 2/0
da	1	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
z	1	DE, Auto, Neutral
m	1	Insulator, Rack Large
k	2	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 5/8"
j	2	Screw, Lag 1/2" x 4"
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA

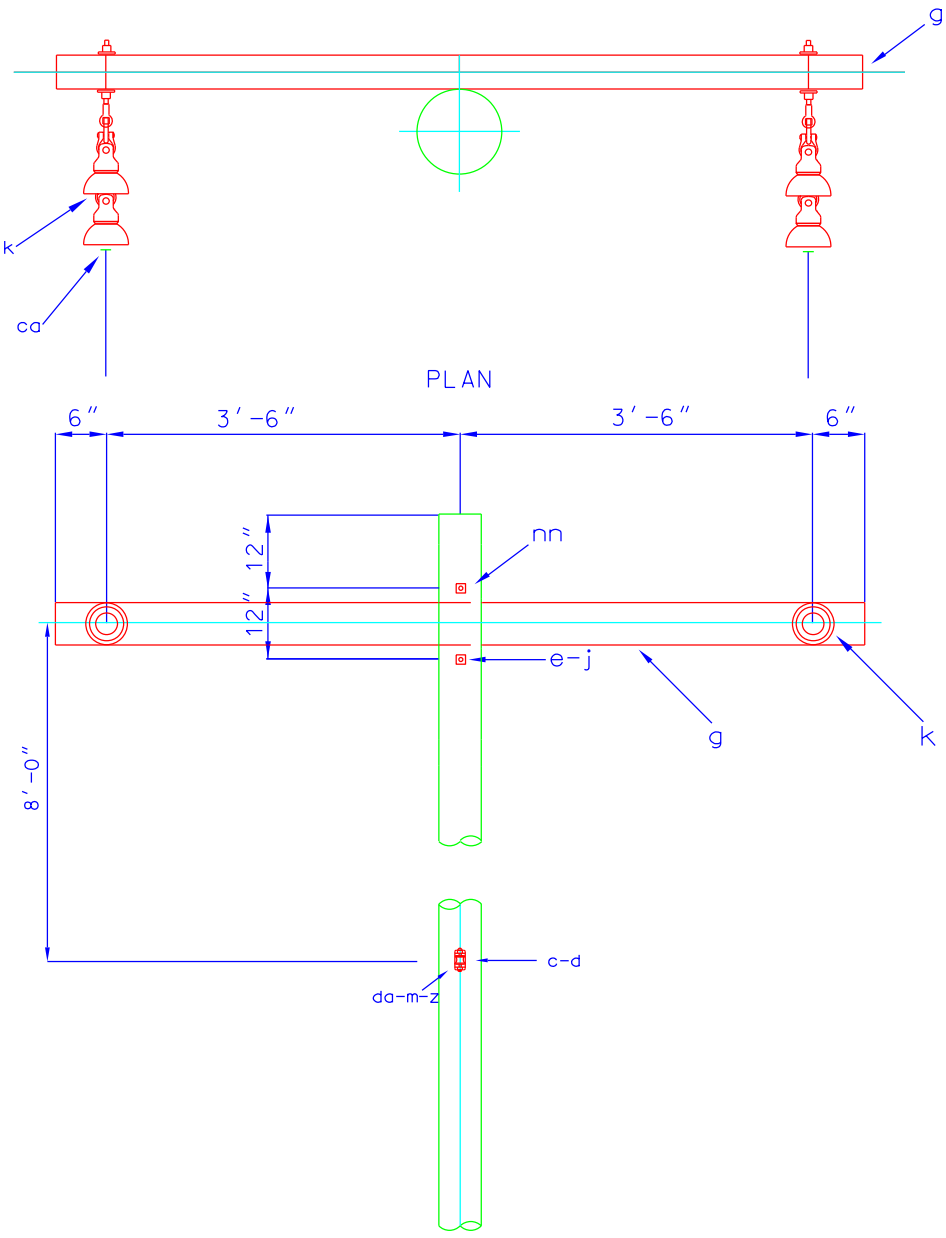
GDE

PRIMARY, TWO PHASE DOUBLE LINE ARM DEADEND STRUCTURE

DATE: 7/17/23

STANDARD NUMBER

B7



ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
ca	2	Clamp Strain
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend, 8′ - 0″
z	1	DE, Auto, Neutral
m	1	Insulator, Rack Large
k	2	Insulator, Suspension - Epoxy 15kV
d	1	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 4/0 AA

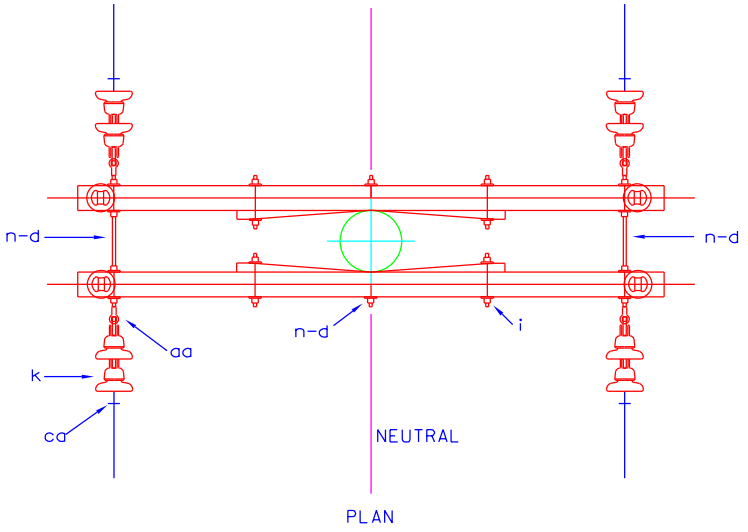
GDE

PRIMARY, TWO PHASE FIBERGLASS ARM DEADEND STRUCTURE

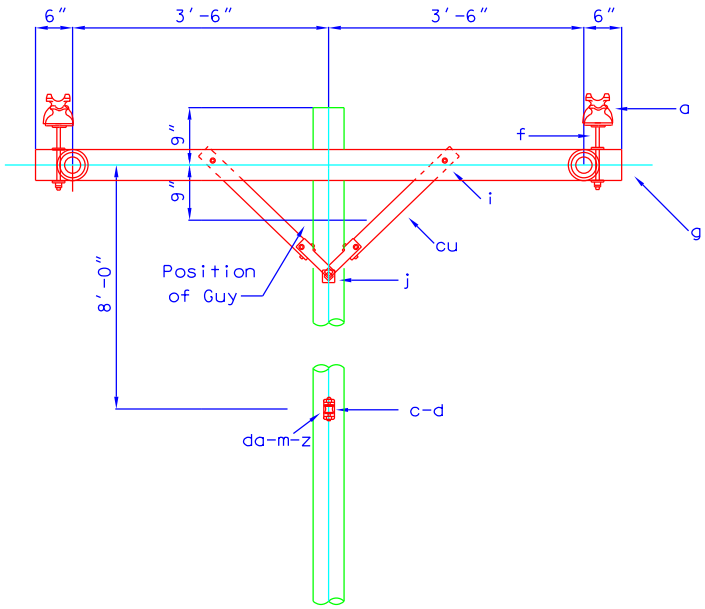
DATE: 7/17/23

STANDARD NUMBER

B7-F



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x 5"
n	3	Bolt, Double Arming, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
ca	4	Clamp Strain #6 - 2/0
da	2	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
z	2	DE, Auto, Neutral
a	4	Insulator, Pin Type
m	2	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15kV
aa	4	Nut, Eye 5/8"
f	4	Pin, Crossarm 6"
j	2	Screw, Lag 1/2" x 4"
d	10	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0 AA

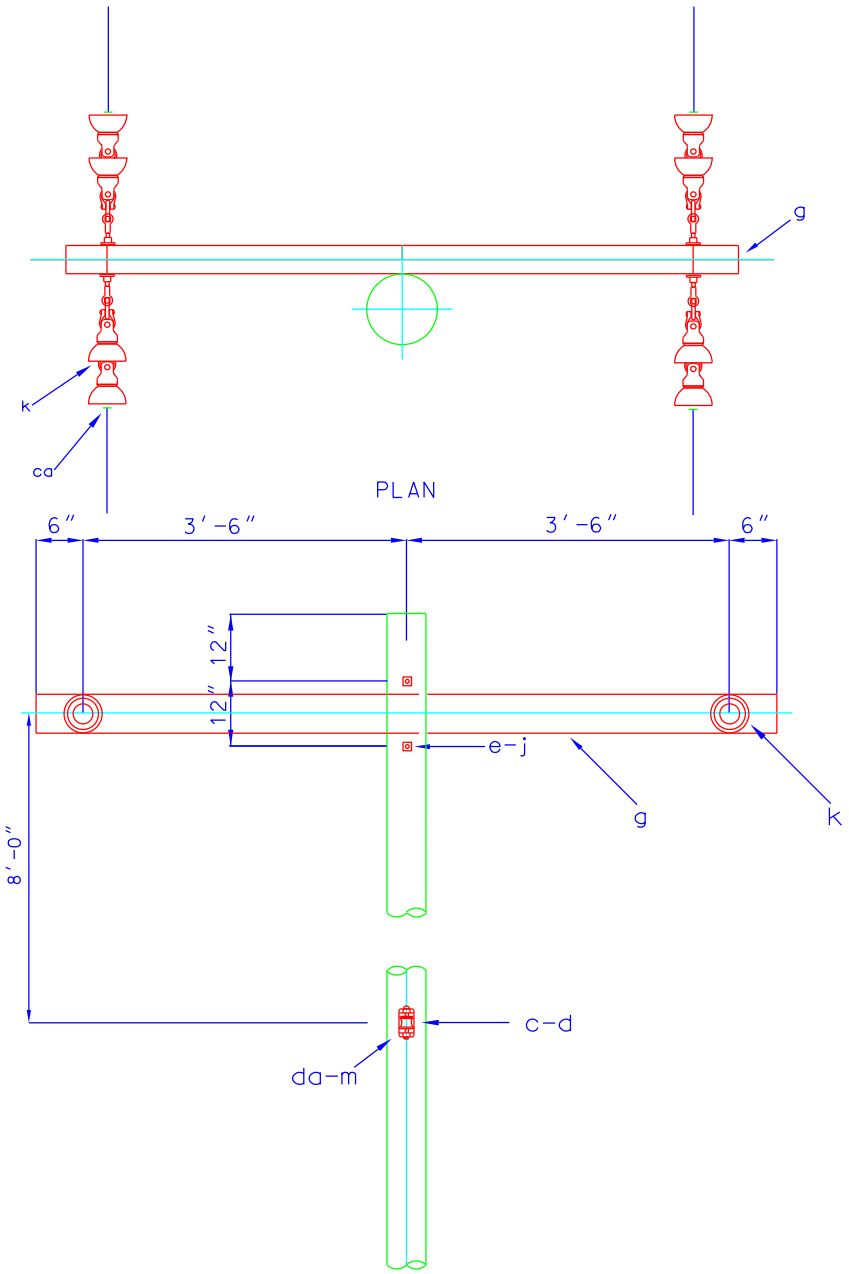
GDE

PRIMARY, TWO PHASE
DOUBLE LINE ARM
DOUBLE DEADEND STRUCTURE

DATE: 7/17/23

STANDARD NUMBER

B8



ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
ca	4	Clamp Strain
da	2	Clevis, Neutral
g	1	Crossarm, FG Deadend, 8′ - 0″
z	2	DE, Auto, Neutral
m	2	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15kV
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 4/0 AA

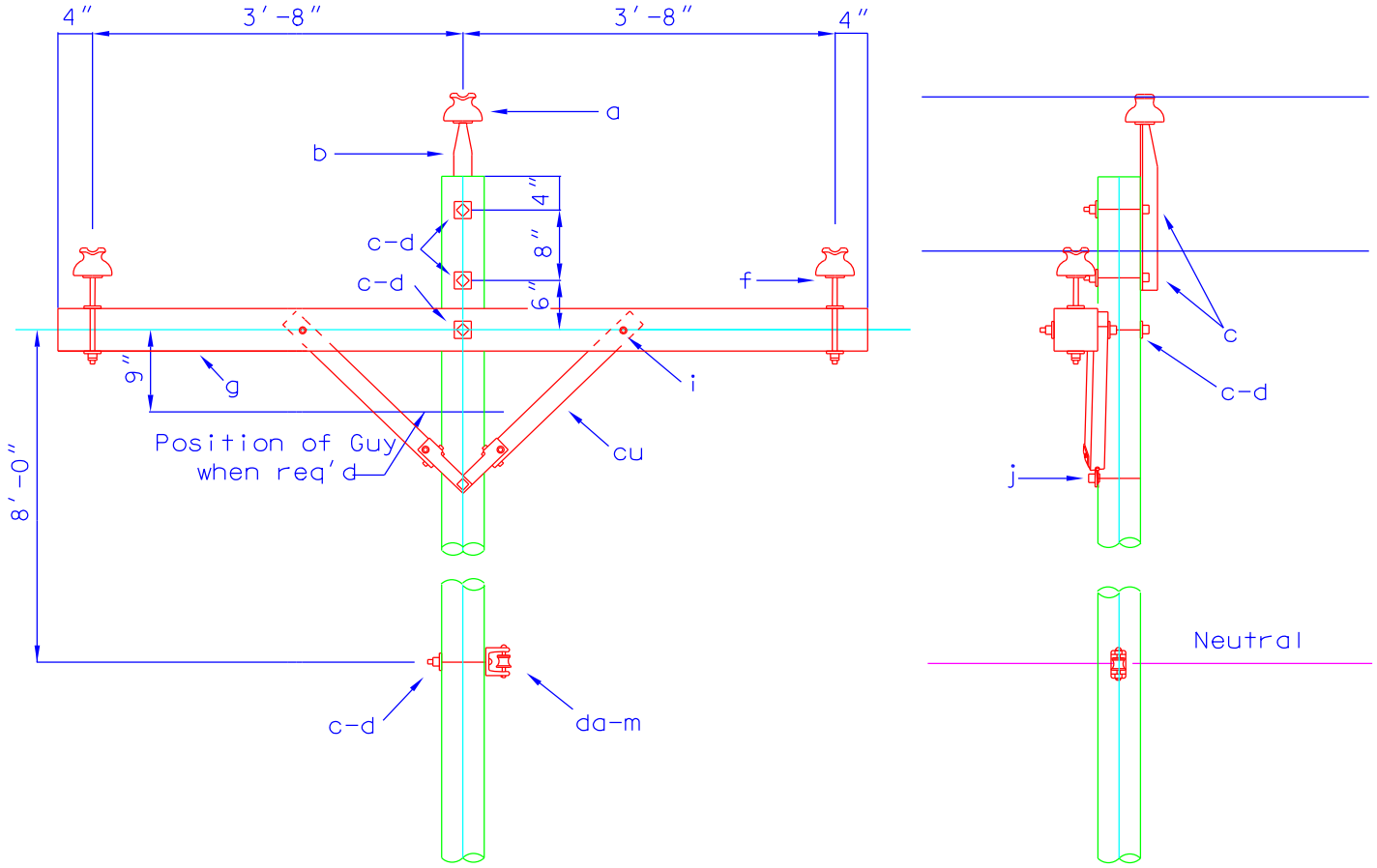
GDE

PRIMARY, TWO PHASE
FIBERGLASS ARM
DOUBLE DEADEND STRUCTURE

DATE: 7/17/23

STANDARD NUMBER

B8-F



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage $^{3}/_{8}$″ x 5″
c	4	Bolt, Machine, $^{5}/_{8}$″ x Req'd Length
cu	2	Brace, Wood, 28″ Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6″
a	1	Pin, Pole Top
j	1	Screw, Lag $^{1}/_{2}$″ x 4″
d	5	Washer, 2 $^{1}/_{4}$″ Square, $^{11}/_{16}$″

NOTES:

1- Maximum conductor size 4/0 AA

2- Maximum 5° line angle

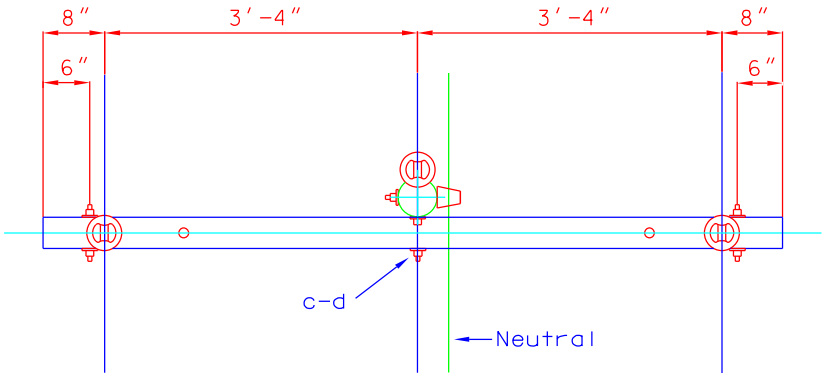
GDE

PRIMARY, THREE PHASE SINGLE LINE ARM 0 TO 5 DEGREE ANGLE

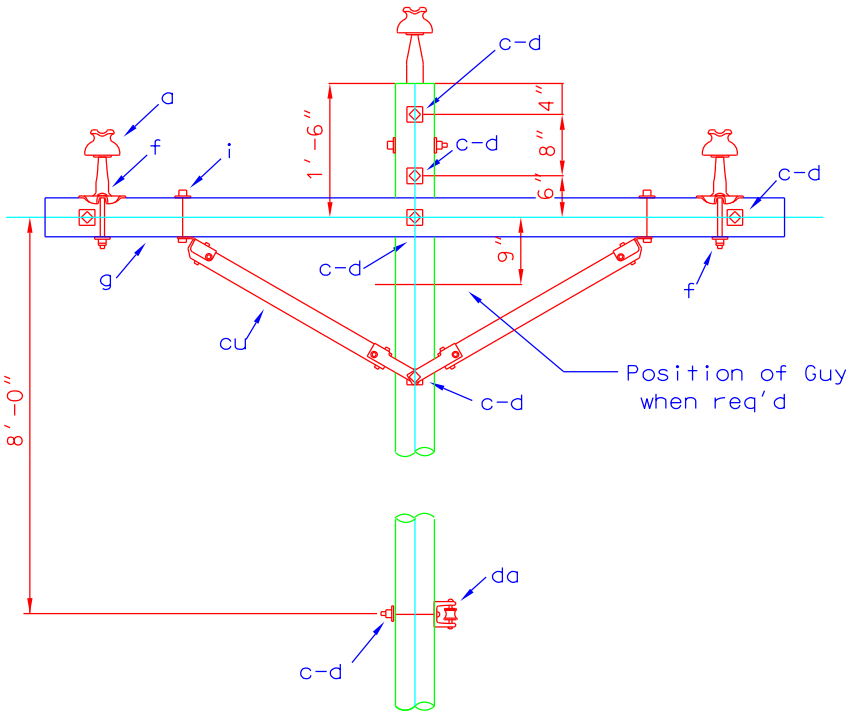
DATE: 7/17/23

STANDARD NUMBER

C1



PLAN



NOTES:

1- Maximum conductor size 795 AA

2- Maximum 2° line angle

ITEM	QTY	MATERIAL
i	2	Bolt, Carriage $^{3}/_{8}$″ x 5″
c	8	Bolt, Machine, $^{5}/_{8}$″ x Req'd Length
cu	2	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm, Clamp Type
a	2	Pin, Pole Top
d	11	Washer, 2 $^{1}/_{4}$″ Square, $^{11}/_{16}$″

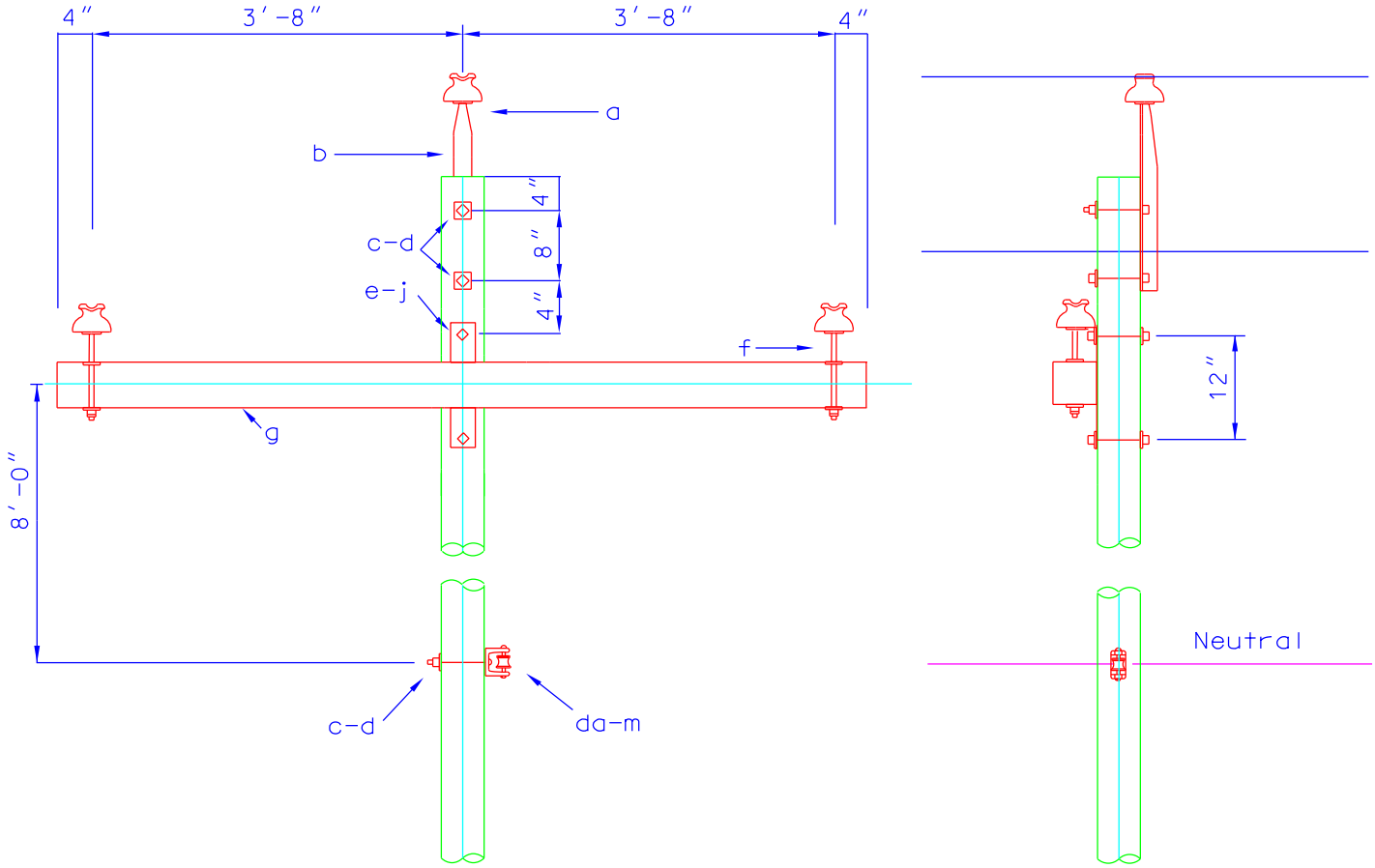
GDE

PRIMARY, THREE PHASE
SMALL ANGLE STRUCTURE
HEAVY DUTY CONSTRUCTION

DATE: 5/17/23

STANDARD NUMBER

C1-HD



ITEM	QTY	MATERIAL
c	3	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 8′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6″
b	1	Pin, Pole Top Fiberglass
d	3	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:

1- Maximum conductor size 4/0 AA

2- Maximum 5° line angle

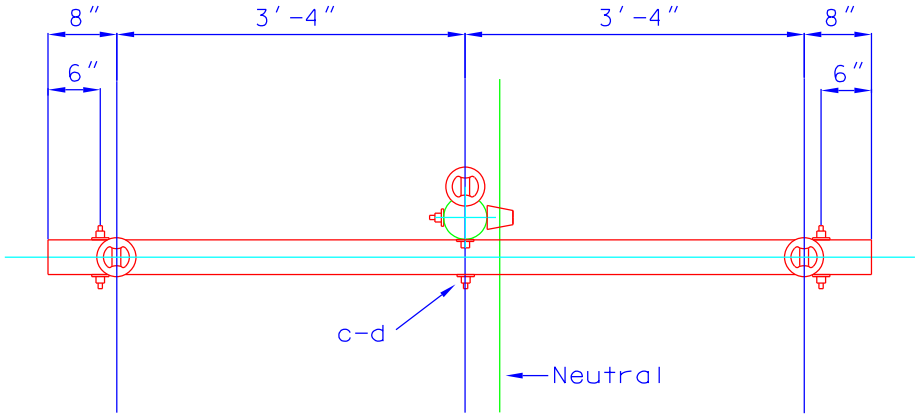
GDE

PRIMARY, THREE PHASE FIBERGLASS ARM 0 TO 5 DEGREE ANGLE

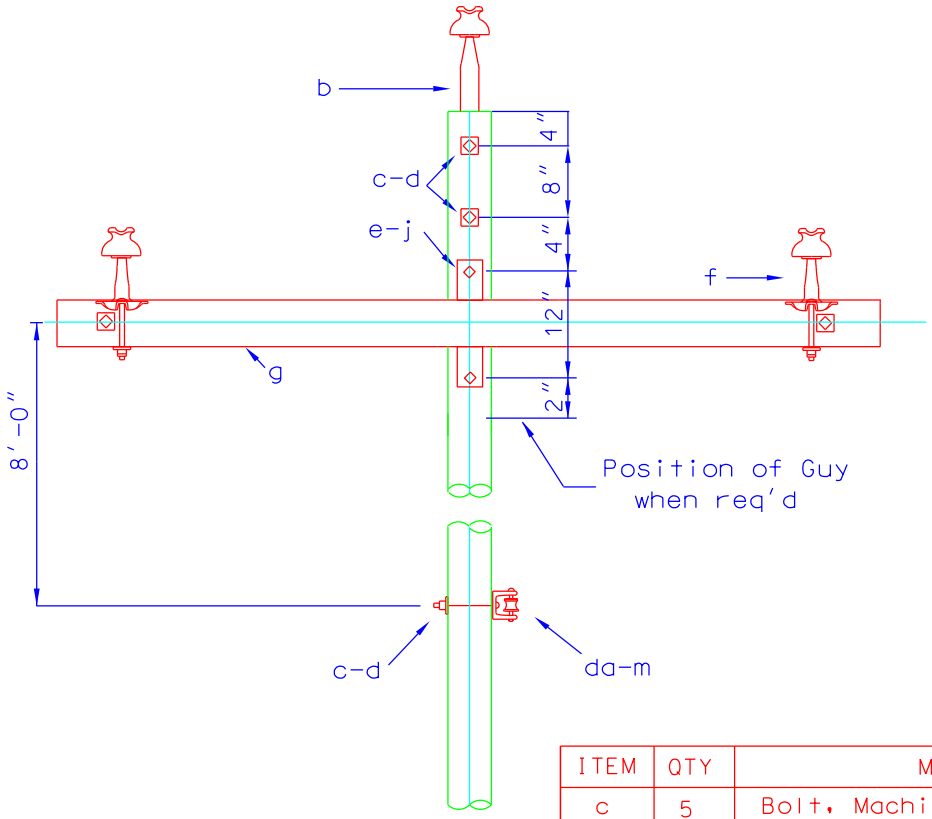
DATE: 7/17/23

STANDARD NUMBER

C1-F



PLAN



ITEM	QTY	MATERIAL
c	5	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 8′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm, Clamp Type
b	1	Pin, Pole Top Fiberglass
d	7	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 795 AA

2- Maximum 2° line angle

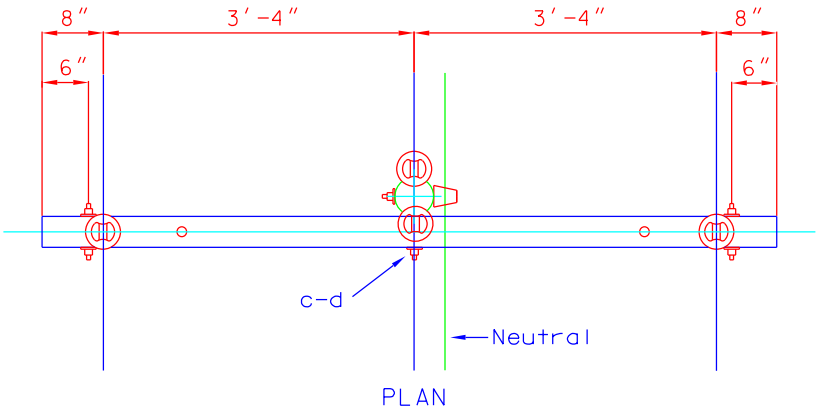
GDE

PRIMARY, THREE PHASE
SMALL ANGLE STRUCTURE
HEAVY DUTY CONSTRUCTION
SINGLE FIBERGLASS ARM

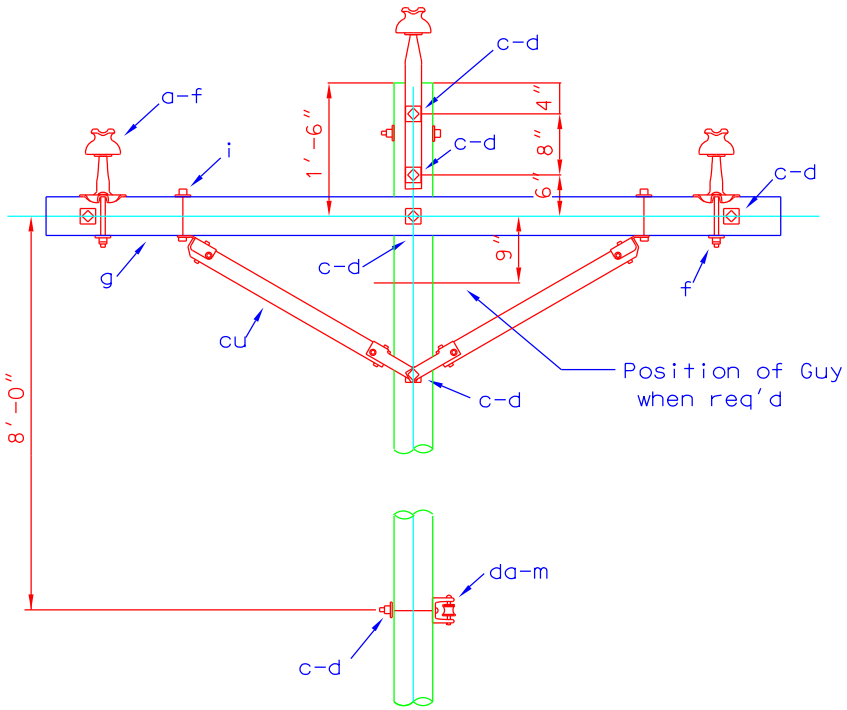
DATE: 5/17/23

STANDARD NUMBER

C1-F-HD



PLAN



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage 3/8″ x 5″
c	8	Bolt, Machine, 5/8″ x Req'd Length
cu	2	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8′ x 0″
a	4	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm, Clamp Type
a	2	Pin, Pole Top
d	10	Washer, 2 1/4″ Square, 11/16″

NOTES:

1- Maximum conductor size 795 AA

2- Maximum 5° line angle

3- Use 2 pole keys when angle exceeds 3°

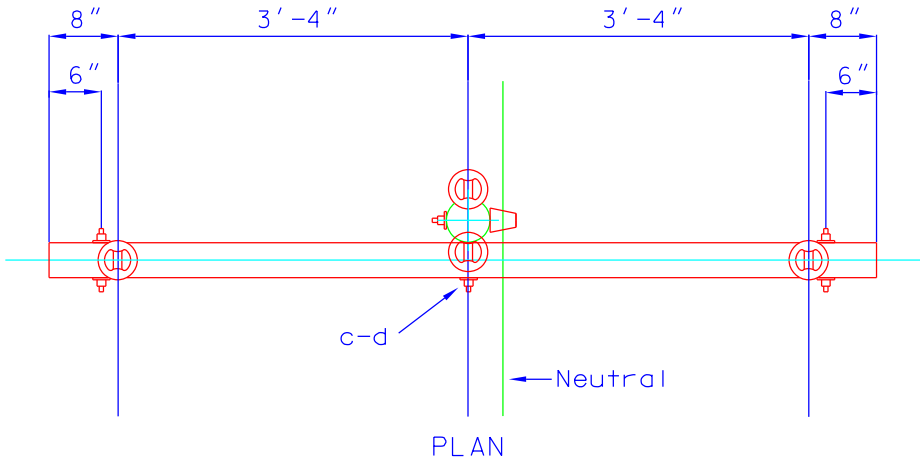
GDE

PRIMARY, THREE PHASE
SMALL ANGLE STRUCTURE
HEAVY DUTY CONSTRUCTION

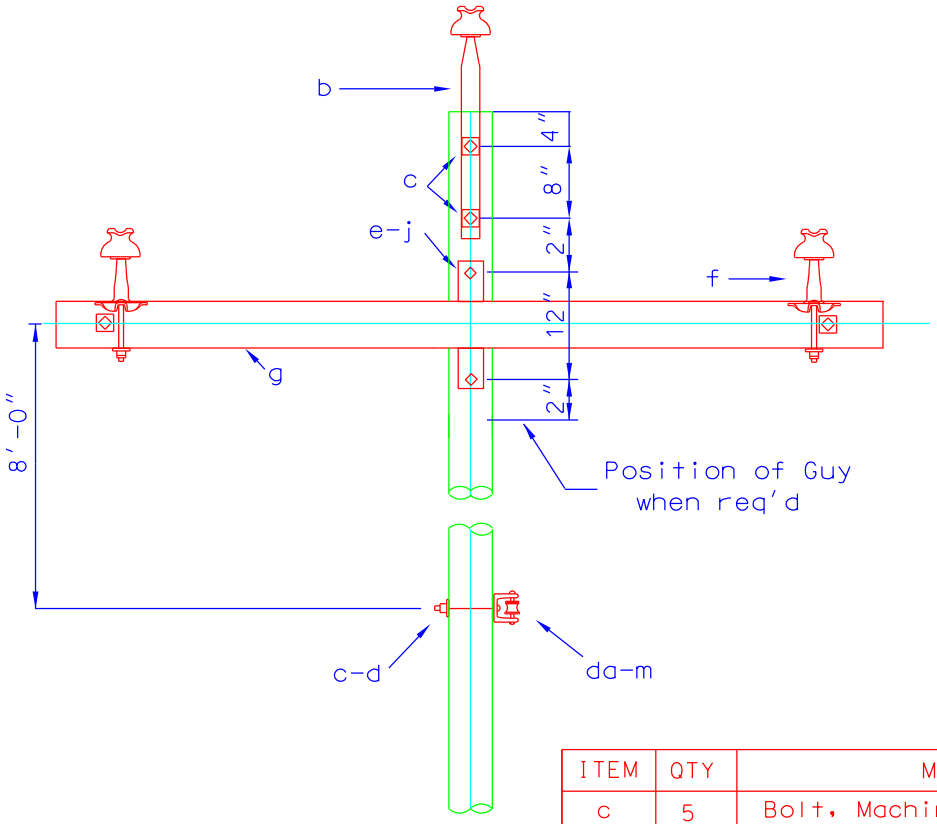
DATE: 5/17/23

STANDARD NUMBER

C1-4-HD



PLAN



ITEM	QTY	MATERIAL
c	5	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 8′ x 0″
a	4	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm, Clamp Type
b	2	Pin, Pole Top Fiberglass
d	5	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 795 AA

2- Maximum 5° line angle

2- Use 2 pole keys when angle exceeds 3°

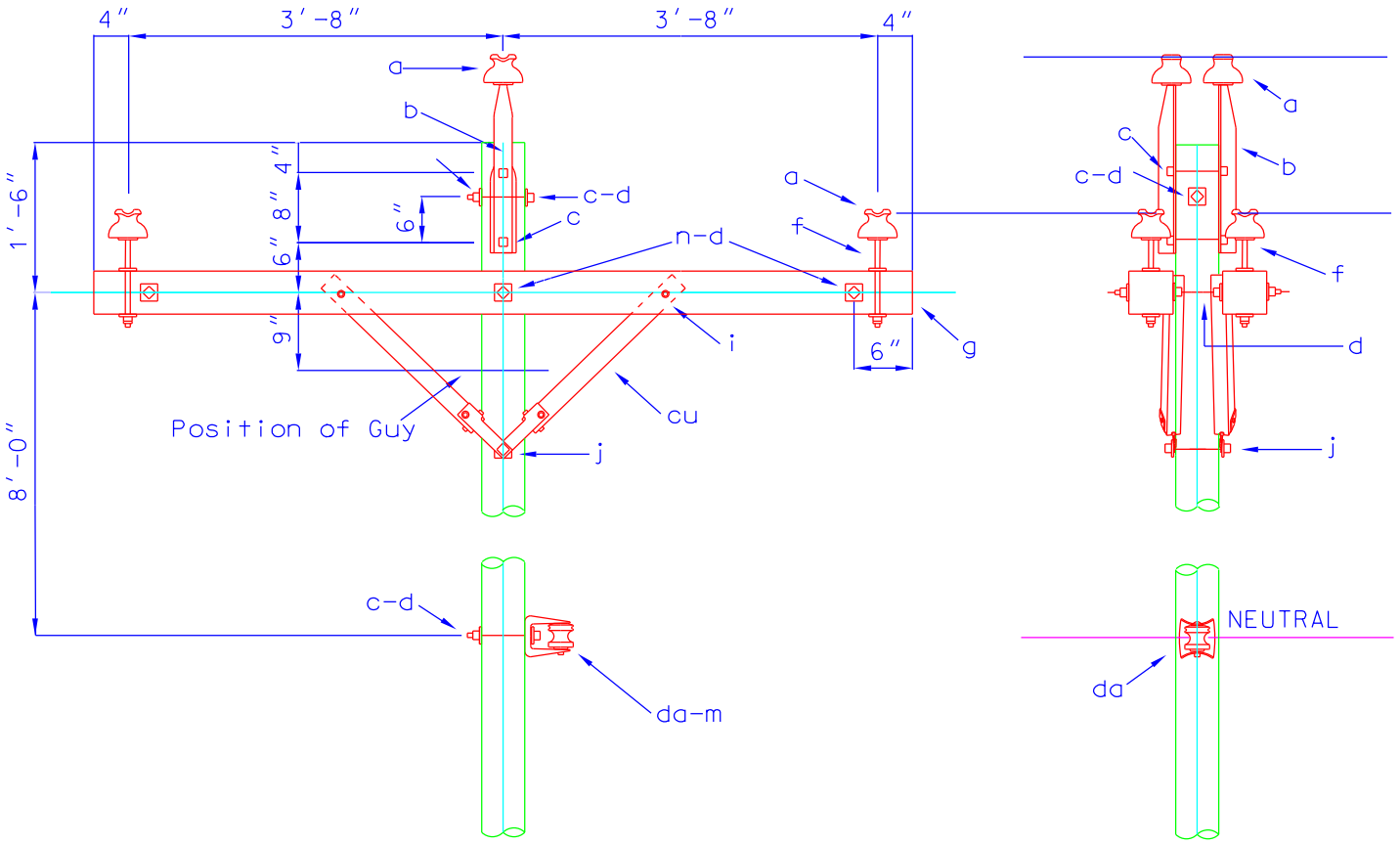
GDE

PRIMARY, THREE PHASE
SMALL ANGLE STRUCTURE
HEAVY DUTY CONSTRUCTION
SINGLE FIBERGLASS ARM

DATE: 7/28/23

STANDARD NUMBER

C1-F-4-HD



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8″ x 5″
n	3	Bolt, Double Arming, 5/8″ x Req'd Length
c	4	Bolt, Machine, 5/8″ x Req'd Length
cu	4	Brace, Wood, 28″ Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8′ - 0″
a	6	Insulatator, Pin Type
m	1	Insulator, Rack Large
f	4	Pin, Crossarm 6″
b	2	Pin, Pole Top
j	2	Screw, Lag 1/2″ x 4″
d	13	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 4/0 AA
2- Maximum 20° line angle

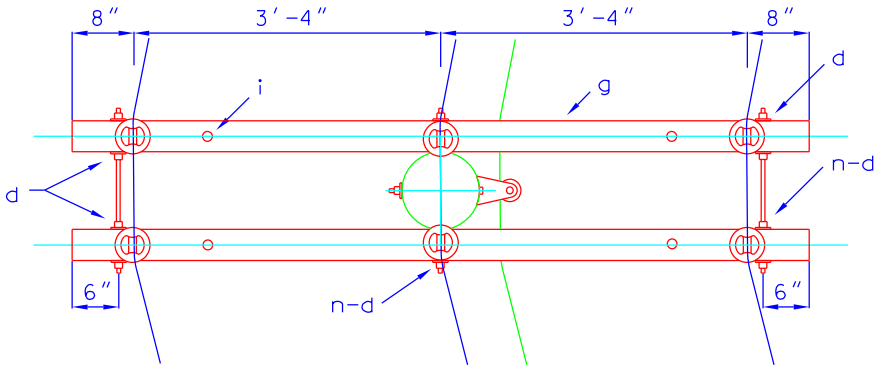
GDE

PRIMARY, THREE PHASE
DOUBLE LINE ARM
5 TO 20 DEGREE ANGLE

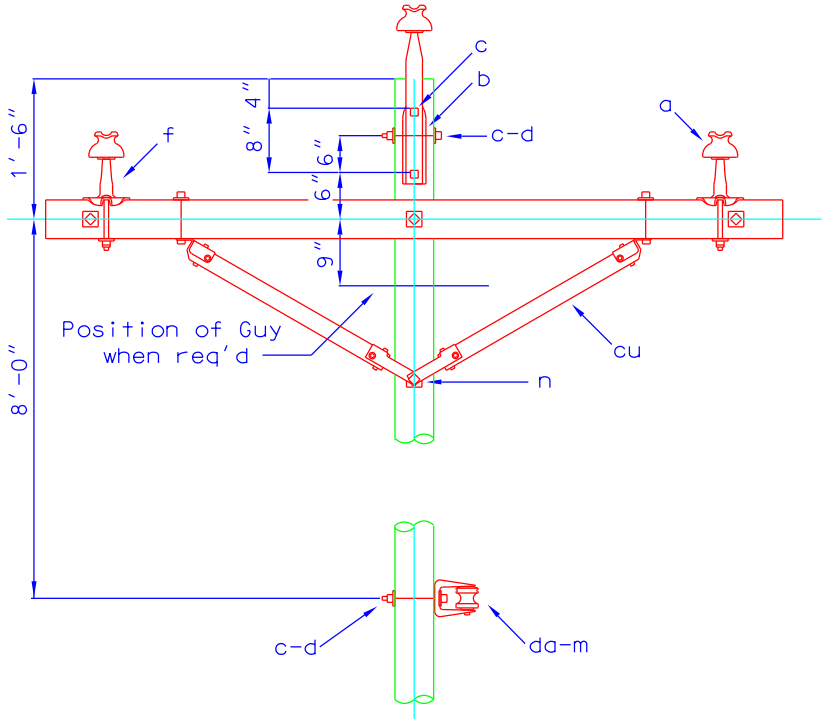
DATE: 7/17/23

STANDARD NUMBER

C2



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 1/2″ x 6″
n	3	Bolt, DA, 5/8″ x Req'd Length
c	5	Bolt, Machine, 5/8″ x Req'd Length
cu	4	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8′ - 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	4	Pin, Crossarm, Clamp Type
b	2	Pin, Pole Top
d	13	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 20° line angle

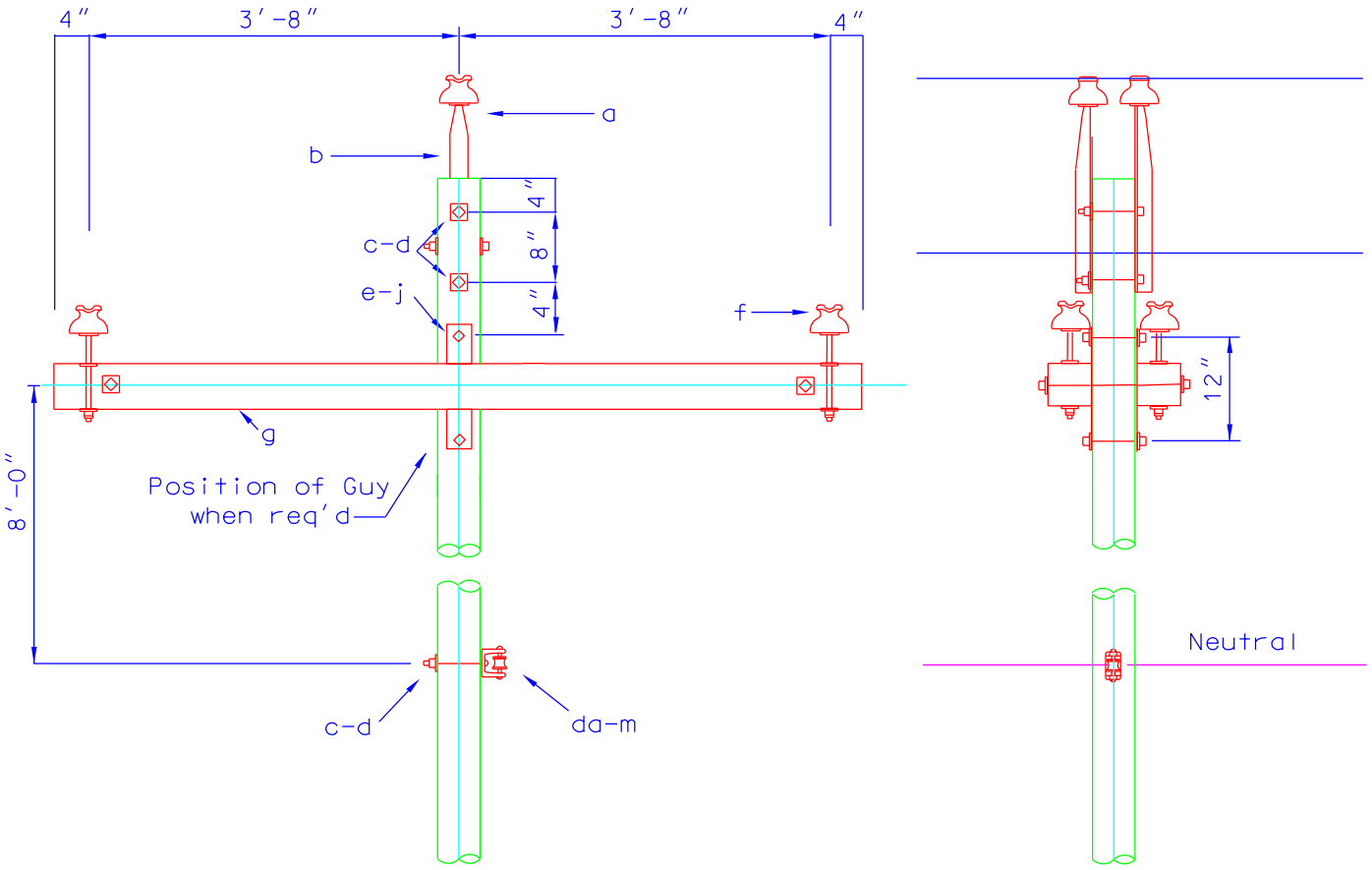
GDE

PRIMARY, THREE PHASE
MEDIUM ANGLE STRUCTURE
HEAVY DUTY CONSTRUCTION

DATE: 7/17/23

STANDARD NUMBER

C2-HD



ITEM	QTY	MATERIAL
n	2	Bolt, Double Arming, 5/8″ x Req′d Length
c	4	Bolt, Machine, 5/8″ x Req′d Length
e	2	Bolt, Machine, 3/4″ x Req′d Length
da	1	Clevis, Neutral
g	2	Crossarm, FG Tangent, 8′ x 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	4	Pin, Crossarm 6″
b	2	Pin, Pole Top Fiberglass
d	11	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 4/0 AA

2- Maximum 20° line angle

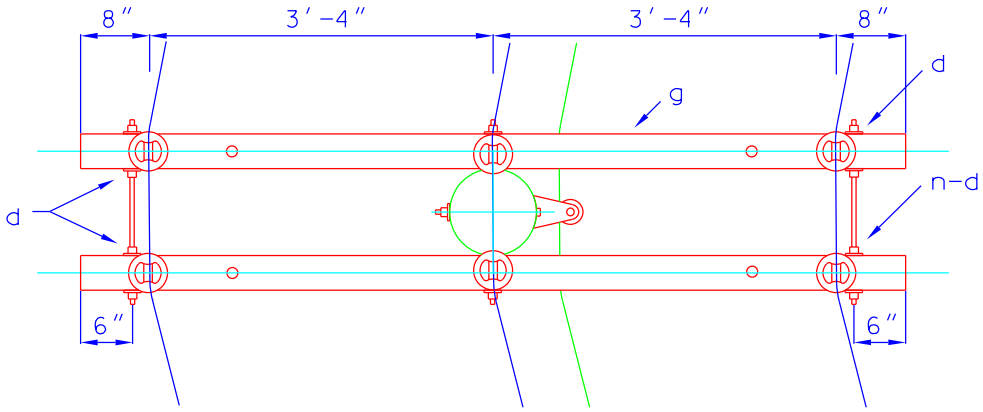
GDE

PRIMARY, THREE PHASE
5 TO 20 DEGREE ANGLE
DOUBLE FIBERGLASS ARM

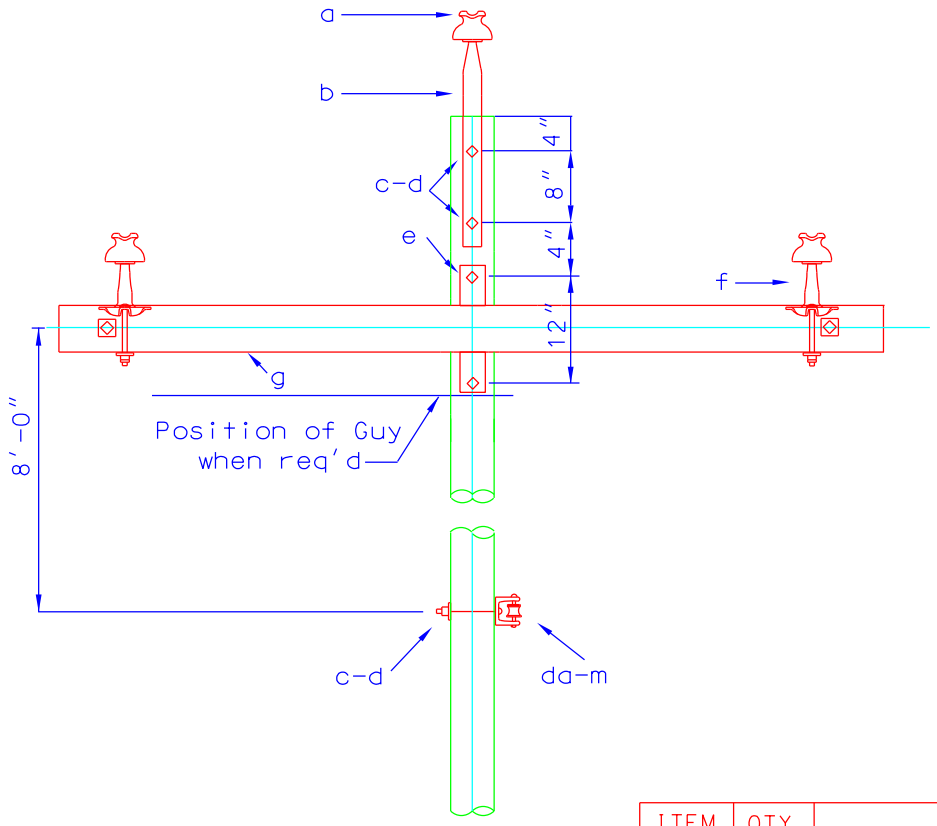
DATE: 5/17/23

STANDARD NUMBER

C2-F



PLAN



ITEM	QTY	MATERIAL
n	2	Bolt, DA, 5/8″ x Req'd Length
c	3	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	2	Crossarm, FG Tangent, 8′ x 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	4	Pin, Crossarm, Clamp Type
b	2	Pin, Pole Top Fiberglass
d	9	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 20 degree line angle
3- Add split bolt and washers on wood pole

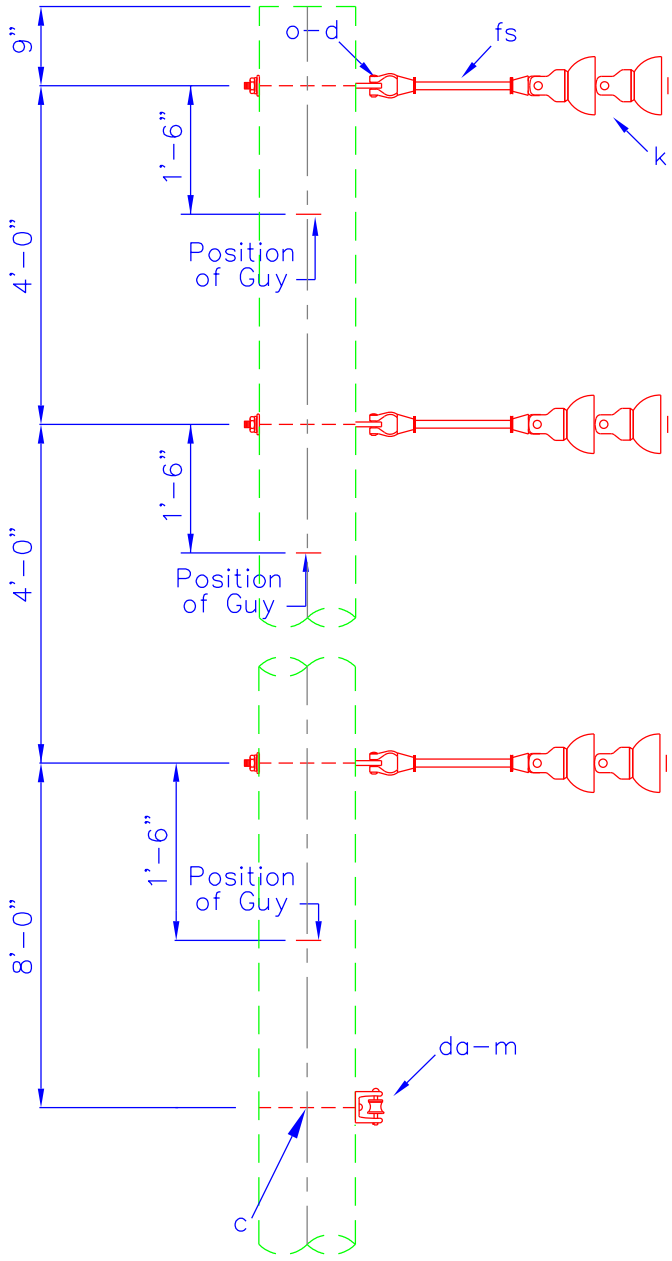
GDE

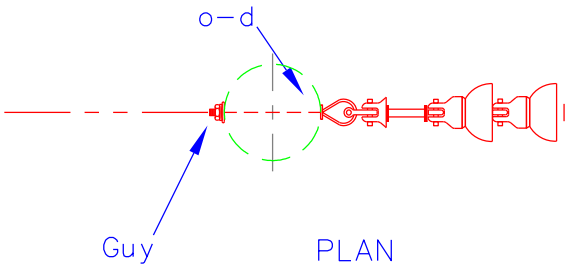
PRIMARY, THREE PHASE MEDIUM ANGLE STRUCTURE DOUBLE FIBERGLASS ARM HEAVY DUTY CONSTRUCTION

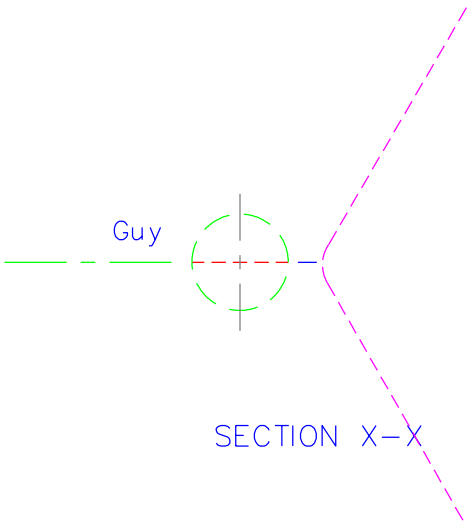
DATE: 5/18/23

STANDARD NUMBER

C2-F-HD







ITEM	QTY	MATERIAL
o	3	Bolt, Eye, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
da	1	Clevis, Neutral
m	1	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15kV
fs	3	Link, Insulating Fiberglass, 18"
d	7	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum 60° line angle

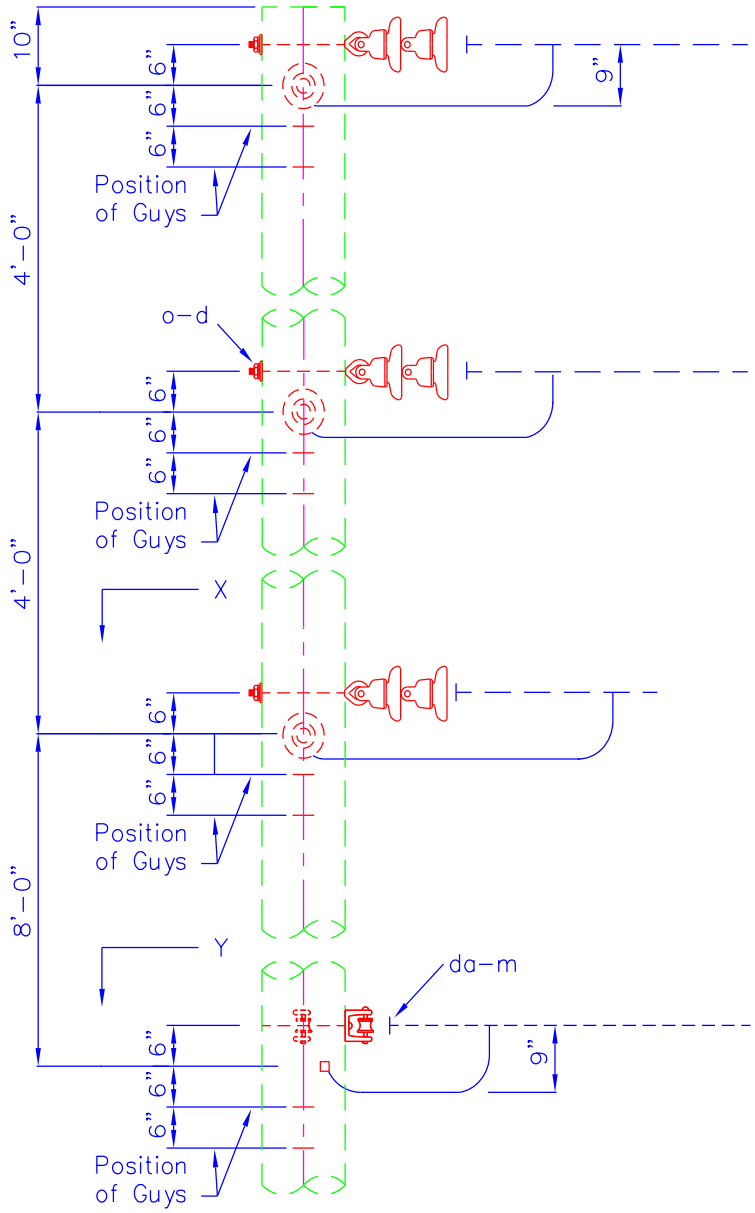
GDE

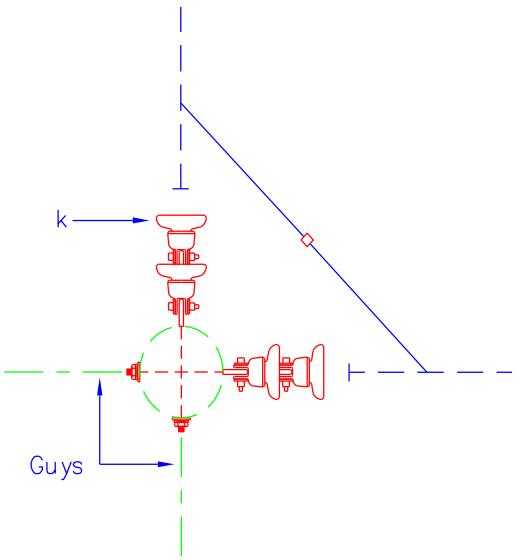
PRIMARY, THREE PHASE
LARGE ANGLE STRUCTURE
20 TO 60 DEGREE ANGLE

DATE: 7/17/23

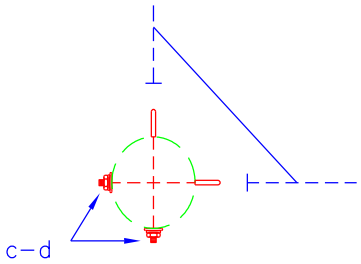
STANDARD NUMBER

C3V





SECTION X



SECTION Y

ITEM	QTY	MATERIAL
o	6	Bolt, Eye, 5/8" Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
da	2	Clevis, Neutral
m	2	Insulator, Rack Large
k	6	Insulator, Suspension - Epoxy 15kV
d	14	Washer, 2 1/4" Square, 11/16"

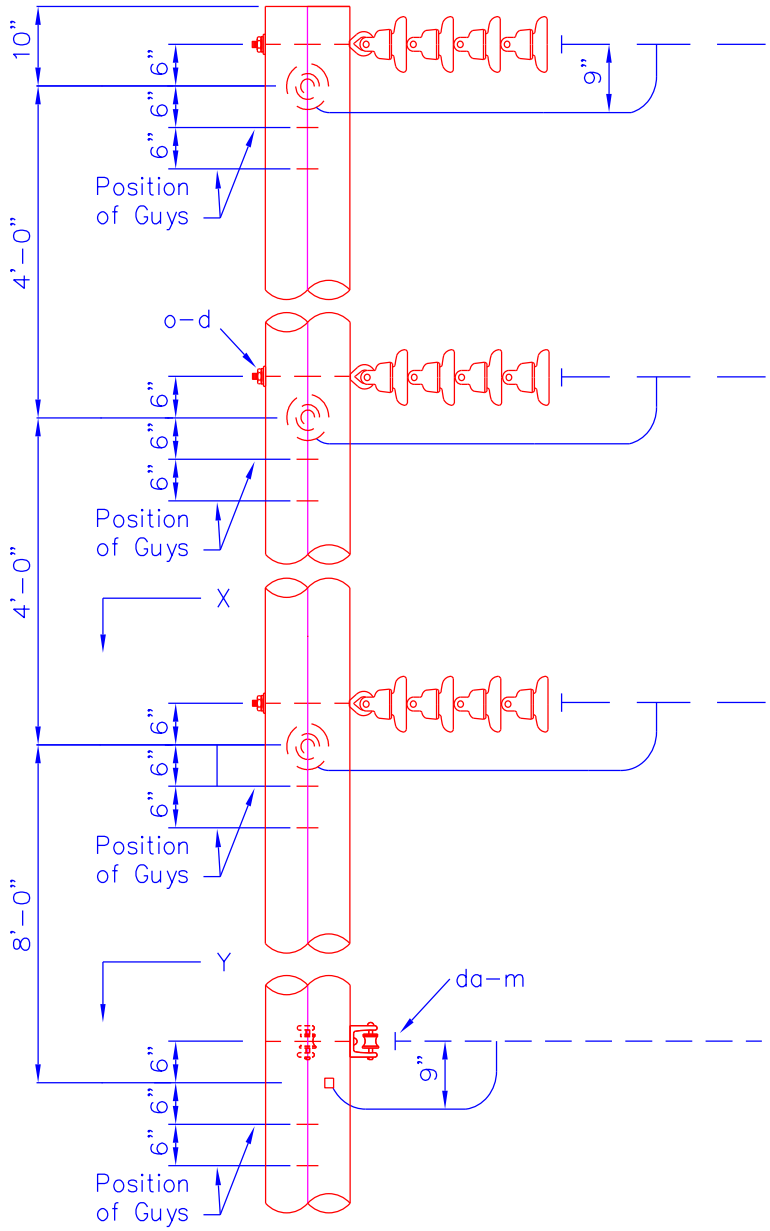
GDE

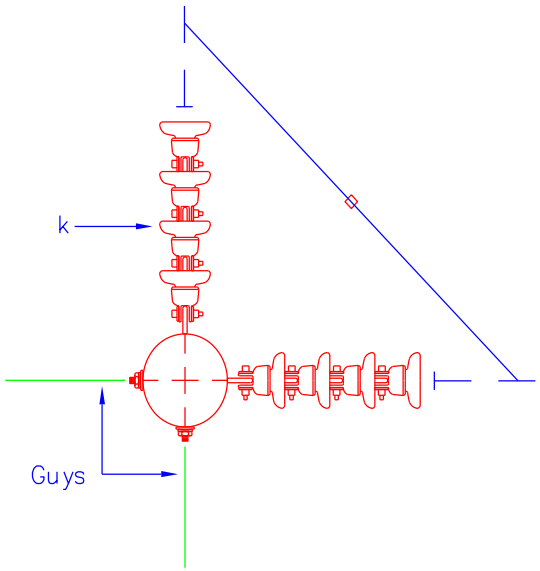
PRIMARY, THREE PHASE VERTICAL CONSTRUCTION DOUBLE DEADEND

DATE: 7/17/23

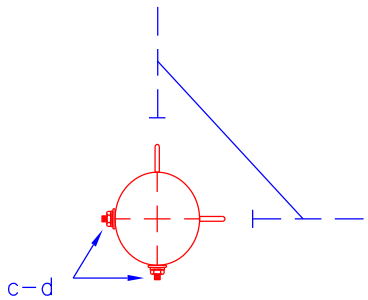
STANDARD NUMBER

C4





SECTION X



SECTION Y

ITEM	QTY	MATERIAL
o	6	Bolt, Eye, 5/8" Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
da	2	Clevis, Neutral
m	2	Insulator, Rack Large
k	12	Insulator, Suspension - Epoxy 15kV
d	14	Washer, 2 1/4" Square, 11/16"

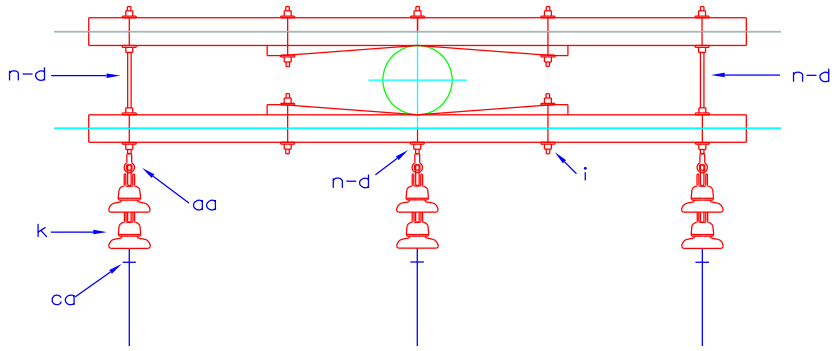
GDE

PRIMARY, THREE PHASE VERTICAL CONSTRUCTION DOUBLE DEADEND

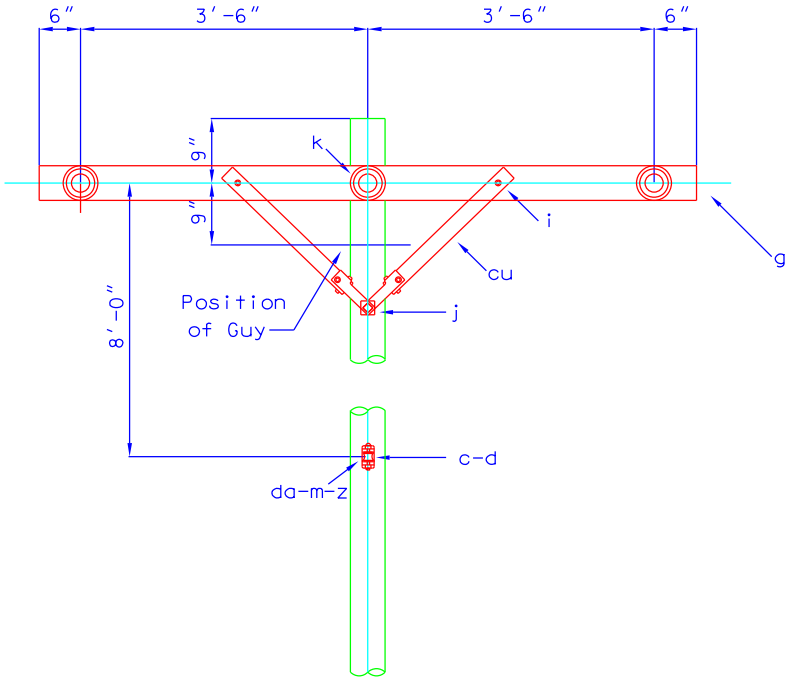
DATE: 4/21/25

STANDARD NUMBER

C4-S



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x 5"
n	3	Bolt, Double Arming, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
m	1	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15kV
aa	3	Nut, Eye 5/8"
j	2	Screw, Lag 1/2" x 4"
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0 AA

2- Add materials for deadending phase and neutral.

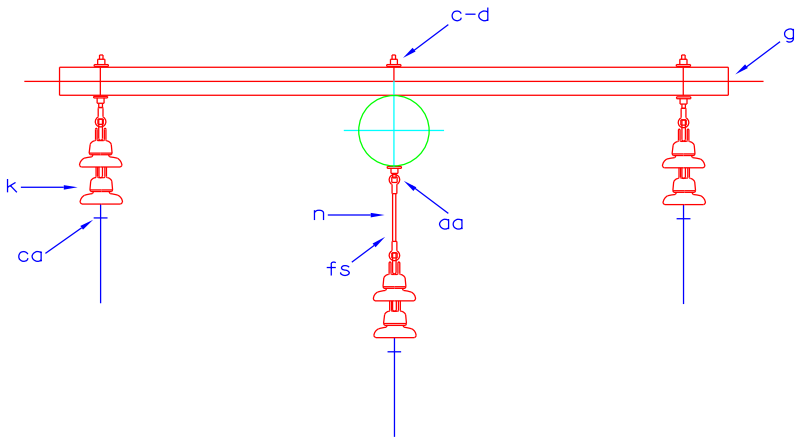
GDE

PRIMARY, THREE PHASE DOUBLE LINE ARM DEADEND STRUCTURE

DATE: 7/17/23

STANDARD NUMBER

C7



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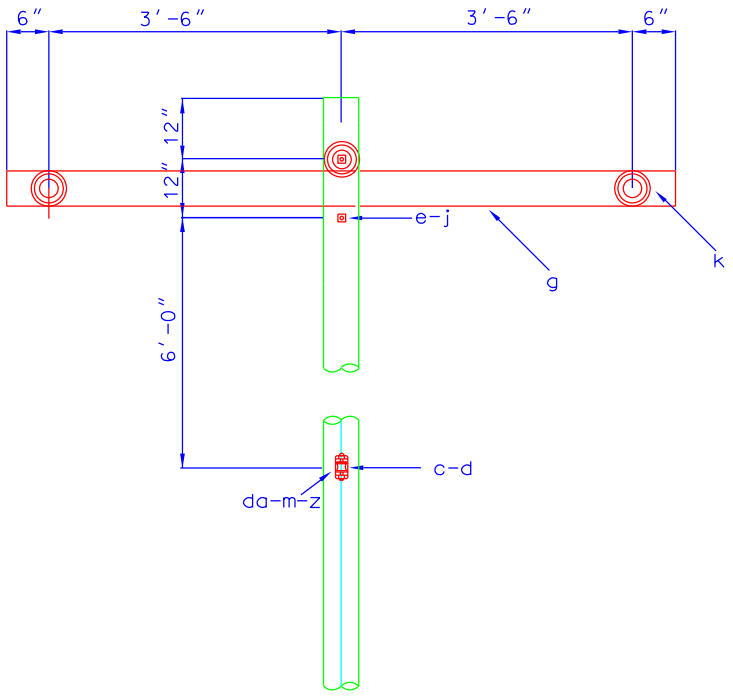


ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	2	Bolt, Machine, 3/4" x Req'd Length
ca	3	Clamp, Strain, 336 - 954
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend, 8' - 0"
z	1	DE, Auto, Neutral 4/0 AA
m	1	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15kV
fs	1	Link, Insulating Fiberglass, 18"
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTES:
1- Maximum conductor size 795 AA

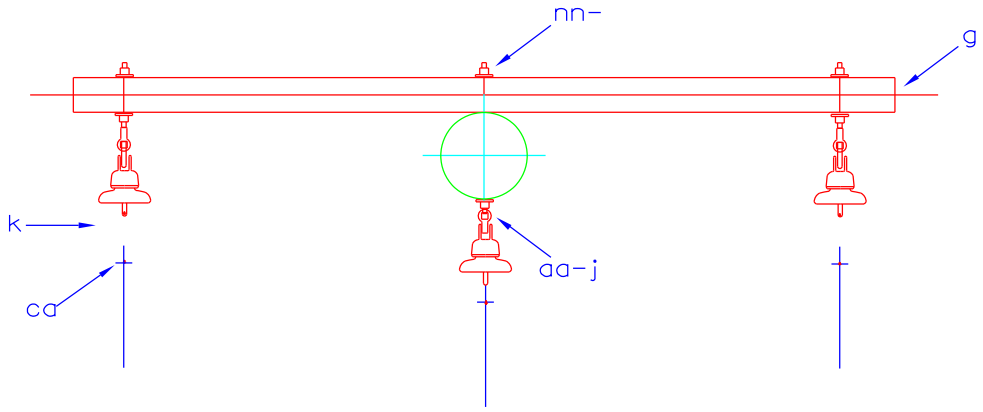
GDE

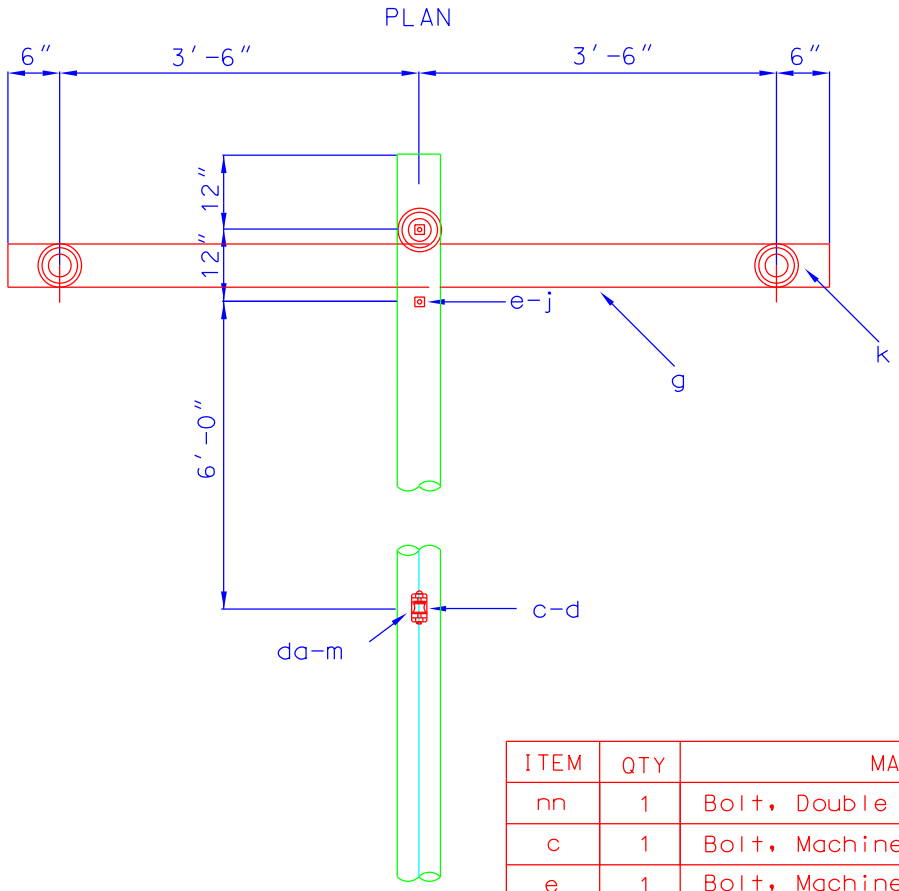
PRIMARY, THREE PHASE DEADEND STRUCTURE HEAVY DUTY CONSTRUCTION

DATE: 5/18/23

STANDARD NUMBER

C7-HD





ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 8' x 0"
m	1	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTES:

1- Add materials for deadending phase and neutral.

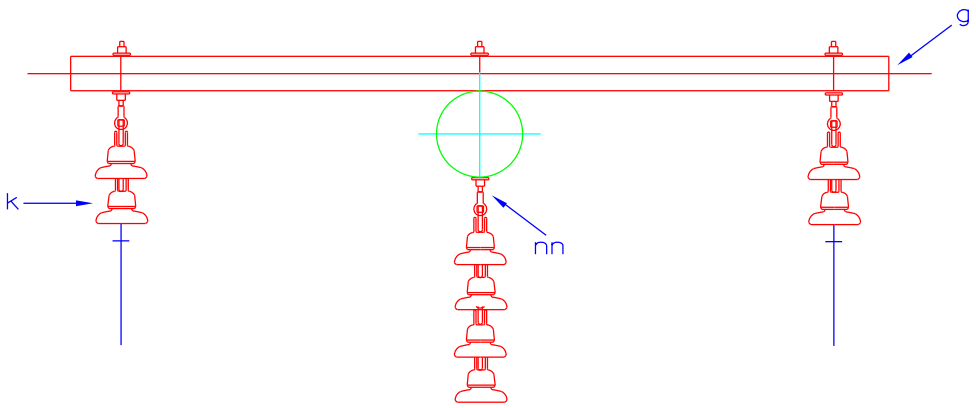
GDE

PRIMARY, THREE PHASE DEADEND STRUCTURE FIBERGLASS ARM

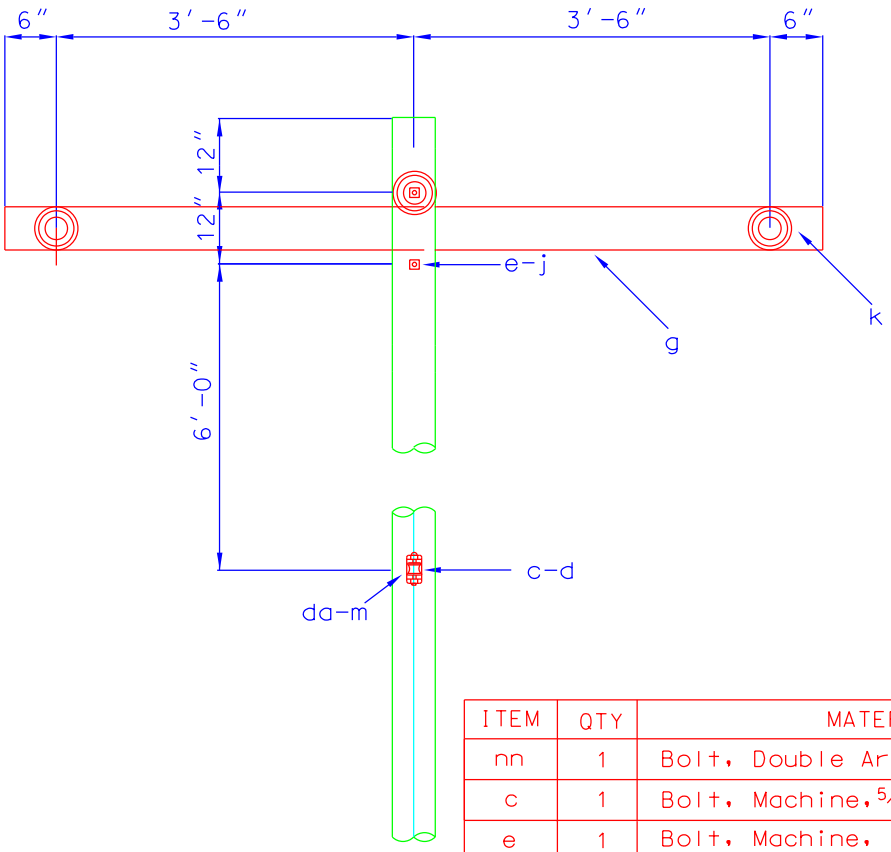
DATE: 9/26/23

STANDARD NUMBER

C7-F



PLAN



ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 8' x 0"
m	1	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTES:
1- Maximum conductor size 795 AA

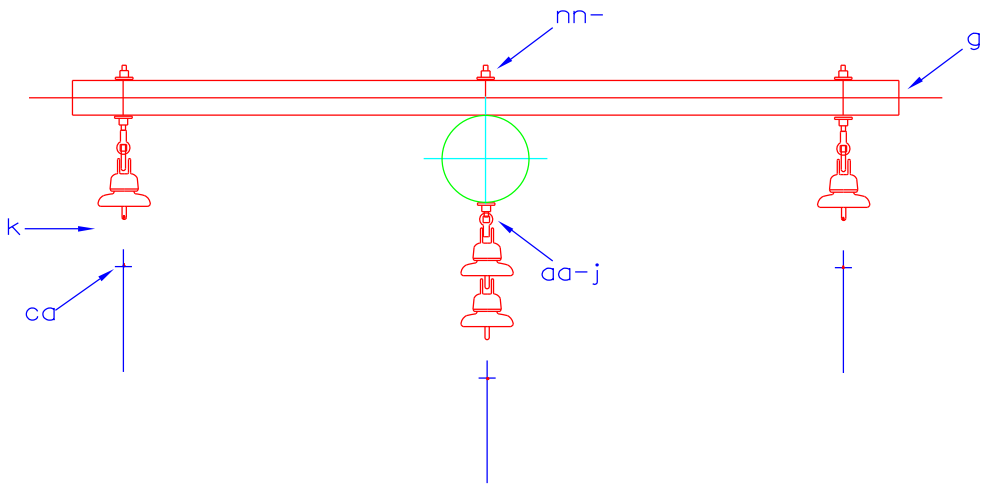
GDE

PRIMARY, THREE PHASE DEADEND STRUCTURE HEAVY DUTY CONSTRUCTION

DATE: 5/18/23

STANDARD NUMBER

C7S-HD



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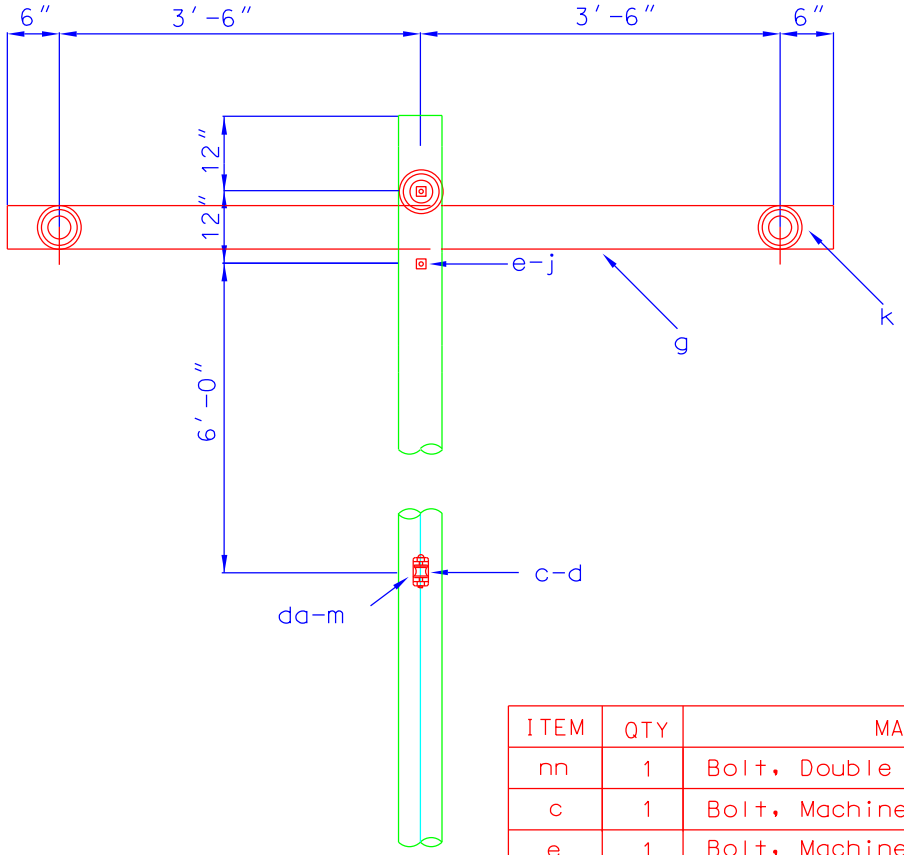


ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 8' x 0"
m	1	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTE:

1) Material for steel pole.

2) Add materials for deadending phase and neutral.

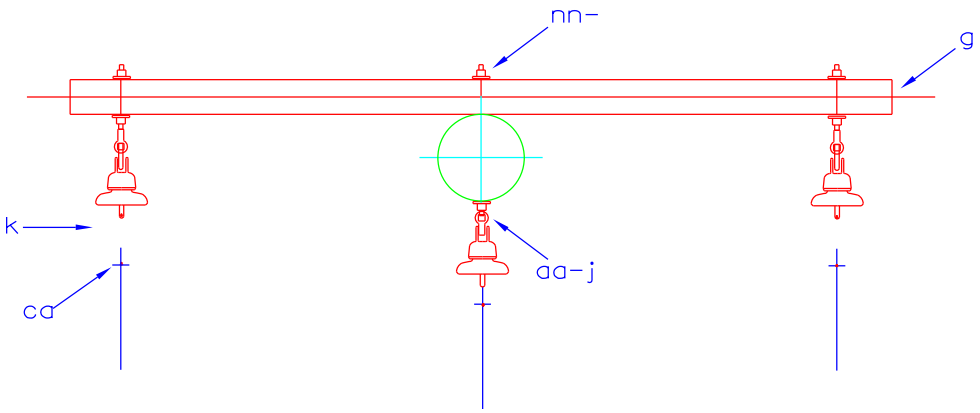
GDE

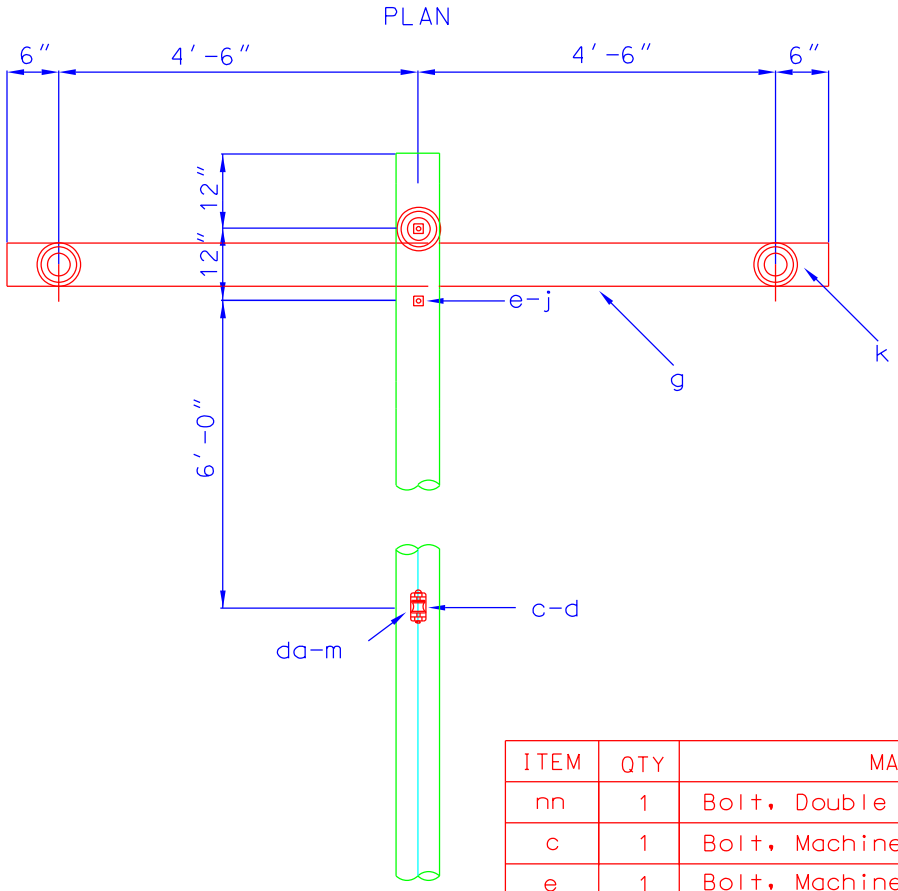
PRIMARY, THREE PHASE DEADEND STRUCTURE FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C7S-F





ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 10' x 0"
m	1	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTES:

1- Add materials for deadending phase and neutral.

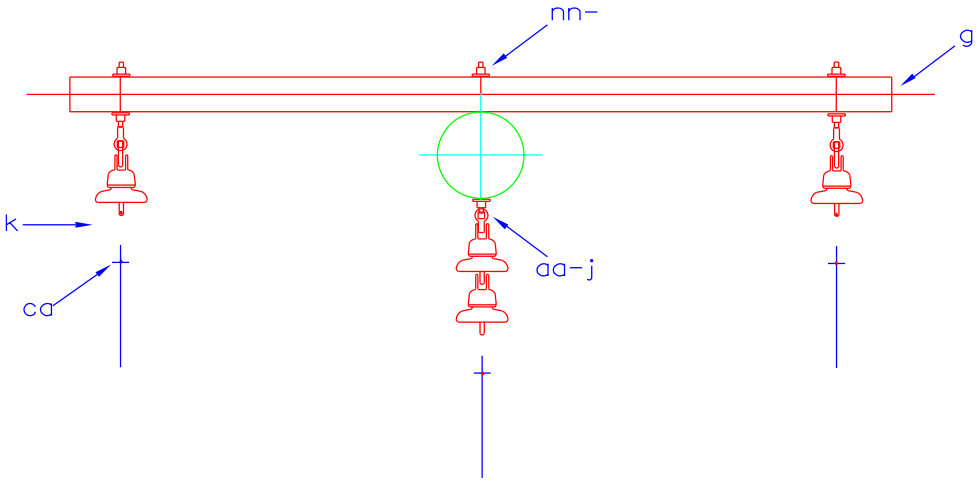
GDE

PRIMARY, THREE PHASE DEADEND STRUCTURE 10' FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C7-F-T



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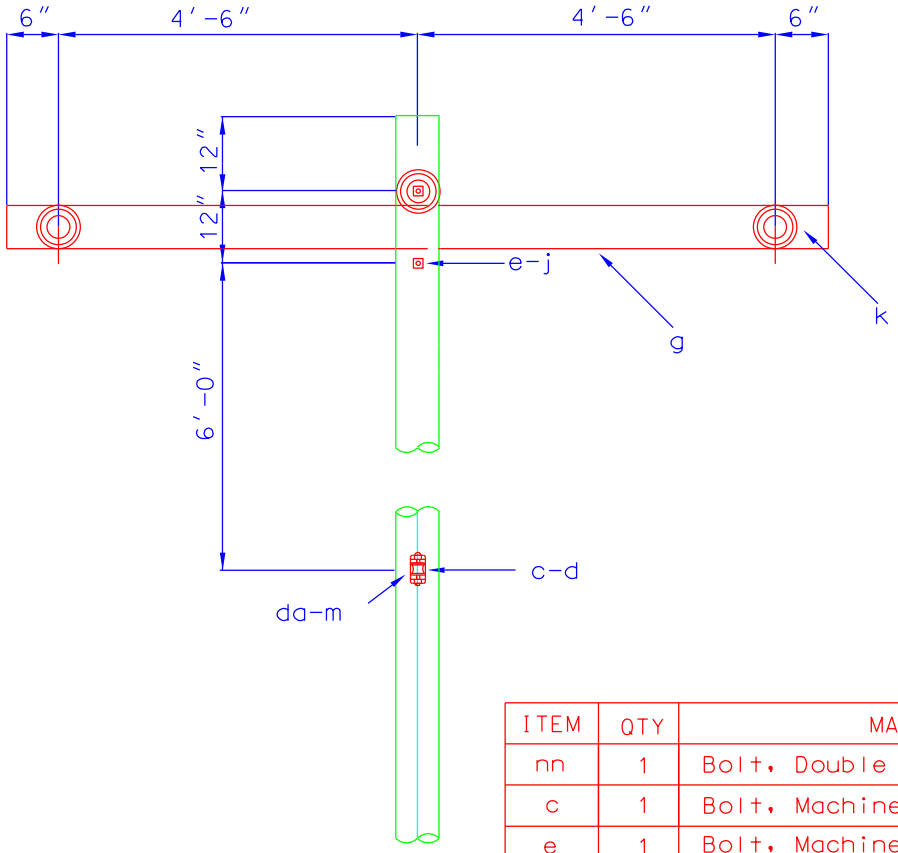


ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 10' x 0"
m	1	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTE:
1) Material for steel pole.
2) Add materials for deadending phase and neutral.

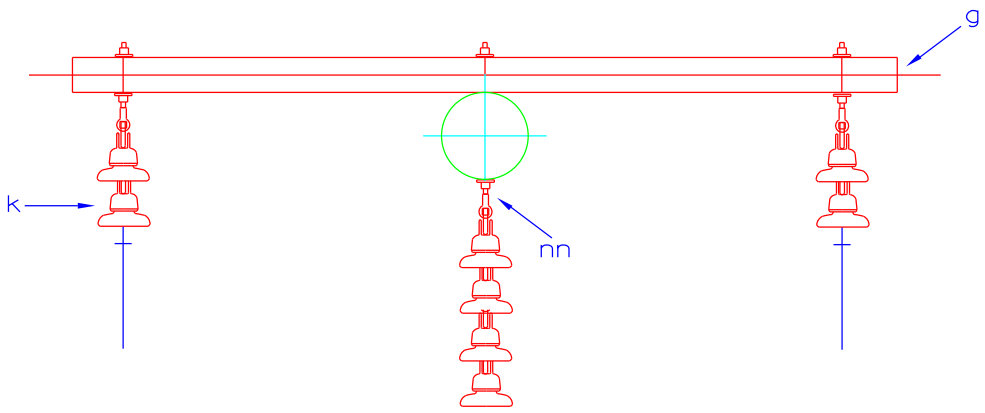
GDE

PRIMARY, THREE PHASE DEADEND STRUCTURE 10' FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C7S-F-T



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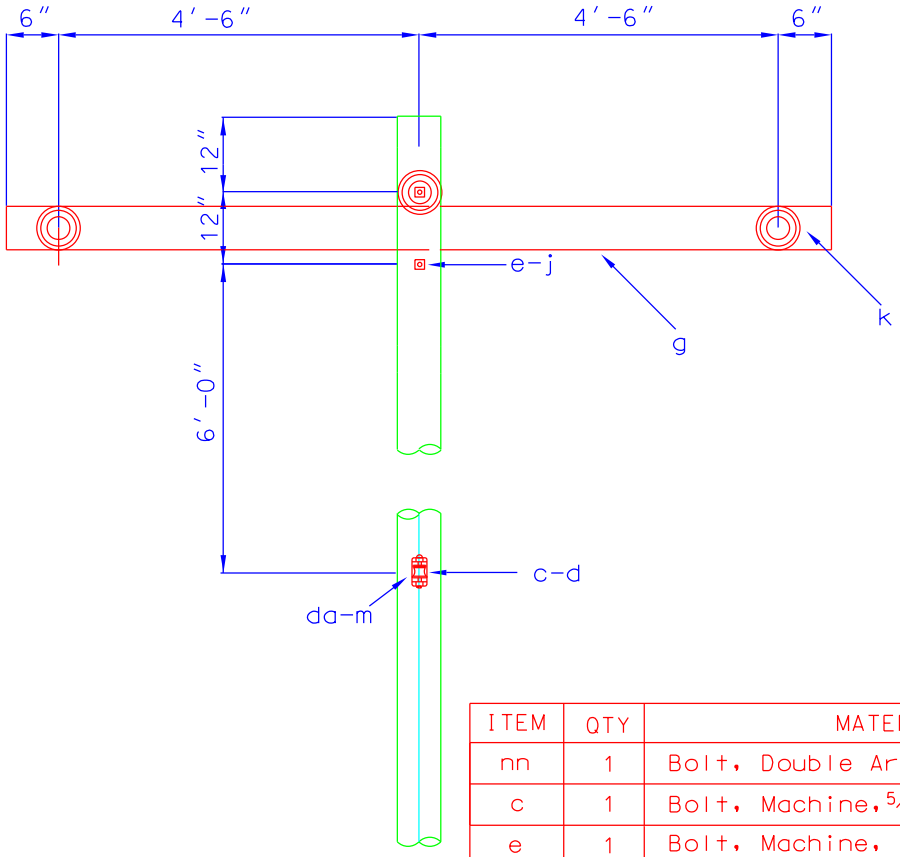


ITEM	QTY	MATERIAL
nn	1	Bolt, Double Arming, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Deadend 10′ x 0″
m	1	Insulator, Rack Large
k	4	Insulator, Suspension - Epoxy 15KV
aa	1	Nut, Eye 3/4″
d	1	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 795 AA

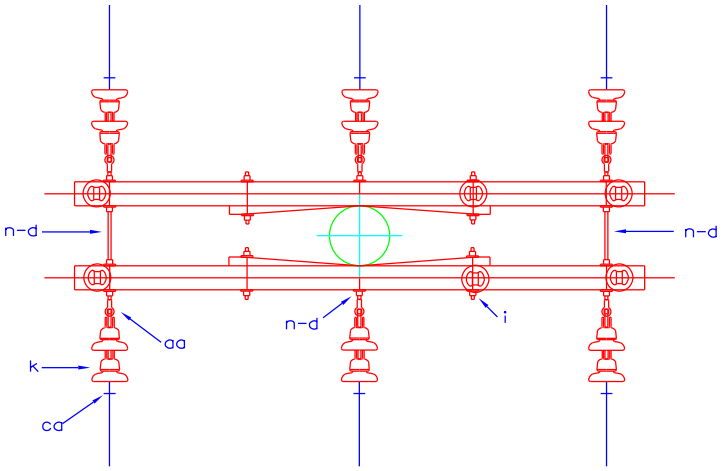
GDE

PRIMARY, THREE PHASE DEADEND STRUCTURE ON 10′ ARMS HEAVY DUTY CONSTRUCTION

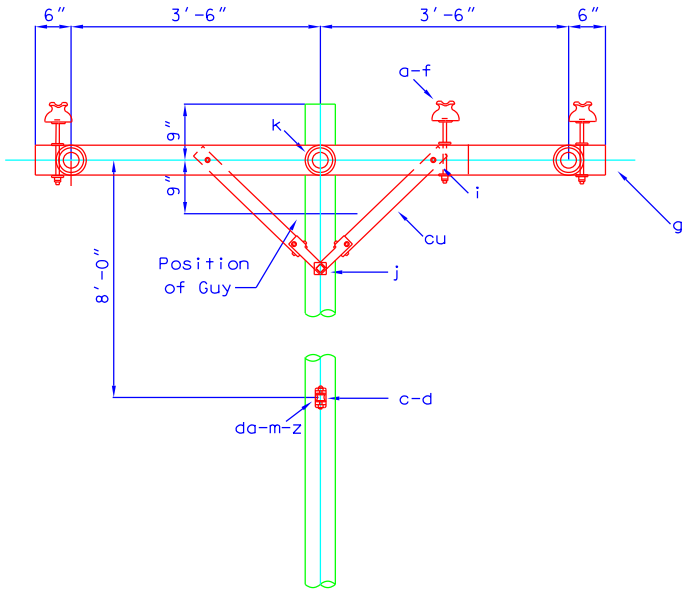
DATE: 5/18/23

STANDARD NUMBER

C7S-HD-T



PLAN



ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x Req'd Length
n	3	Bolt, DA, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
da	2	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
a	6	Insulator, Pin Type
m	2	Insulator, Rack Large
k	6	Insulator, Suspension - Epoxy 15kV
aa	6	Nut, Eye 5/8"
f	6	Pin, Crossarm 6"
j	2	Screw, Lag 1/2" x 4"
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:

1- Maximum conductor size 4/0 AA

2- Add materials for deadending phase and neutral.

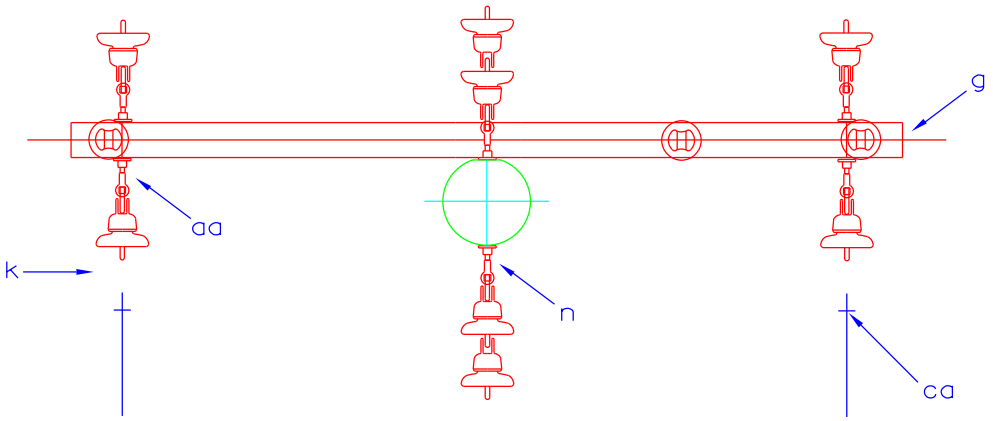
GDE

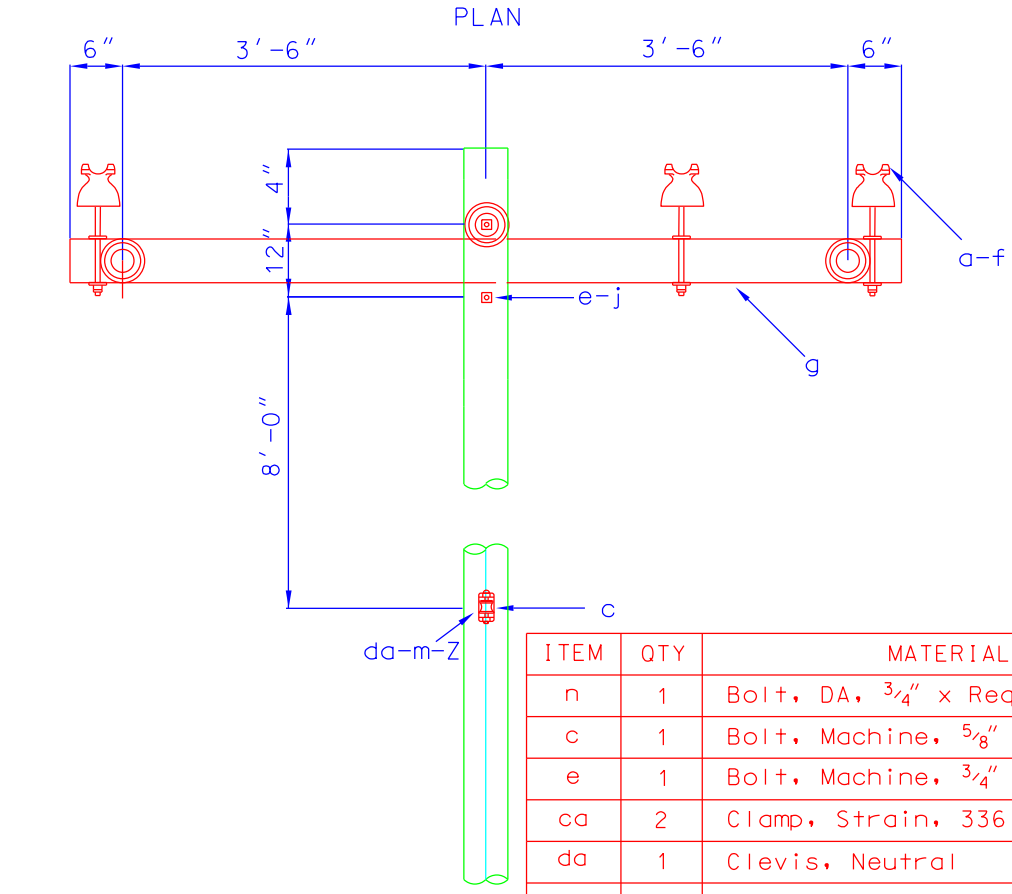
PRIMARY, THREE PHASE DOUBLE LINE ARM DOUBLE DEADEND STRUCTURE

DATE: 7/17/23

STANDARD NUMBER

C8





ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
ca	2	Clamp, Strain, 336 - 954
da	1	Clevis, Neutral
g	3	Crossarm, FG Deadend, 8′ - 0″
z	2	DE, Auto, Neutral 4/0 AA
a	8	Insulator, Pin Type
m	2	Insulator, Rack Large
k	3	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 5/8″
f	8	Pin, Crossarm 6″
j	8	Washer, 4″ Curved

NOTE:
1) Maximum conductor size 795 AA.

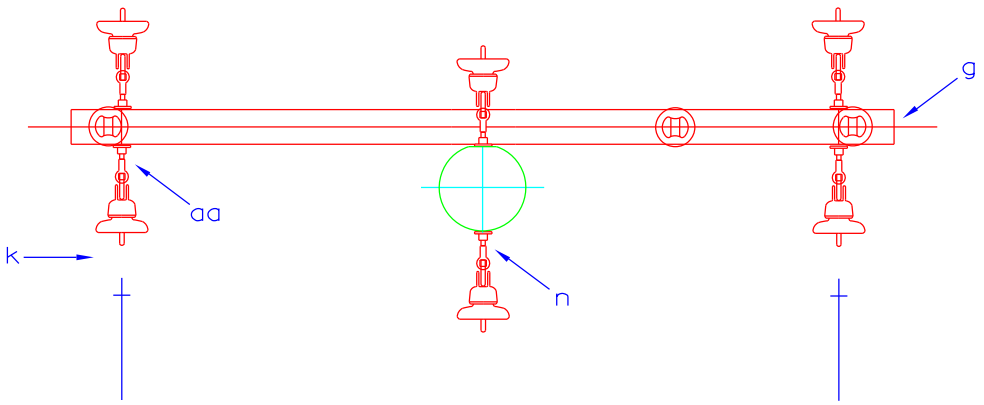
GDE

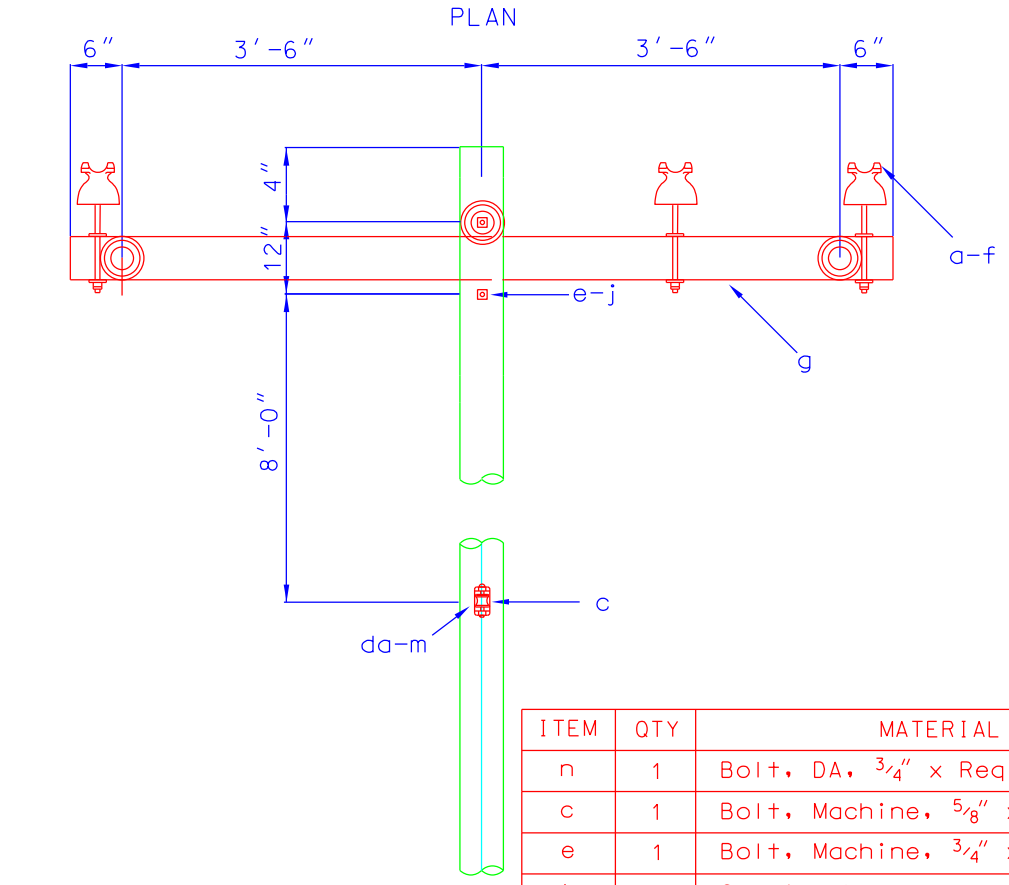
PRIMARY, THREE PHASE DOUBLE DEADEND STRUCTURE HEAVY DUTY CONSTRUCTION

DATE: 5/18/23

STANDARD NUMBER

C8-HD





ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
da	2	Clevis, Neutral
g	1	Crossarm, FG Deadend, 8′ - 0″
a	3	Insulator, Pin Type
m	2	Insulator, Rack Large
k	6	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 5/8″
f	3	Pin, Crossarm 6″
j	2	Washer, 4″ Curved

NOTES:

1- Add materials for deadending phase and neutral.

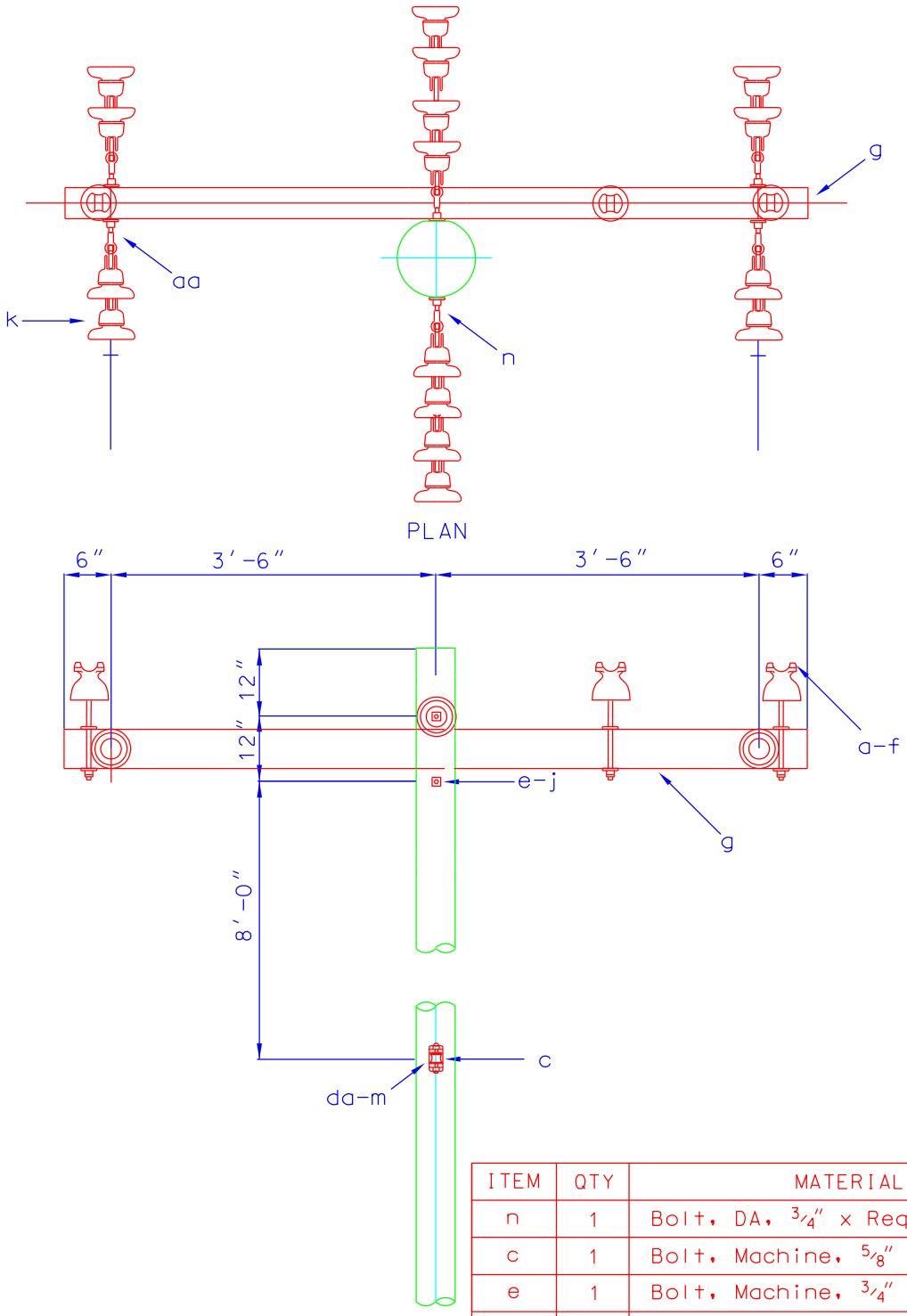
GDE

PRIMARY, THREE PHASE DOUBLE DEADEND STRUCTURE FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C8-F



ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
da	2	Clevis, Neutral
g	1	Crossarm, FG Deadend, 8′ - 0″
a	3	Insulator, Pin Type
m	2	Insulator, Rack Large
k	8	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 3/4″
f	3	Pin, Crossarm 6″
j	2	Washer, 4″ Curved

NOTES:

1- Material for steel pole

2- Add matierals for deadending phase and neutral.

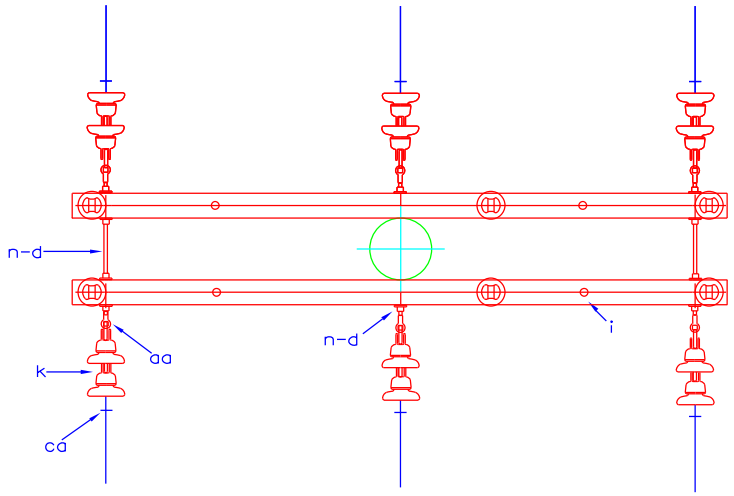
GDE

PRIMARY, THREE PHASE DOUBLE DEADEND STRUCTURE FIBERGLASS ARM

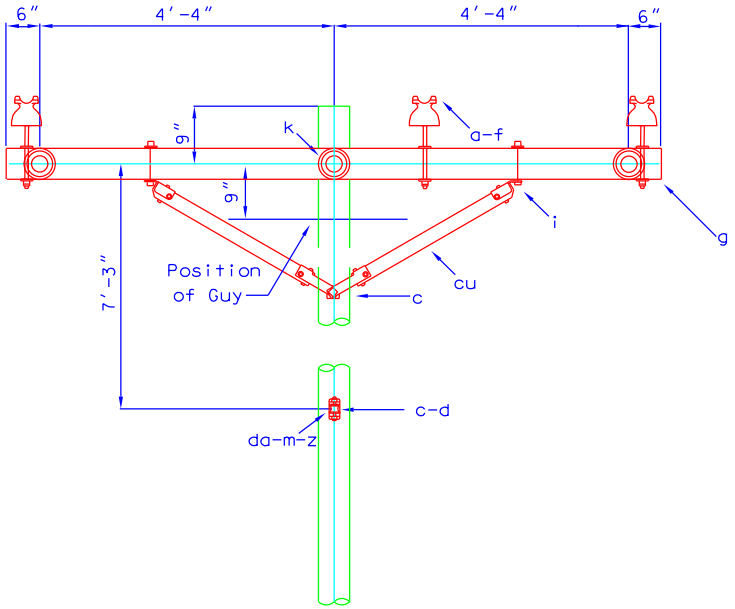
DATE: 9/26/23

STANDARD NUMBER

C8S-F



PLAN



NOTES:

1- Maximum conductor size 795 AA

ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 1/2" x Req'd Length
n	3	Bolt, DA, 5/8" x Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 60" Span
ca	6	Clamp, Strain, 336 - 954
da	2	Clevis, Neutral
g	2	Crossarm, HD 10' - 0"
z	2	DE, Auto, Neutral 4/0AA
a	6	Insulator, Pin Type
m	2	Insulator, Rack Large
k	6	Insulator, Suspension - Epoxy 15kV
aa	6	Nut, Eye 5/8"
f	6	Pin, Crossarm 6"
d	10	Washer, 2 1/4" Square, 11/16"

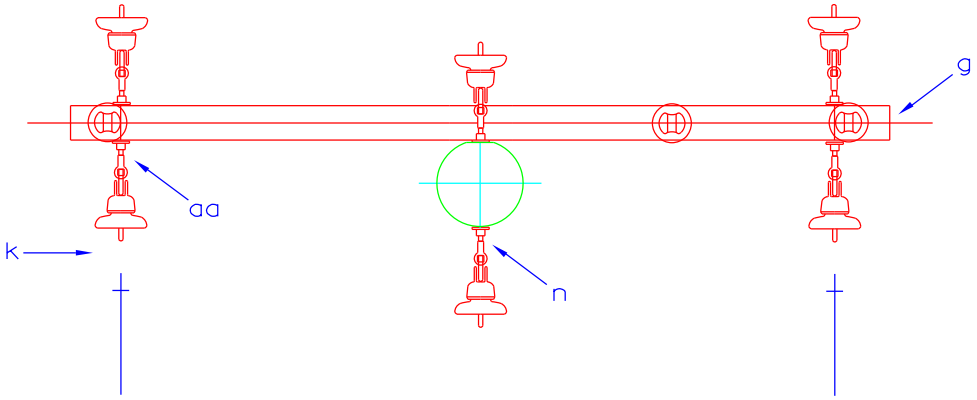
GDE

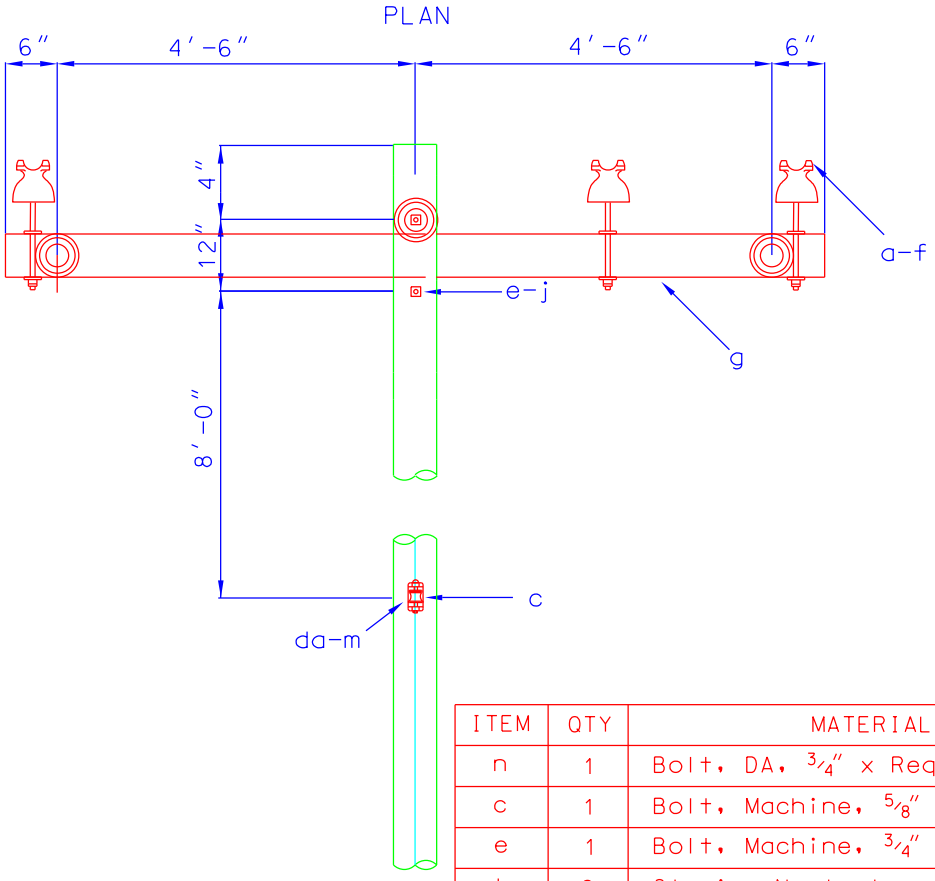
PRIMARY, THREE PHASE DEADEND STRUCTURE ON 10' ARMS DOUBLE DEADEND

DATE: 5/25/23

STANDARD NUMBER

C8-T





ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	1	Bolt, Machine, 3/4″ x Req'd Length
da	2	Clevis, Neutral
g	1	Crossarm, FG Deadend, 10′ - 0″
a	3	Insulator, Pin Type
m	2	Insulator, Rack Large
k	6	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 3/4″
f	3	Pin, Crossarm 6″
j	2	Washer, 4″ Curved

NOTES:

1- Add materials for deadending phase and neutral.

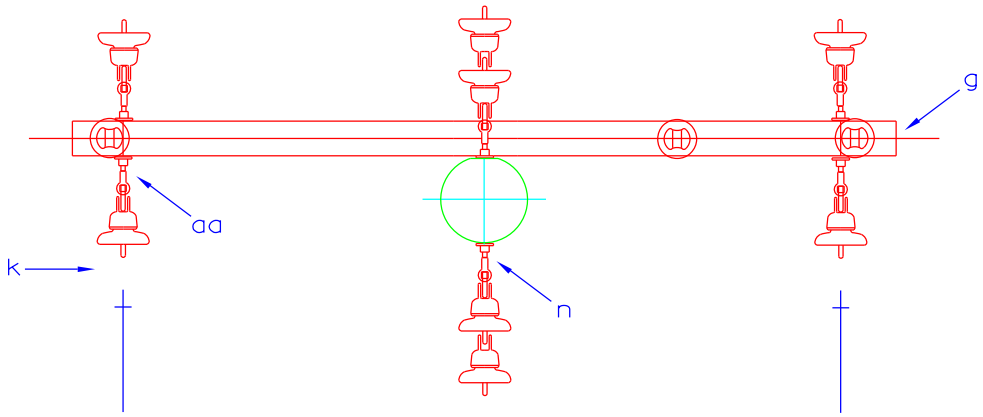
GDE

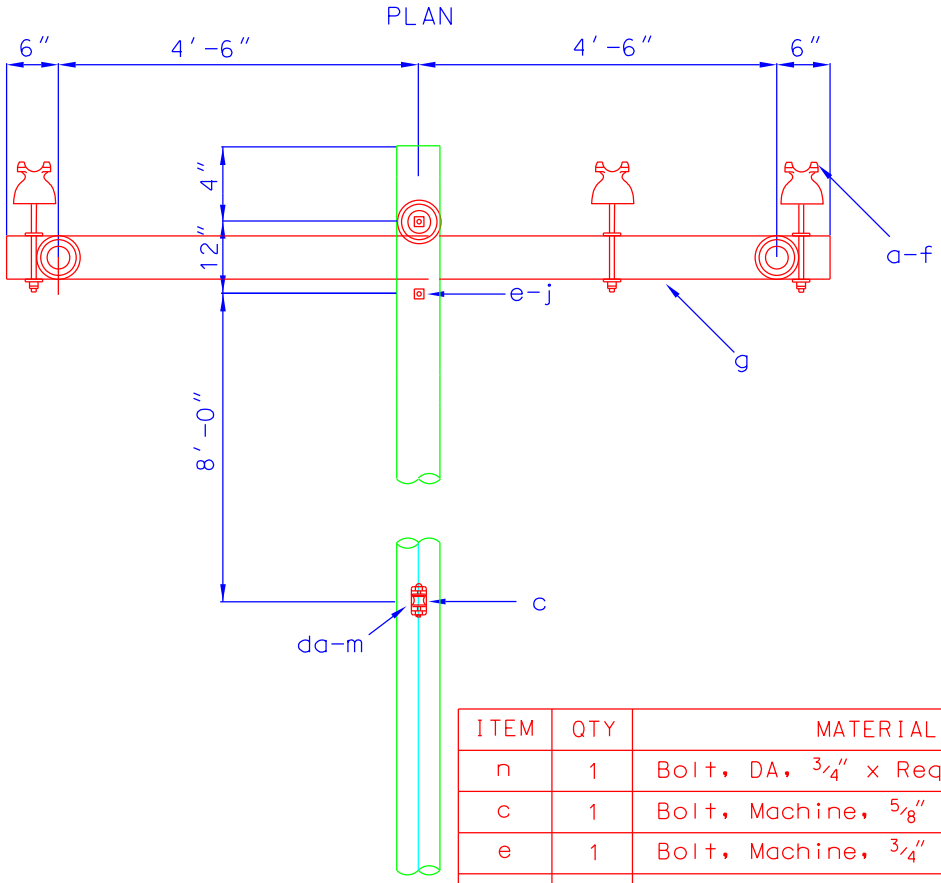
PRIMARY, THREE PHASE DOUBLE DEADEND STRUCTURE 10′ FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C8-F-T





ITEM	QTY	MATERIAL
n	1	Bolt, DA, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	2	Clevis, Neutral
g	1	Crossarm, FG Deadend, 10' - 0"
a	3	Insulator, Pin Type
m	2	Insulator, Rack Large
k	8	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 3/4"
f	3	Pin, Crossarm 6"
j	2	Washer, 4" Curved

NOTE:
1) Material for steel pole.
2) Add materials for deadending phase and neutral.

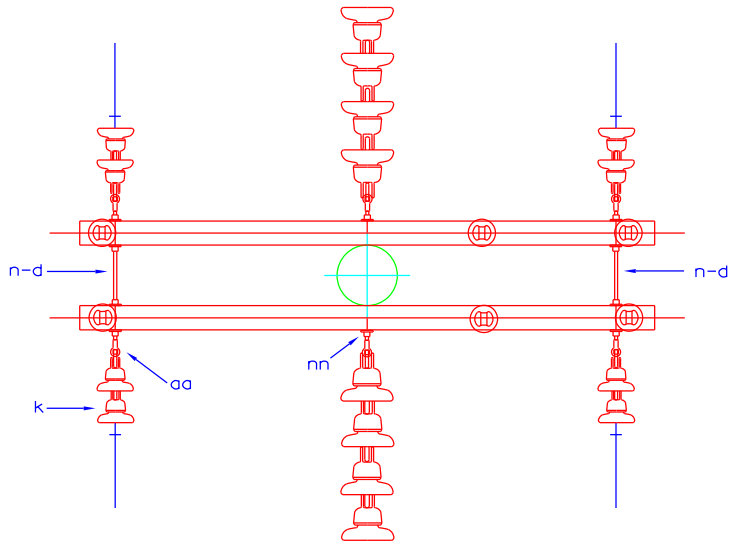
GDE

PRIMARY, THREE PHASE DOUBLE DEADEND STRUCTURE 10' FIBERGLASS ARM

DATE: 9/26/23

STANDARD NUMBER

C8S-F-T



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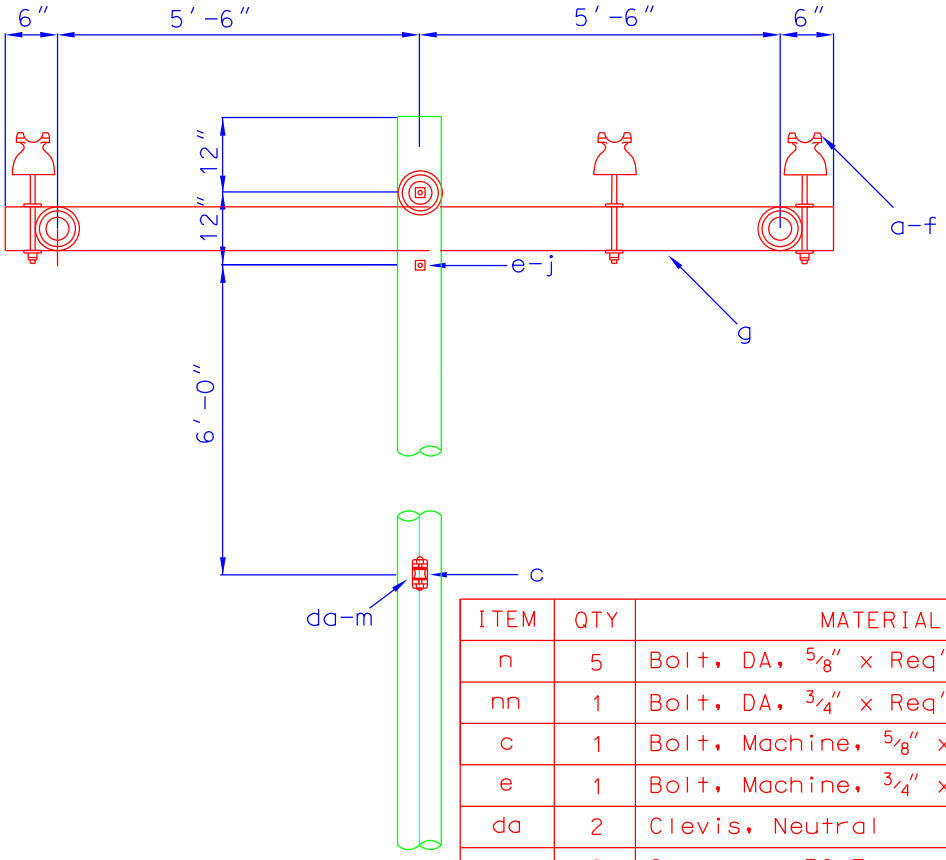


NOTES:

1- Maximum conductor size 795 AA

ITEM	QTY	MATERIAL
n	5	Bolt, DA, 5/8" x Req'd Length
nn	1	Bolt, DA, 3/4" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	1	Bolt, Machine, 3/4" x Req'd Length
da	2	Clevis, Neutral
g	2	Crossarm, FG Tangent, 12' - 0"
f	6	Insulator, Pin Type
m	2	Insulator, Rack Large
k	8	Insulator, Suspension - Epoxy 15kV
aa	2	Nut, Eye 3/4"
a	6	Pin, Crossarm 6"
d	20	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

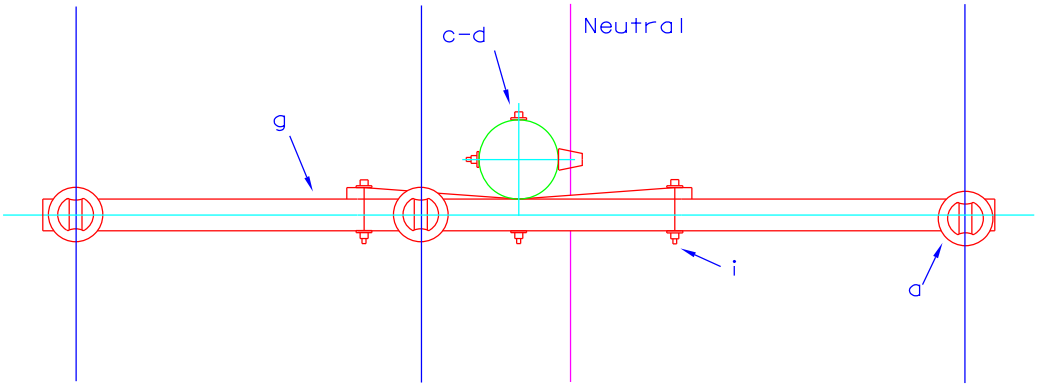
GDE

PRIMARY, THREE PHASE DOUBLE DEADEND ON 12' ARMS HEAVY DUTY CONSTRUCTION

DATE: 5/25/23

STANDARD NUMBER

C8S-HD-12



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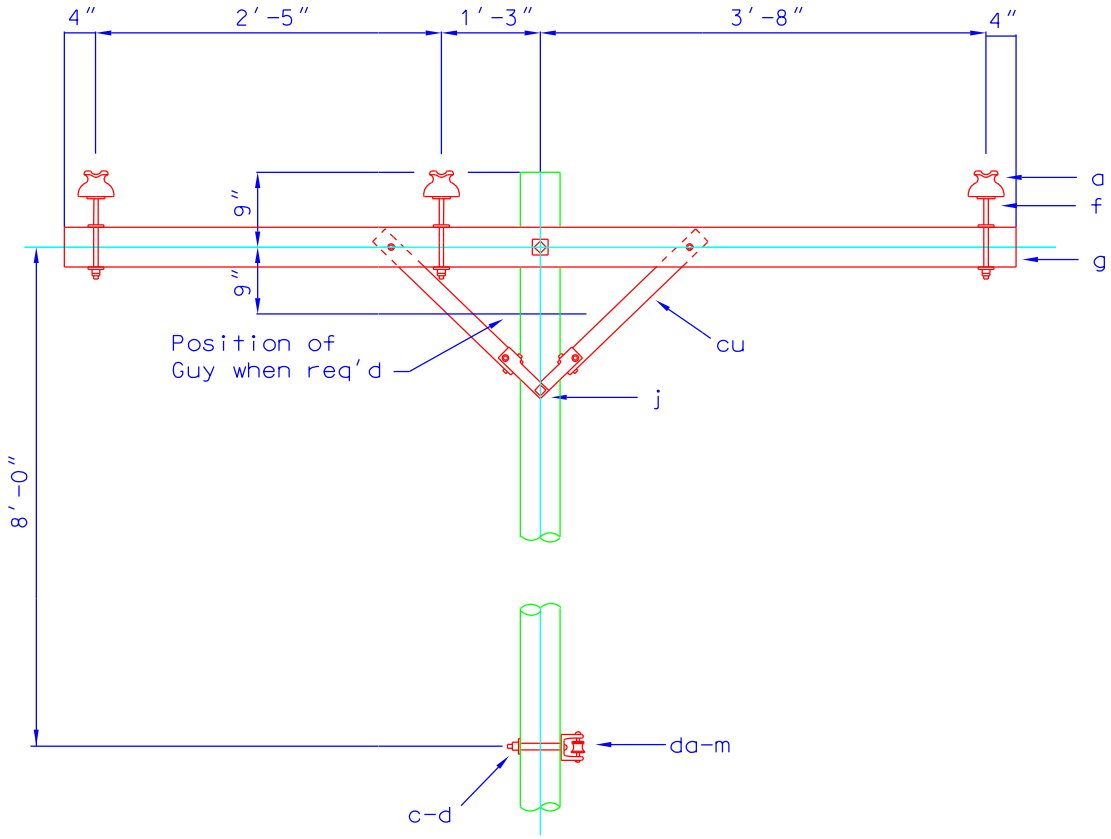


ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 3/8" x Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
cu	2	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8' - 0"
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm 6"
j	1	Screw, Lag 1/2" x 4"
d	3	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA
2- Maximum 5° line angle

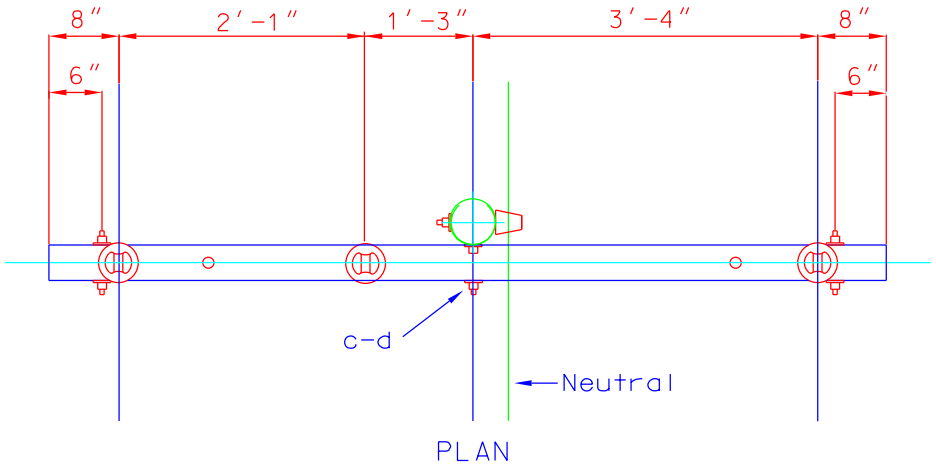
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON ARM
0 TO 5 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

C9



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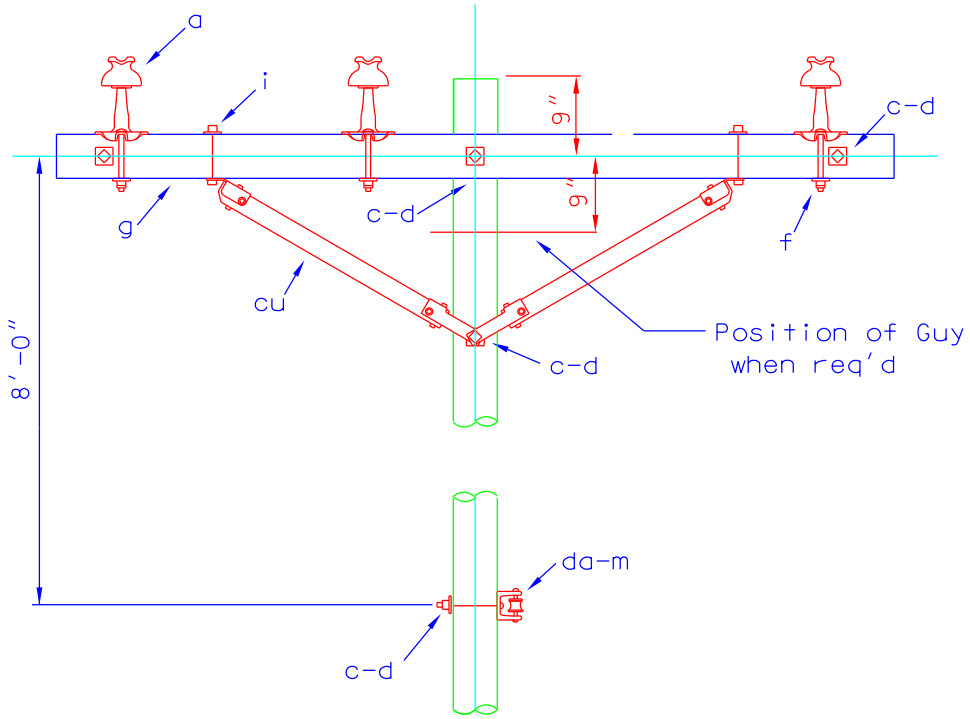


ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 1/2″ x Req'd Length
c	5	Bolt, Machine, 5/8″ x Req'd Length
cu	2	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8′ - 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm, Clamp Type
d	8	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 5° line angle

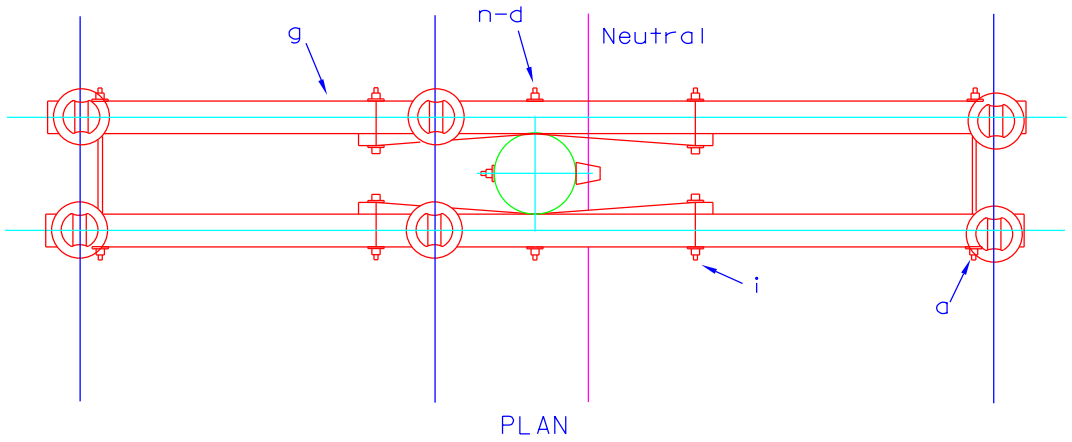
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON ARM
HEAVY DUTY CONSTRUCTION

DATE: 7/17/23

STANDARD NUMBER

C9-HD



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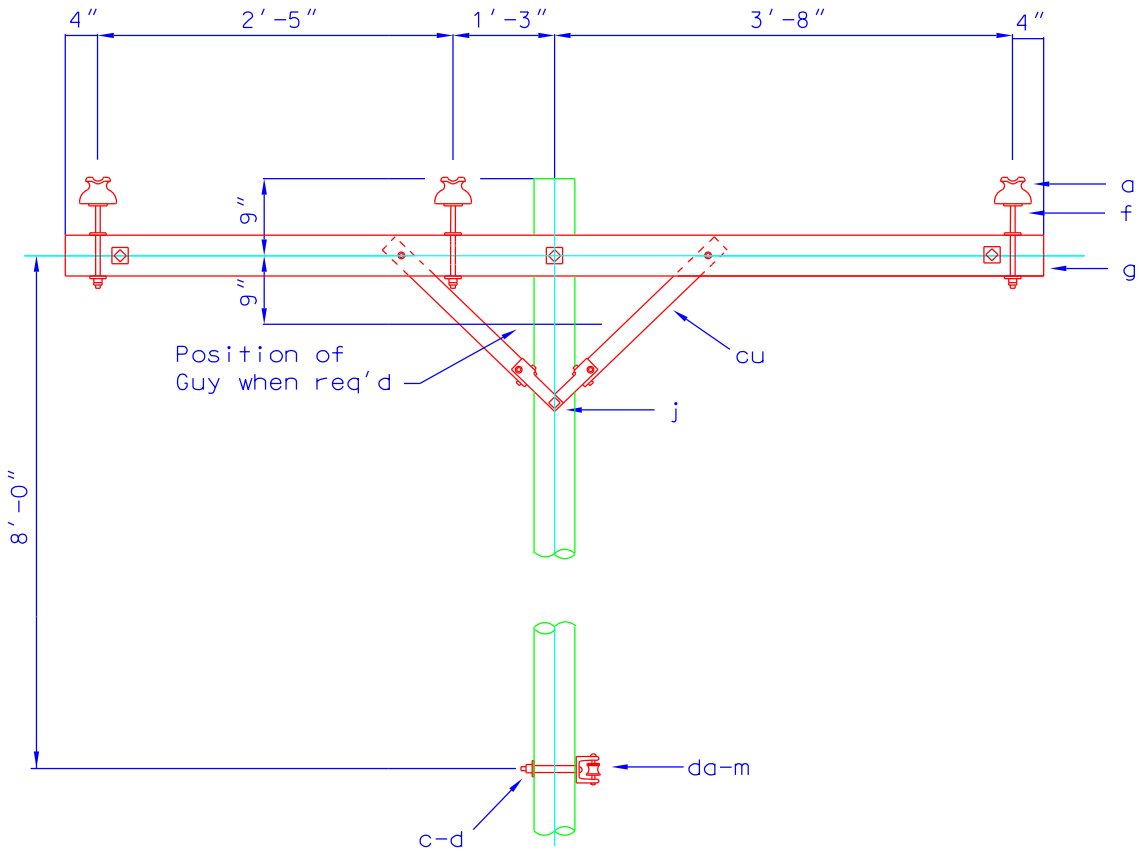


ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 3/8" x Req'd Length
n	3	Bolt, DA, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
cu	4	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8' - 0"
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm 6"
j	2	Screw, Lag 1/2" x 4"
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA
2- Maximum 20° line angle

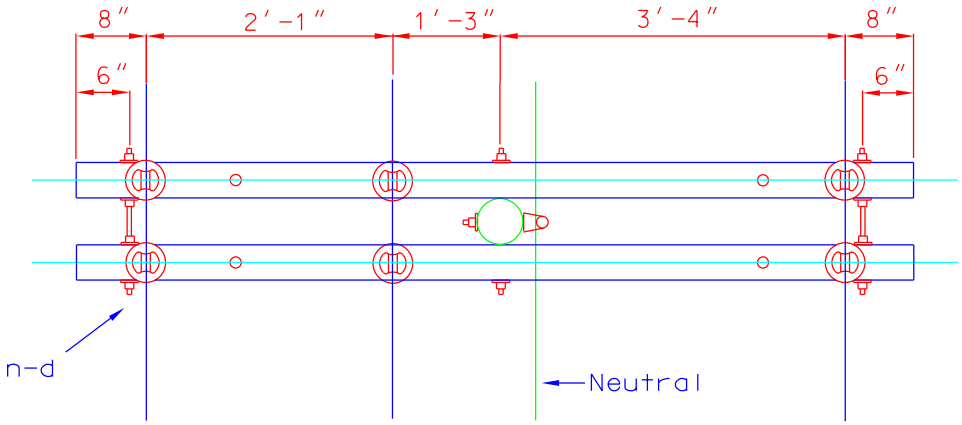
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON ARM
5 TO 20 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

C9-2



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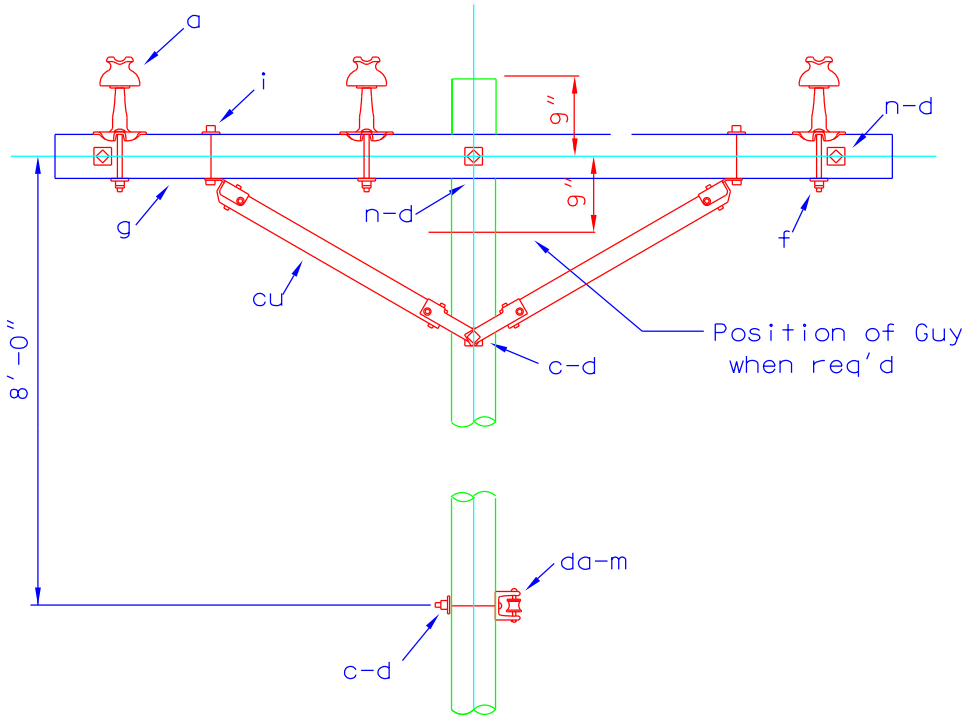


ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 1/2″ x Req'd Length
n	3	Bolt, DA, 5/8″ x Req'd Length
c	2	Bolt, Machine, 5/8″ x Req'd Length
cu	4	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 8′ - 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm, Clamp Type
d	11	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 20° line angle

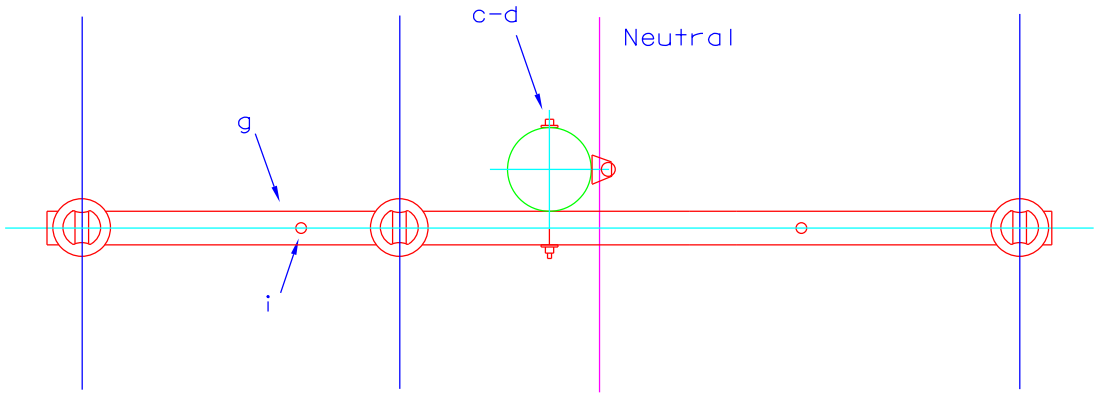
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON ARM
HEAVY DUTY CONSTRUCTION

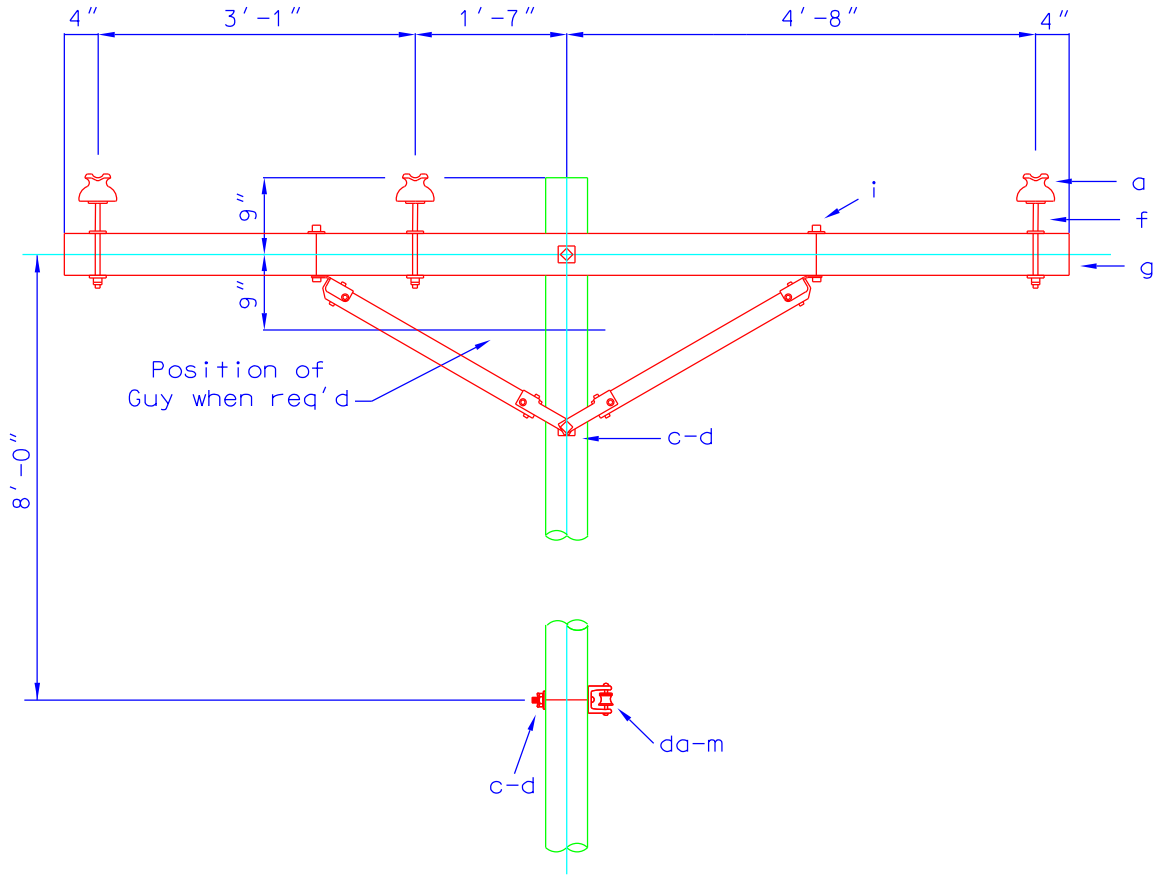
DATE: 7/17/23

STANDARD NUMBER

C9-2-HD



PLAN



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 1/2" x Req'd Length
c	3	Bolt, Machine, 5/8" x Req'd Length
cu	2	Brace, Wood, 60" Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 10' - 0"
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm 6"
d	4	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA
2- Maximum 5° line angle

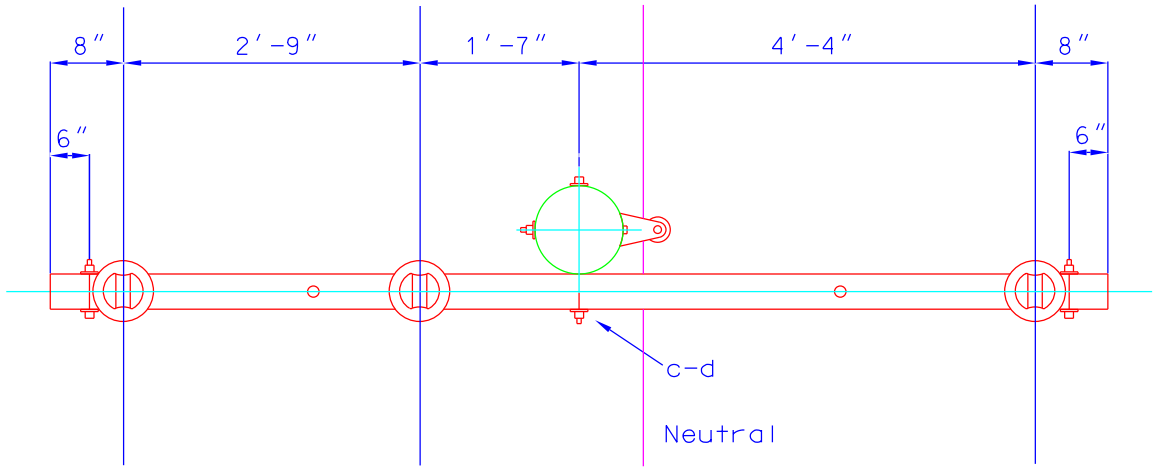
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10' ARM
0 TO 5 DEGREE ANGLE

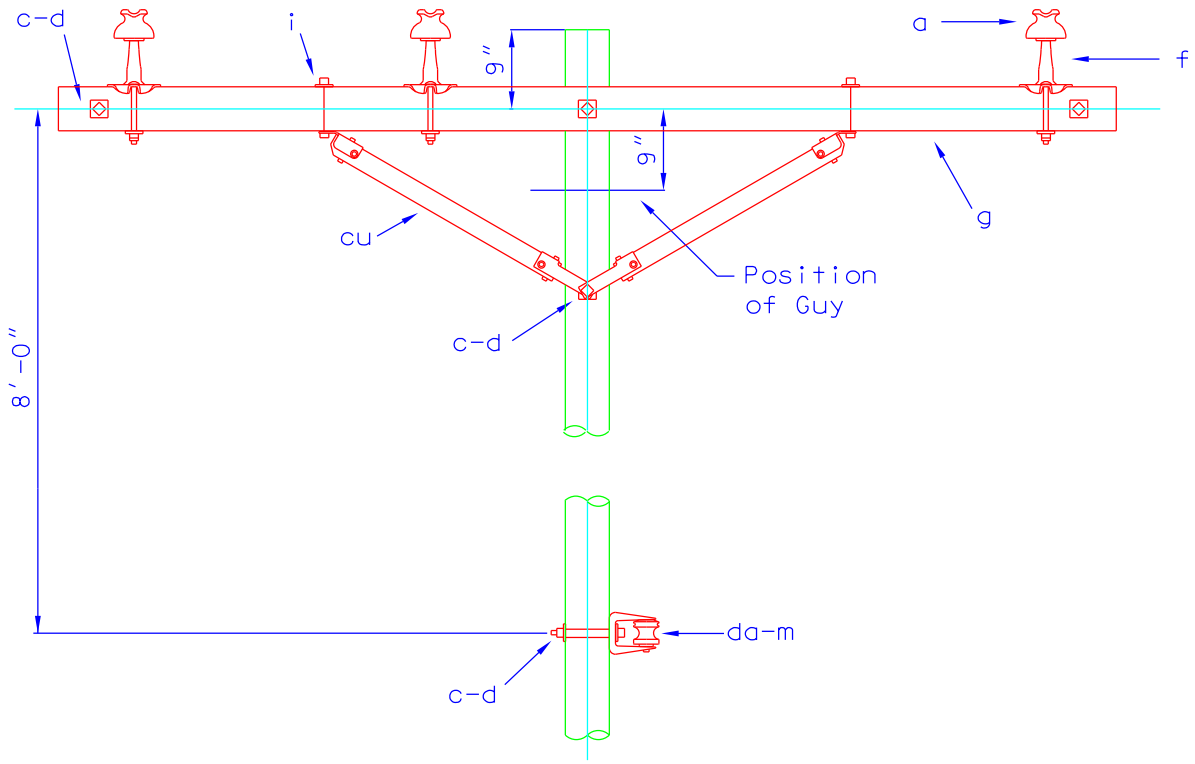
DATE: 7/17/23

STANDARD NUMBER

C9-T



PLAN



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 1/2″ x Req'd Length
c	5	Bolt, Machine, 5/8″ x Req'd Length
cu	2	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 10′ - 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm, Clamp Type
d	8	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 5° line angle

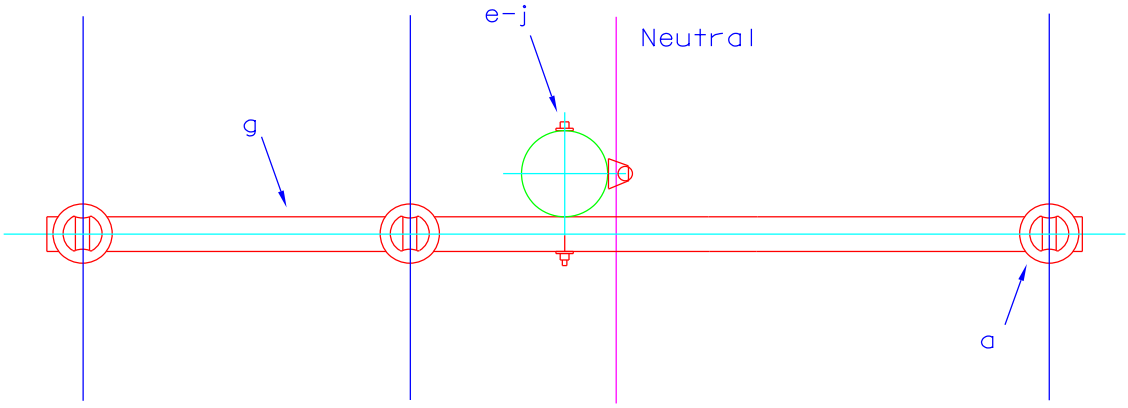
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10′ ARM
HEAVY DUTY CONSTRUCTION

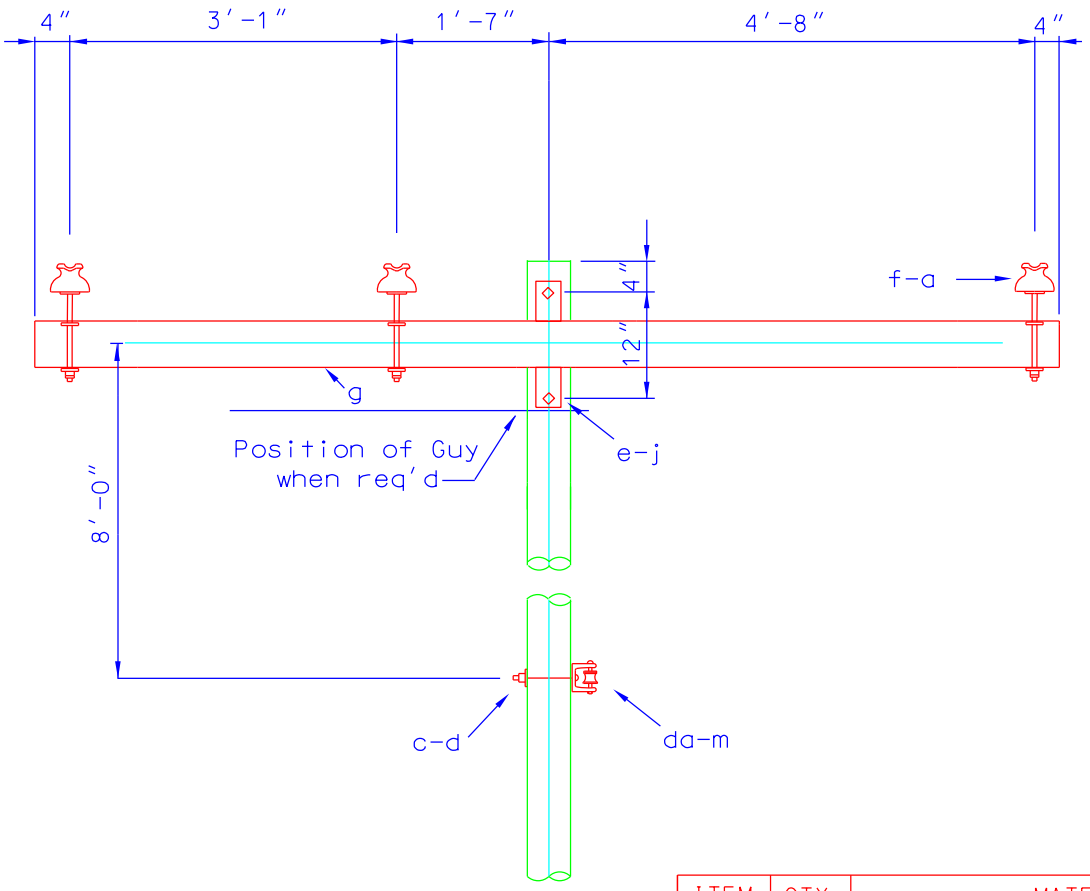
DATE: 7/17/23

STANDARD NUMBER

C9-T-HD



PLAN



ITEM	QTY	MATERIAL
c	1	Bolt, Machine, 5/8" x Req'd Length
e	2	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 10' x 0"
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm 6"
d	1	Washer, 2 1/4" Square, 11/16"
j	2	Washer, 4" Curved

NOTES:
1- Maximum conductor size 4/0 AA

2- Maximum 5° line angle

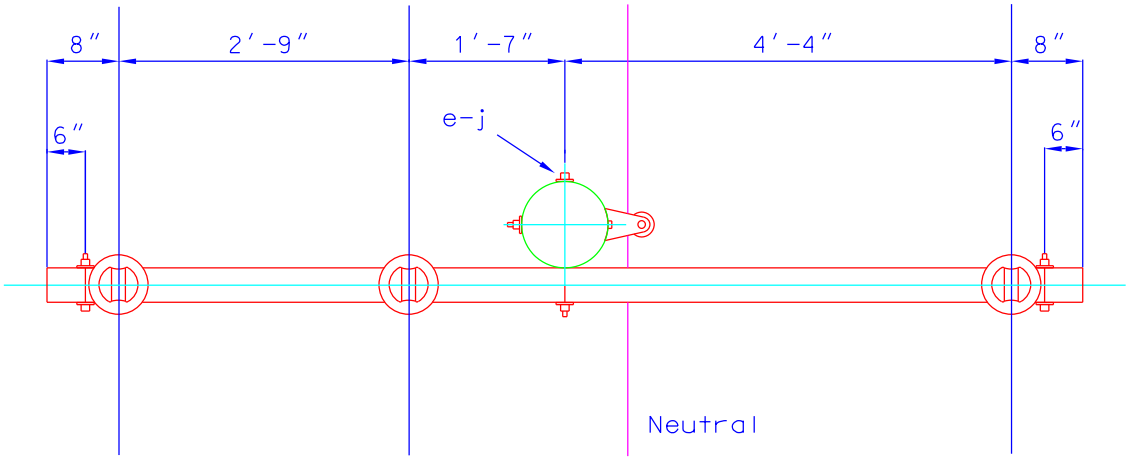
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10' ARM
0 TO 5 DEGREE ANGLE
SINGLE FIBERGLASS ARM

DATE: 5/18/23

STANDARD NUMBER

C9F-T



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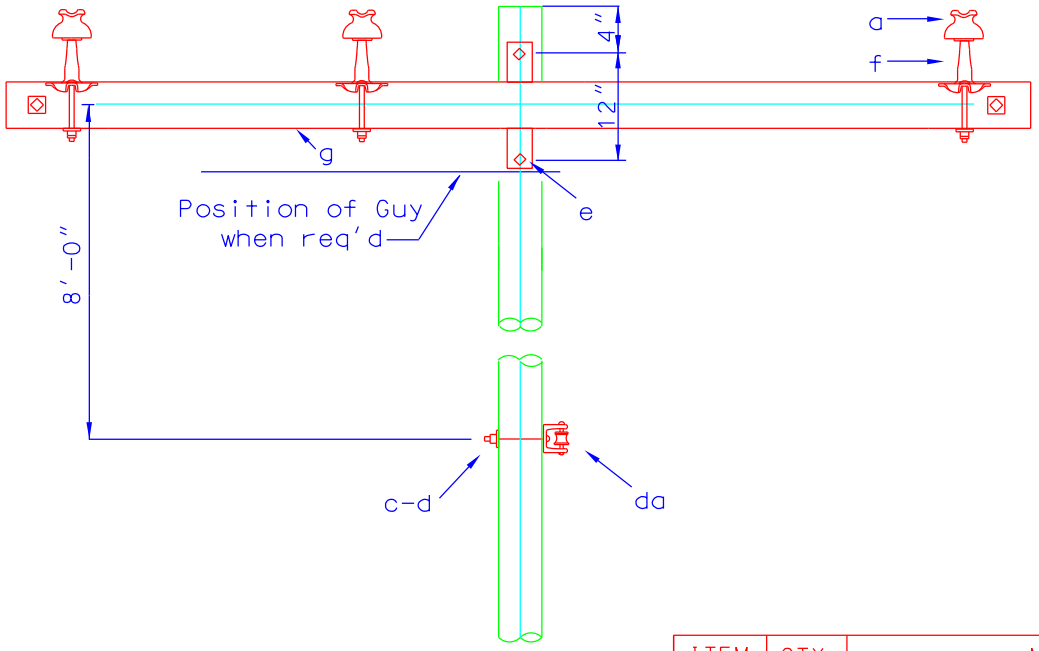


ITEM	QTY	MATERIAL
c	3	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 10′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm, Clamp Type
d	5	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 795 AA

2- Maximum 5° line angle

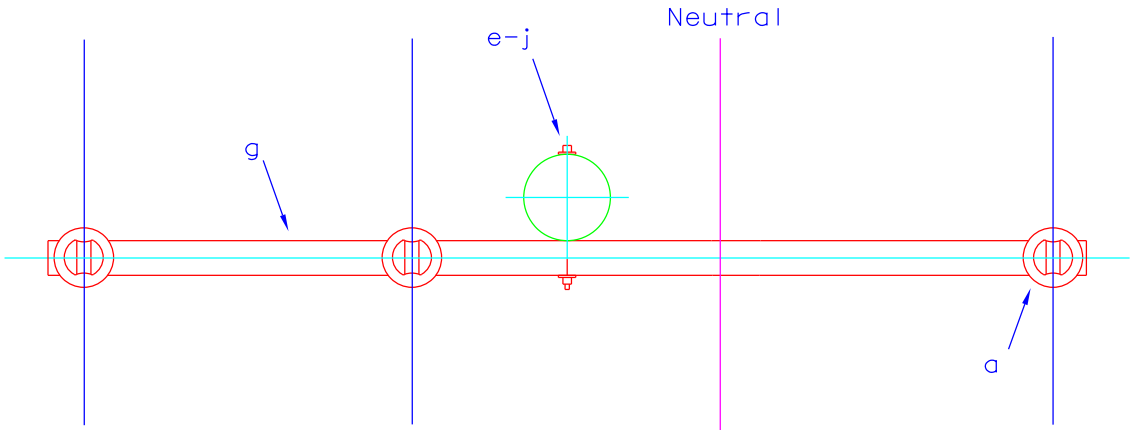
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10′ ARM
HEAVY DUTY CONSTRUCTION
SINGLE FIBERGLASS ARM

DATE: 5/18/23

STANDARD NUMBER

C9F-T-HD



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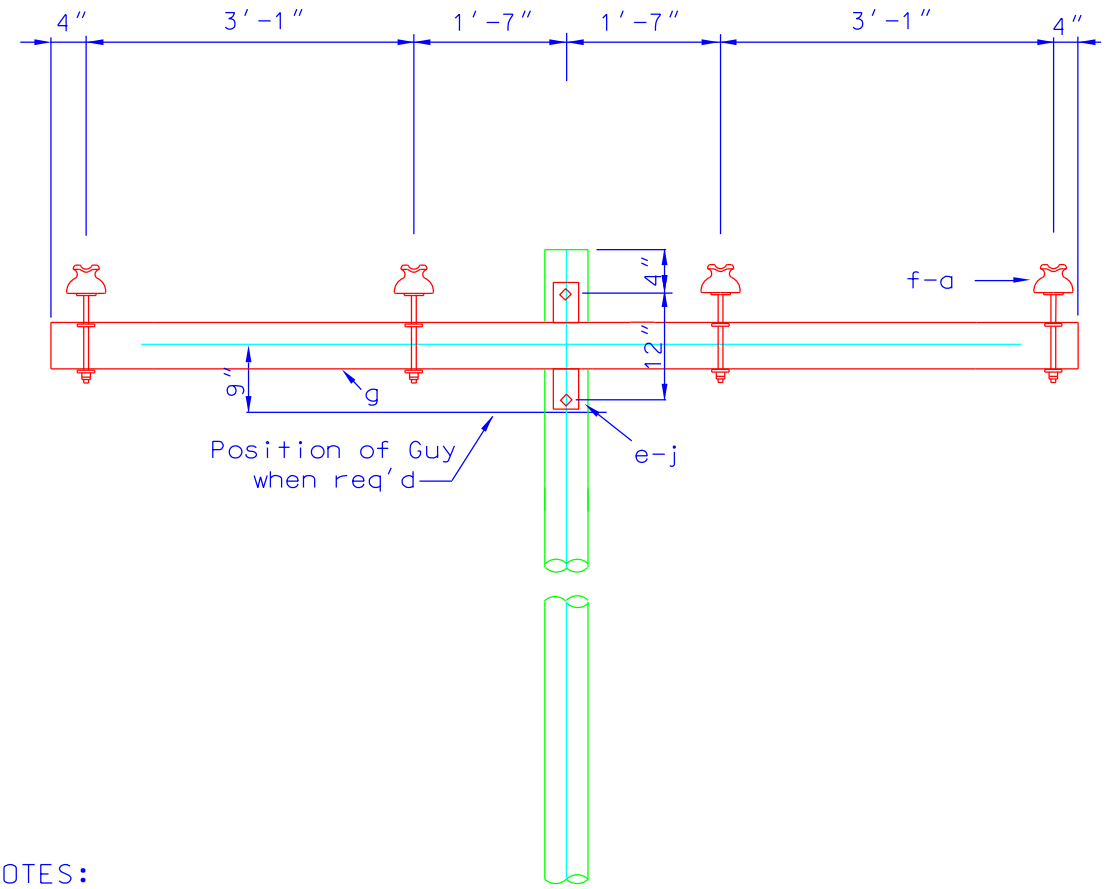


NOTES:

1- Insulator for neutral needs marked in some way

2- Maximum conductor size 4/0 AA

3- Maximum 5° line angle

ITEM	QTY	MATERIAL
e	2	Bolt, Machine, ¾" x Req'd Length
g	1	Crossarm, FG Tangent, 10' x 0"
a	4	Insulator, Pin Type
f	4	Pin, Crossarm 6"
j	2	Washer, 4" Curved

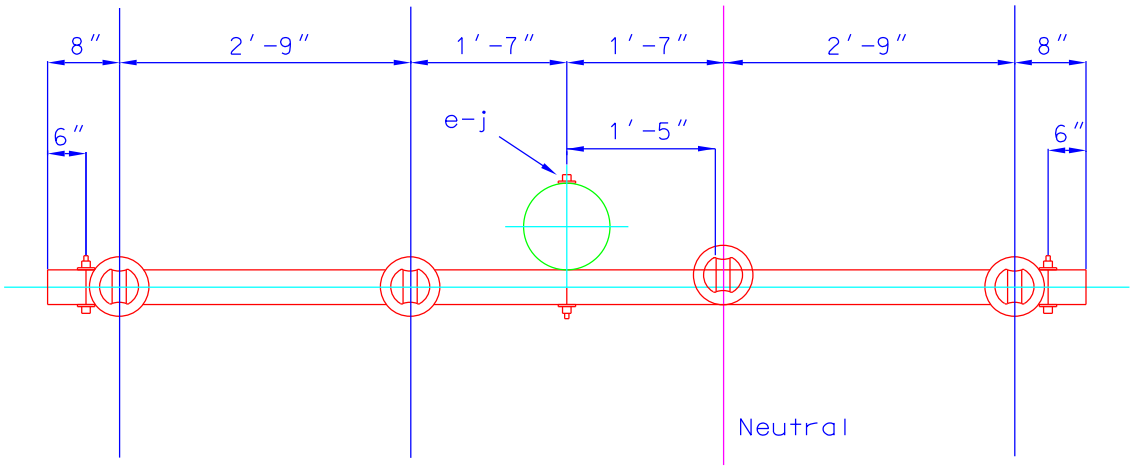
GDE

PRIMARY, THREE PHASE
ALL INSULATORS AND N ON 10' ARM
0 TO 5 DEGREE ANGLE
SINGLE FIBERGLASS ARM

DATE: 6/7/23

STANDARD NUMBER

C9F-T-N



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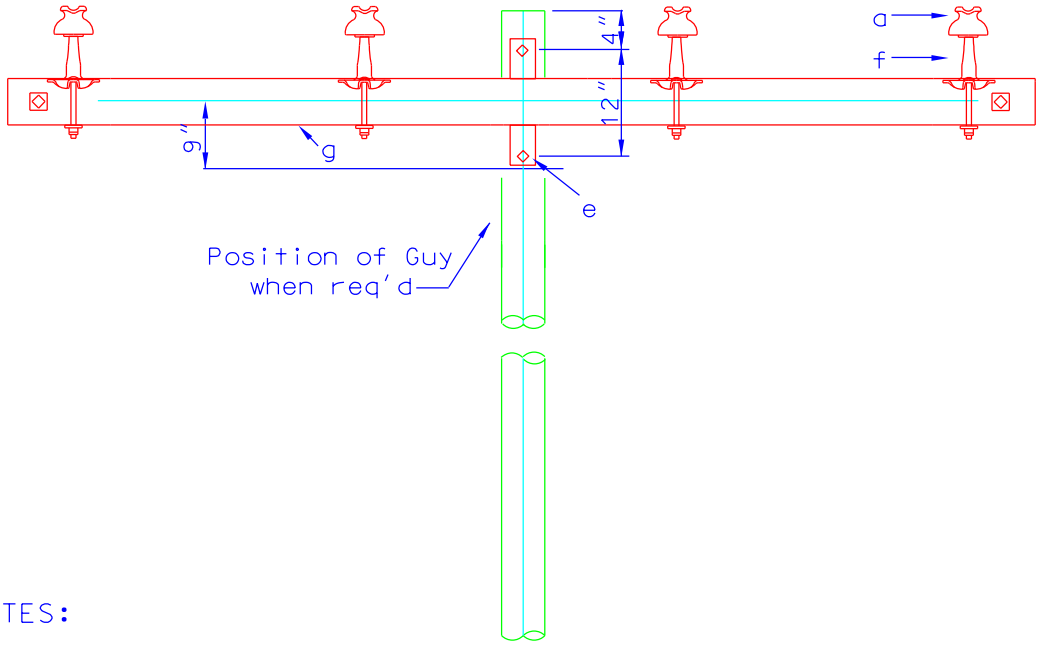


NOTES:

1- Insulator for neutral needs to be marked in some way

2- Maximum conductor size 795 AA

3- Maximum 5° line angle

ITEM	QTY	MATERIAL
c	2	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
g	1	Crossarm, FG Tangent, 10′ x 0″
a	4	Insulator, Pin Type
f	4	Pin, Crossarm, Clamp Type
d	4	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

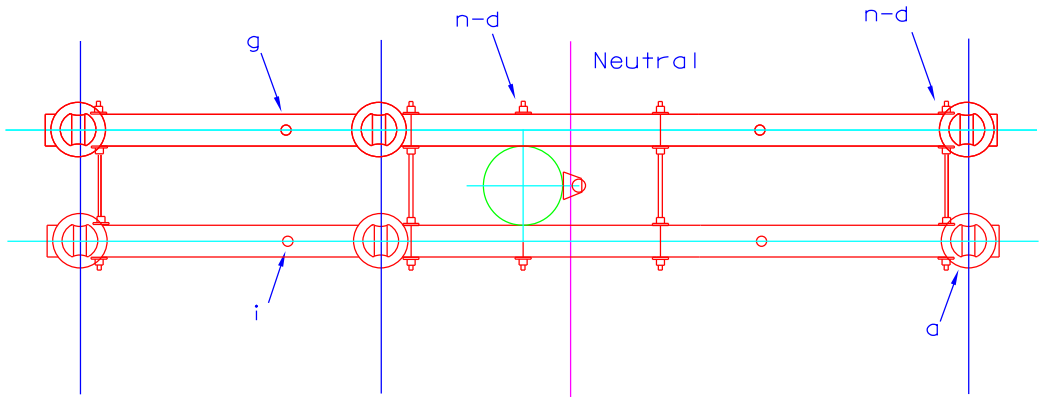
GDE

PRIMARY, THREE PHASE
ALL INSULATORS AND N ON 10′ ARM
HEAVY DUTY CONSTRUCTION
SINGLE FIBERGLASS ARM

DATE: 6/6/23

STANDARD NUMBER

C9F-T-HD-N



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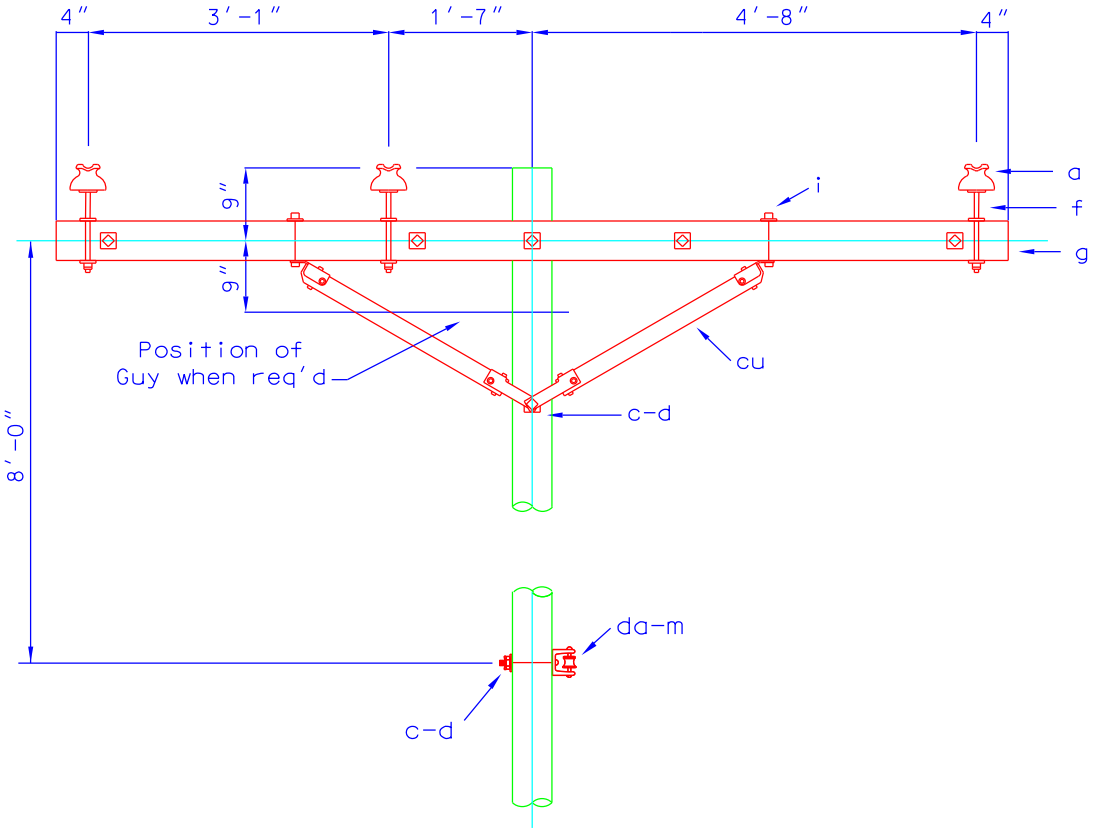


ITEM	QTY	MATERIAL
i	2	Bolt, Carriage, 1/2" x Req'd Length
n	5	Bolt, DA, 5/8" x Req'd Length
c	2	Bolt, Machine, 5/8" x Req'd Length
cu	2	Brace, Wood, 60" Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 10' - 0"
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm 6"
d	20	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 4/0 AA
2- Maximum 20° line angle

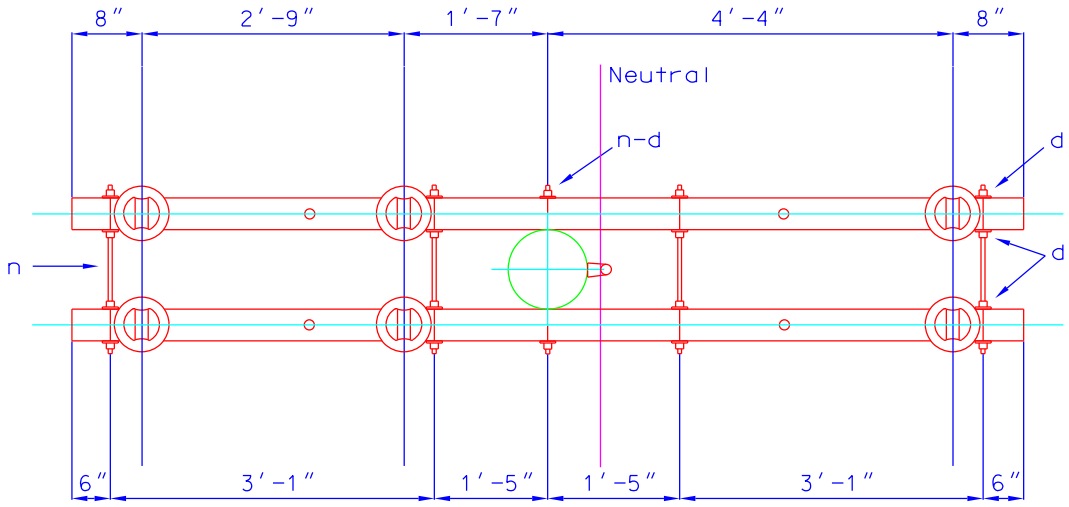
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10' ARM
5 TO 20 DEGREE ANGLE

DATE: 7/17/23

STANDARD NUMBER

C9-2T



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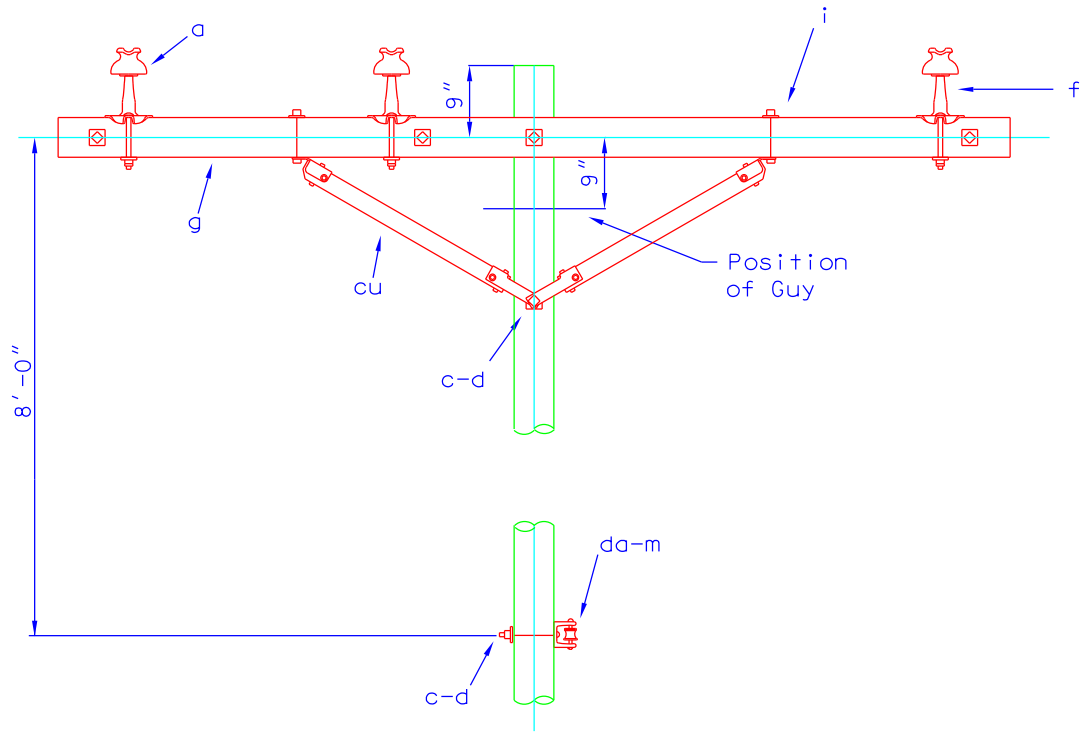


ITEM	QTY	MATERIAL
i	4	Bolt, Carriage, 1/2″ x Req'd Length
n	5	Bolt, DA, 5/8″ x Req'd Length
c	2	Bolt, Machine, 5/8″ x Req'd Length
cu	4	Brace, Wood, 60″ Span
da	1	Clevis, Neutral
g	2	Crossarm, HD 10′ - 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm, Clamp Type
d	19	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 20° line angle

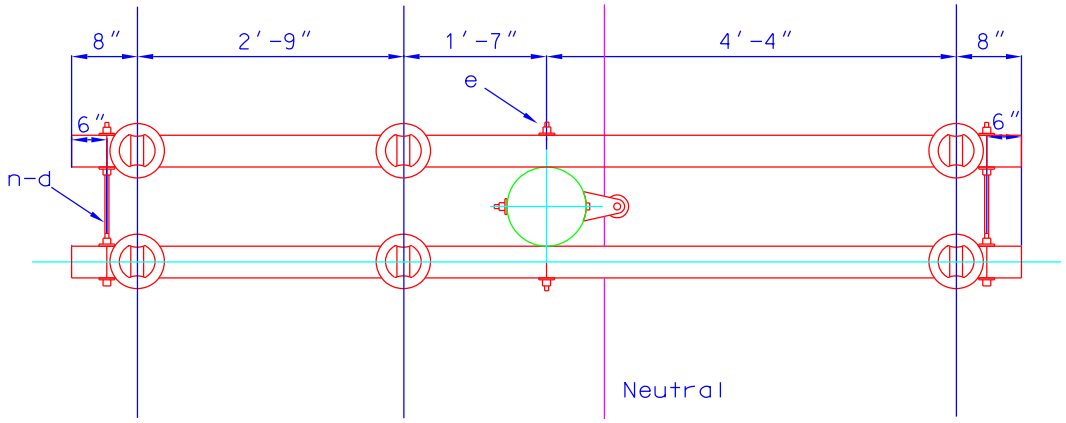
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 10′ ARM
HEAVY DUTY CONSTRUCTION

DATE: 7/17/23

STANDARD NUMBER

C9-2T-HD



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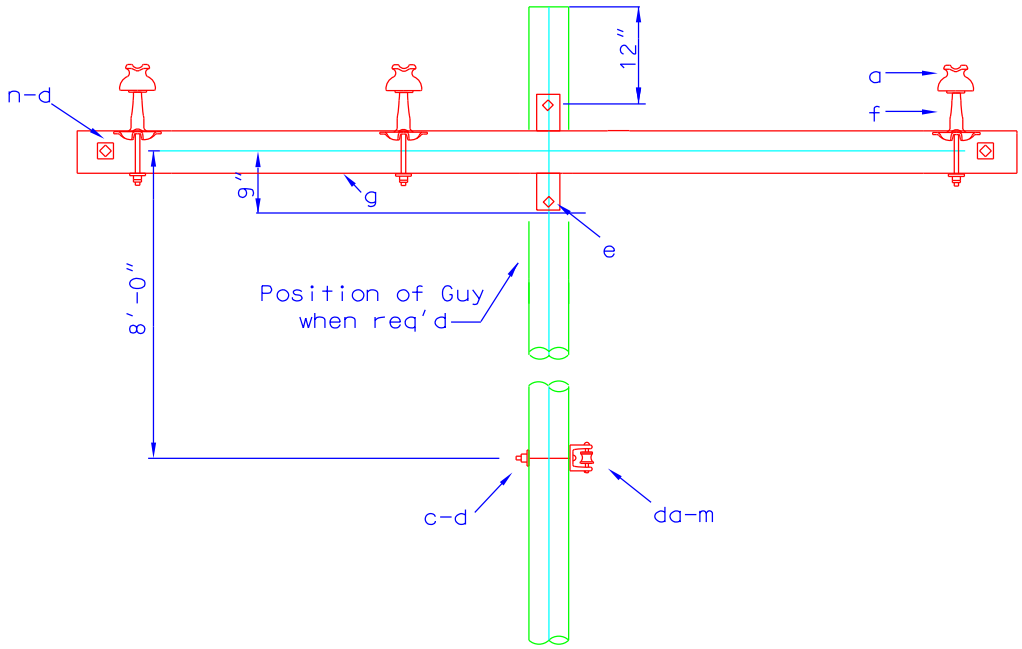


ITEM	QTY	MATERIAL
n	2	Bolt, DA, 5/8" x Req'd Length
c	1	Bolt, Machine, 5/8" x Req'd Length
e	2	Bolt, Machine, 3/4" x Req'd Length
da	1	Clevis, Neutral
g	2	Crossarm, FG Tangent, 10' x 0"
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm, Clamp Type
d	11	Washer, 2 1/4" Square, 11/16"

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 5° line angle

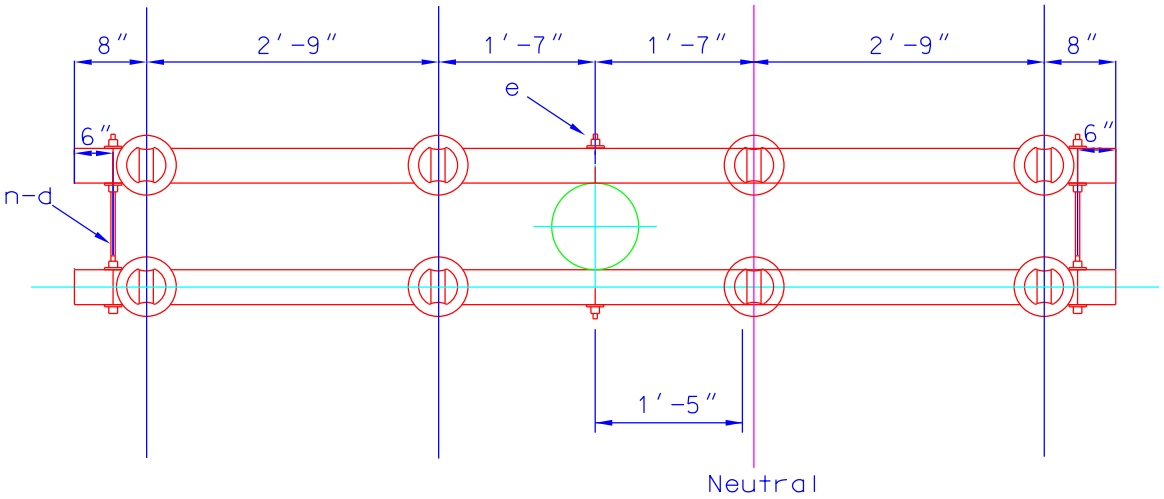
GDE

PRIMARY, THREE PHASE
SINGLE FIBERGLASS ARM
ALL INSULATORS ON 10' ARM
HEAVY DUTY CONSTRUCTION

DATE: 7/17/23

STANDARD NUMBER

C9F-2T-HD



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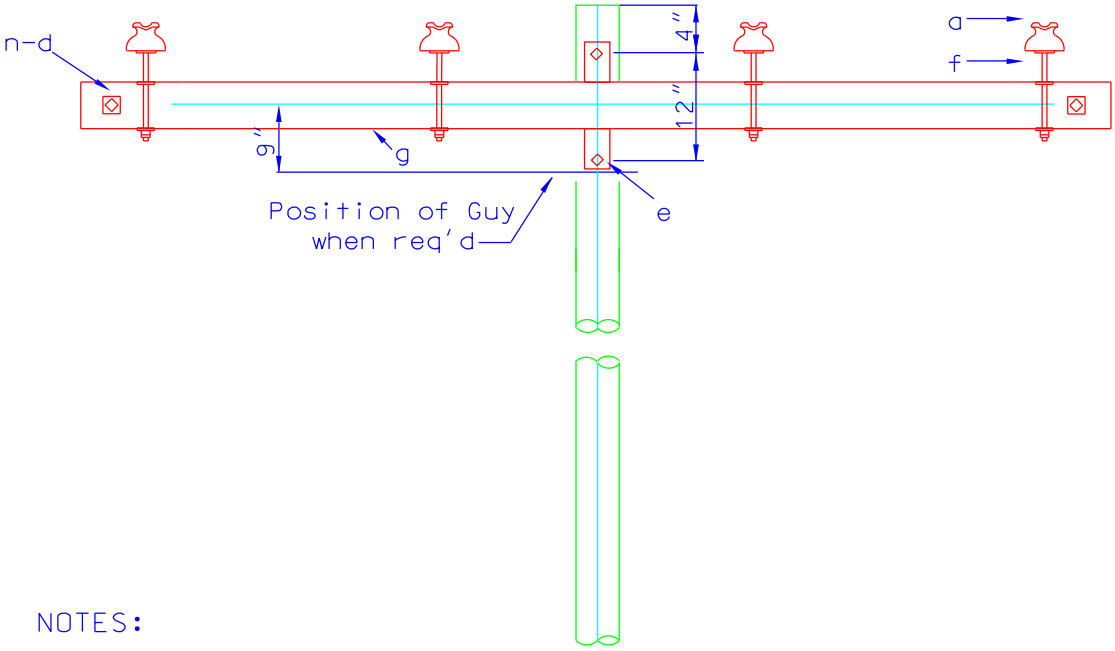


NOTES:

1- Insulator for neutral needs to be marked in some way

2- Maximum conductor size 4/0 AA

3- Maximum 20° line angle

ITEM	QTY	MATERIAL
n	2	Bolt, DA, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
g	2	Crossarm, FG Tangent, 10′ x 0″
a	8	Insulator, Pin Type
f	8	Pin, Crossarm, 6″
d	8	Washer, 2 1/4″ Square, 11/16″

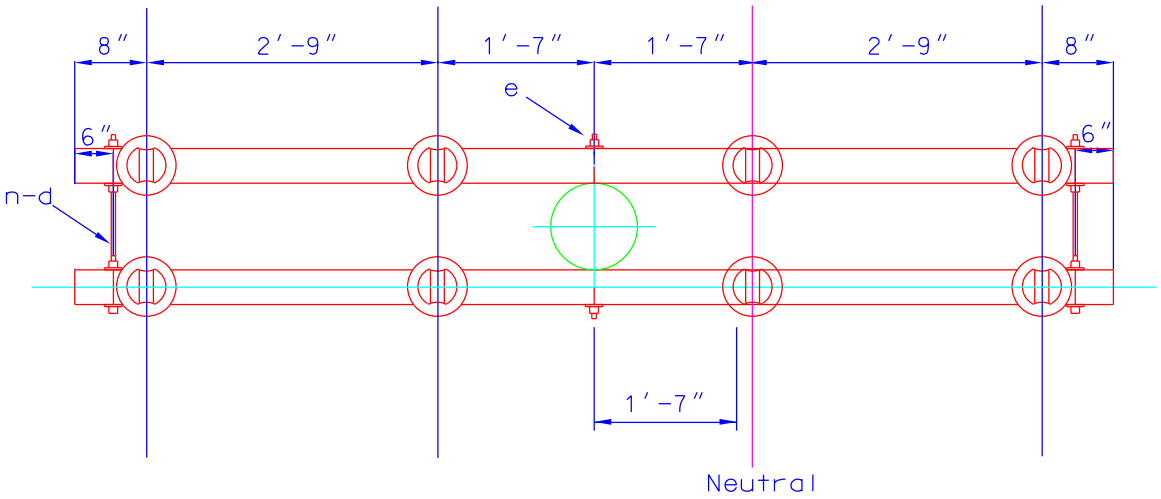
GDE

PRIMARY, THREE PHASE
ALL INSULATORS AND N ON 10′ ARM
DOUBLE FIBERGLASS ARM

DATE: 6/7/23

STANDARD NUMBER

C9F-2T-N



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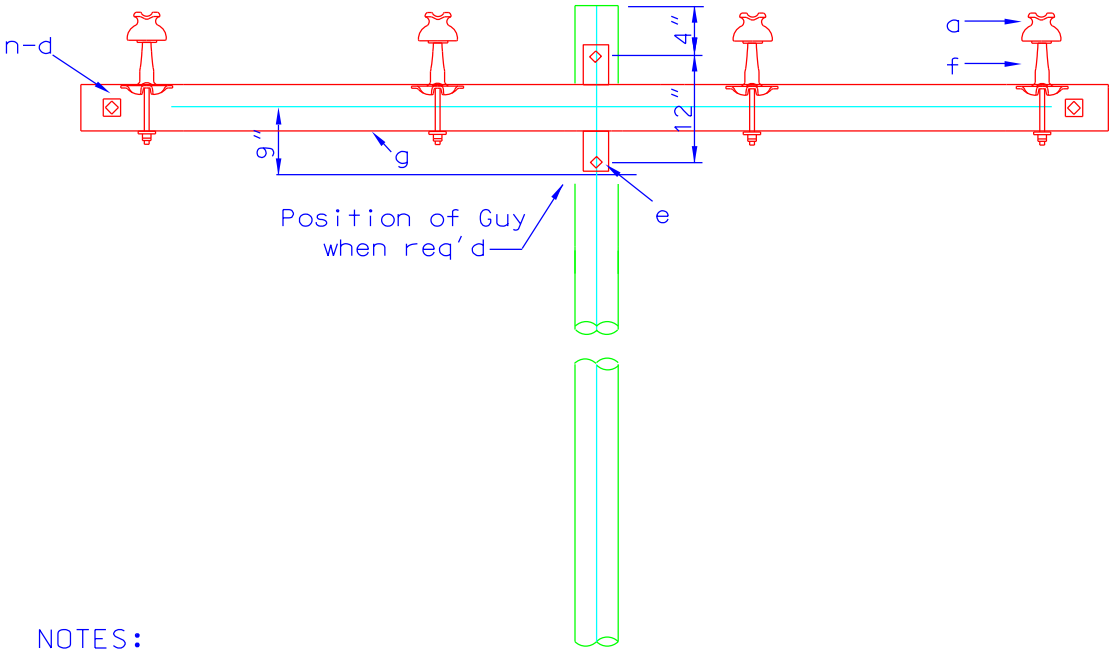


NOTES:

1- Insulator for neutral needs to be marked in some way

2- Maximum conductor size 795 AA

3- Maximum 20° line angle

ITEM	QTY	MATERIAL
n	2	Bolt, DA, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
g	2	Crossarm, FG Tangent, 10′ x 0″
a	8	Insulator, Pin Type
f	8	Pin, Crossarm, Clamp Type
d	8	Washer, 2 1/4″ Square, 11/16″

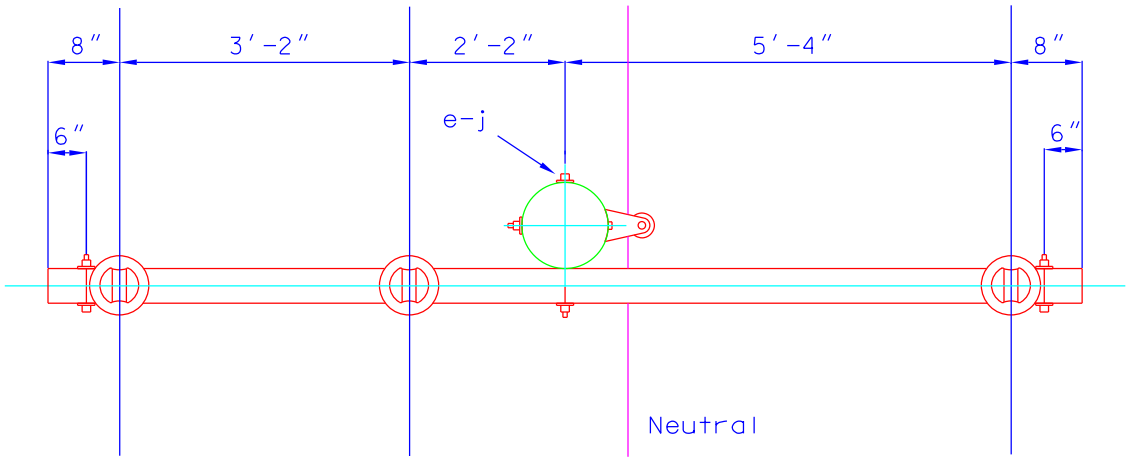
GDE

PRIMARY, THREE PHASE
ALL INSULATORS AND N ON 10′ ARM
HEAVY DUTY CONSTRUCTION
DOUBLE FIBERGLASS ARM

DATE: 6/7/23

STANDARD NUMBER

C9F-2T-HD-N



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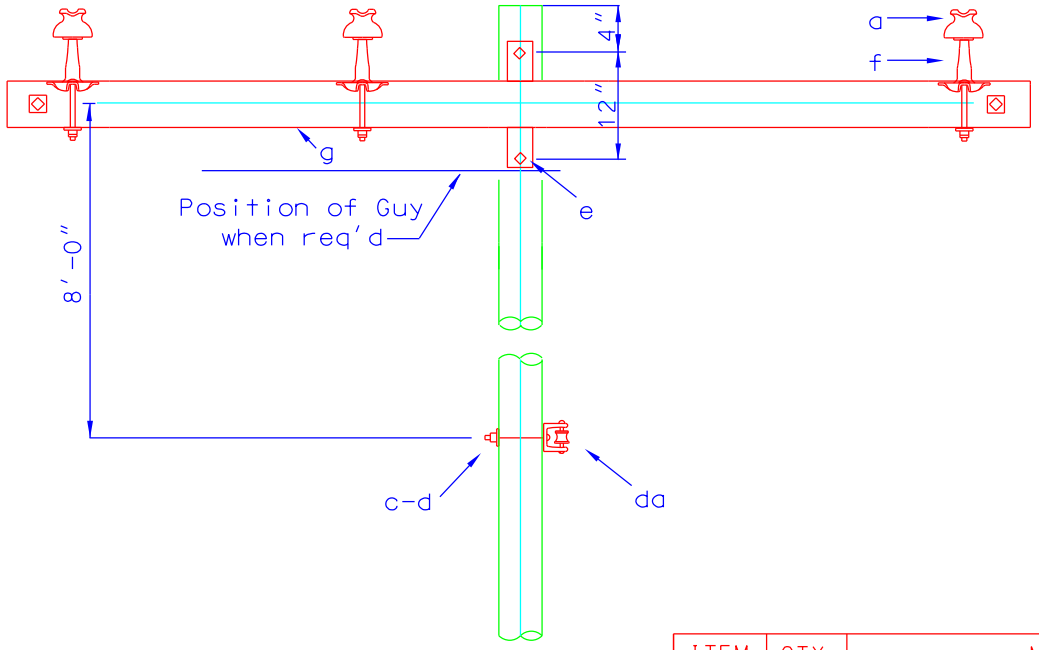


ITEM	QTY	MATERIAL
c	3	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	1	Crossarm, FG Tangent, 12′ x 0″
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	3	Pin, Crossarm, Clamp Type
d	5	Washer, 2 1/4″ Square, 11/16″
j	2	Washer, 4″ Curved

NOTES:
1- Maximum conductor size 795 AA

2- Maximum 5° line angle

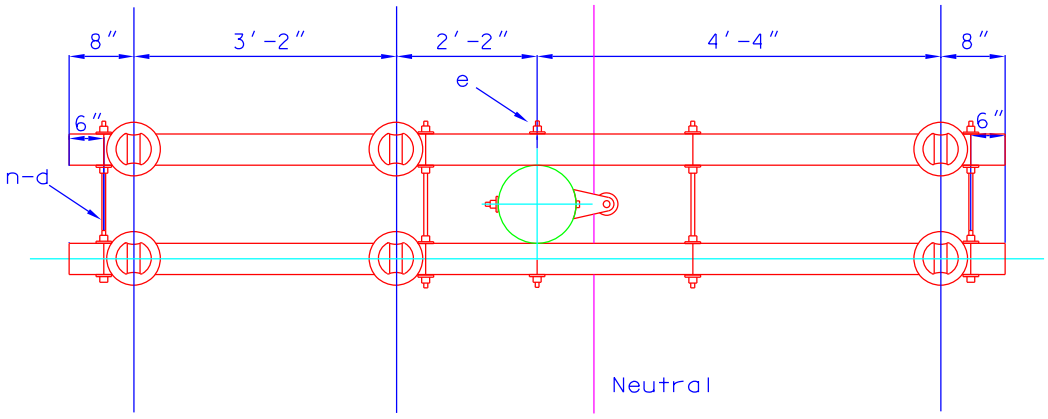
GDE

PRIMARY, THREE PHASE
ALL INSULATORS ON 12′ ARM
HEAVY DUTY CONSTRUCTION
SINGLE FIBERGLASS ARM

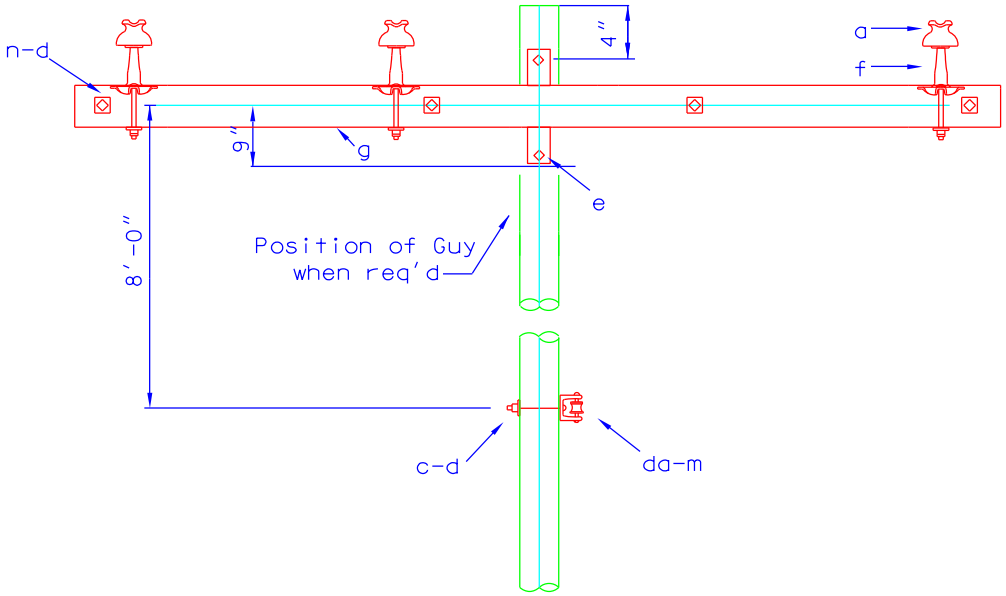
DATE: 5/18/23

STANDARD NUMBER

C9F-1-12-HD



PLAN



ITEM	QTY	MATERIAL
n	4	Bolt, DA, 5/8″ x Req'd Length
c	1	Bolt, Machine, 5/8″ x Req'd Length
e	2	Bolt, Machine, 3/4″ x Req'd Length
da	1	Clevis, Neutral
g	2	Crossarm, FG Tangent, 12′ x 0″
a	6	Insulator, Pin Type
m	1	Insulator, Rack Large
f	6	Pin, Crossarm, Clamp Type
d	19	Washer, 2 1/4″ Square, 11/16″

NOTES:
1- Maximum conductor size 795 AA
2- Maximum 20° line angle

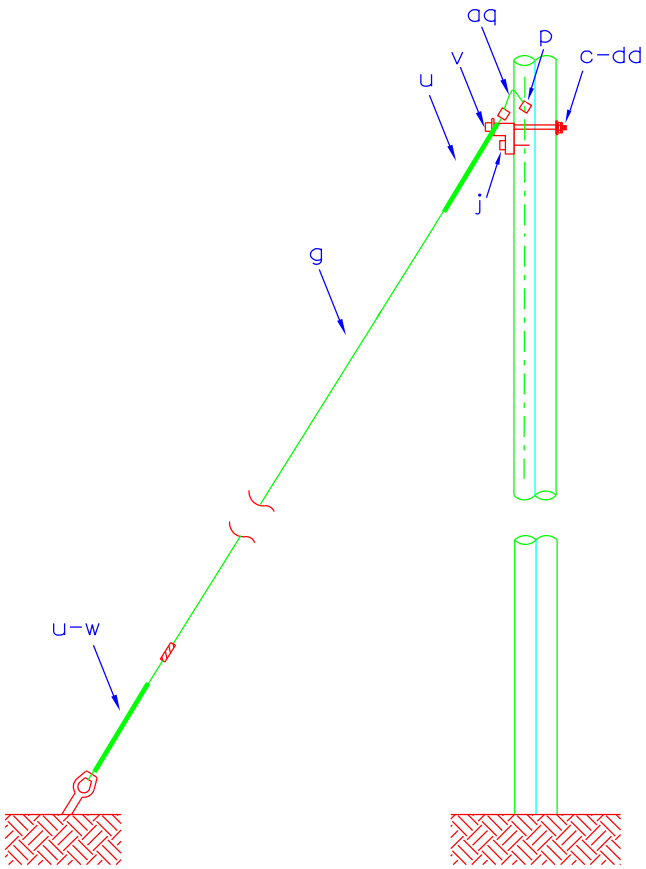
GDE

PRIMARY, THREE PHASE
SINGLE FIBERGLASS ARM
ALL INSULATORS ON 12′ ARM
HEAVY DUTY CONSTRUCTION

DATE: 7/17/23

STANDARD NUMBER

C9F-2-12-HD



NOTES:

1- E1-1 use 1/4" guy strand

1- E1-2 use 3/8" guy strand EHS

1- E1-2 HD use 3/8" guy strand and heavy duty guy attachment

1- E1-2 F use 3/8" guy strand and no guy attachment

ITEM	QTY	MATERIAL FOR E1-2 F
fs	1	Link, Fiberglass, X' as Req'd
u	2	Deadend, Guy Preform
w	1	Guy Marker
g	X'	Wire, Guy

ITEM	QTY	MATERIAL FOR E1-2-HD
c	1	Bolt, Machine, 5/8" x Req'd Length
cc	1	Bolt, Machine, 3/4" x Req'd Length
u	2	Deadend, Guy Preform
v	1	Guy Attachment, Heavy Duty
w	1	Guy Marker
dd	1	Washer, 3" Curved
	1	Washer, 4" Curved
g	X'	Wire, Guy

ITEM	QTY	MATERIAL FOR E1-1 & E1-2
c	1	Bolt, Machine, 5/8" x Req'd Length
u	2	Deadend, Guy Preform
v	1	Guy Attachment
w	1	Guy Marker
j	1	Screw, Lag 1/2" X 4"
dd	1	Washer, 3" Curved
g	X'	Wire, Guy

GDE

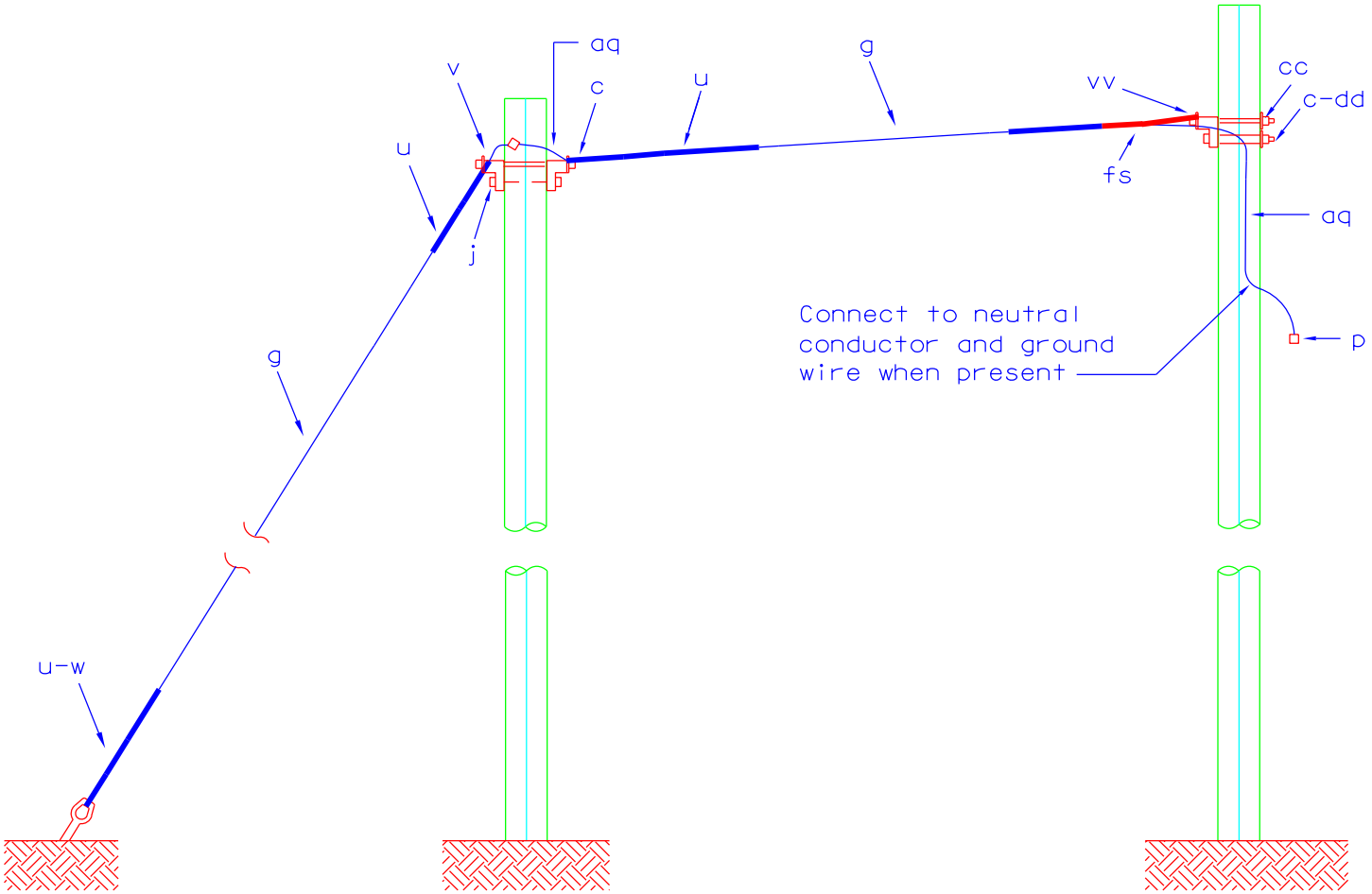
SINGLE DOWN GUY

THROUGH BOLT TYPE

DATE: 5/19/23

STANDARD NUMBER

E1's



NOTES:
1- E2-4 use 3/8" guy stand and 4' fiberglass link
2- E2-4 HD use 3/8" guy stand, HD guy attachment, & 4' fiberglass link
3- E2-8 use 3/8" guy stand and 8' fiberglass link
4- E2-8 HD use 3/8" guy stand, HD guy attachment, & 8' fiberglass link

ITEM	QTY	MATERIAL FOR E2-4-HD and E2-8-HD
c	2	Bolt, Machine, 5/8" x Req'd Length
cc	2	Bolt, Machine, 3/4" x Req'd Length
u	4	Deadend, Guy Preform
vv	3	Guy Attachment, Heavy Duty
w	1	Guy Marker
fs	1	Link, Fiberglass, X' as Req'd
dd	1	Washer, 3" Curved
	1	Washer, 4" Curved
g	X'	Wire, Guy

ITEM	QTY	MATERIAL FOR E2-4 & E2-8
c	2	Bolt, Machine, 5/8" x Req'd Length
cc	1	Bolt, Machine, 3/4" x Req'd Length
u	4	Deadend, Guy Preform
v	2	Guy Attachment
vv	1	Guy Attachment, Heavy Duty
w	1	Guy Marker
fs	1	Link, Fiberglass, X' as Req'd
j	2	Screw, Lag 1/2" X 4"
dd	1	Washer, 3" Curved
	1	Washer, 4" Curved
g	X'	Wire, Guy

GDE

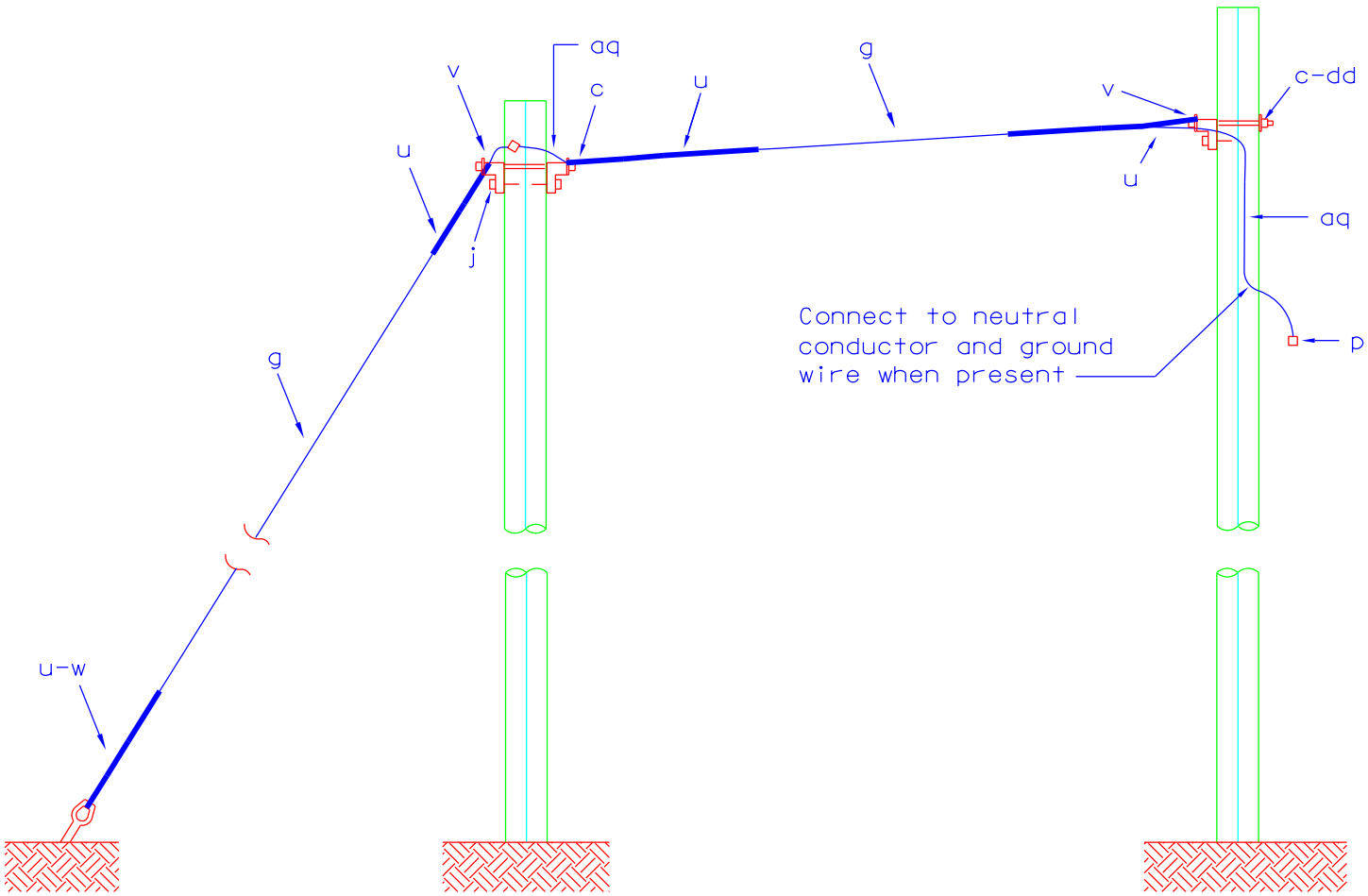
SINGLE SPAN GUY

WITH SINGLE DOWN GUY

DATE: 7/17/23

STANDARD NUMBER

E2's



NOTES:
1- E2-1 use 1/4" guy strand
2- E2-2 use 3/8" guy strand
3- E2-2 HD use 3/8" guy stand and heavy duty guy attachment

ITEM	QTY	MATERIAL FOR E2-2-HD
c	2	Bolt, Machine, 5/8" x Req'd Length
cc	2	Bolt, Machine, 3/4" x Req'd Length
u	4	Deadend, Guy Preform
v	3	Guy Attachment, Heavy Duty
w	1	Guy Marker
dd	1	Washer, 3" Curved
	1	Washer, 4" Curved
g	X'	Wire, Guy

ITEM	QTY	MATERIAL FOR E2-1 & E2-2
c	2	Bolt, Machine, 5/8" x Req'd Length
u	4	Deadend, Guy Preform
v	3	Guy Attachment
w	1	Guy Marker
j	3	Screw, Lag 1/2" X 4"
dd	1	Washer, 3" Curved
g	X'	Wire, Guy

GDE

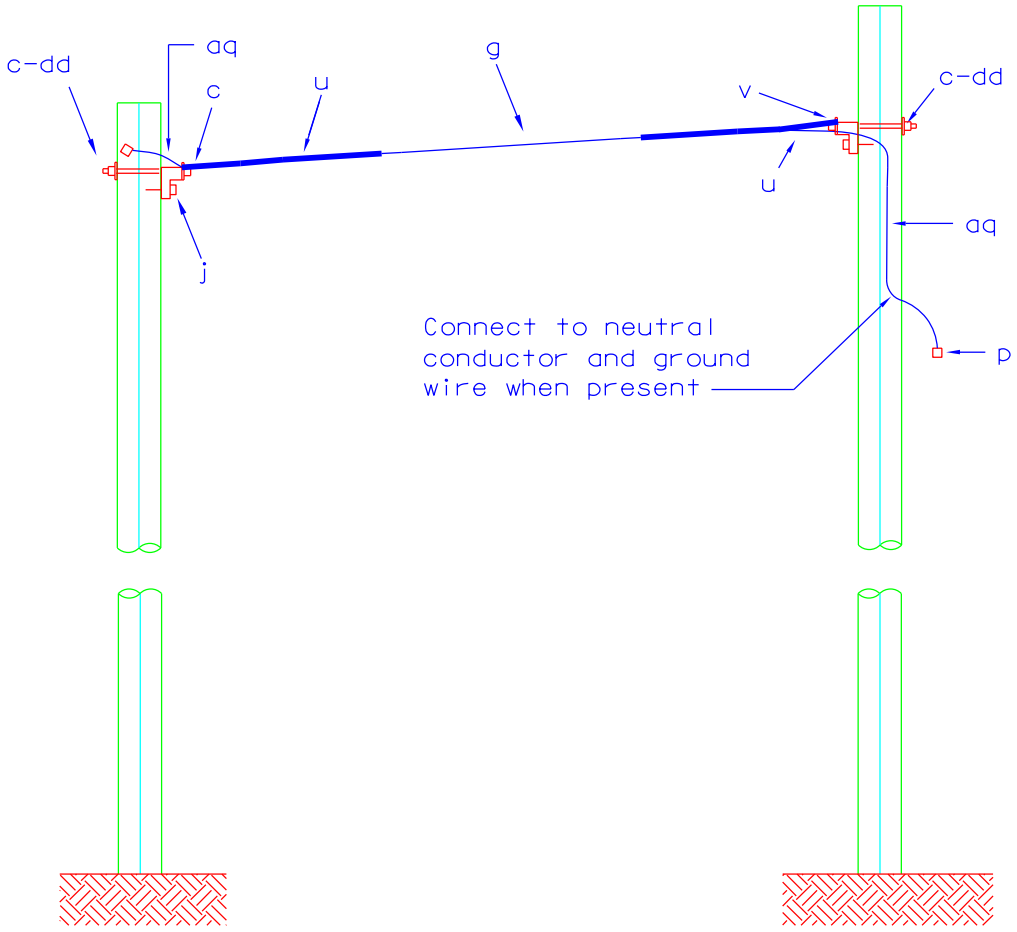
SINGLE SPAN GUY

WITH SINGLE DOWN GUY

DATE: 7/17/23

STANDARD NUMBER

E2's



NOTES:

1- E2-1 Span (use 1/4" guy strand)

2- E2-2 Span (use 3/8" guy strand)

3- E2-2 HD Span (use 3/8" guy stand and heavy duty guy attachment)

ITEM	QTY	MATERIAL FOR E2-2-HD Span Guy
c	2	Bolt, Machine, 5/8" x Req'd Length
cc	2	Bolt, Machine, 3/4" x Req'd Length
u	2	Deadend, Guy Preform
v	2	Guy Attachment, Heavy Duty
dd	2	Washer, 3" Curved
	2	Washer, 4" Curved
g	X'	Wire, Guy

ITEM	QTY	MATERIAL FOR E2-1 & E2-2 Span Guy
c	2	Bolt, Machine, 5/8" x Req'd Length
u	2	Deadend, Guy Preform
v	2	Guy Attachment
j	2	Screw, Lag 1/2" X 4"
dd	2	Washer, 3" Curved
g	X'	Wire, Guy

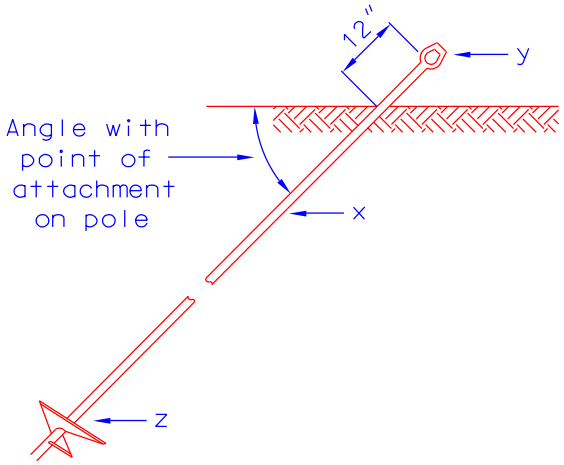
GDE

SINGLE SPAN GUY

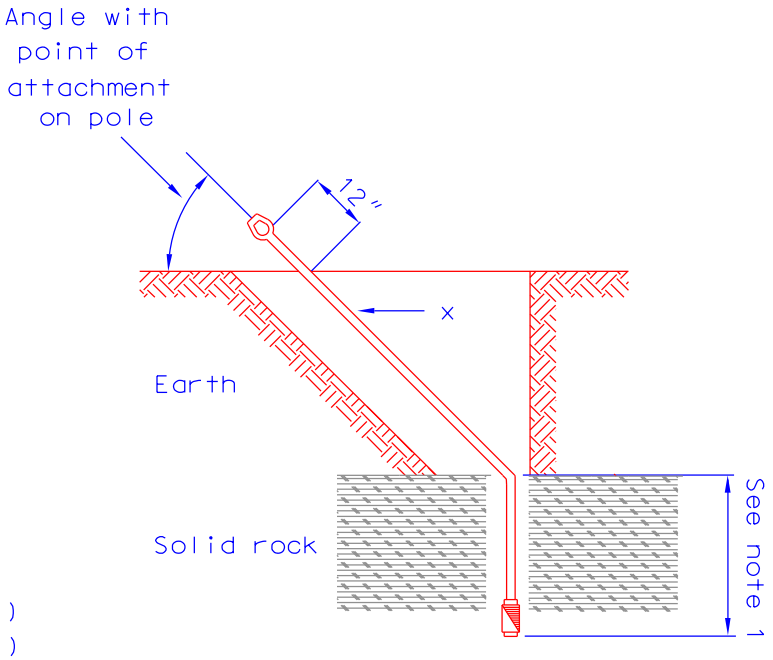
DATE: 5/19/23

STANDARD NUMBER

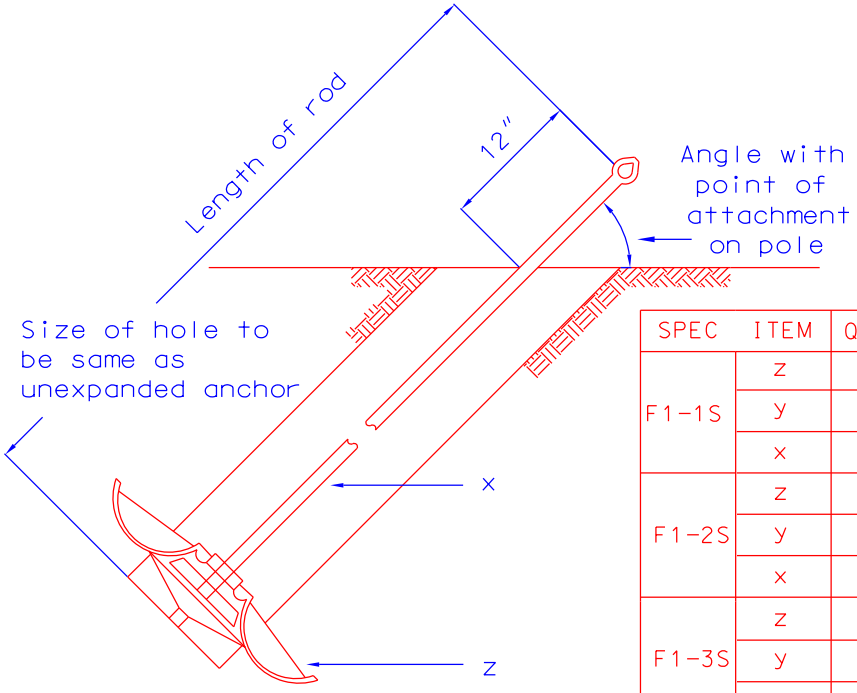
E2(span)'s



SCREW IN ANCHOR ASSEMBLY:
F1-1S (PISA, 1-8" HELIX, 8000 LBS)
F1-2S (PISA, 1-10" HELIX, 13250 LBS)
F1-3S (PISA, 2-10" HELIX, 17000 LBS)



ROCK ANCHOR ASSEMBLY:
F1-1R (3/4" Rod, 12500 LBS)
F1-2R (1" Rod, 18000 LBS)
NOTES: 1) 18" Minimum in rock.



EXPANDING ANCHOR ASSEMBLY:
F1-1 (135", 11000 LBS)
F1-2 (200", 13250 LBS)
F1-3 (300", 17500 LBS)

SPEC	ITEM	QTY	MATERIAL
F1-1S	z	1	Anchor, PISA, 1-8" HELIX
	y	1	Nut, TE Anchor Rod, PISA
	x	1	Rod, Anchor, PISA, 3/4"X84"
F1-2S	z	1	Anchor, PISA, 1-10" HELIX
	y	1	Nut, TE Anchor Rod, PISA
	x	1	Rod, Anchor, PISA, 3/4"X84"
F1-3S	z	1	Anchor, PISA, 2-10" HELIX
	y	1	Nut, TE Anchor Rod, PISA
	x	1	Rod, Anchor, PISA, 1"X96"
F1-1R	x	1	Anchor, Rock, TE 3/4" x X"
F1-2R	x	1	Anchor, Rock, TE 1" x X"
F1-1	z	1	Anchor, Expanding 135 SW. IN.
	x	1	Rod, Anchor, 3/4" x 8'
F1-2	z	1	Anchor, Expanding 200 SW. IN.
	x	1	Rod, Anchor, 1" x 8'
F1-3	z	1	Anchor, Expanding 300 SW. IN.
	x	1	Rod, Anchor, 1-1/4" x 8'

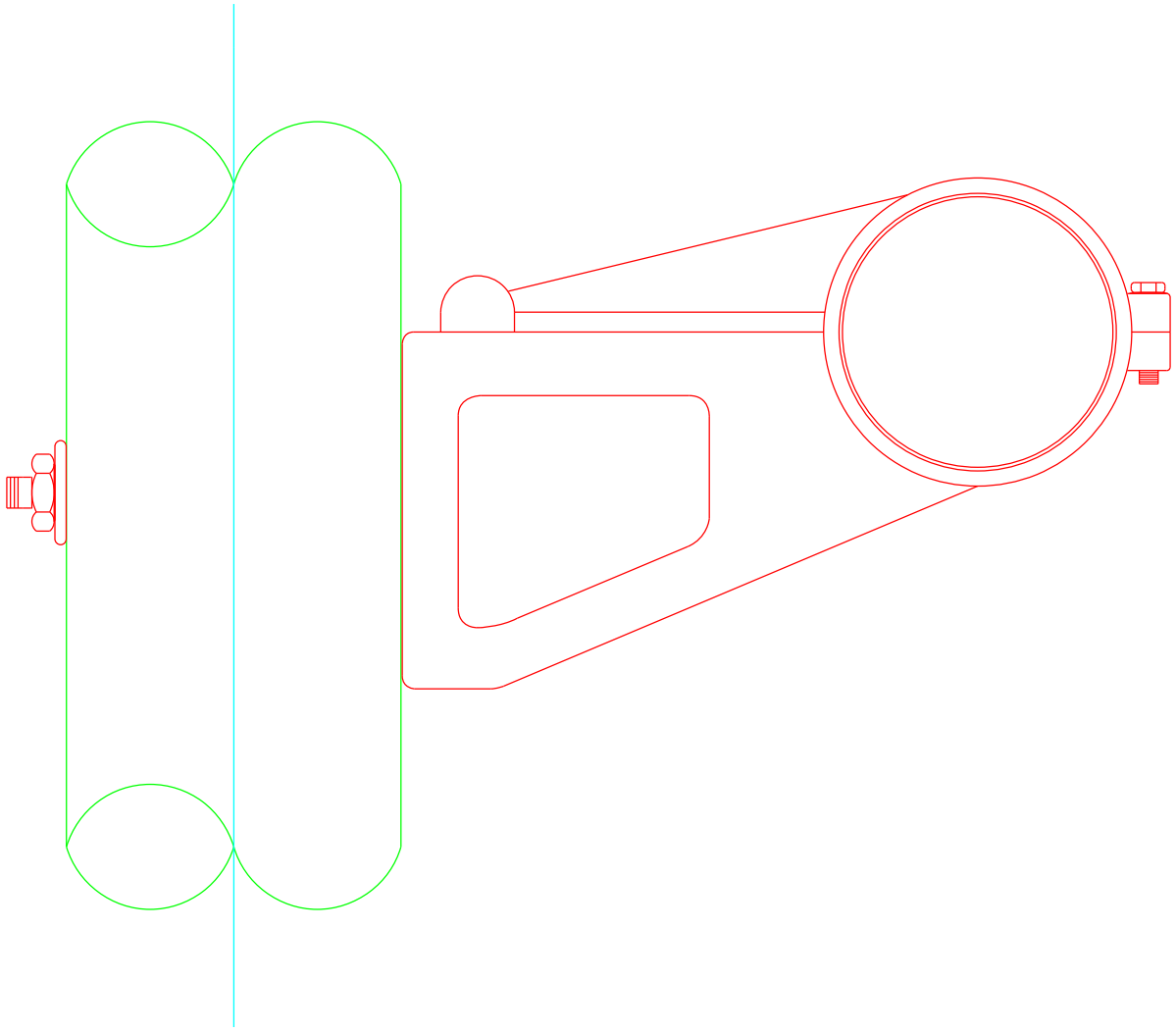
GDE

ANCHOR ASSEMBLEY EXPANDING, ROCK, AND POWER INSTALLED ANCHORS

DATE: 9/5/24

STANDARD NUMBER

F1's



ITEM	QTY	MATERIAL
c	1	Bolt, Machine, $\frac{5}{8}$" x Req'd Length
d	1	Washer, 2 $\frac{1}{4}$" Square, $\frac{11}{16}$"
t	1	Trunnion, For Fiber

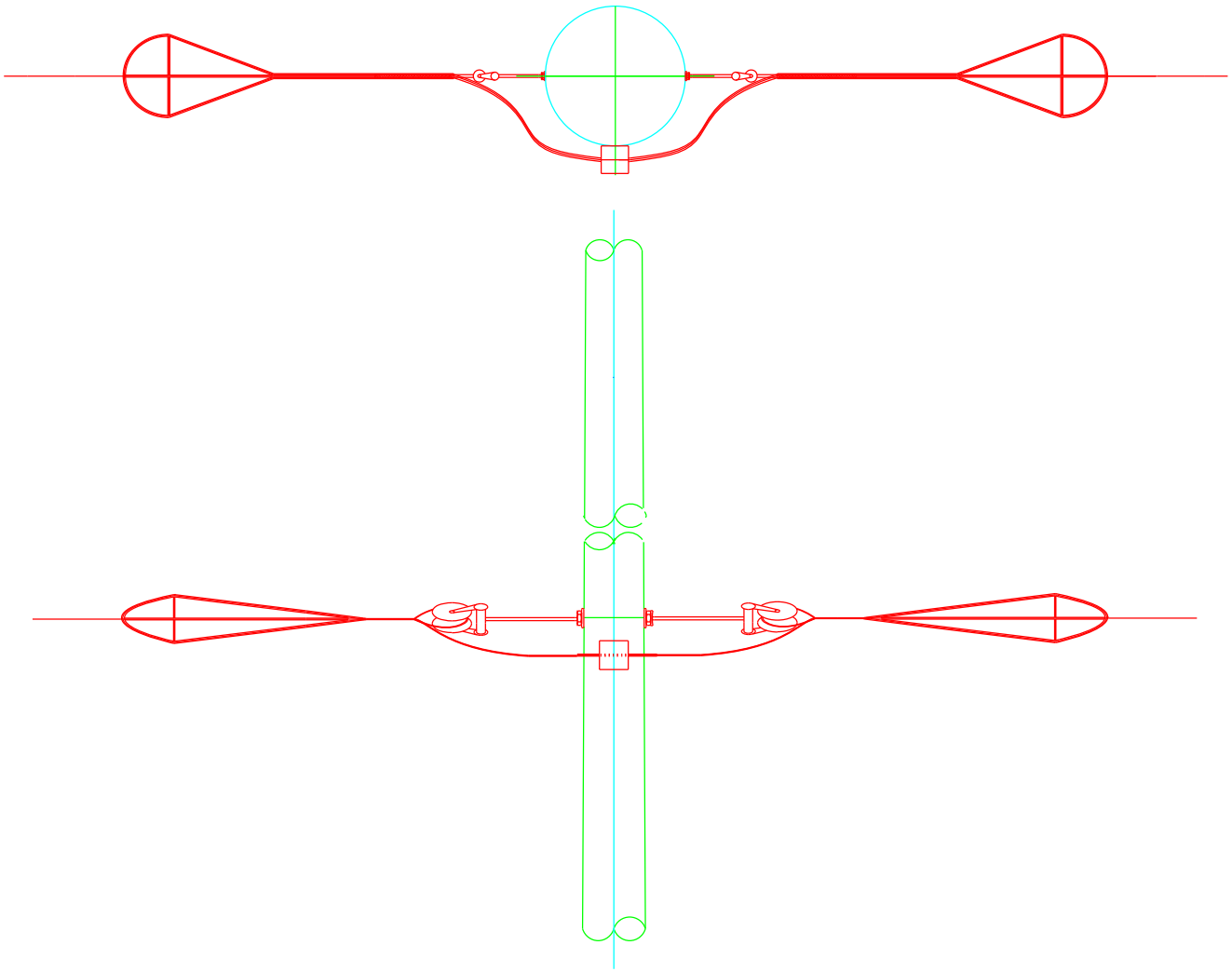
GDE

FIBER OPTIC TRUNNION

DATE: 10/17/23

STANDARD NUMBER

FO-1



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage $^{3}/_{8}$" x 5"
c	4	Bolt, Machine, $^{5}/_{8}$" x Req'd Length
cu	2	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8' x 0"
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6"
a	1	Pin, Pole Top
j	1	Screw, Lag $^{1}/_{2}$" x 4"
d	5	Washer, 2 $^{1}/_{4}$" Square, $^{11}/_{16}$"

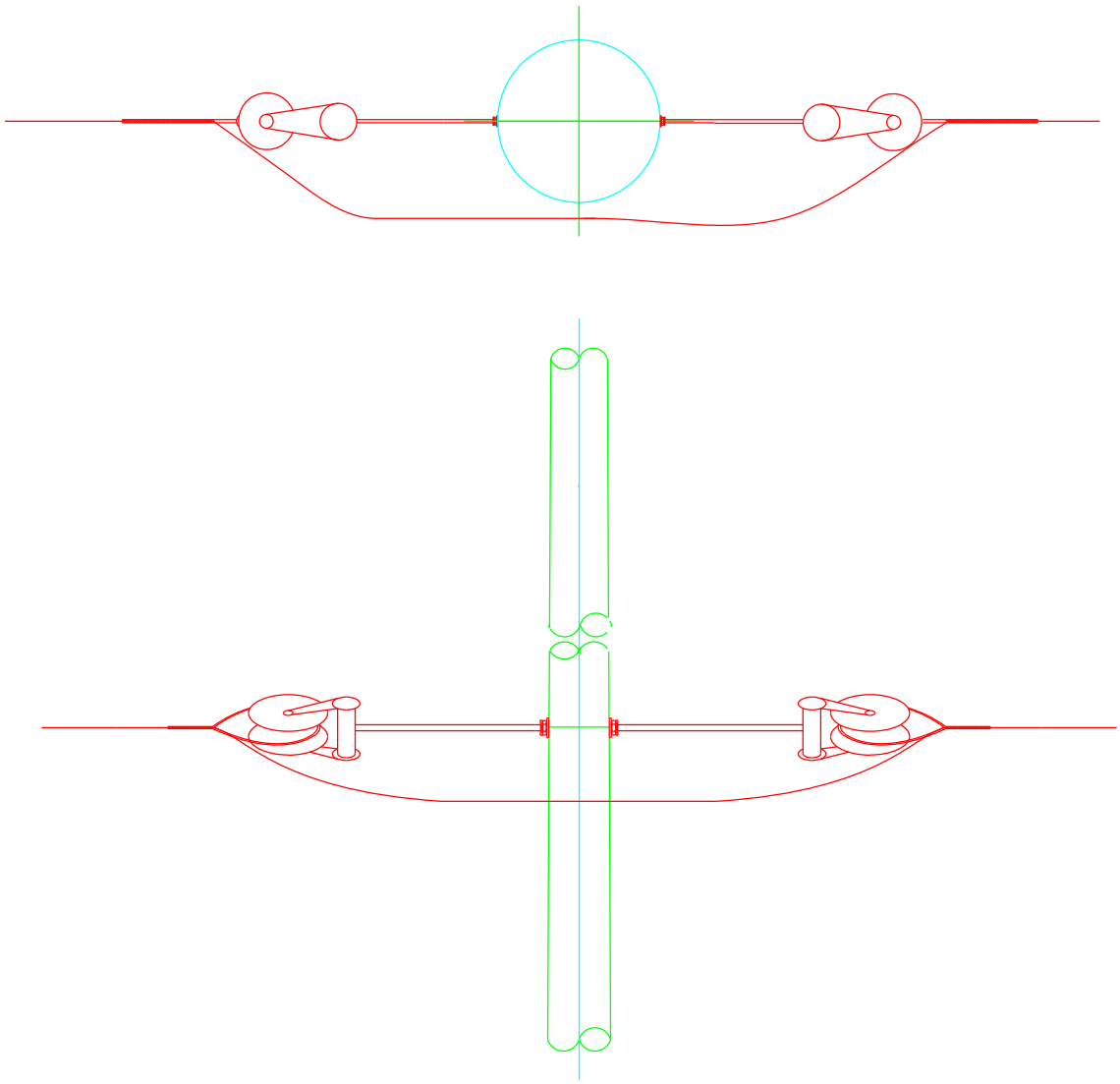
GDE

FIBER OPTIC DOUBLE DEADEND WITH STORAGE LOOPS

DATE: 10/17/23

STANDARD NUMBER

FO-3



ITEM	QTY	MATERIAL
i	2	Bolt, Carriage $^{3}/_{8}$" x 5"
c	4	Bolt, Machine, $^{5}/_{8}$" x Req'd Length
cu	2	Brace, Wood, 28" Span
da	1	Clevis, Neutral
g	1	Crossarm, HD 8' x 0"
a	3	Insulator, Pin Type
m	1	Insulator, Rack Large
f	2	Pin, Crossarm 6"
a	1	Pin, Pole Top
j	1	Screw, Lag $^{1}/_{2}$" x 4"
d	5	Washer, 2 $^{1}/_{4}$" Square, $^{11}/_{16}$"

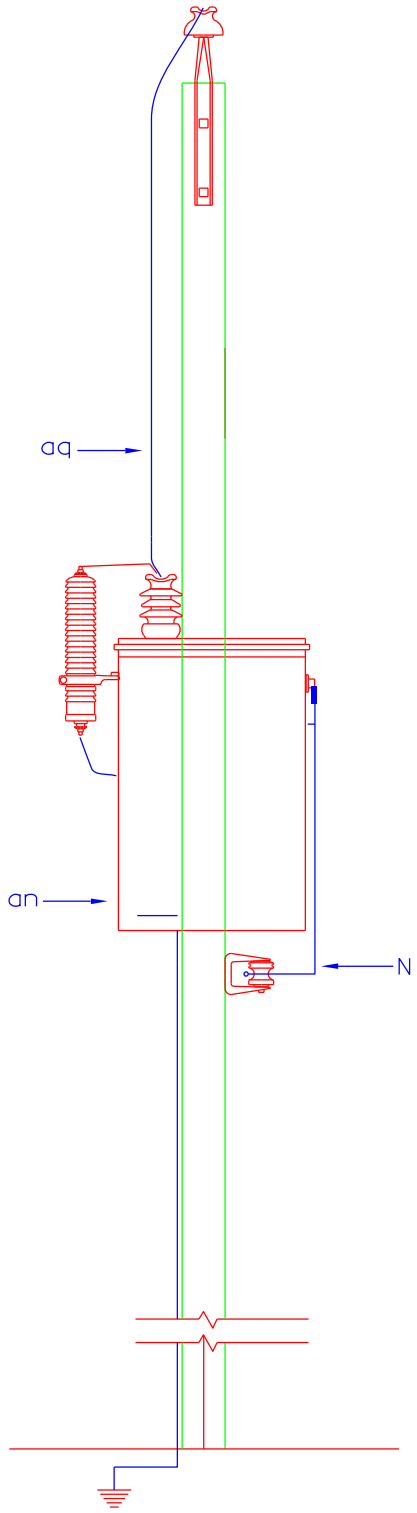
GDE

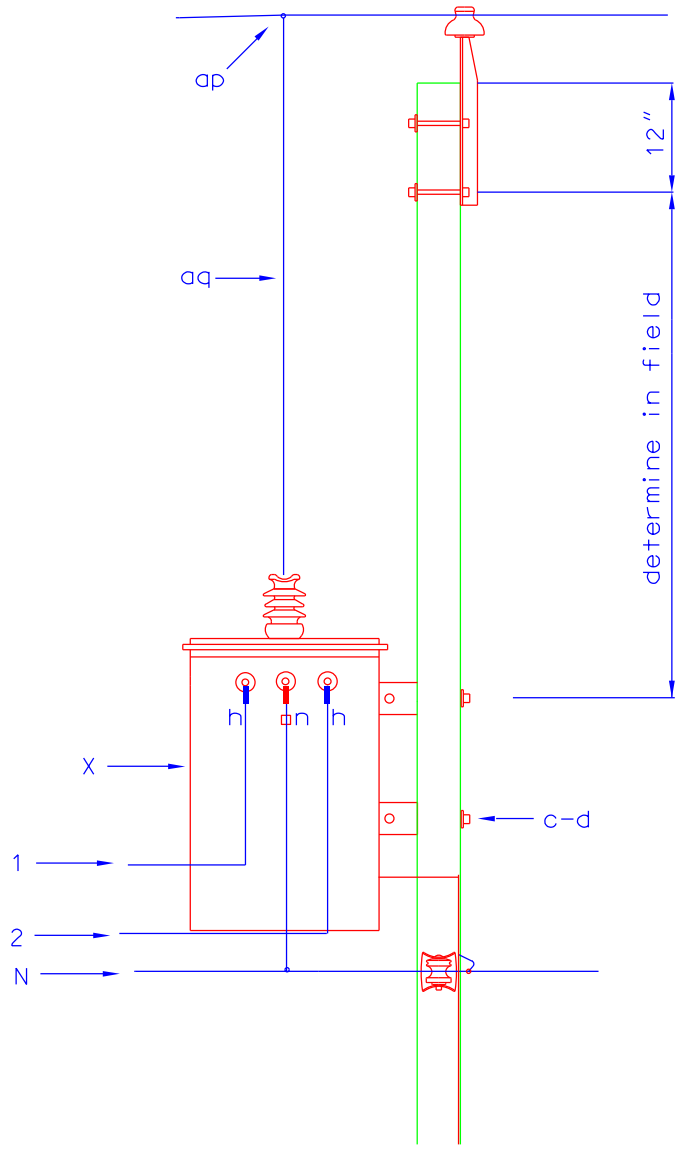
FIBER OPTIC
DOUBLE DEADEND

DATE: 10/17/23

STANDARD NUMBER

FO-8





NOTES:

1) See MG-13 for proper fuse size.
2) Take service wire to xfmr spade.
3) Match system neutral wire size for neutral lead.

ITEM	QTY	MATERIAL
X	1	Xfmr, 1Ph CSP
c	2	Bolt, Machine, 5/8" x Req'd Length
ap	1	Clamp, Hotline Copper
an	1	Ground, Xfmr Tank
ag	1	Guard, Animal
h	2	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	2	Washer, 2 1/4" Square 11/16"
aq	X	Wire, Riser, #4 Copper Solid

GDE

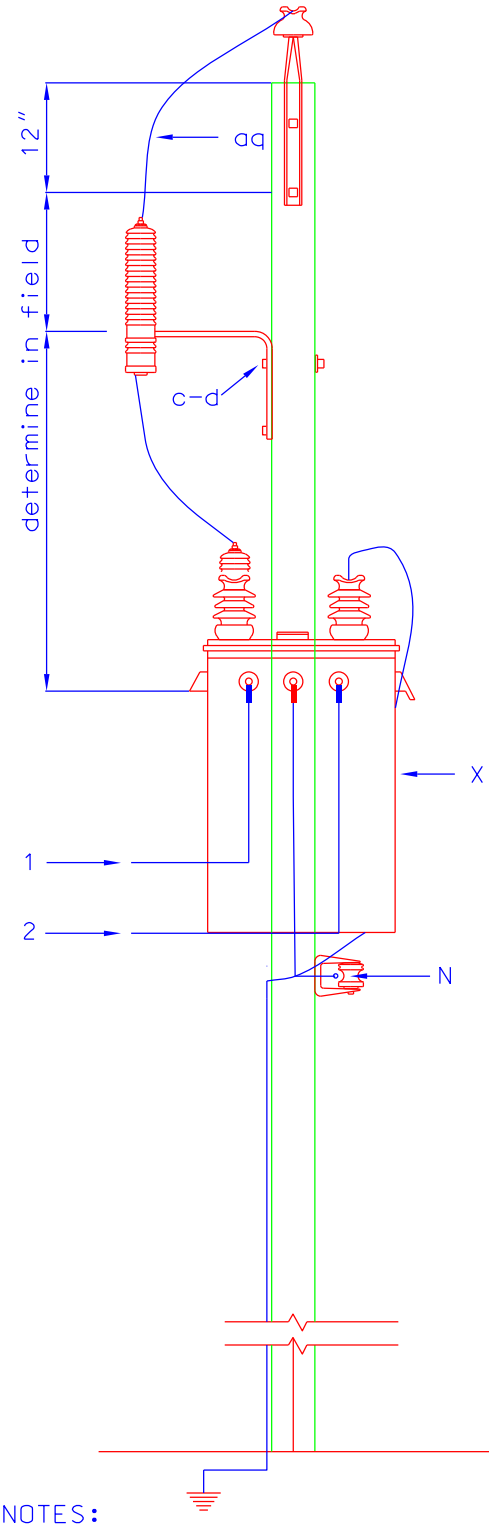
SINGLE PHASE

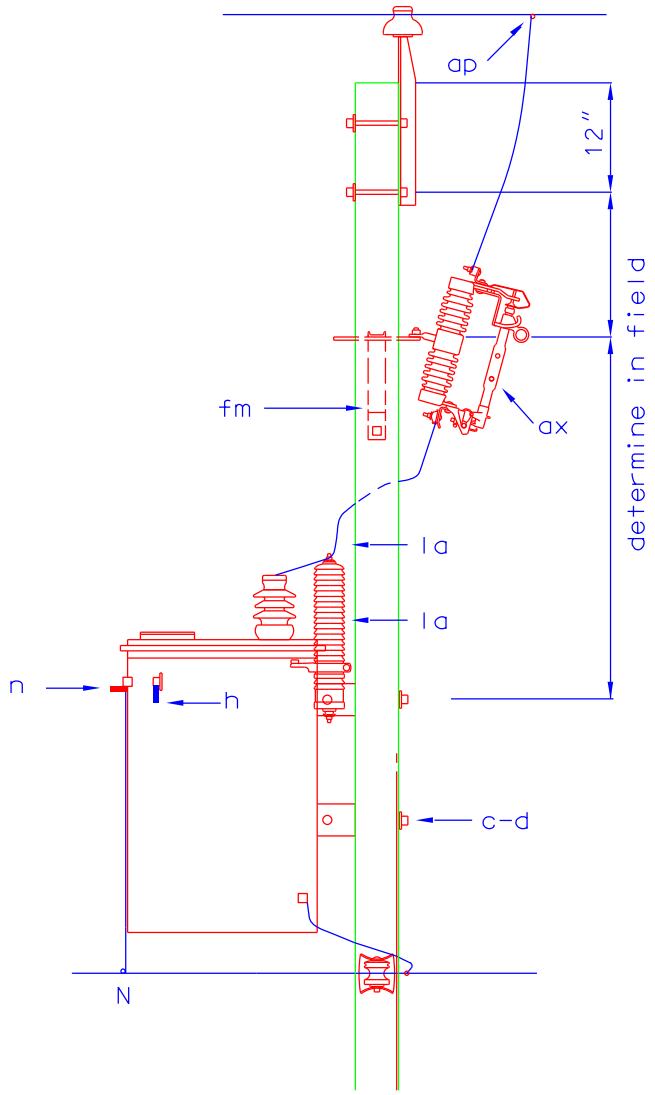
CSP TRANSFORMER INSTALLATION

DATE: 7/17/23

STANDARD NUMBER

G10





NOTES:

1) Use G11-X for mounting cutout on xarm.
2) See MG-13 for proper fuse size.
3) Take service wire to xfmr spade.
4) Match system neutral wire size for neutral lead.

ITEM	QTY	MATERIAL
X	1	Xfmr, 1Ph CONV
la	1	Arrester, Lightning, Xfmr Mount
c	3	Bolt, Machine, 5/8" x Req'd Length
fm	1	Bracket, 1Ph Cutout
ap	1	Clamp, Hotline Copper
ax	1	Cutout, Fused, 100 Amp
an	1	Ground, Xfmr Tank
ag	1	Guard, Animal
h	2	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	3	Washer, 2 1/4" Square 11/16"
aq	X	Wire, Riser, #4 Copper Solid

GDE

SINGLE PHASE

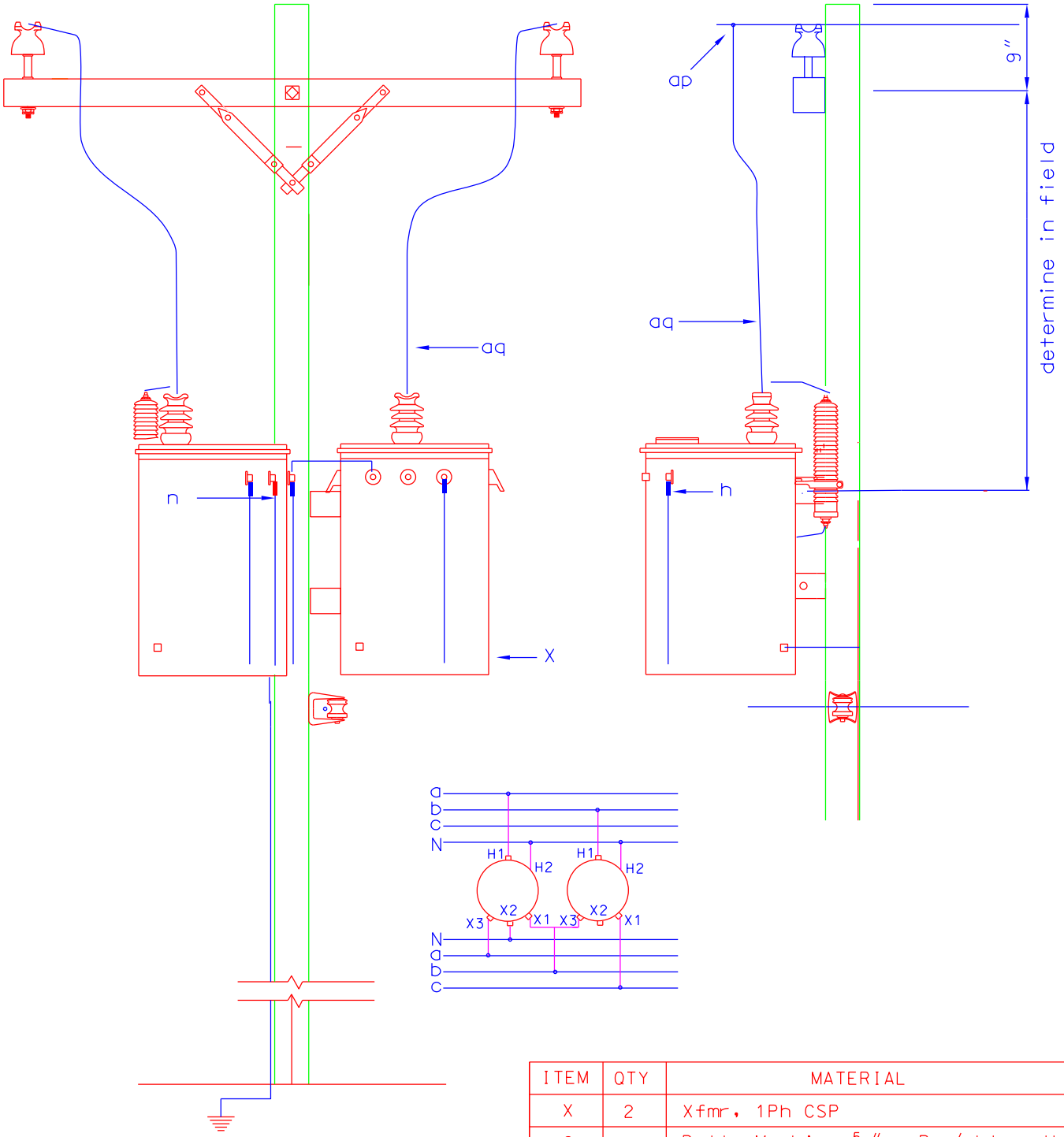
CONV TRANSFORMER INSTALLATION

DATE: 5/19/23

STANDARD NUMBER

G11

G11-X



ITEM	QTY	MATERIAL
X	2	Xfmr, 1Ph CSP
c	4	Bolt, Machine, 5/8" x Req'd Length
ap	2	Clamp, Hotline Copper
an	2	Ground, Xfmr Tank
ag	2	Guard, Animal
h	3	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	4	Washer, 2 1/4" Square 11/16"
aq	X	Wire, Riser, #4 Copper Solid

NOTES:

1) See MG-13 for proper fuse size.
2) Take service wire to xfmr spade.
3) Match system neutral wire size for neutral lead.
4) Use 4/OCU bridge work for 50KVA.
   Use 1/OCU bridge work if less than 50KVA.

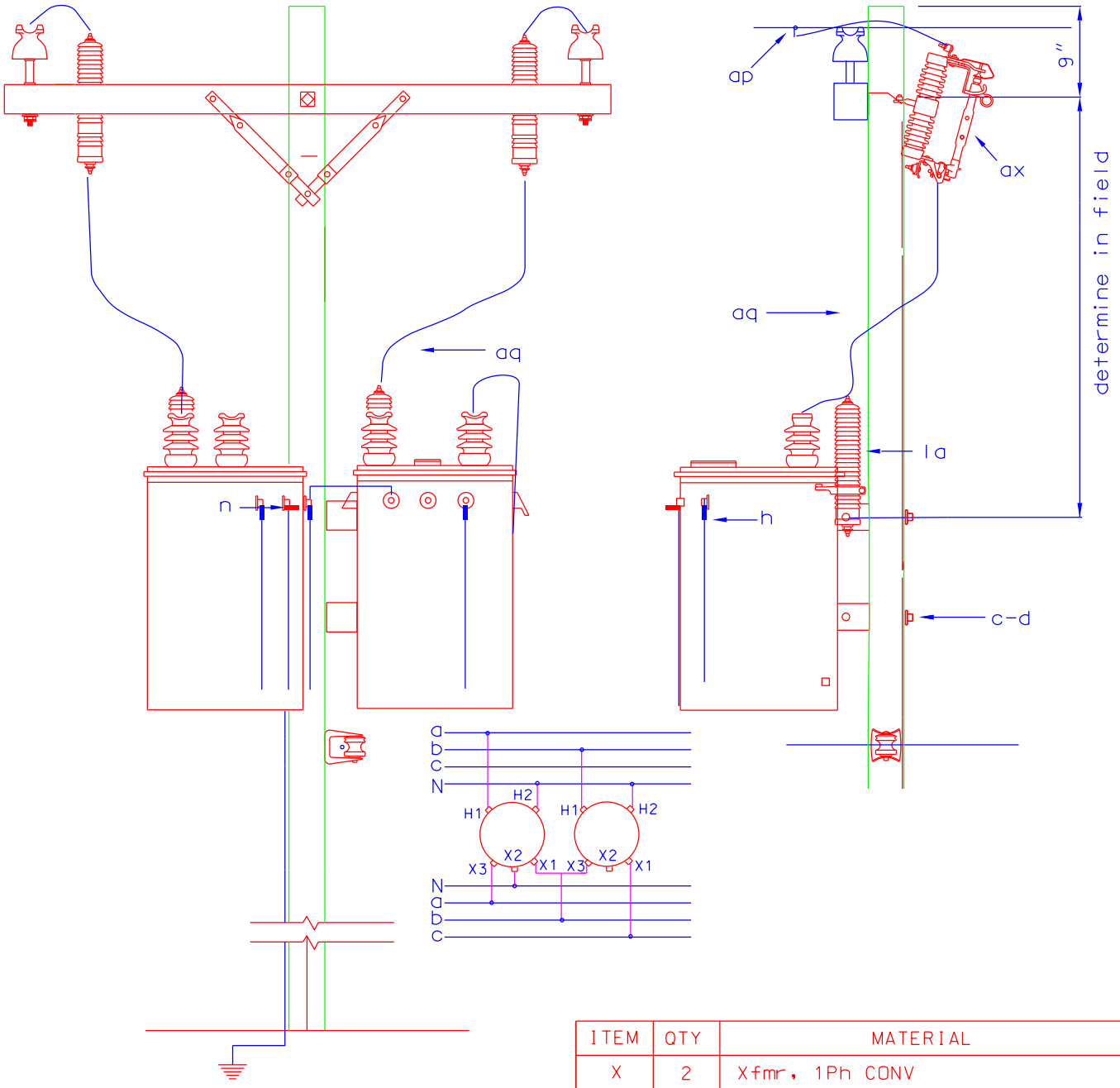
GDE

OPEN WYE - OPEN DELTA
CSP TRANSFORMER INSTALLATION
120/240 VOLT SERVICE

DATE: 7/17/23

STANDARD NUMBER

G20



ITEM	QTY	MATERIAL
X	2	Xfmr, 1Ph CONV
la	2	Arrester, Lightning, Xfmr Mount
c	4	Bolt, Machine, 5/8" x Req'd Length
ap	2	Clamp, Hotline Copper
ax	2	Cutout, Fused, 100 Amp
an	2	Ground, Xfmr Tank
ag	2	Guard, Animal
h	3	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	4	Washer, 2 1/4" Square 11/16"
aq	X	Wire, Riser, #4 Copper Solid

NOTES:

1) See MG-13 for proper fuse size.
2) Take service wire to xfmr spade.
3) Match system neutral wire size for neutral lead.
4) Use 250CU bridge work if more than 50KVA.
   Use 4/0CU bridge work for 50KVA.
   Use 1/0CU bridge work if less than 50KVA.

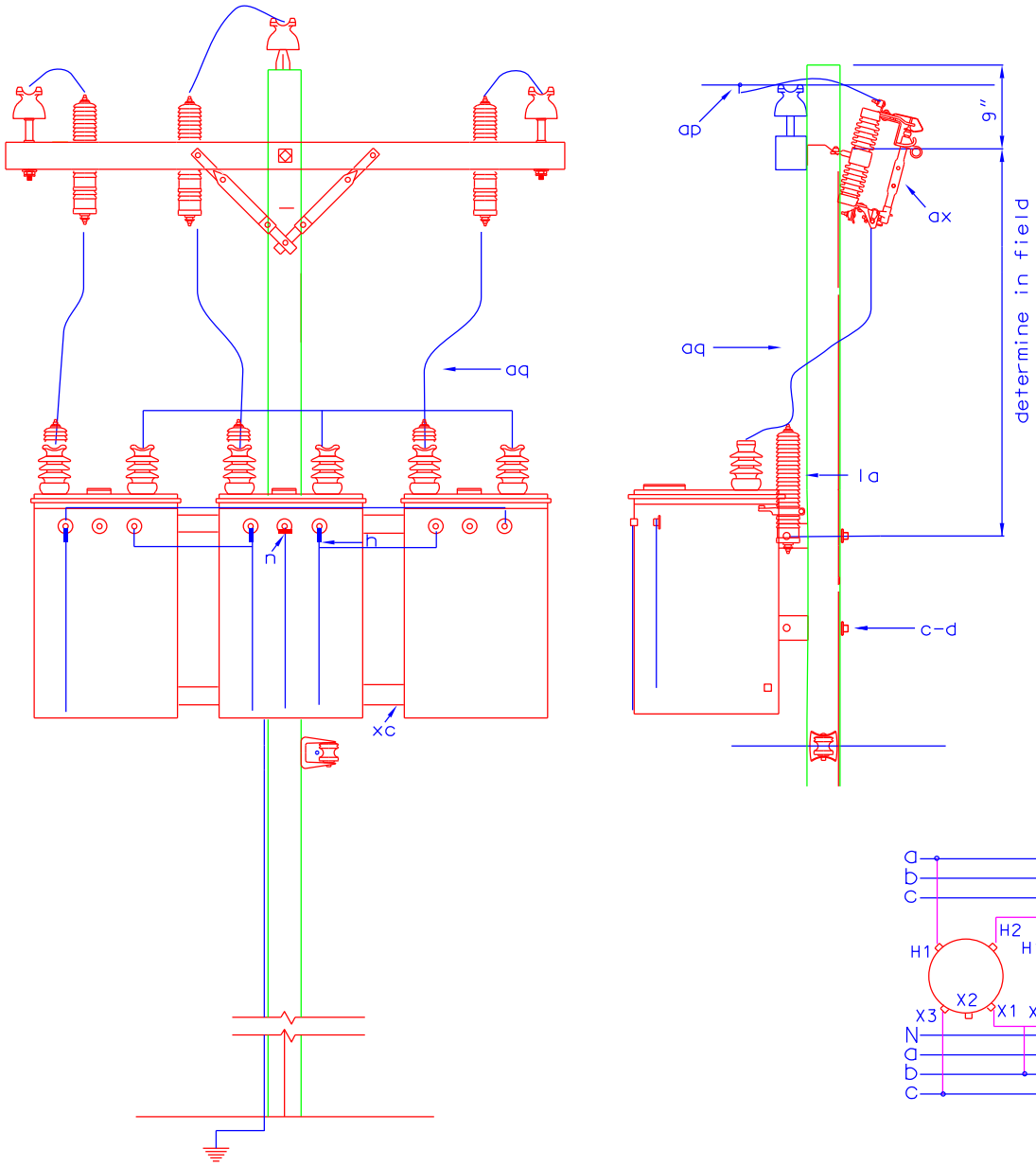
GDE

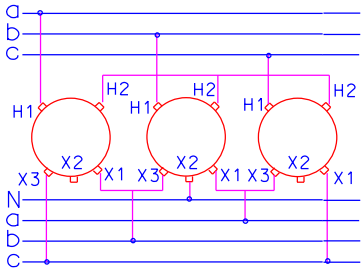
OPEN WYE - OPEN DELTA
CONV TRANSFORMER INSTALLATION
120/240 VOLT SERVICE

DATE: 7/17/23

STANDARD NUMBER

G21





NOTES:

1- See MG-13 for proper fuse size.

2- Do not use CSP xfmrs for this configuration.

3- Take service wire to xfmr spade.

4- Match system neutral wire size for neutral lead.

5- Use 250CU bridge work if more than 50KVA.
Use 4/0CU bridge work for 50KVA.
Use 1/0CU bridge work if less than 50KVA.

ITEM	QTY	MATERIAL
X	3	Xfmr, 1Ph CONV
la	3	Arrester, Lightning, Xfmr Mount
c	2	Bolt, Machine,3/4" x Req'd Length
ap	3	Clamp, Hotline Copper
xc	1	Cluster, Xfmr Mount
ax	3	Cutout, Fused, 100 Amp
an	3	Ground, Xfmr Tank
ag	3	Guard, Animal
h	3	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	2	Washer, 4" Curved
aq	X	Wire, Riser, #4 Copper Solid

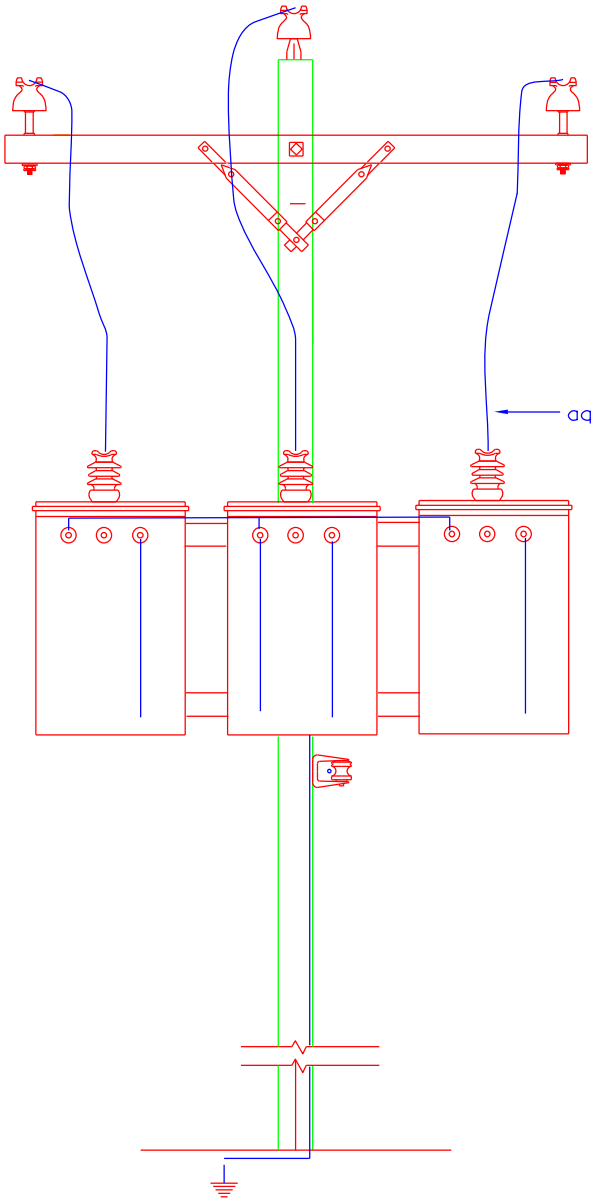
GDE

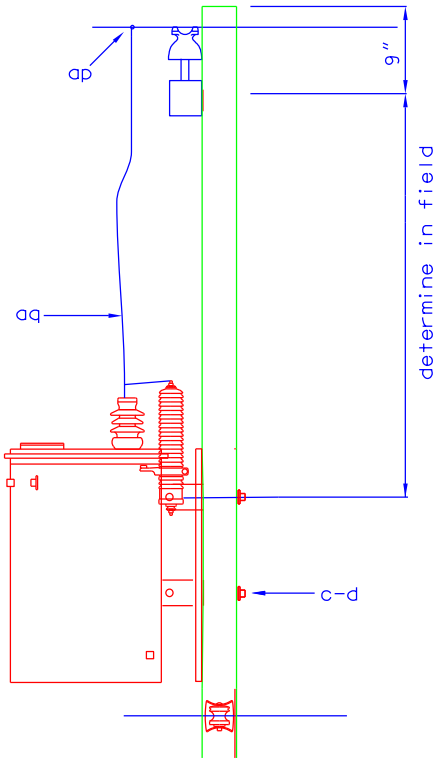
WYE - DELTA
CONV TRANSFORMER INSTALLATION
120/240 VOLT SERVICE

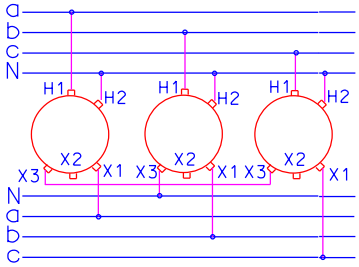
DATE: 7/17/23

STANDARD NUMBER

G31







NOTES:

1) See MG-13 for proper fuse size.
2) Take service wire to xfmr spade.
3) Match system neutral wire size for neutral lead.
4) Use 4/0CU bridge work for 50KVA.
   Use 1/0CU bridge work if less than 50KVA.

ITEM	QTY	MATERIAL
X	3	Xfmr, 1Ph CSP
c	2	Bolt, Machine,3/4" x Req'd Length
ap	3	Clamp, Hotline Copper
xc	1	Cluster, Xfmr Mount
an	3	Ground, Xfmr Tank
ag	3	Guard, Animal
h	3	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	2	Washer, 4" Curved
aq	X	Wire, Riser, #4 Copper Solid

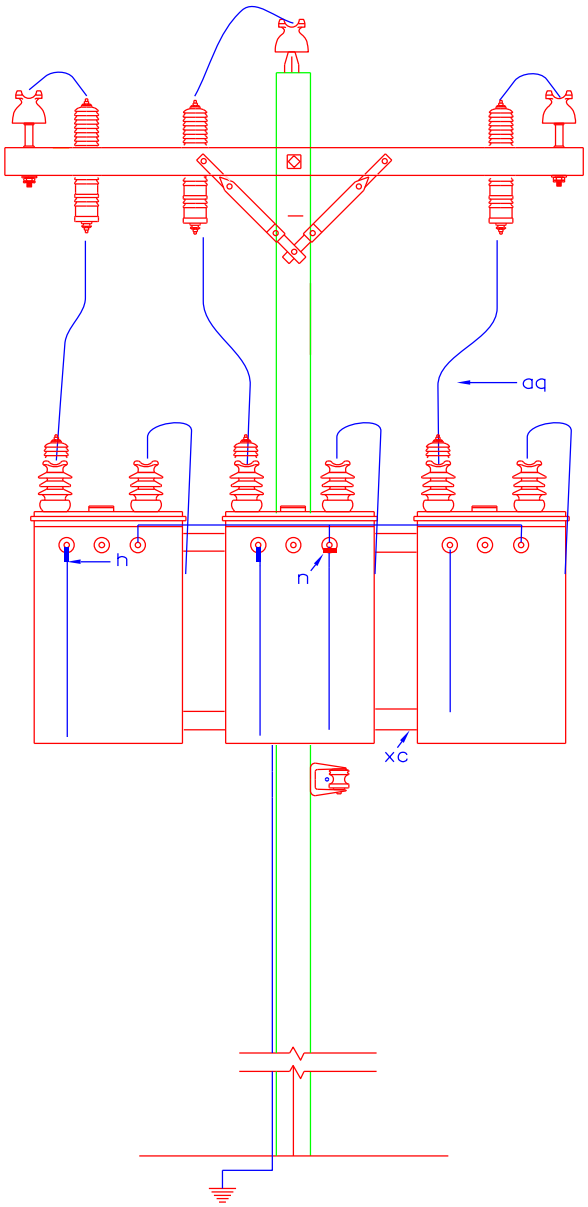
GDE

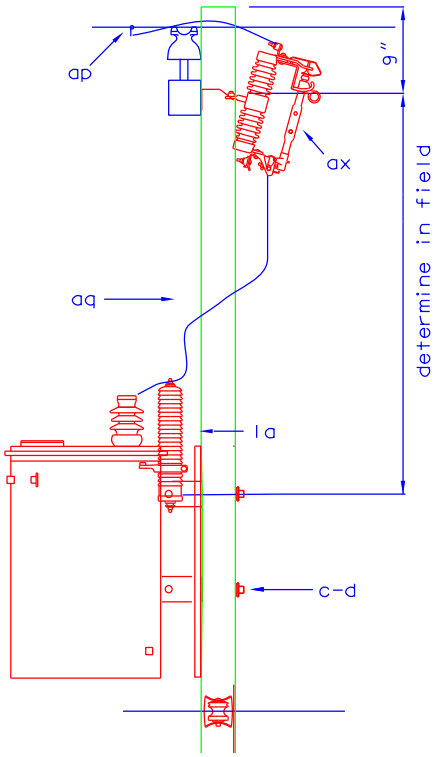
WYE - WYE
CSP TRANSFORMER INSTALLATION
120/208 VOLT SERVICE

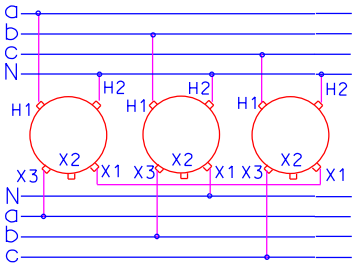
DATE: 7/17/23

STANDARD NUMBER

G40







NOTES:

1) See MG-13 for proper fuse size.
2) Take service wire to xfmr spade.
3) Match system neutral wire size for neutral lead.
4) Use 250CU bridge work if more than 50KVA.
   Use 4/0CU bridge work for 50KVA.
   Use 1/0CU bridge work if less than 50KVA.

ITEM	QTY	MATERIAL
X	3	Xfmr, 1Ph CONV
la	3	Arrester, Lightning, Xfmr Mount
c	2	Bolt, Machine,3/4" x Req'd Length
ap	3	Clamp, Hotline Copper
xc	1	Cluster, Xfmr Mount
ax	3	Cutout, Fused, 100 Amp
an	3	Ground, Xfmr Tank
ag	3	Guard, Animal
h	3	Spade, OH Xfmr, 4 Pos, Small
n	1	Spade, OH Xfmr, 90 Deg
d	2	Washer, 4" Curved
aq	X	Wire, Riser, #4 Copper Solid

GDE

WYE - WYE
CONV TRANSFORMER INSTALLATION
120/208 OR 277/480 VOLT SERVICE

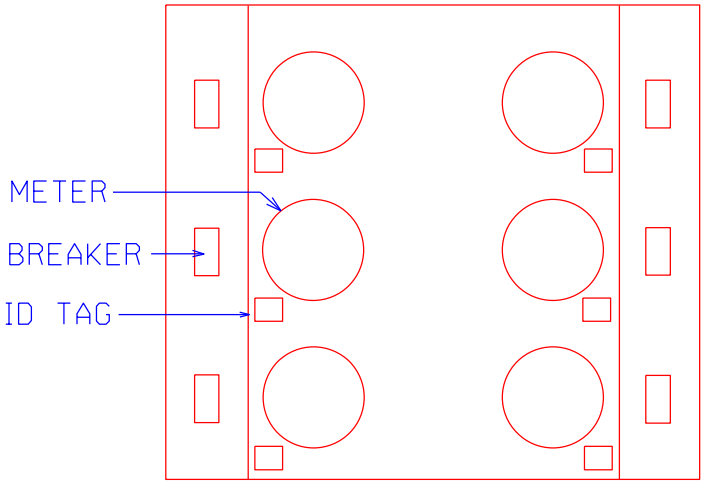
DATE: 7/17/23

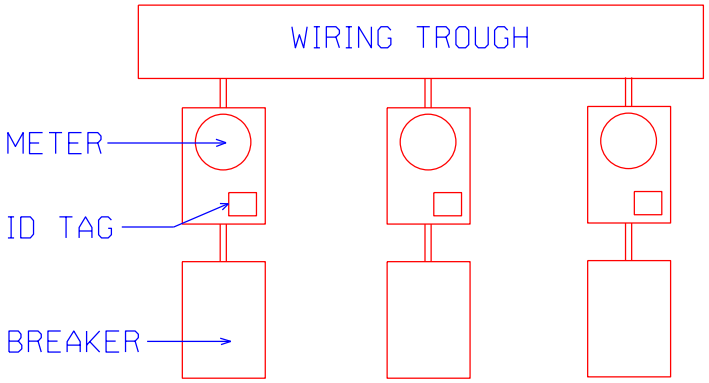
STANDARD NUMBER

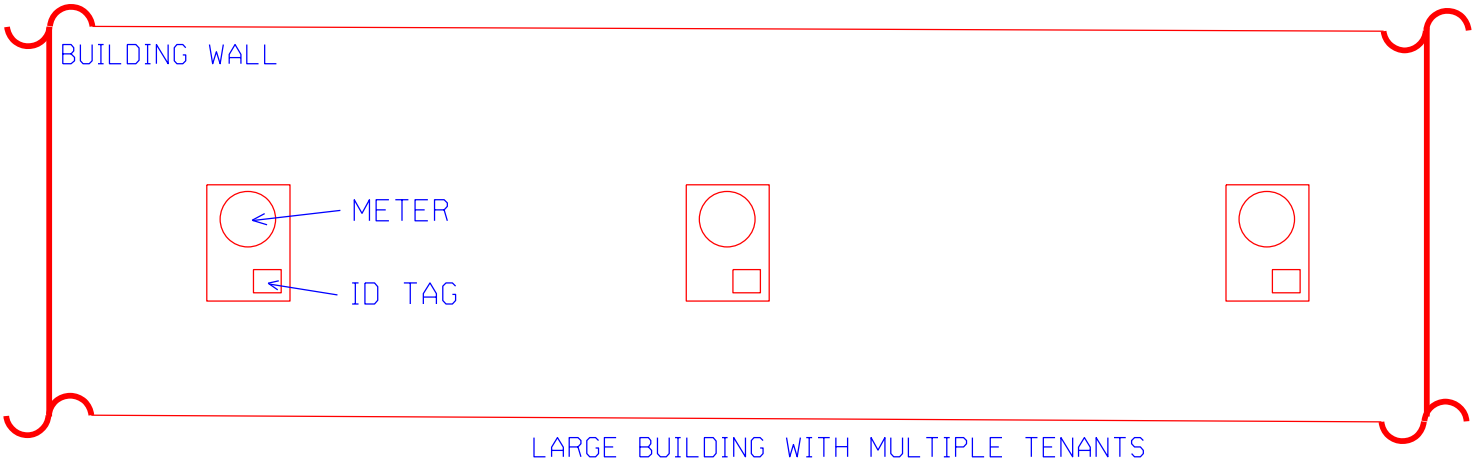
G41

GDE PH. # (615) 452-5152

Wiring troughs are no longer allowed, must now use secondary tap boxes.







LARGE BUILDING WITH MULTIPLE TENANTS

NOTES:

1- Buildings such as apartment buildings, retail strip centers, duplexes, triplexes, town homes, and etc. which have more than one meter shall have all meters labeled to identify the premises they serve.
2- The label shall have the apartment/building number or street address.
3- The label shall be outdoor rated brass or stainless steel.
4- The labels shall be attached to the meter base with rivits or screws.
5- The identification numbers/letters shall be stamped or engraved.
6- The identification numbers/letters shall have a character size of at least ½" in height.

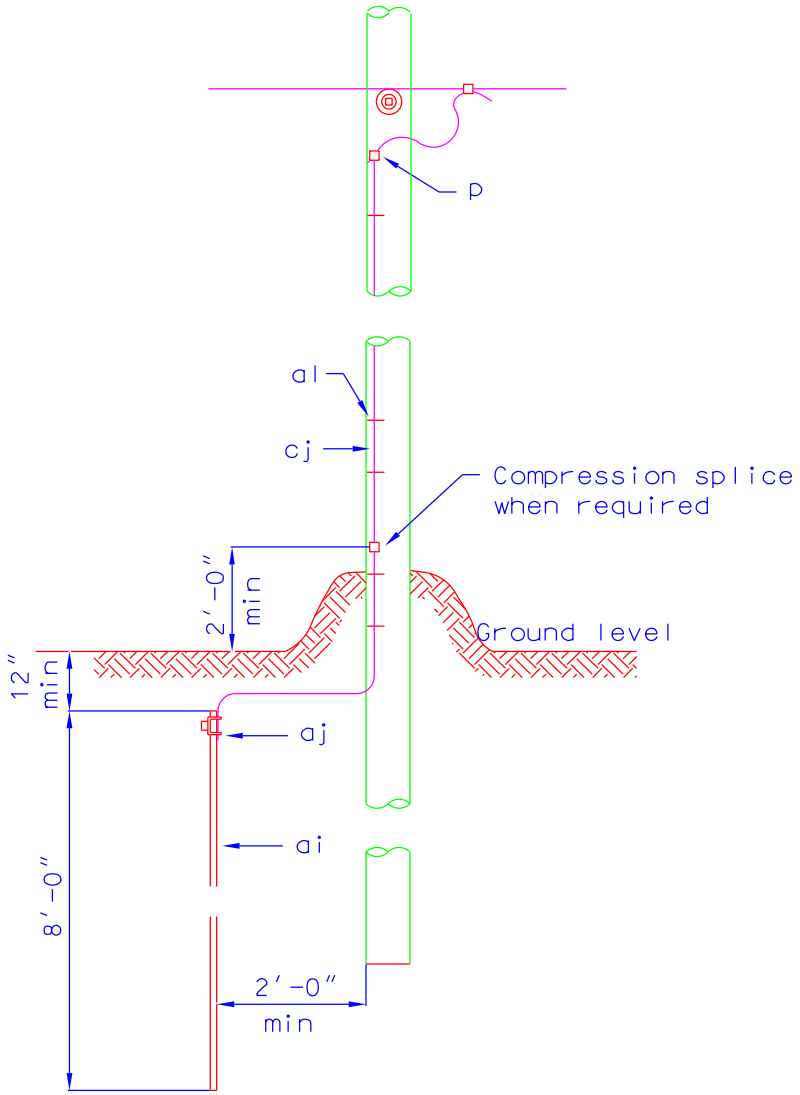
GDE

LABELING FOR MULTI-METERED INSTALLATIONS

DATE: 7/17/23

STANDARD NUMBER

LABEL



NOTES:

1- Ground wire to be located on same side as neutral conductor and in quadrant opposite climbing space or pole top pin.

2- 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.

3- Ground wire to clear all hardware by 2" minimum, and shall be stapled to maintain this position.

4- Ground wire moulding may be installed at discretion of owner.

ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
ai	1	Rod, Ground $^{5}/_{8}$" X 8'
cj	X'	Wire, # 4 Bare Copper, SD

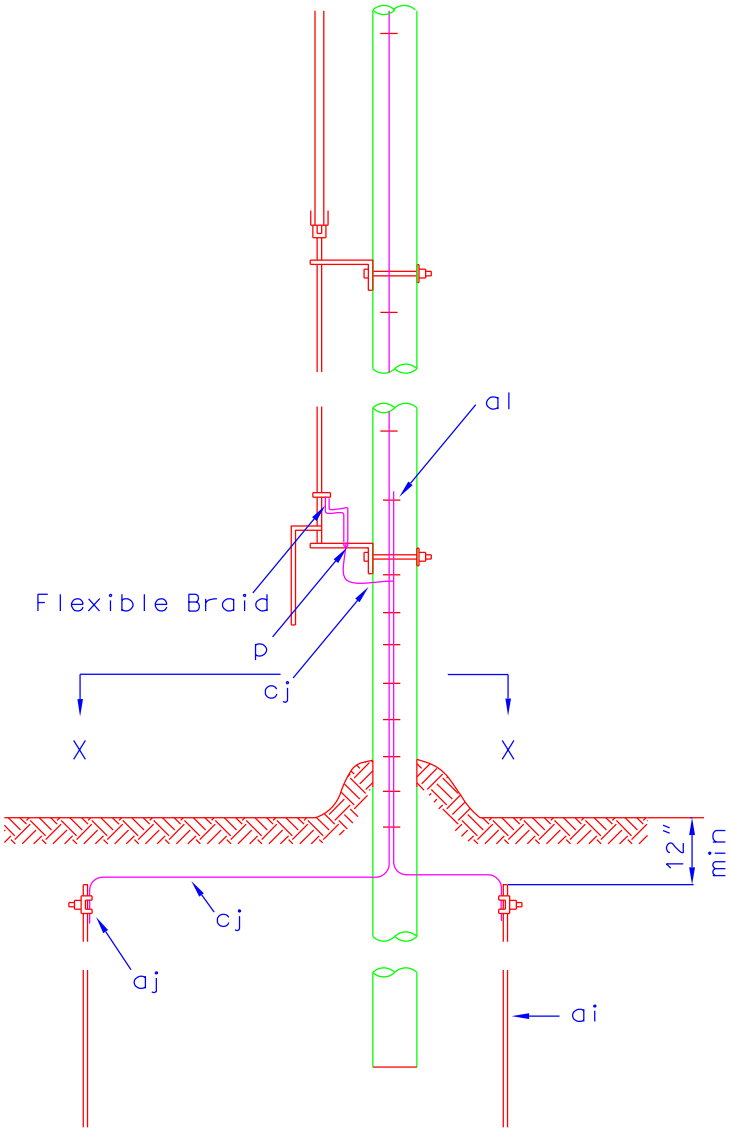
GDE

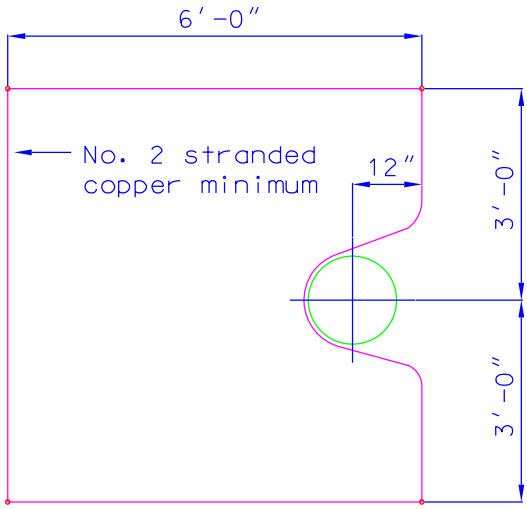
GROUNDING ASSEMBLE

DATE: 7/17/23

STANDARD NUMBER

M2-11





SECTION X-X
(Detail of ground grid)

ITEM	QTY	MATERIAL
aj	4	Clamp, Ground Rod
ai	4	Rod, Ground 5/8" X 8'
cj	X'	Wire, # 2 Bare Copper, SD

NOTES:
1- Use on 12.47 kV only.

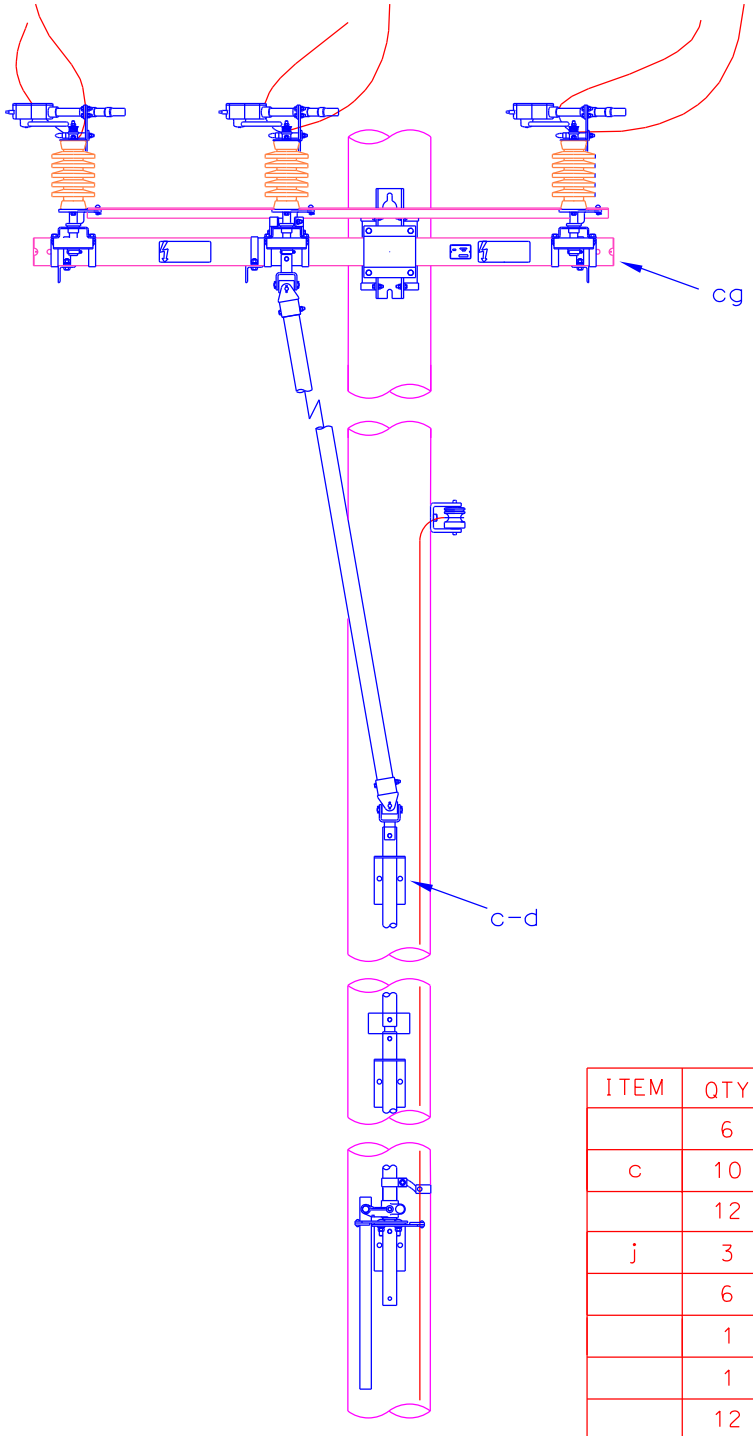
GDE

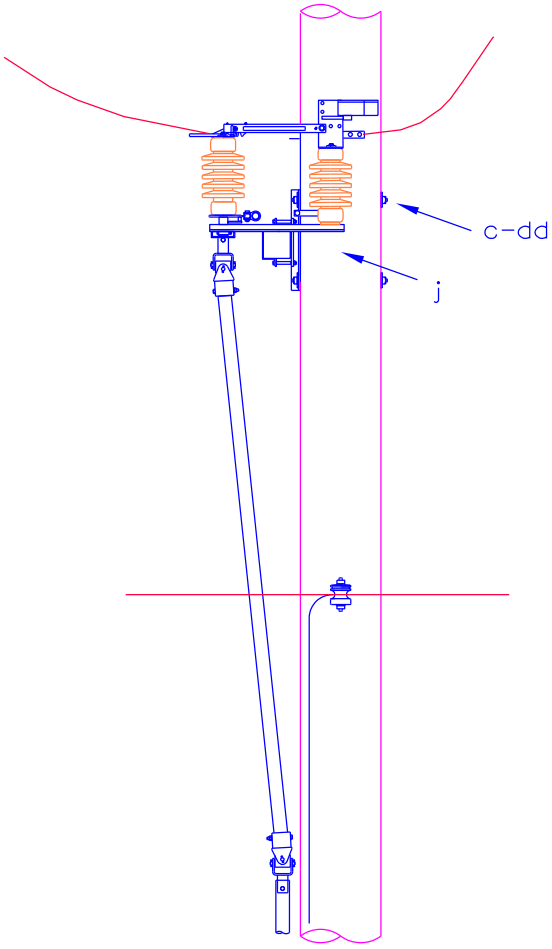
GROUNDING ASSEMBLY FOR SECTIONALIZING AIR BREAK SWITCH

DATE: 7/17/23

STANDARD NUMBER

M2-15





ITEM	QTY	MATERIAL
	6	Arrester, Lightning, Riser Pole
c	10	Bolt, Machine, 5/8" x Req'd Length
	12	Bolt, SS 1/2" X 2"
j	3	Bracker, LA For ABS
	6	Clamp, Hotline Copper
	1	Grounding Lug, Bronze Tap Med
	1	Lock, Company
	12	Nut, SS 1/2" X 13
	6	Spade, Primary 2 Hole OH
cg	1	Switch, ABS 1200 Amp
	12	Washer, Split Lock SS 1/2"
	24	Washer, Round SS 1/2" X 1-1/4"
	8	Washer, 2 1/4" Square, 11/16"
dd	2	Washer, 4" Curved

NOTES:
1-Refer to M2-15 for grounding arrangement.

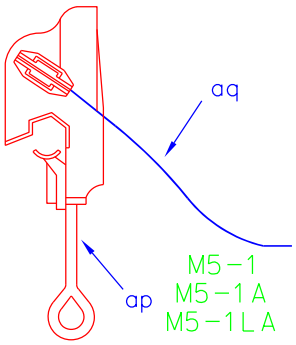
GDE

HORIZONTAL MOUNTED 1200 AMP GANG OPERATED AIR BREAK SWITCH

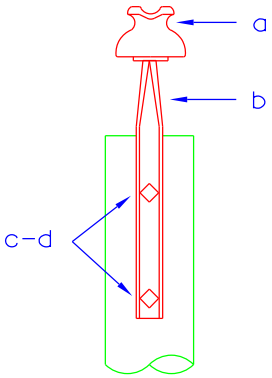
DATE: 7/17/23

STANDARD NUMBER

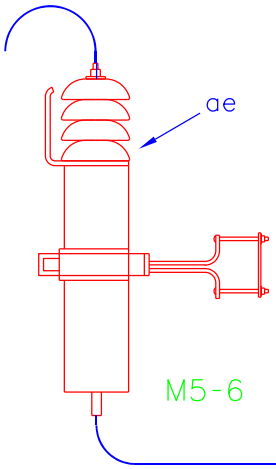
M3-15



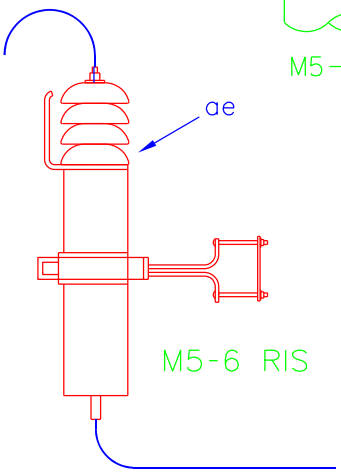
M5-1
M5-1A
M5-1LA



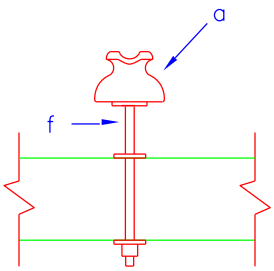
M5-2



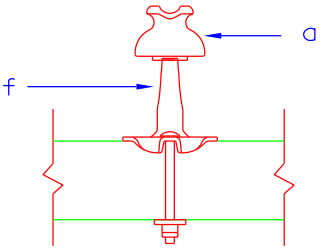
M5-6



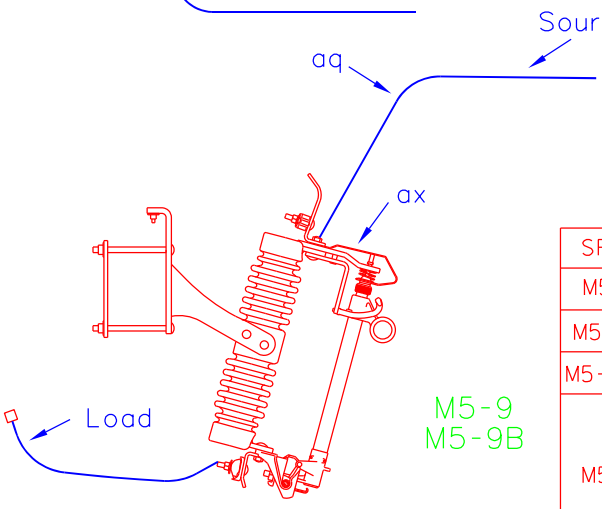
M5-6 RIS



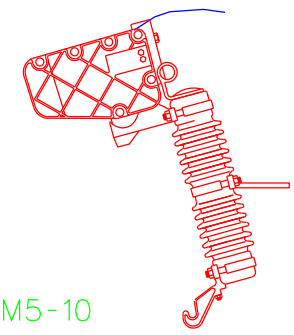
M5-5



M5-5 HD



M5-9
M5-9B



M5-10

SPEC	ITEM	QTY	MATERIAL
M5-1	ap	1	Clamp, Hotline Copper
M5-1A	ap	1	Clamp, Hotline Small Aluminum
M5-1LA	ap	1	Clamp, Hotline Large Aluminum
M5-2	c	2	Bolt, Machine, 5/8" x Req'd Length
	a	1	Insulator, Pin Type
	b	1	Pin, Pole Top
	d	2	Washer, 2 1/4" Square, 11/16"
M5-5	a	1	Insulator, Pin Type
	f	1	Pin, Crossarm 6"
M5-5 HD	a	1	Insulator, Pin Type
	f	1	Pin, Crossarm, Clamp Type
M5-6	ae	1	Lightning Arrester, Xarm Mount
M5-6RIS	ae	1	Lightning Arrester, Riser Pole Type
M5-9	ax	1	Fused Cutout, 100 Amp
M5-9B	ax	1	Fused Cutout, LB, 200 Amp
M5-10	ax	1	Fused Cutout, LB, 100 Amp

GDE

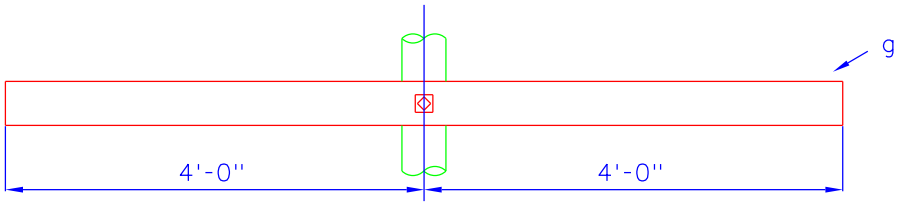
MISCELLANEOUS

PRIMARY ASSEMBLIES

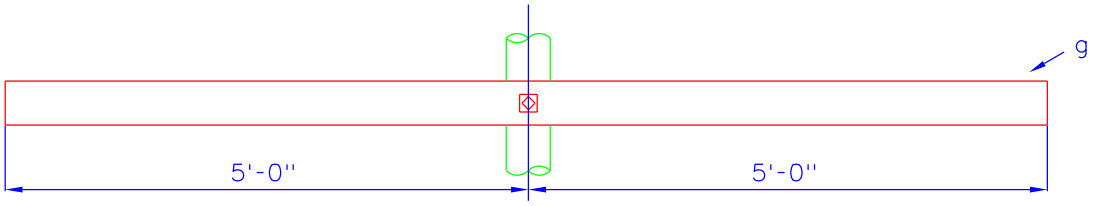
DATE: 7/17/23

STANDARD NUMBER

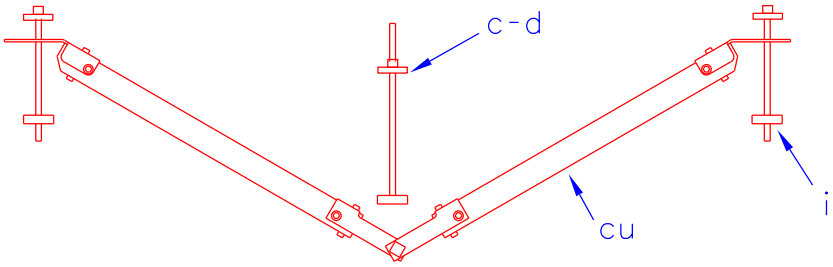
M5-#'s



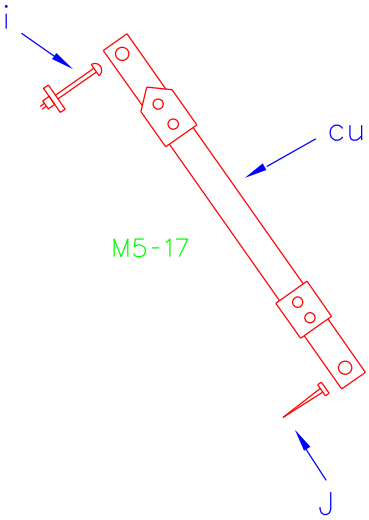
XA8



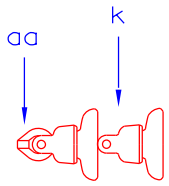
XA10



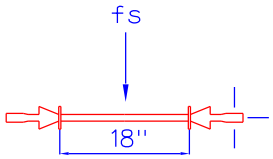
M5-13



M5-17



M5-20



M5-23

SPEC	ITEM	QTY	MATERIAL
XA8	g	1	Crossarm, HD 8'-0"
XA10	g	1	Crossarm, HD 10'-0"
M5-13	i	2	Bolt, Carriage 1/2" X 6"
	c	1	Bolt, Machine, 5/8" x Req'd Length
	cu	2	Brace, Wood, 60" Span
	d	1	Washer, 2 1/4" Square, 11/16"
M5-17	i	2	Bolt, Carriage 1/2" X 6"
	cu	2	Brace, Wood, 28" Span
	j	1	Screw, Lag 1/2" X 4"
M5-20	k	1	Insulator, Suspension Epoxy 15kV
	aa	1	Nut, Eye 5/8"
M5-23	fs	1	Link, Insulating Fiberglass, 18"

GDE

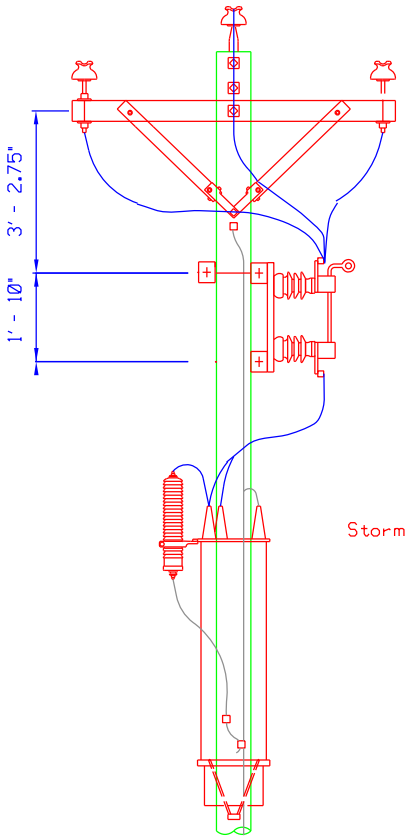
MISCELLANEOUS

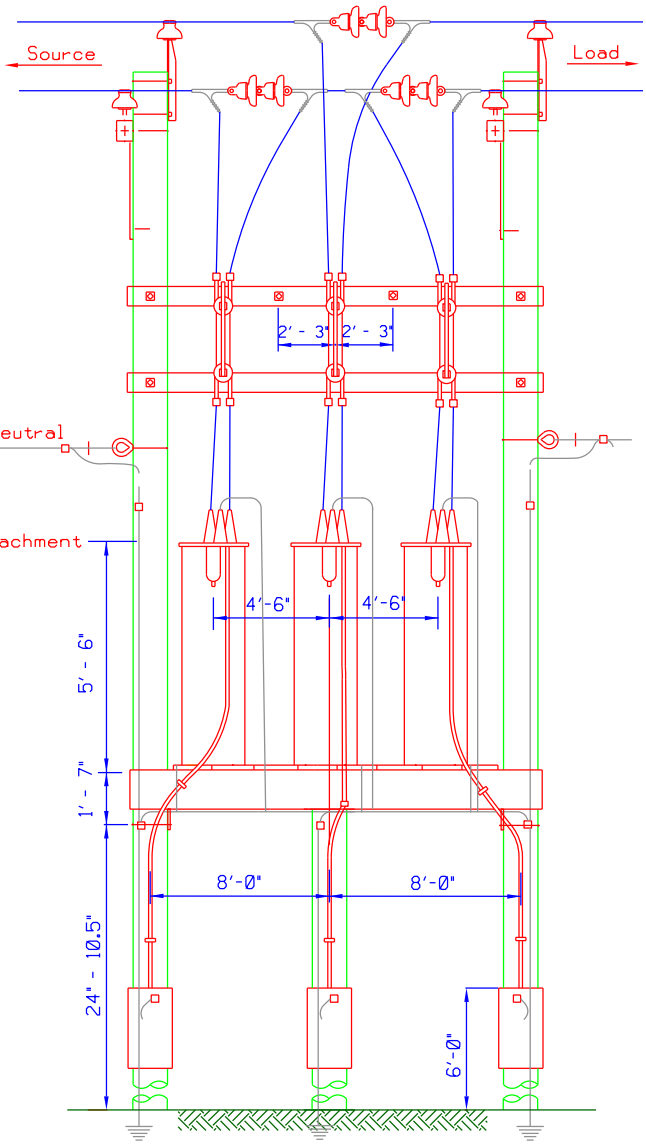
PRIMARY ASSEMBLIES

DATE: 7/17/23

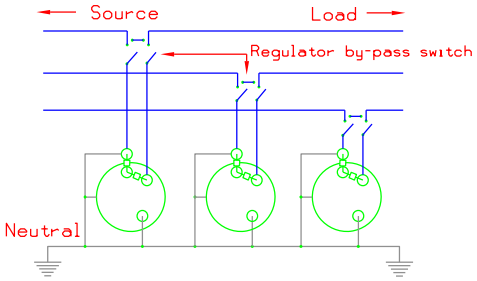
STANDARD NUMBER

M5-#'s





PLAN



WIRING DIAGRAM

NOTES:

1- Spec does not include pole, pole framing, pole grounding, or storm guys.

2- Ground metal platform in at least three places.

3- Dimensions are for a 50' pole and a 16' platform with a center pole mounting kit.

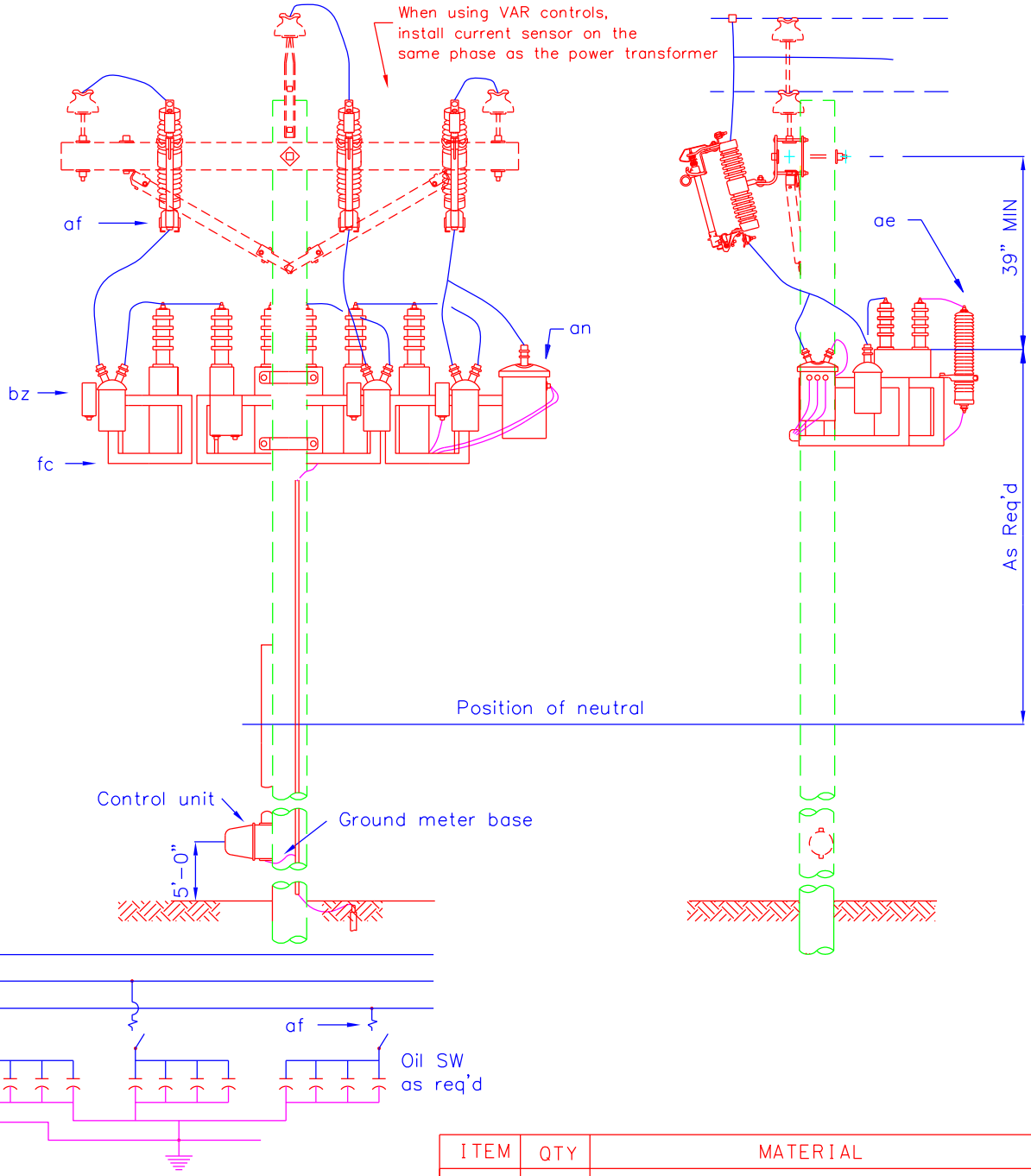
GDE

THREE VOLTAGE REGULATORS PLATFORM MOUNTED

DATE: 6/6/23

STANDARD NUMBER

M7-13



WIRING SCHEMATIC

NOTES:

1– Specify number and kVAR required.

2– Ground riser conduit.

3– Tie neutral bushings of all capacitors in series together & tie to system pole ground.

4– Ground capacitor rack to pole ground in at least two places.

5– On unswitched Capacitor Banks, delete items 'an', control cable, conduit straps and fittings, meter, meter base, and lag screws.

ITEM	QTY	MATERIAL
	*	Primary Framing (Use spec as Req'd)
ae	3	Lightning Arrester (Use spec M5-6 RIS)
af	3	Fused Cutout (Use spec M5-9)
fc	1	Bank Capacitor Assembly
an	*	Transformer (KVA as Specified)
bz	*	Oil Switch
c	2	Bolt, Machine, 5/8" x Req'd Length
d	2	Washer, 2 1/4" Square, 11/16"

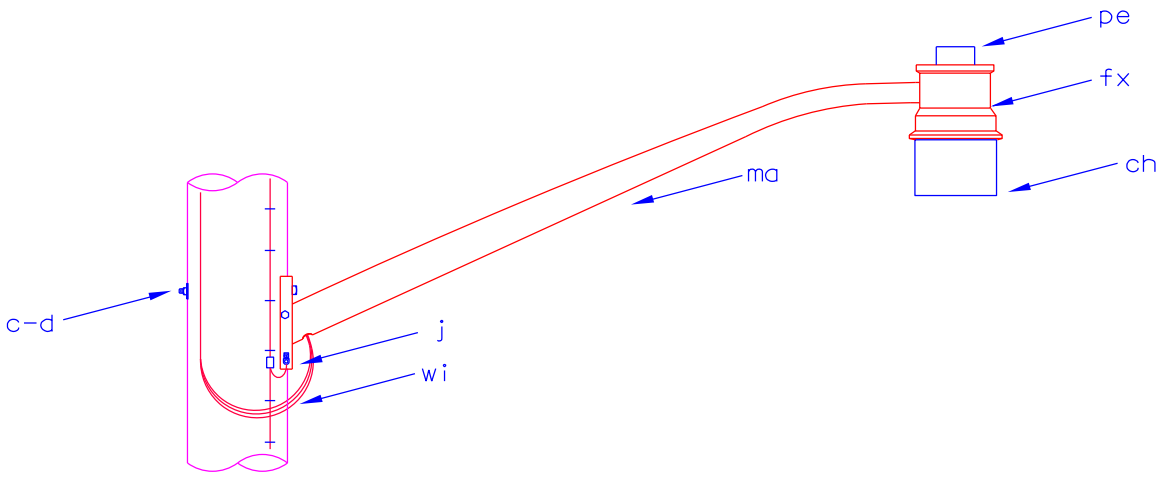
GDE

CAPACITOR ASSEMBLY

DATE: 6/5/23

STANDARD NUMBER

M9-13C



M25 - 100 Watt HPS Security Light on 2.5' Arm
M25-1 - 73 Watt LED Security Light (Caretaker) on 2.5' Arm
M25-2 - 73 Watt LED Security Light (Caretaker) on 6' Arm
M25-3 - 100 Watt HPS Security Light on 6' Arm
M25-4 - 73 Watt LED Security Light Head (Caretaker)
M25-5 - 100 Watt HPS Security Light (head only)
M26 - 100 Watt HPS Street Light on 2.5' Arm
M26-1 - 73 Watt LED Street Light (Caretaker) on 2.5' Arm
M26-2 - 73 Watt LED Street Light (Caretaker) on 6' Arm
M26-3 - 100 Watt HPS Street Light on 6' Arm
M26-4 - 73 Watt LED Street Light Head (Caretaker)
M26-5 - 100 Watt HPS Street Light (head only)

ITEM	QTY	MATERIAL FOR M25-1, M25-2, M26-1, M26-2
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, Caretaker
	1	Grounding Lug, For Arm
pe	1	PE Cell, LED
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M25-4, M26-4
fx	1	Fixture, Head, Caretaker
pe	1	PE Cell, LED

ITEM	QTY	MATERIAL FOR M25, M25-3, M26, M26-3
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, 100 HPS
	1	Grounding Lug, For Arm
	1	Lamp, 100 HPS
pe	1	PE Cell, Socket Type
ch	1	Refractor, Shade 100 HPS
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M25-5, M26-5
fx	1	Fixture, Head, 100 HPS
	1	Lamp, 100 HPS
pe	1	PE Cell, Socket Type

GDE

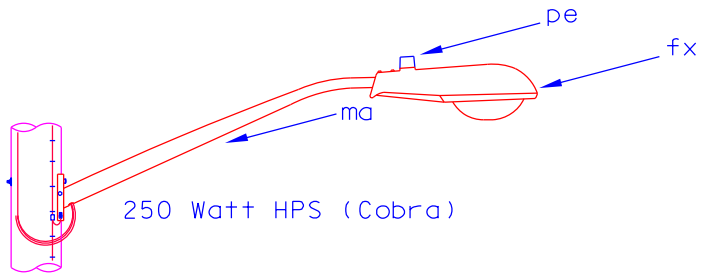
STREET LIGHT 73 OR 100 WATT

SECURITY LIGHT 73 OR 100 WATT

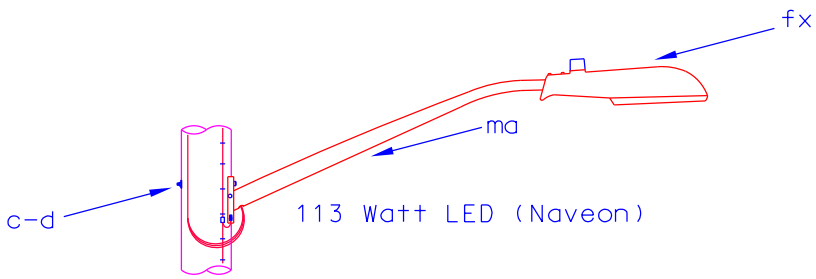
DATE: 7/17/23

STANDARD NUMBER

M25's
M26's



M27-1 - 250 Watt HPS Security Light on 2.5′ Arm
M27-2 - 250 Watt HPS Security Light on 6′ Arm
M27-6 - 250 Watt HPS Security Light (head only)



M27-3 - 113 Watt LED Security Light Head (Naveon) on 2.5′ Arm
M27-4 - 113 Watt LED Security Light Head (Naveon) on 6′ Arm
M27-5 - 113 Watt LED Security Light Head (Naveon, head only)

ITEM	QTY	MATERIAL FOR M27-3, M27-4
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, Naveon
	1	Grounding Lug, For Arm
pe	1	PE Cell, LED
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X′	Wire, #12 Copper Solid White
wi	X′	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M27-5
fx	1	Fixture, Head, Naveon
pe	1	PE Cell, LED

ITEM	QTY	MATERIAL FOR M27-1, M27-2
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, 250 HPS
	1	Grounding Lug, For Arm
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X′	Wire, #12 Copper Solid White
wi	X′	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M27-6
fx	1	Fixture, Head, 250 HPS
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type

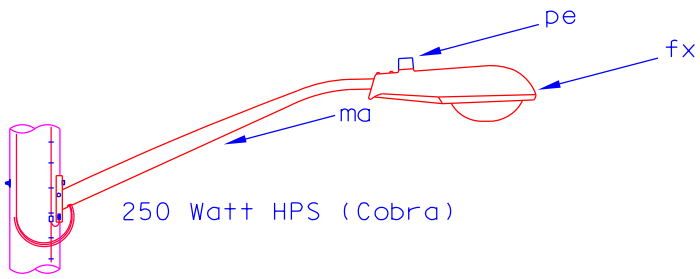
GDE

SECURITY LIGHT 113 OR 250 WATT

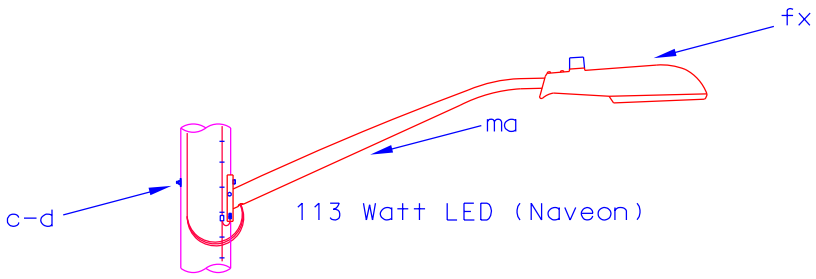
DATE: 7/17/23

STANDARD NUMBER

M27′s



M28-1 - 250 Watt HPS Street Light on 2.5' Arm
M28-2 - 250 Watt HPS Street Light on 6' Arm
M28-3 - 250 Watt HPS Street Light on 20' Arm
M28-9 - 250 Watt HPS Street Light (head only)



M28-7 - 113 Watt LED Street Light Head (Naveon) on 2.5' Arm
M28-8 - 113 Watt LED Street Light Head (Naveon) on 6' Arm
M28-10 - 113 Watt LED Street Light Head (Naveon, head only)

ITEM	QTY	MATERIAL FOR M28-7, M28-8
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, Naveon
	1	Grounding Lug, For Arm
pe	1	PE Cell, LED
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M28-10
fx	1	Fixture, Head, Naveon
pe	1	PE Cell, LED

M28-3 gets 2 bolts & washers, and no lag screw.

ITEM	QTY	MATERIAL FOR M28-1, M28-2, M28-3
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, 250 HPS
	1	Grounding Lug, For Arm
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M28-9
fx	1	Fixture, Head, 250 HPS
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type

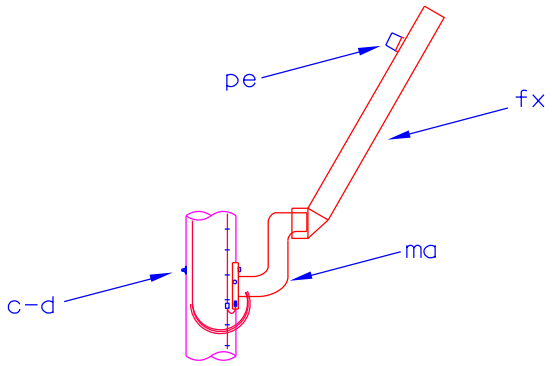
GDE

STREET LIGHT 113 OR 250 WATT

DATE: 7/17/23

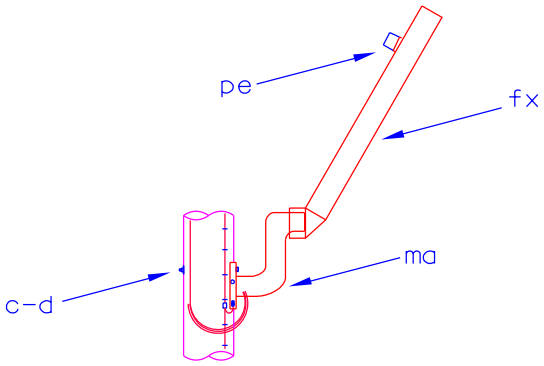
STANDARD NUMBER

M28's



250 Watt HPS (Mongoose)

M28-4 - 250 Watt HPS Street Light, Tiger on 2.5' Arm
M28-6 - 250 Watt HPS Street Light, Mongoose on 6' Arm
M28-11 - 250 Watt HPS Street Light, Mongosse (head only)



191 Watt LED (Galleon)

M28-5 - 191 Watt LED Street Light Head (Galleon) on 2.5' Arm
M28-12 - 191 Watt LED Street Light Head (Galleon, head only)

ITEM	QTY	MATERIAL FOR M28-5
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, Galleon
	1	Grounding Lug, For Arm
pe	1	PE Cell, LED
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M28-12
fx	1	Fixture, Head, Galleon
pe	1	PE Cell, LED

ITEM	QTY	MATERIAL FOR M28-4, M28-6
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, Mongoose or Tiger
	1	Grounding Lug, For Arm
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X'	Wire, #12 Copper Solid White
wi	X'	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M28-11
fx	1	Fixture, Head, Mongoose
	1	Lamp, 250 HPS
pe	1	PE Cell, Socket Type

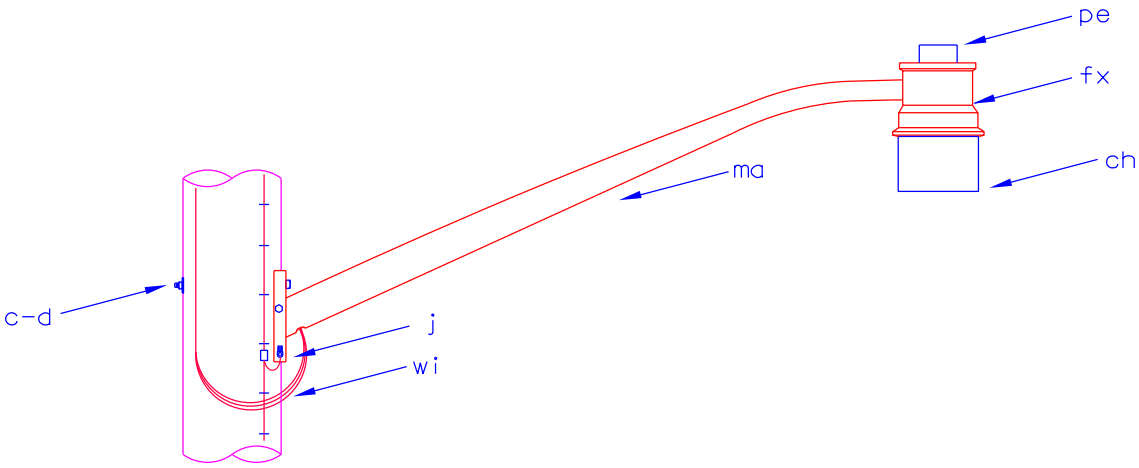
GDE

STREET LIGHT 191 OR 250 WATT

DATE: 7/17/23

STANDARD NUMBER

M28's



M29-1 - 175 Watt MV Security Light on 2.5′ Arm
M29-2 - 175 Watt MV Security Light (Caretaker) on 6′ Arm
M29-3 - 175 Watt MV Street Light (head only)
M29-4 - 175 Watt MV Security Light (head only)
M30-1 - 175 Watt MV Street Light on 2.5′ Arm
M30-2 - 175 Watt MV Street Light on 6′ Arm
M30-3 - 175 Watt MV Street Light on 20′ Arm

ITEM	QTY	MATERIAL FOR M29-1, M29-2, M30-1, M30-2, M30-3
ma	1	Arm, As Required
c	1	Bolt, Machine, 5/8" x Req'd Length
fx	1	Fixture, Head, 175 MV
	1	Grounding Lug, For Arm
	1	Lamp, 175 MV
pe	1	PE Cell, Socket Type
ch	1	Refractor, Shade
j	2	Screw, Lag 3/8" X 3"
d	1	Washer, 2 1/4" Square, 11/16"
wi	X′	Wire, #12 Copper Solid White
wi	X′	Wire, #12 Copper Solid Black
ITEM	QTY	MATERIAL FOR M29-3, M29-4
fx	1	Fixture, Head, 175 MV
	1	Lamp, 175 MV
pe	1	PE Cell, Socket Type

GDE

SECURITY LIGHT 175 WATT
STREET LIGHT 175 WATT

DATE: 7/17/23

STANDARD NUMBER

M29&M30′s

Suggested Primary Fusing for Distribution Transformers

Use for all primary WYE connected transformer banks and all single phase transformers. Also use for CLOSED DELTA primary connected transformer banks. Use the largest transformer of each common primary connection to size the fuse to that connection.

KVA	K Fuse
3	1
5	1
7.5	2
10	2
15	3
25	6
37.5	8
50	10
75	15
100	20
167	30
250	50
333	65
500	100

THREE PHASE PADMOUNTS

KVA	Dip Pole Fuse	Bayonet Fuse
75	6	C05 - 8 Amp
150	8	C08 - 15 Amp
225	15	C10 - 25 Amp
300	15	C10 - 25 Amp
500	30	C12 - 50 Amp
750	40	C14 - 65 Amp
1000	50	C14 - 65 Amp
1500	80	C14 - 65 Amp
2000	125QA	C17 - 140 Amp
3000	200QA	C17 - 140 Amp

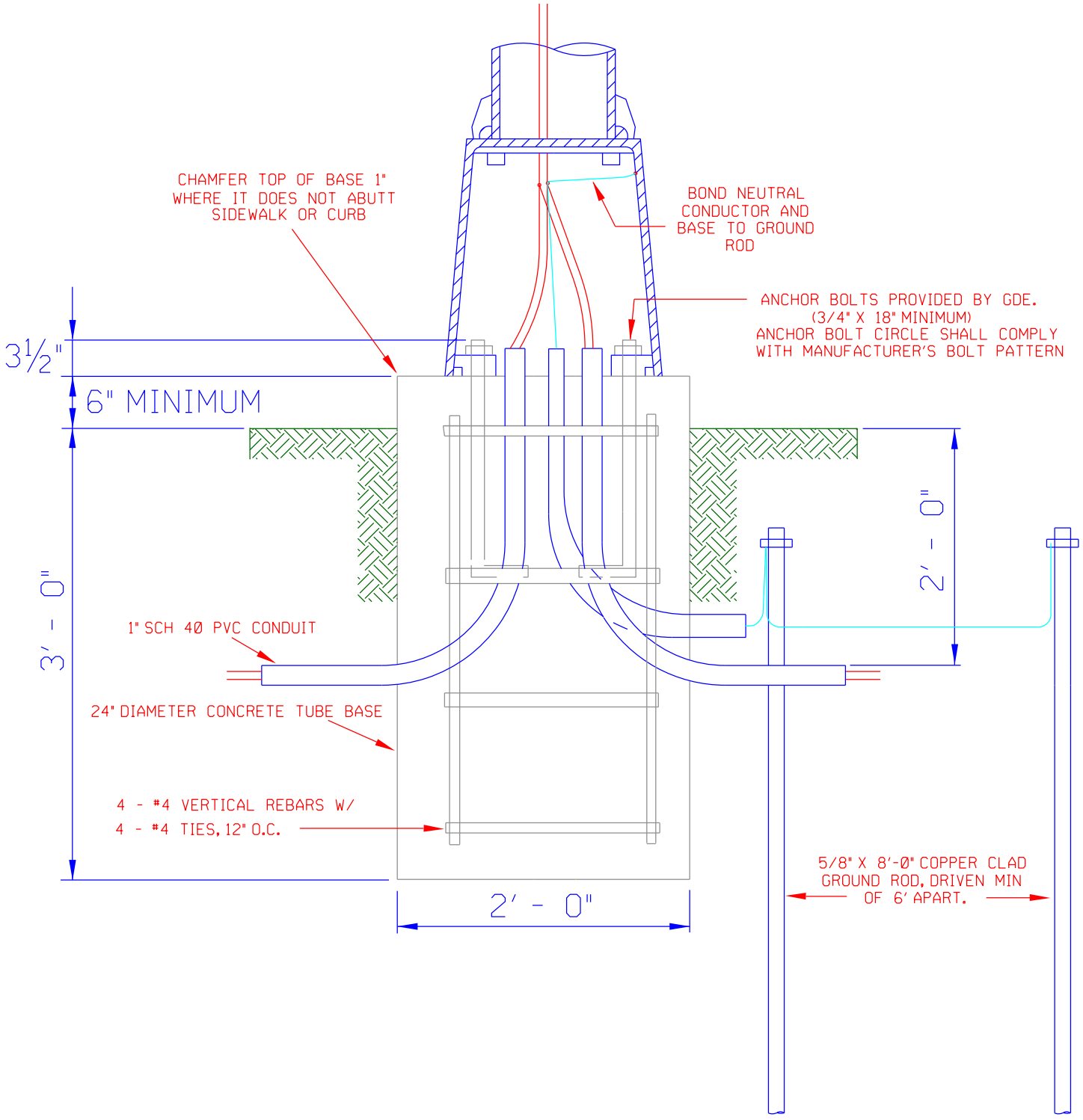
GDE

FUSE LINK GUIDE FOR TRANSFORMER PROTECTION

DATE: 7/17/23

STANDARD NUMBER

MG-13



NOTES:

1. Concrete to be 3000 PSI.
2. Concrete tube form with rebar, anchor bolts ground wire, and ground rod installed must pass a GDE footing inspection before concrete is poured. Foundation must pass a second GDE inspection after concrete has been poured but before light is installed.
3. Fuse link with fuse required in light base.

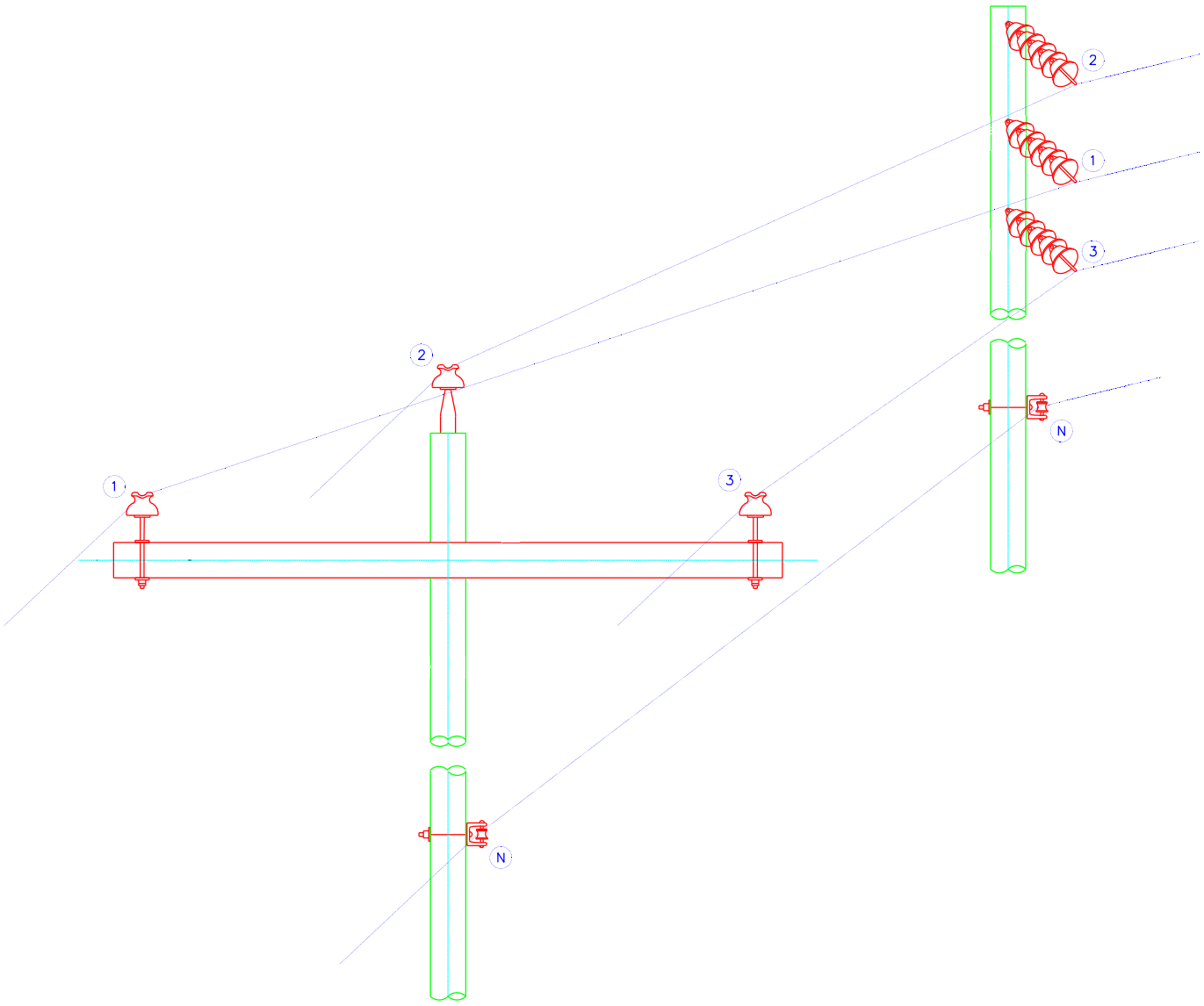
GDE

DECORATIVE STREET LIGHT FOOTING DETAIL

DATE: 7/17/23

STANDARD NUMBER

SL-01



GDE

TANGENT TO VERTICAL CONSTRUCTION

DATE: 6/7/23

STANDARD NUMBER

TM-PG

CODE WORD	SIZE	AMPACITY
Sparrow	2 ACSR	180
Poppy	1/0 AA	240
Oxlip	4/0 AA	375
Canna	397 AA	560
Dahlia	556 AA	690
Arbutus	795 AA	860
	1/0 AL - 15 kV	160
	4/0 AL - 15 kV	240
	4/0 CU - 15 kV	310
	500 CU - 15 kV	475
Terrier	4 Duplex	90
Periwinkle	4 Triplex	115
Conch	2 Triplex	150
Neritina	1/0 Triplex	200
Zuzura	4/0 Triplex	310
Palomina	2 Quadruplex	130
Costena	1/0 Quadruplex	175
Appaloosa	4/0 Quadruplex	270
Converse	2/0 UG Triplex	185
Sweetbriar	4/0 UG Triplex	245
Wesleyan	350 UG Triplex	325

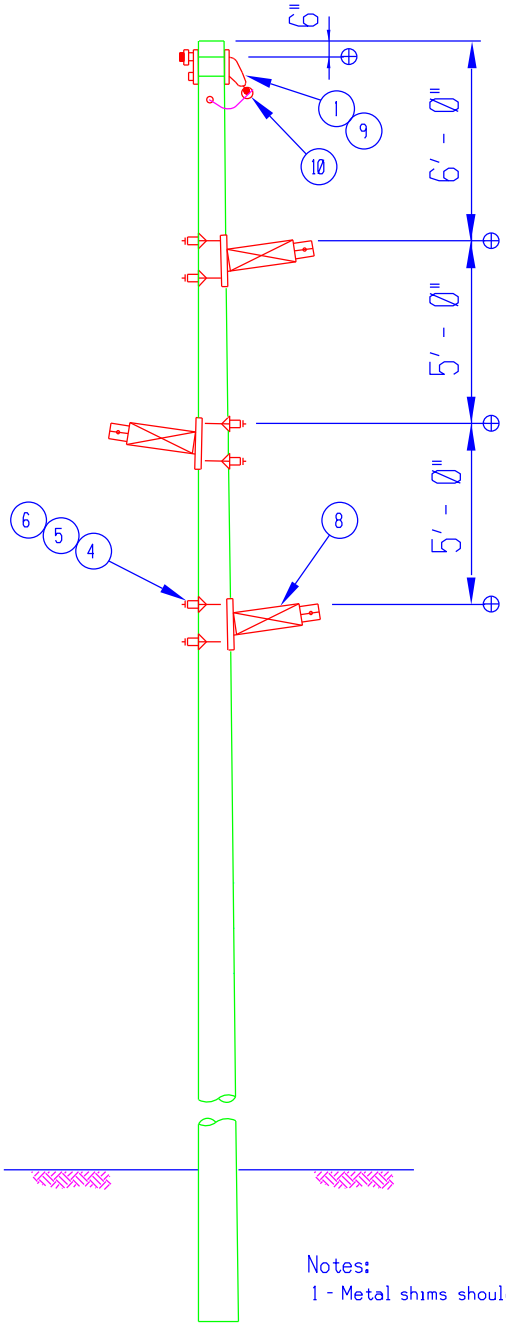
GDE

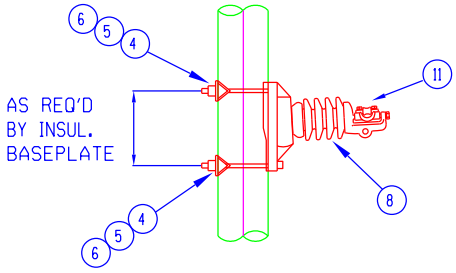
AMPACITY VALUES FOR CONDUCTORS COMMONLY USED BY GDE

DATE: 7/17/23

STANDARD NUMBER

AMPACITY





POST INSULATOR DETAIL

Notes:

1 - Metal shims should be used to adjust post insulator when brackets are located on uneven pole surfaces.

ITEM	QTY	MATERIAL
9	1	Anchor, Shackle 1/2"
1	1	Bolt, Eye 3/4" x Req'd Length
4	6	Bolt, Machine, 3/4" x Req'd Length
11	3	Clamp, 69KV PI, Rodless, 0.5-1.18
10	1	Clamp, Suspension Static
8	3	Insulator, Post, 69KV Large Epoxy
5	7	Lock Nut, Square 3/4"
6	8	Washer, 4" Curved

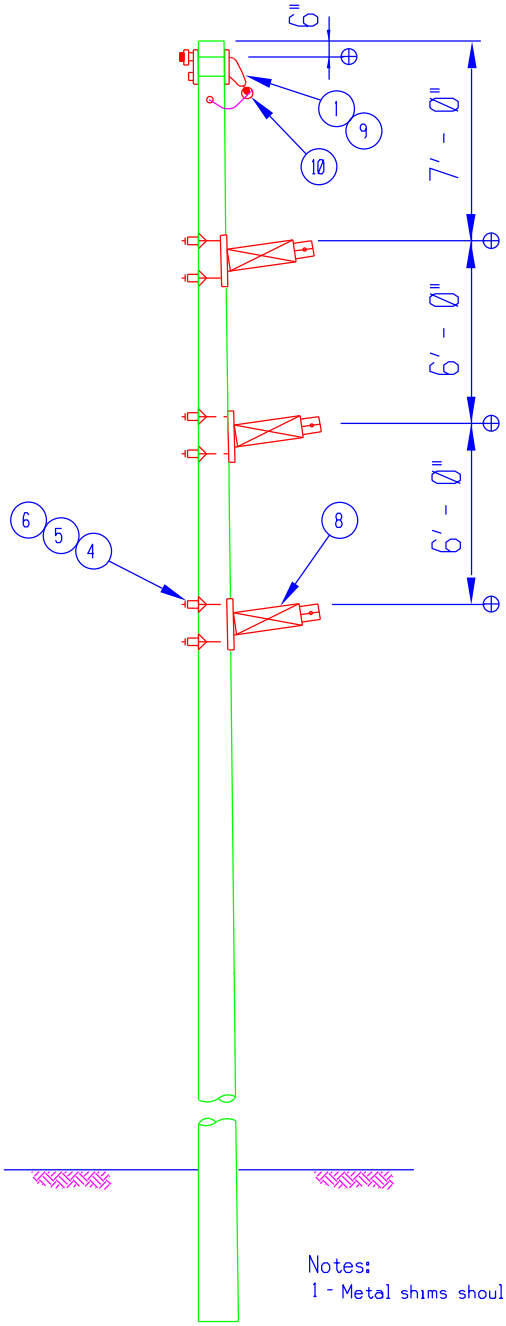
GDE

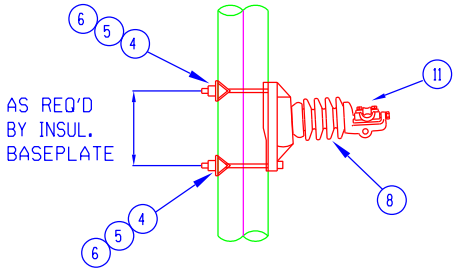
TANGENT STRUCTURE, 69 KV HORIZONTAL LINE POST TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TP-1





POST INSULATOR DETAIL

Notes:
1 - Metal shims should be used to adjust post insulator when brackets are located on uneven pole surfaces.

ITEM	QTY	MATERIAL
9	1	Anchor, Shackle 1/2"
1	1	Bolt, Eye 3/4" X 8"
4	6	Bolt, Machine, 3/4" x Req'd Length
11	3	Clamp, 69KV PI, Rodless, 0.5-1.18
10	1	Clamp, Suspension Static
8	3	Insulator, Post, 69KV Large Epoxy
5	7	Lock Nut, Square 3/4"
6	8	Washer, 4" Curved

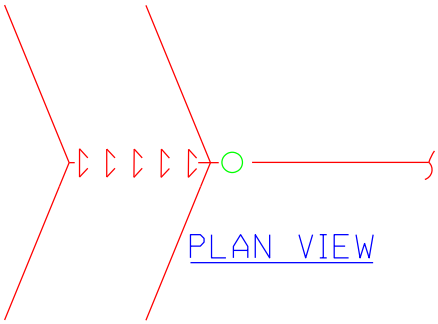
GDE

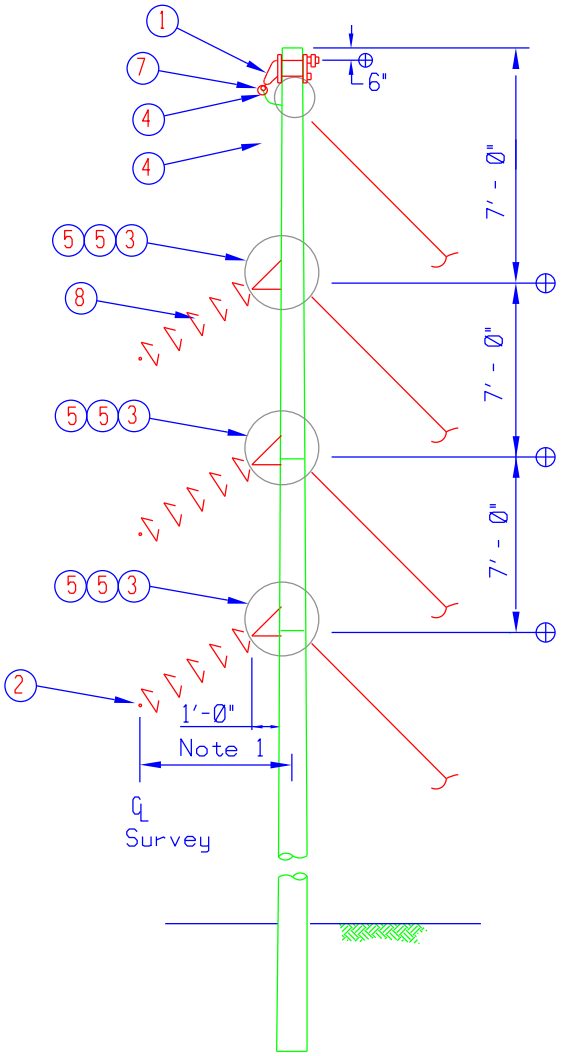
SMALL ANGLE STRUCTURE, 69 KV HORIZONTAL LINE POST TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TP-2





NOTES:

1- Pole offset distance determined by the;
   Pole radius
   Swinging Angle Assembly Bracket Dimensions (If Applicable)
   Insulator String Dimensions
   Insulator Swing Angle with Conductor @ 60° Initial

ITEM	QTY	MATERIAL
7	1	Anchor, Shackle 1/2"
5	6	Bolt, Clevis 3/4" x Req'd Length
1	1	Bolt, Eye, 3/4" x 8
3	3	Bracket, Angle Offset
4	1	Clamp, Suspension Static
2	3	Clamp, Suspension 266-795MCM
8	3	Insulator, Suspension, Epoxy 69KV
	7	Lock Nut, Square 3/4"
	8	Washer, 4" Curved

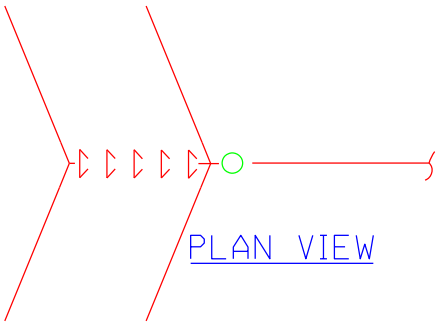
GDE

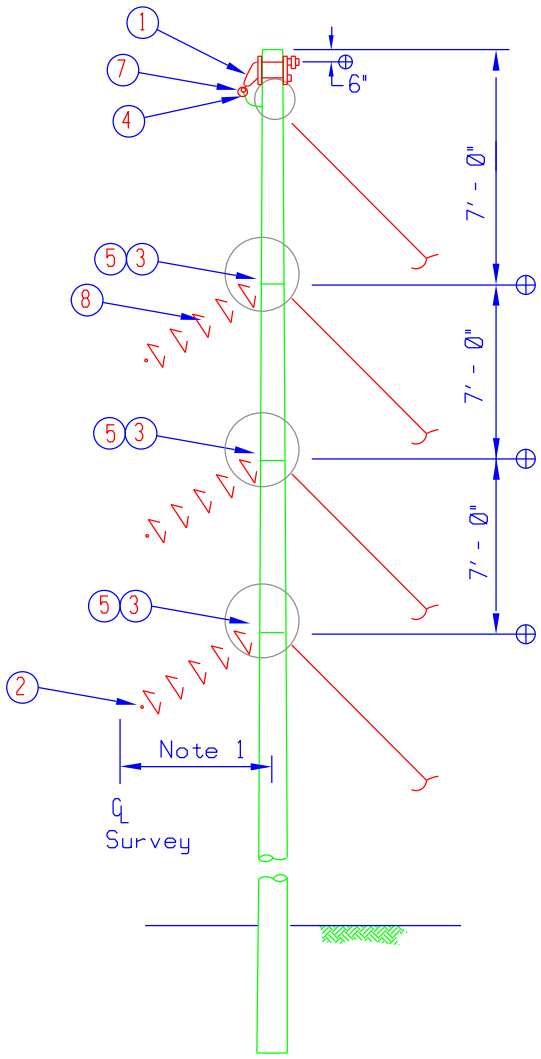
MEDIUM ANGLE STRUCTURE, 69 KV SUSPENSION INSULATOR TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TS-3





NOTES:

1- Pole offset distance determined by the;
   Pole radius
   Swinging Angle Assembly Bracket Dimensions (If Applicable)
   Insulator String Dimensions
   Insulator Swing Angle with Conductor @ 60° Initial

ITEM	QTY	MATERIAL
7	4	Anchor, Shackle ½"
5	3	Bolt, Eye ¾" x Req'd Length
1	1	Bolt, Eye, ¾" x 8
4	1	Clamp, Suspension Static
2	3	Clamp, Suspension 266-795MCM
8	3	Insulator, Suspension, Epoxy 69KV
	4	Lock Nut, Square ¾"
	8	Washer, 4" Curved

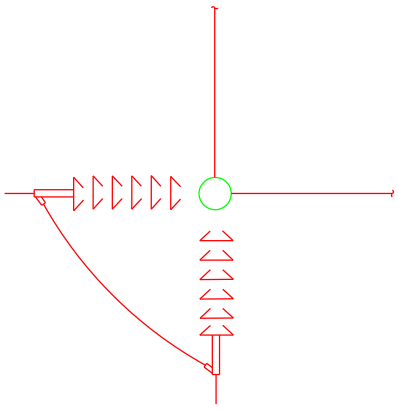
GDE

LARGE ANGLE STRUCTURE, 69 KV SUSPENSION INSULATOR TRANSMISSION LINE

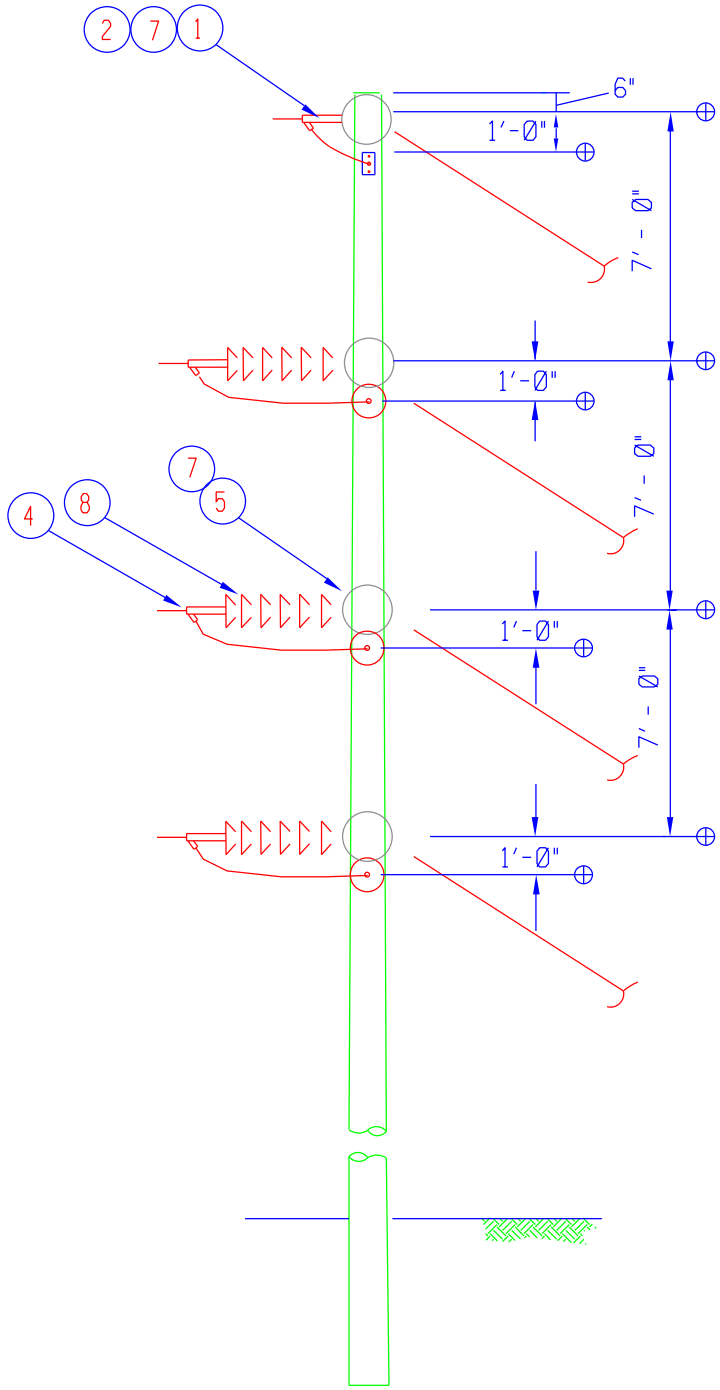
DATE: 7/17/23

STANDARD NUMBER

TS-4



PLAN VIEW



ITEM	QTY	MATERIAL
7	8	Anchor, Shackle ½"
5	6	Bolt, Eye ¾" X 12"
1	2	Bolt, Eye, ¾" x 8
4	6	Clamp, Strain, 336-954
2	2	Clamp, Strain, Snail Shell
8	6	Insulator, Suspension, Epoxy 69KV
	8	Lock Nut, Square ¾"
	8	Washer, 4" Curved

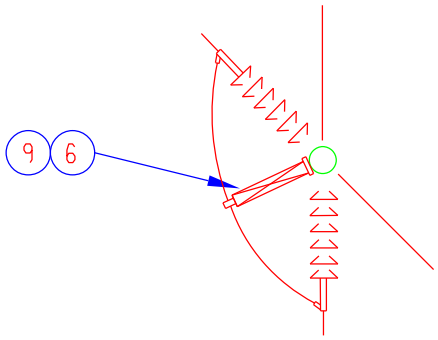
GDE

VERTICAL DOUBLE DEADEND STRUCTURE, 69 KV 90 DEGREE ANGLE TRANSMISSION LINE

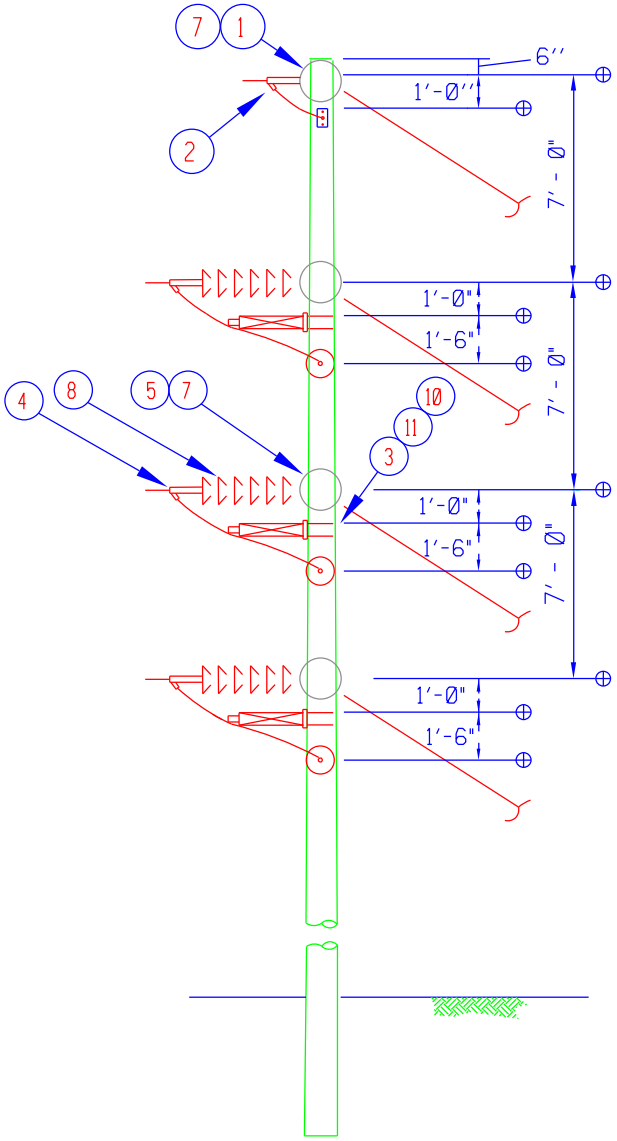
DATE: 7/17/23

STANDARD NUMBER

TS-5



PLAN VIEW



ITEM	QTY	MATERIAL
7	8	Anchor, Shackle 1/2"
5	6	Bolt, Eye 3/4" x Req'd Length
1	2	Bolt, Eye, 3/4" x Req'd Length
3	6	Bolt, Machine, 3/4" x Req'd Length
4	6	Clamp, Strain, 336-954
2	2	Clamp, Strain, Snail Shell
9	3	Clamp, 69KV PI, Rodless, 0.5-1.18
6	3	Insulator, Post, 69KV Large Epoxy
8	6	Insulator, Suspension, Epoxy 69KV
10	14	Lock Nut, Square 3/4"
11	14	Washer, 4" Curved

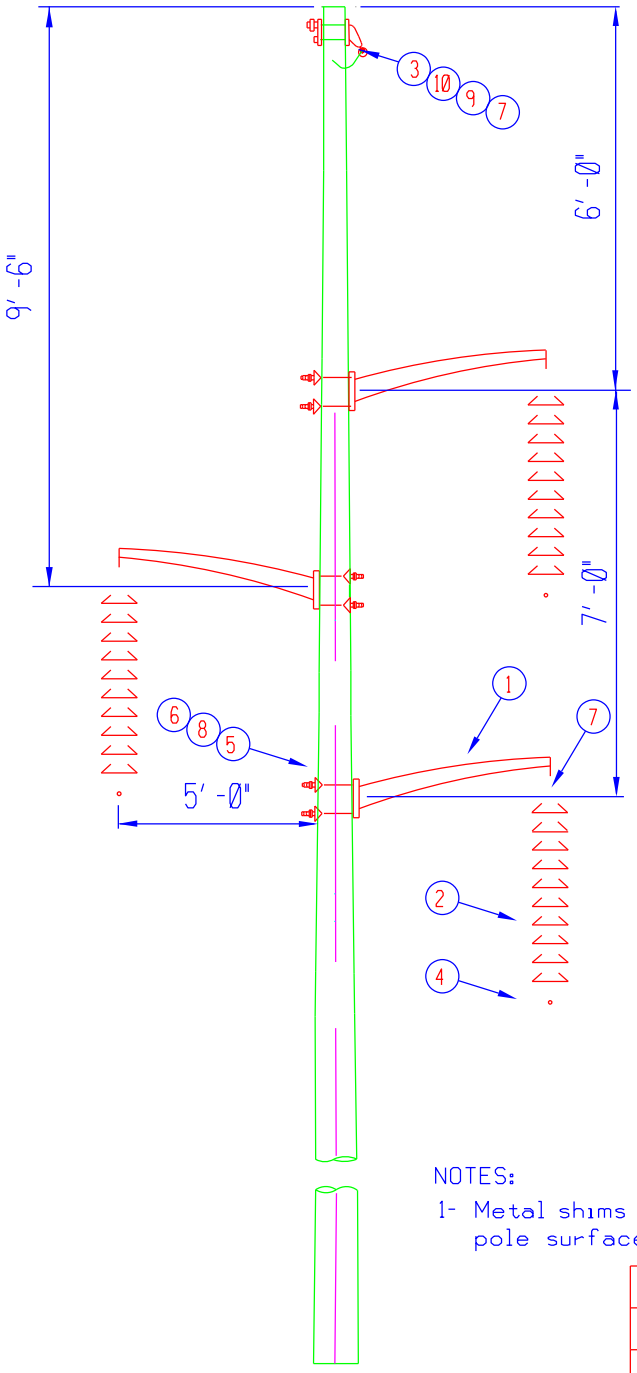
GDE

VERTICAL DOUBLE DEADEND STRUCTURE, 69 KV GREATER THAN 90 DEGREE ANGLE TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TS-5A



NOTES:

1- Metal shims shall be used to adjust davit arms on uneven pole surfaces.

ITEM	QTY	MATERIAL
7	4	Anchor, Shackle ½"
1	3	Arm, Steel Davit, 69KV
5	6	Bolt, DA 1" X Required Length
3	1	Bolt, Eye, ¾" x Req'd Length
4	4	Clamp, Susp, 266-795MCM Rodless
2	3	Insulator, Suspension, Epoxy 69KV
9	1	Lock Nut, Square ¾"
6	12	Lock Nut, Square 1"
8	12	Washer, 1" Round
10	2	Washer, 4" Curved

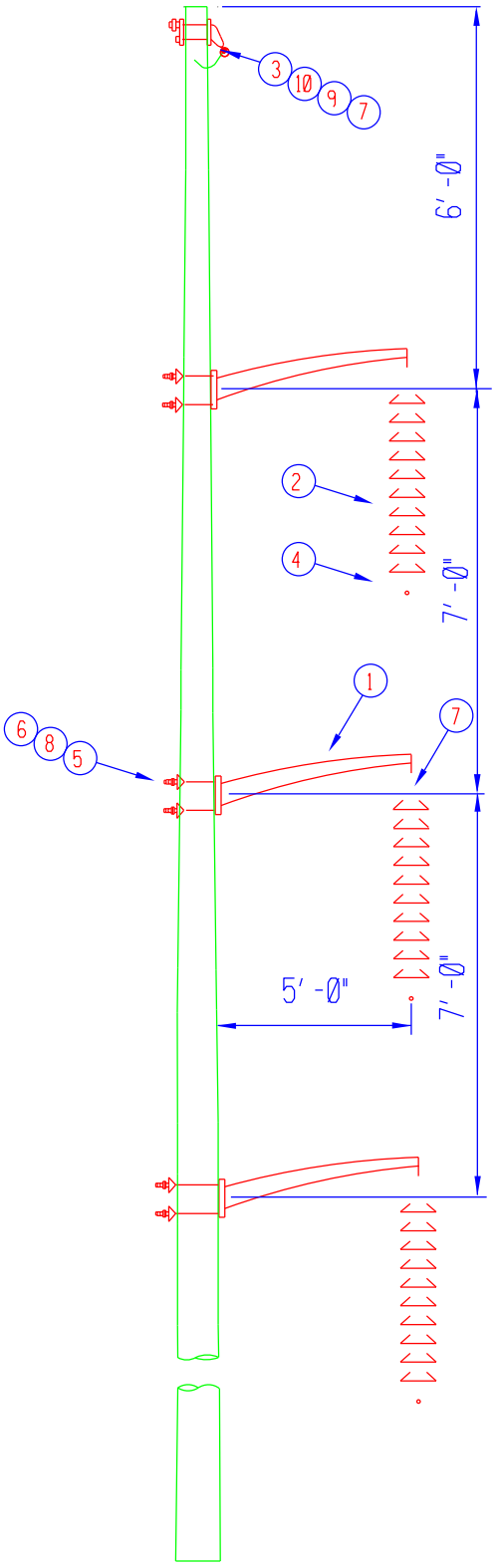
GDE

SMALL ANGLE STRUCTURE, 69 KV UPSWEPT ARM ASSEMBLY TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TU-1



NOTES:

1 - Metal shims shall be used to adjust davit arms on uneven pole surfaces.

ITEM	QTY	MATERIAL
7	4	Anchor, Shackle 1/2"
1	3	Arm, Steel Davit, 69KV
5	6	Bolt, DA 1" X Required Length
3	1	Bolt, Eye, 3/4" x 8"
4	4	Clamp, Susp, 266-795MCM Rodless
2	3	Insulator, Suspension, Epoxy 69KV
9	1	Lock Nut, Square 3/4"
6	12	Lock Nut, Square 1"
8	12	Washer, 1" Round
10	2	Washer, 4" Curved

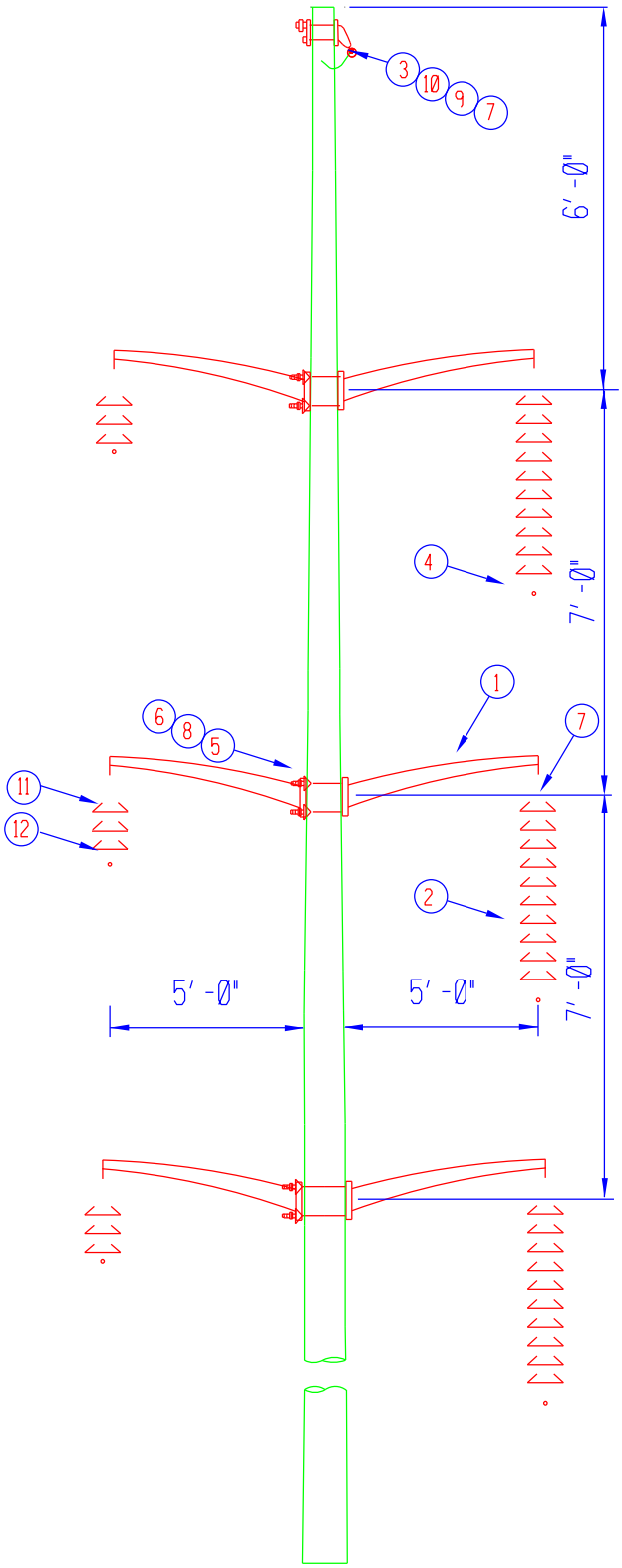
GDE

SMALL ANGLE STRUCTURE, 69 KV UPSWEPT ARM ASSEMBLY TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TU-2



NOTES:

1- Metal shims shall be used to adjust davit arms on uneven pole surfaces.

ITEM	QTY	MATERIAL
7	7	Anchor, Shackle 1/2"
1	6	Arm, Steel Davit, 69KV
5	6	Bolt, DA 1" X Required Length
3	1	Bolt, Eye, 3/4" x 8"
4	7	Clamp, Susp, 266-795MCM Rodless
11	6	Insulator, Suspension, 10" HiLine
12	3	Insulator, Suspension, 10" Fogbell
2	3	Insulator, Suspension, Epoxy 69KV
9	1	Lock Nut, Square 3/4"
6	12	Lock Nut, Square 1"
8	12	Washer, 1" Round
10	2	Washer, 4" Curved

GDE

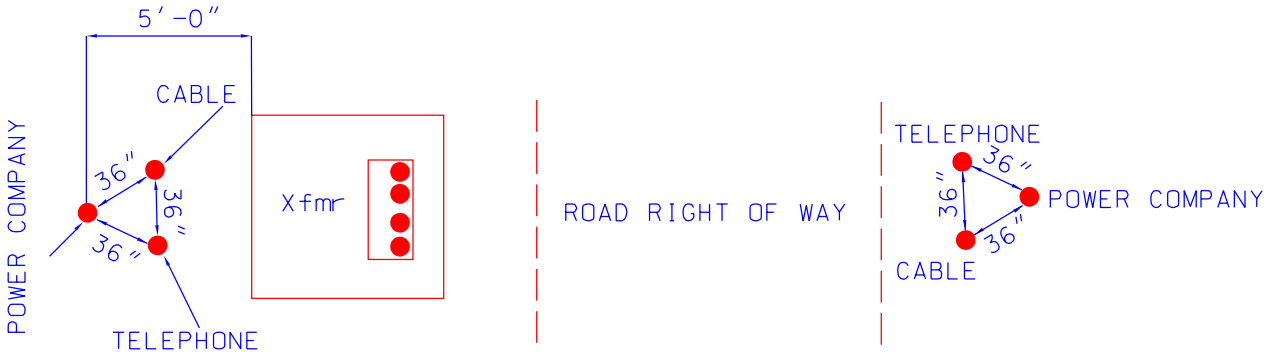
SMALL ANGLE STRUCTURE, 69 KV
UPSWEPT ARM ASSEMBLY
DOUBLE CIRCUIT
TRANSMISSION LINE

DATE: 7/17/23

STANDARD NUMBER

TU-DC

GDE PH. # (615) 452-5152

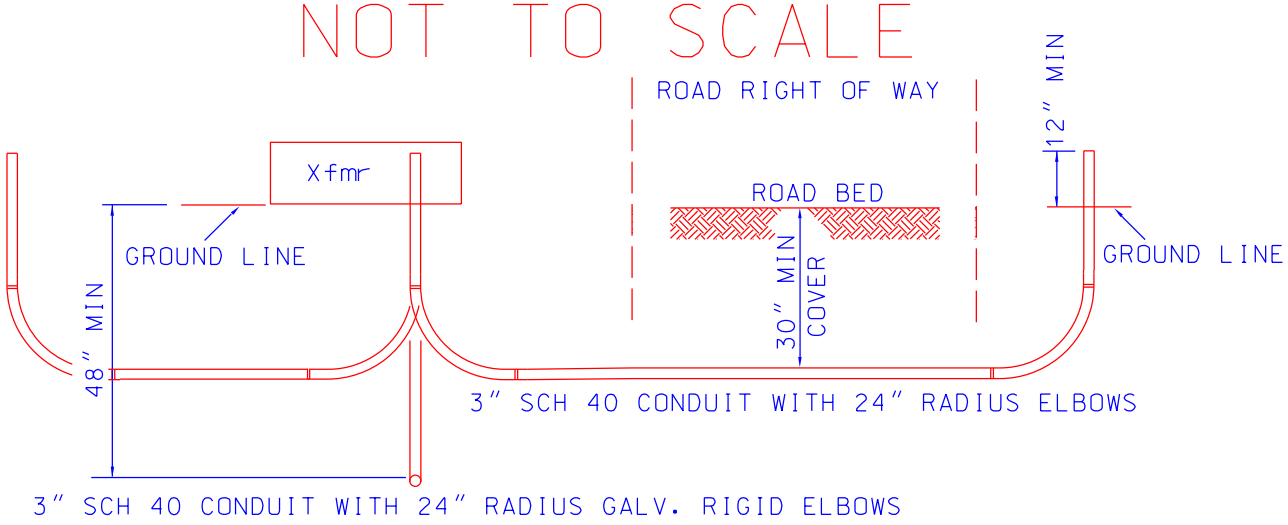


NOT TO SCALE

NOTES:

POWER COMPANY CONDUITS AND TRANSFORMER TO BE LOCATED IN THE UTILITY EASEMENT

NOT TO SCALE



NOTES:

1) CONTRACTOR TO SUPPLY AND INSTALL CONDUIT WITH PULL STRING
2) CONTRACTOR TO SUPPLY AND INSTALL CAPS AT BOTH ENDS OF CONDUIT
3) PULL STRING TO HAVE AT LEAST 1800 LB TENSILE STRENGTH
4) ALL CONDUIT TO BE INSPECTED BY GDE PRIOR TO BACKFILLING
5) CONDUIT DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER

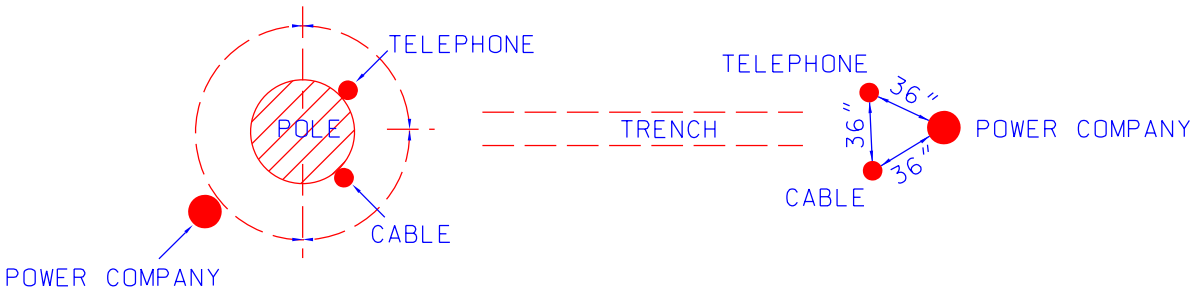
GDE

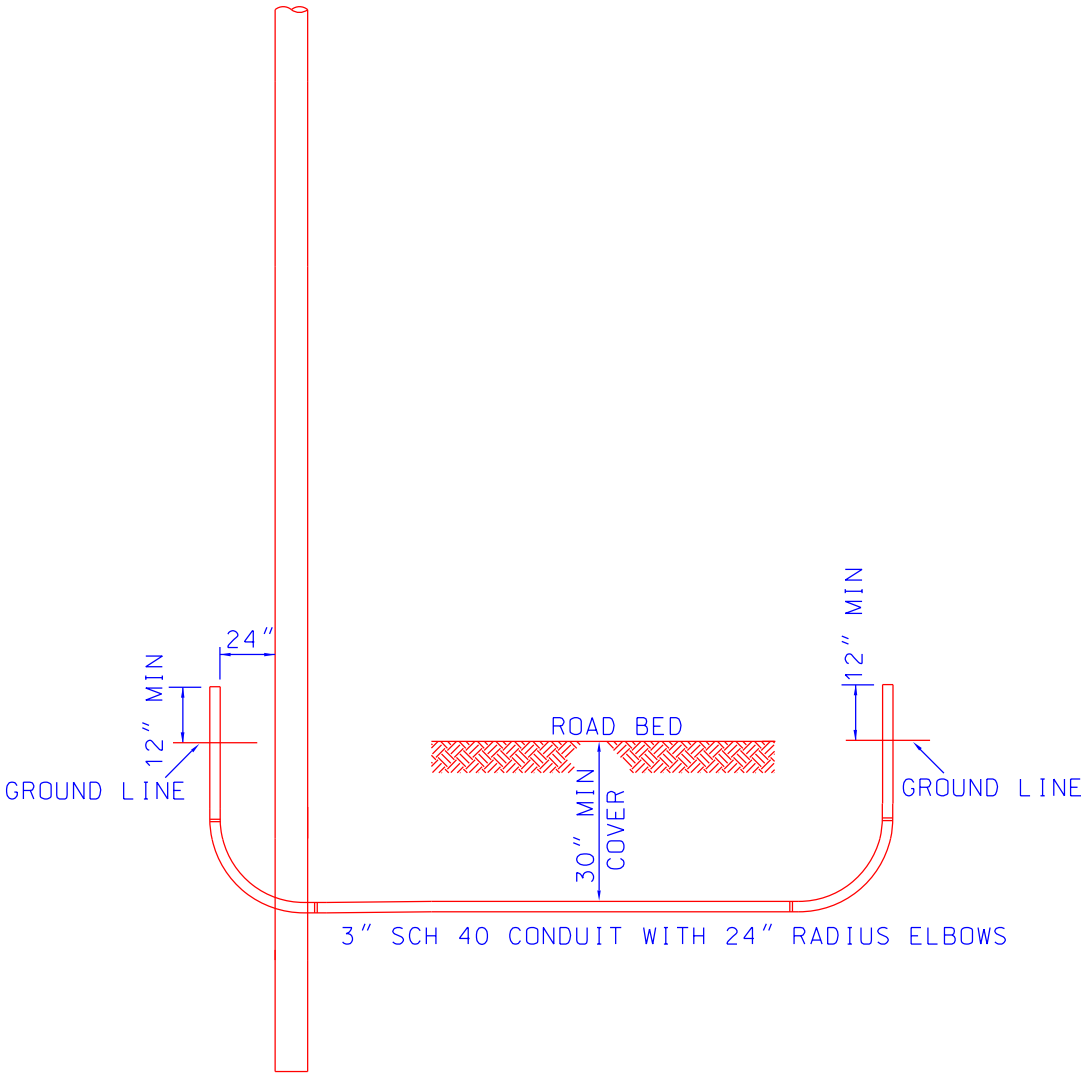
UNDERGROUND DISTRIBUTION SYSTEM

DATE: 5/31/23

STANDARD NUMBER

UDIST





NOTES:
1) CONTRACTOR TO SUPPLY AND INSTALL CONDUIT WITH PULL STRING
2) CONTRACTOR TO SUPPLY AND INSTALL CAPS AT BOTH ENDS OF CONDUIT
3) PULL STRING TO HAVE AT LEAST 1800 LB TENSILE STRENGTH
4) CABLE TV AND PHONE CONDUITS INSTALLED ON STREET SIDE OF POLE
5) POWER COMPANY CONDUIT TO BE INSTALLED ON SIDE OF POLE AWAY FROM STREET
6) CONDUIT DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER

GDE

UNDERGROUND SECONDARY CONDUIT SYSTEM

DATE: 7/17/23

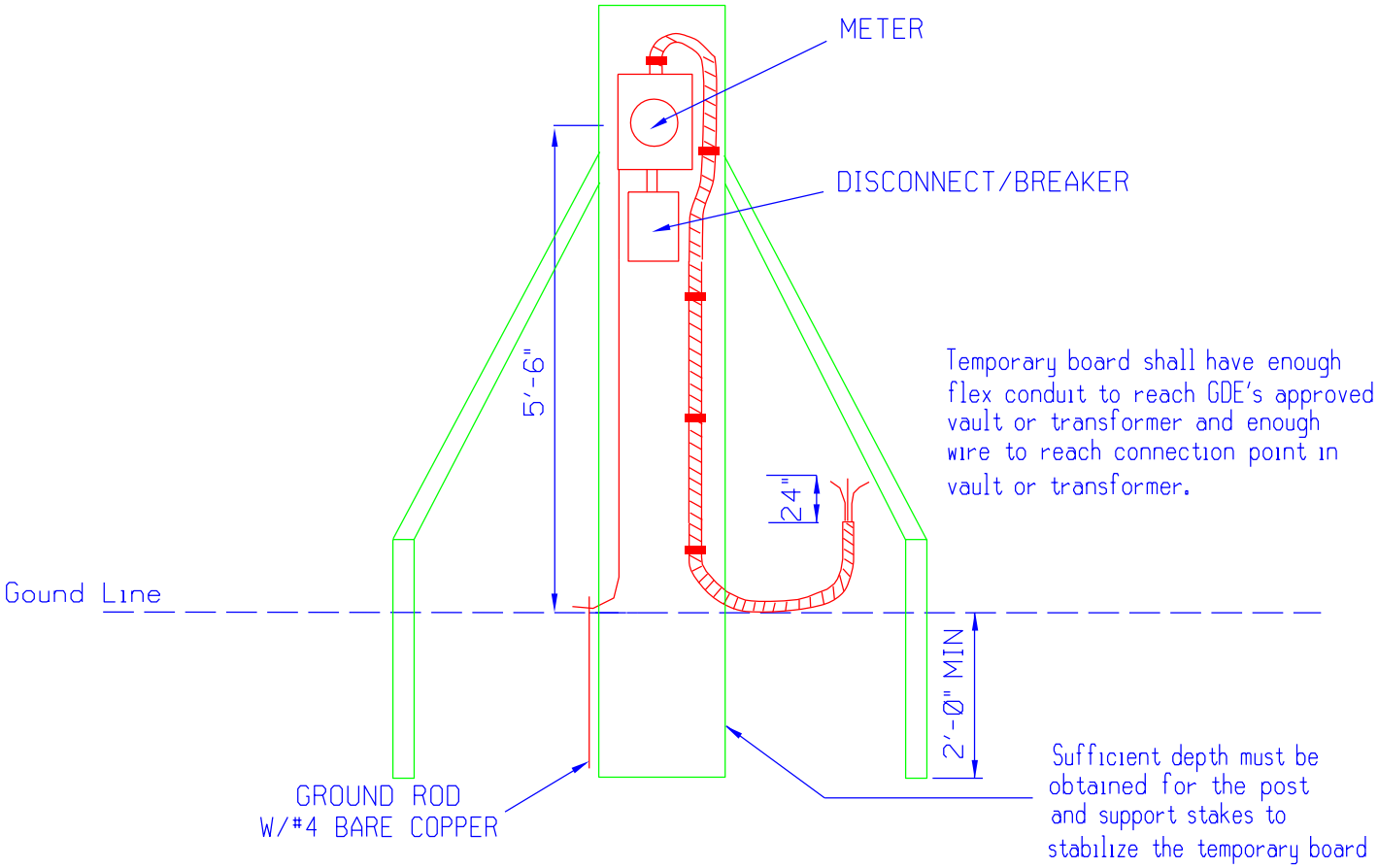
STANDARD NUMBER

USEC

GENERAL CONSTRUCTION NOTES:

GDE PH. # (615) 452-5152

1) The GDE engineer will spot the temporary board location upon request.
2) The temporary board shall be installed at least 3' from and no more than 10' from GDE's approved service point.
3) Temporary electric service boards are not to be installed on GDE poles or trees.
4) Each tempary board must be labeled with address and lot number, and pass an electric inspection by the State Electrical Inspector each time the board is installed or relocated.
5) The temporary board clearance from other objects must meet all NEC and NESC requirements.



IMPORTANT NOTE:
CUSTOMERS OR CONTRACTORS WILL NOT REMOVE A BOARD UNTIL THE METER AND THE SERVICE WIRES HAVE BEEN REMOVED.

GDE

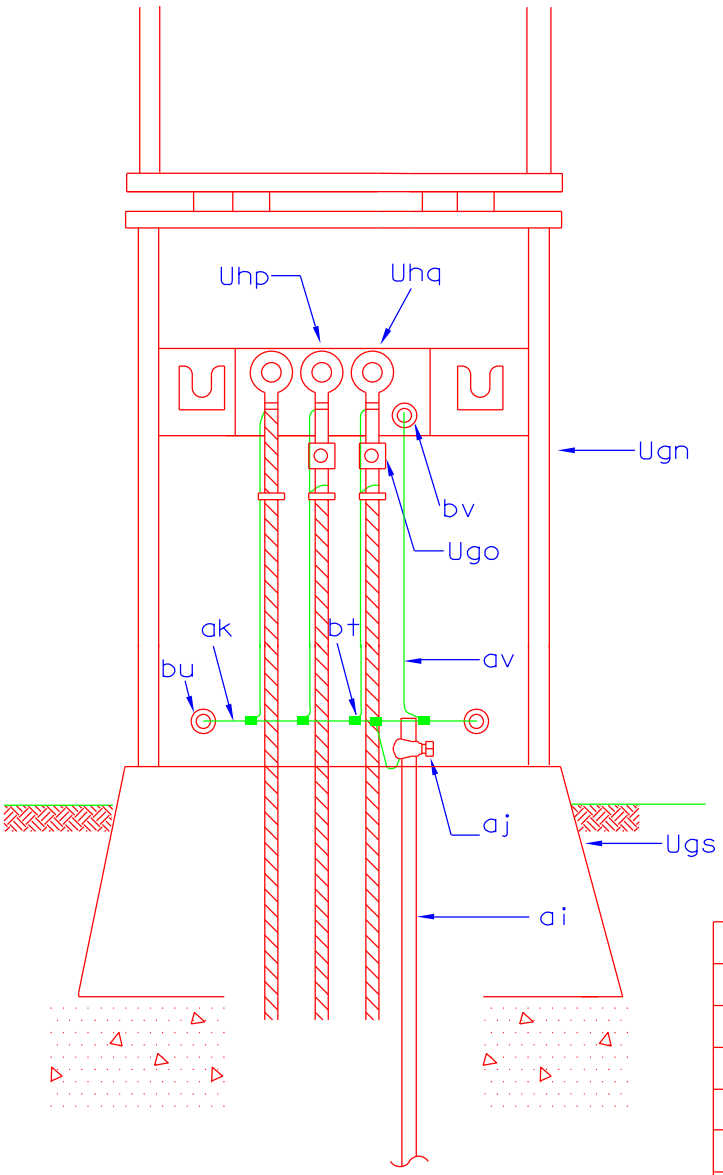
UNDERGROUND
TEMPORARY BOARD
SERVICE

DATE: 7/17/23

STANDARD NUMBER

UG TB

NOTES:
1- All neutrals and metallic non-current carrying parts shall be interconnected and grounded.



ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bv	1	Connector, Case Gnd Lug #4
bu	1	Connector, Case Gnd Lug 4/0
	1	Lock, Company
ai	1	Rod, Ground $^{5}/_{8}$" X 8'
bt	5	URD, Large Bolted Connector
	*	URD, Bushing Plug
	*	URD, Elbow Lightning Arrester
Uhq	*	URD, Elbow Term 1/0 Str 15KV
	*	URD, Duckbill 2"
Uhp	1	URD, Feed Thru Module
Ugn	1	URD, Junction Cabinet 1Phase
Ugs	1	URD, Junct Cabinet 1Ph, Sleeve
	1	URD, Sign - Shrub Locations
av	*	Wire, #4 Bare Copper, SD
ak	*	Wire, 4/0 Bare Copper, SD

GDE

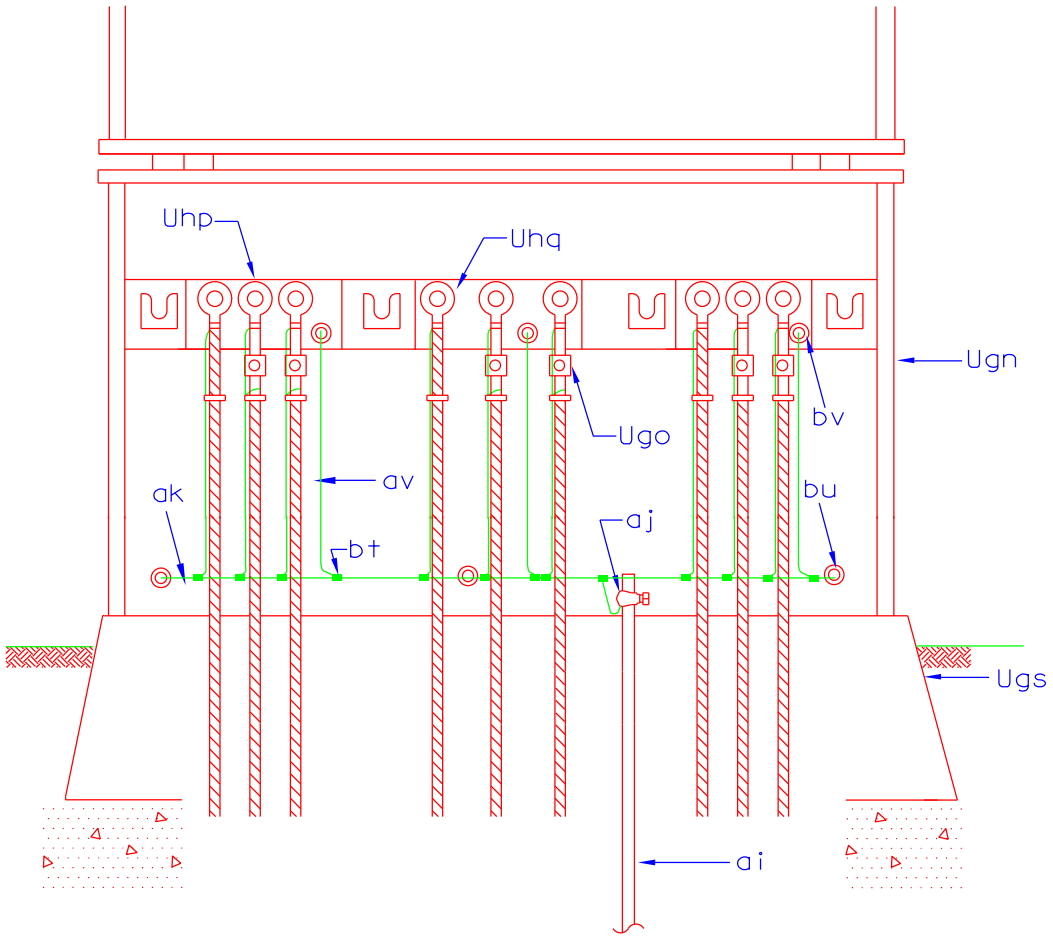
UG PRIMARY, SINGLE PHASE DEAD-FRONT, PAD-MOUNTED JUNCTION CABINET

DATE: 7/17/23

STANDARD NUMBER

UGJC-1P

NOTES:
1- All neutrals and metallic non-current carrying parts shall be interconnected and grounded.



ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bv	3	Connector, Case Gnd Lug #4
bu	3	Connector, Case Gnd Lug 4/0
	1	Lock, Company
ai	1	Rod, Ground $^{5}/_{8}$" X 8'
bt	12	URD, Large Bolted Connector
	*	URD, Bushing Plug
	*	URD, Elbow Lightning Arrester
Uhq	*	URD, Elbow Term 1/0 Str 15KV
	*	URD, Duckbill 2"
Uhp	3	URD, Feed Thru Module
Ugn	1	URD, Junction Cabinet 1Phase
Ugs	1	URD, Junct Cabinet 1Ph, Sleeve
	1	URD, Sign - Shrub Locations
av	*	Wire, #4 Bare Copper, SD
ak	*	Wire, 4/0 Bare Copper, SD

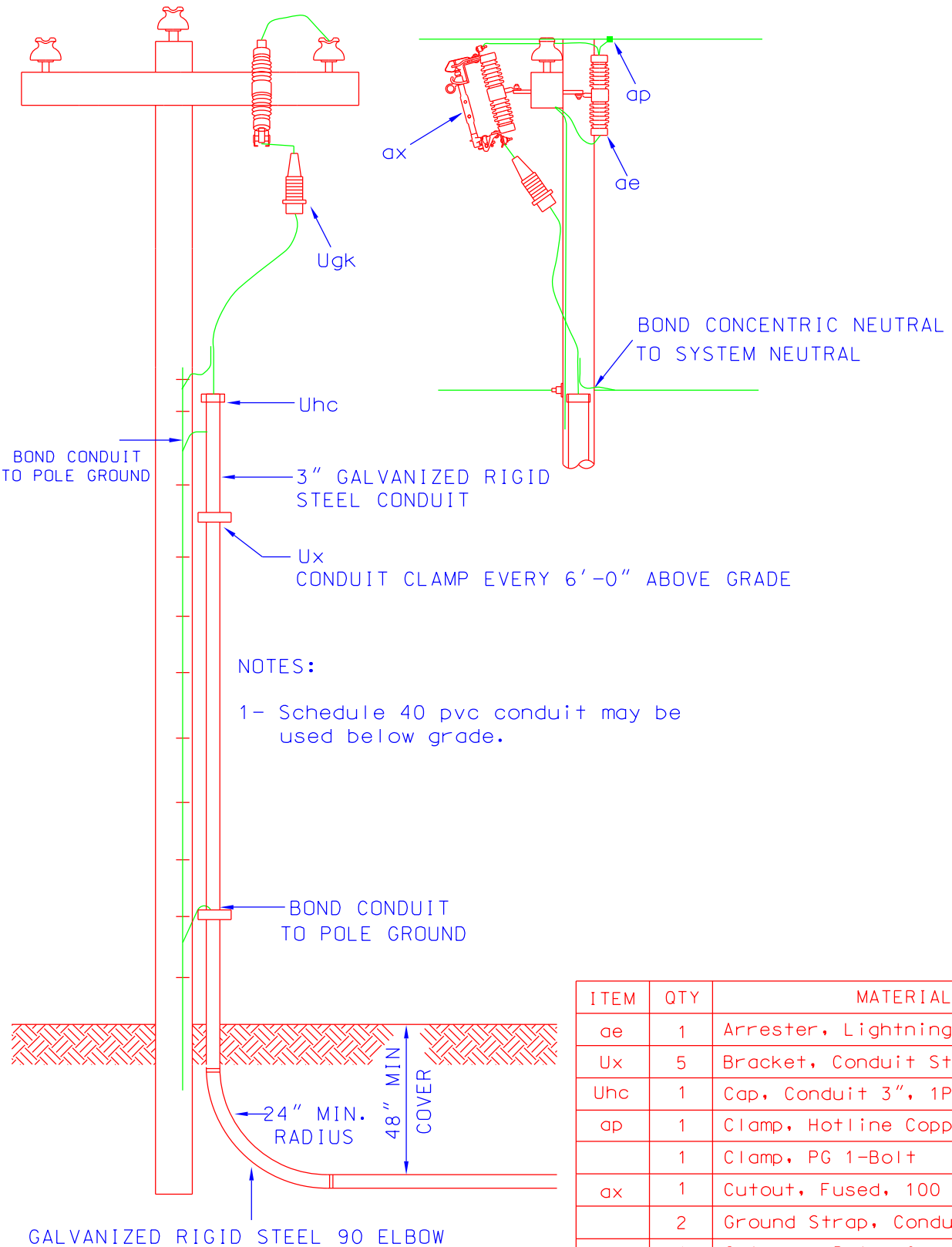
GDE

UG PRIMARY, THREE PHASE DEAD-FRONT, PAD-MOUNTED JUNCTION CABINET

DATE: 7/17/23

STANDARD NUMBER

UGJC-3P



ITEM	QTY	MATERIAL
ae	1	Arrester, Lightning, Riser Pole
Ux	5	Bracket, Conduit Standoff 3"
Uhc	1	Cap, Conduit 3", 1Phase, 1/0
ap	1	Clamp, Hotline Copper
	1	Clamp, PG 1-Bolt
ax	1	Cutout, Fused, 100 Amp
	2	Ground Strap, Conduit
	1	Stirrup, Bail #2
Ugk	1	URD, Pothead 1/0 15KV
	1	URD, Sign - Buried Cable

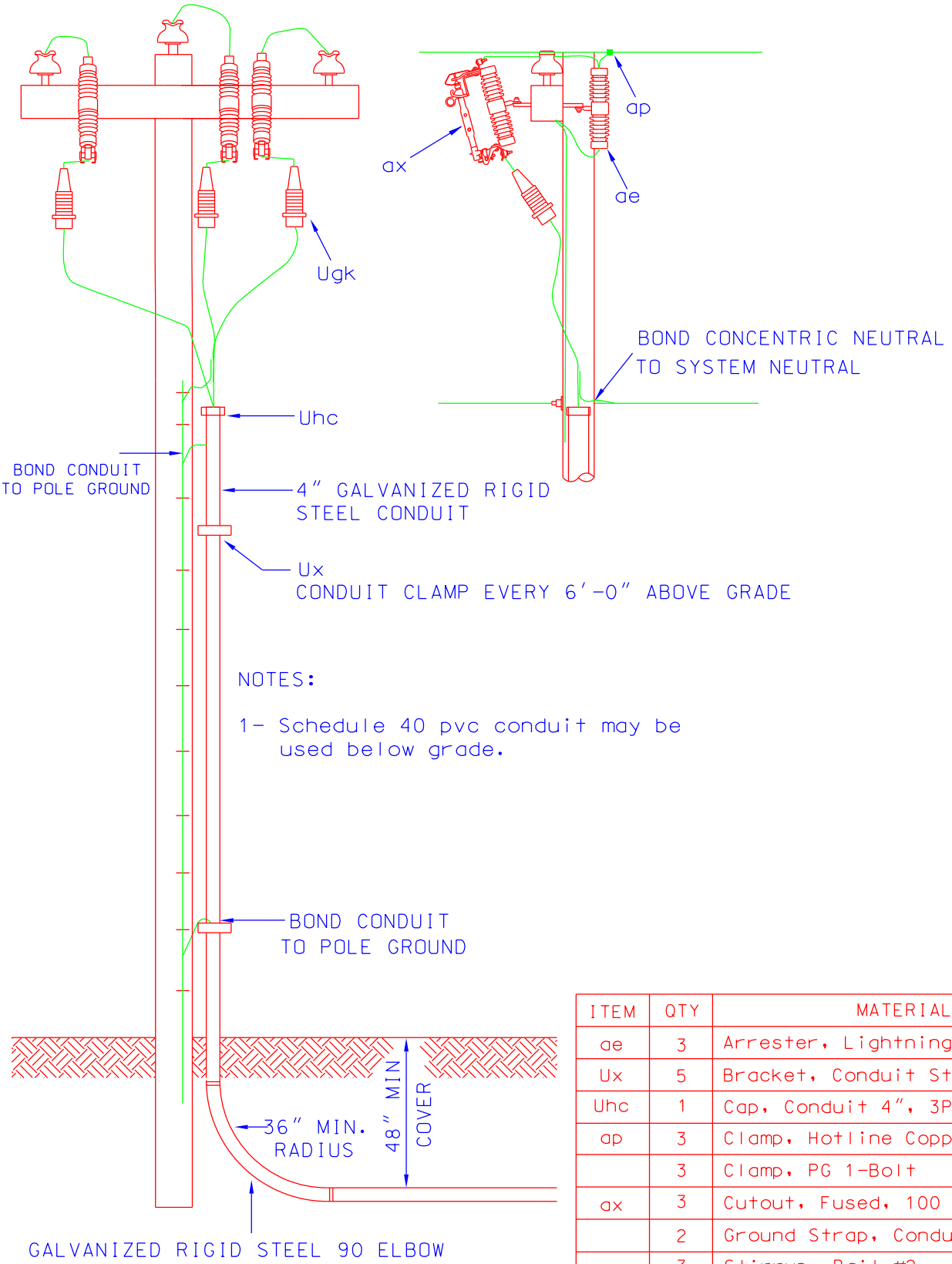
GDE

UG PRIMARY, SINGLE PHASE SERVICE RISER POLE

DATE: 7/17/23

STANDARD NUMBER

UGRP-1P



ITEM	QTY	MATERIAL
ae	3	Arrester, Lightning, Riser Pole
Ux	5	Bracket, Conduit Standoff 4"
Uhc	1	Cap, Conduit 4", 3Phase, 1/0
ap	3	Clamp, Hotline Copper
	3	Clamp, PG 1-Bolt
ax	3	Cutout, Fused, 100 Amp
	2	Ground Strap, Conduit
	3	Stirrup, Bail #2
Ugk	3	URD, Pothead 1/0 15KV
	1	URD, Sign - Buried Cable

GDE

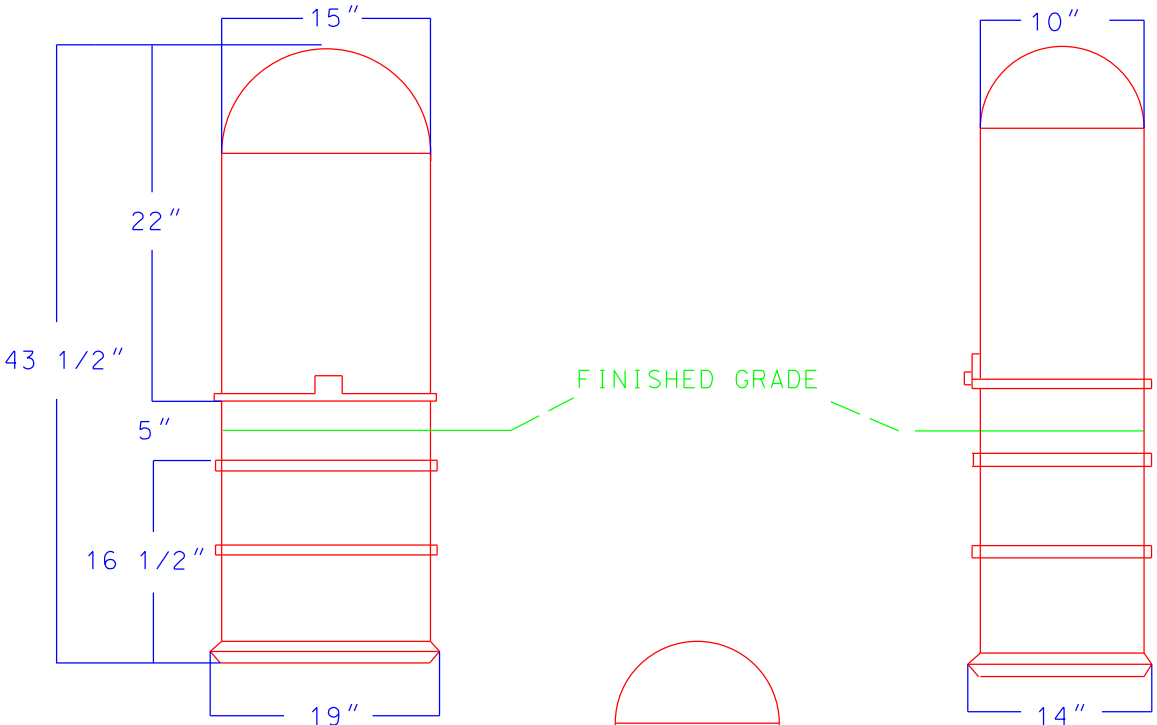
UG PRIMARY, THREE PHASE SERVICE RISER POLE

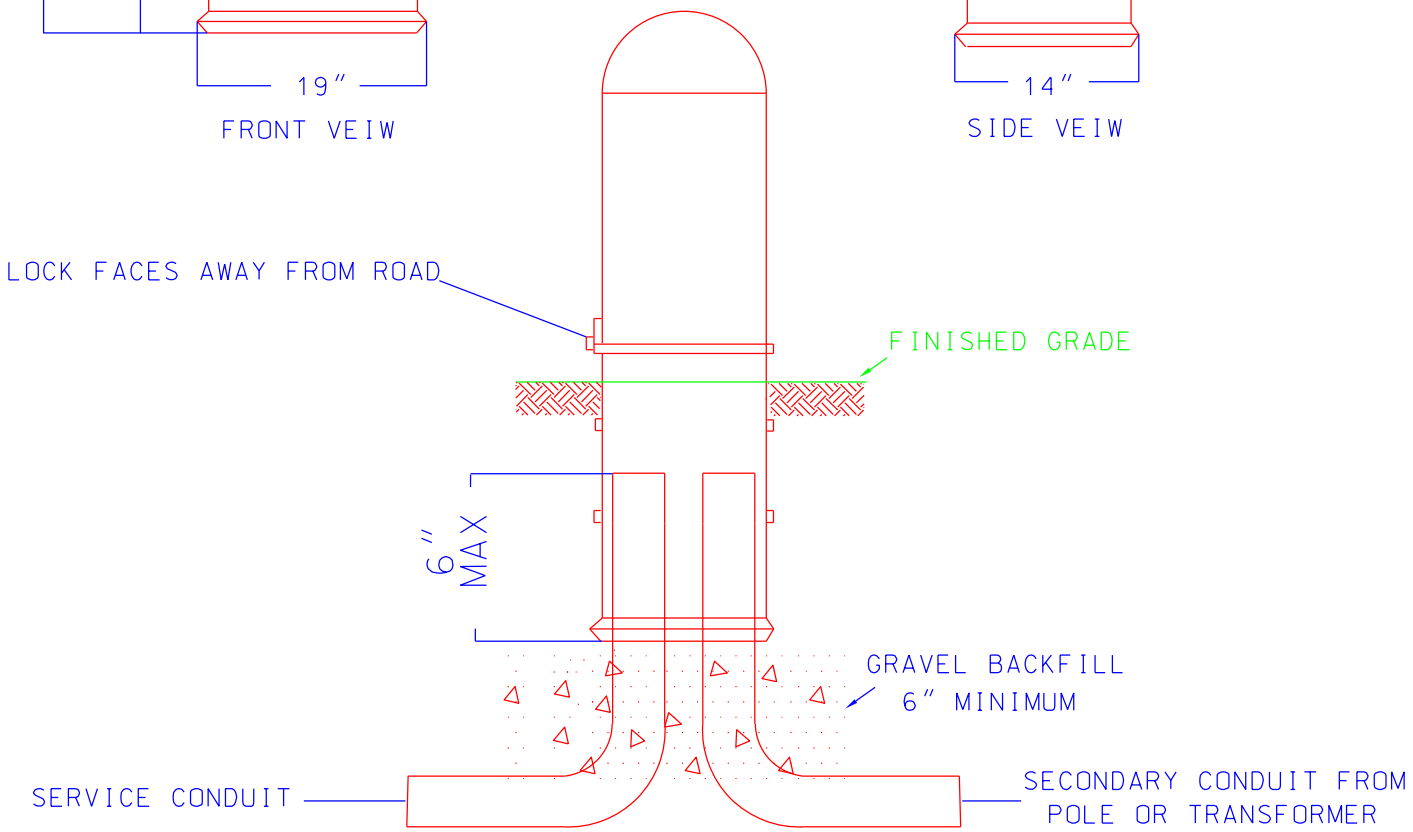
DATE: 7/17/23

STANDARD NUMBER

UGRP-3P

GDE PH. # (615) 452-5152





NOTE:

1 - SECONDARY CONDUITS TO BE LOCATED AS SHOWN ABOVE.
2 - SECONDARY CONDUITS TO BE 30" DEEP.
3 - CONDUITS TO STOP A MAX OF 6" ABOVE BOTTOM OF BOX.
4 - VAULT TO BE LEVEL AND PLUMB
5 - VAULT TO BE A MINIMUM OF 5' FROM STRUCTURE.
6 - CONDUIT & VAULTS DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER.

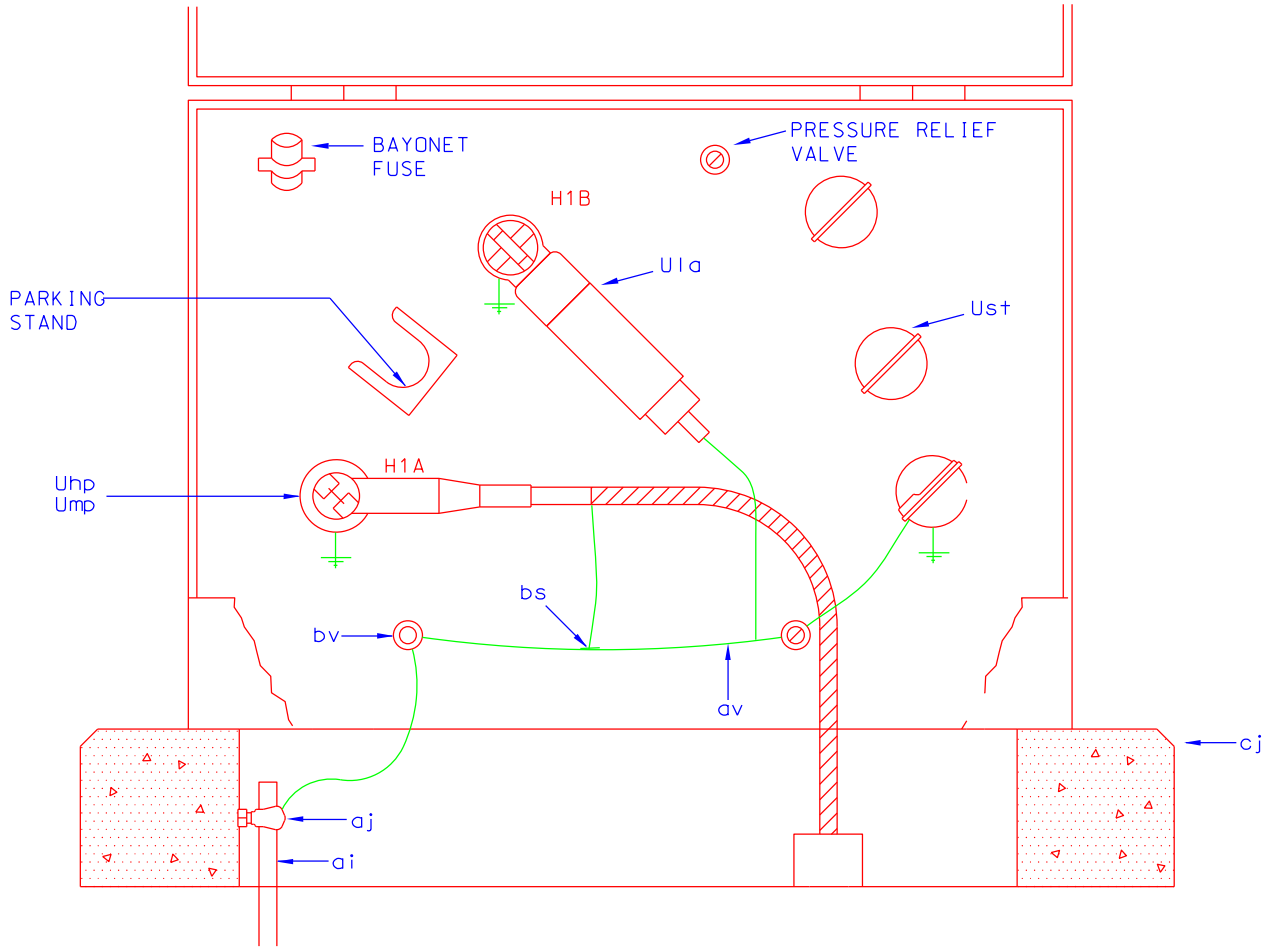
GDE

SECONDARY VAULT

DATE: 7/17/23

STANDARD NUMBER

UGSECV



NOTES:

1- The 10kV elbow arrester is unshielded and is to be treated as a hot conductor.
2- Cable duct and conduit is to extend a minimum 2" above ground level in the cable slot.
3- In grounding the concentric neutral slack is to be allowed for operating the elbow connector.

ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bv	2	Connector, Case Gnd Lug #4
	1	Lock, Company
ai	1	Rod, Ground $^{5}/_{8}$" X 8'
Ust	3	Terminal, URD Sec 4 Position, Sm
bs	2	URD, Med Bronze Bolted Connector
Uhp	2	URD, Bushing, LB Insert, 15kv
Ula	1	URD, Elbow Lightning Arrester
Ump	1	URD, Elbow Term 1/0 Str 15KV
	1	URD, Duckbill 2"
	1	URD, Sign - Shrub Locations
cj	1	URD, Transformer Pad, Fiberglass
av	*	Wire, #4 Bare Copper, SD

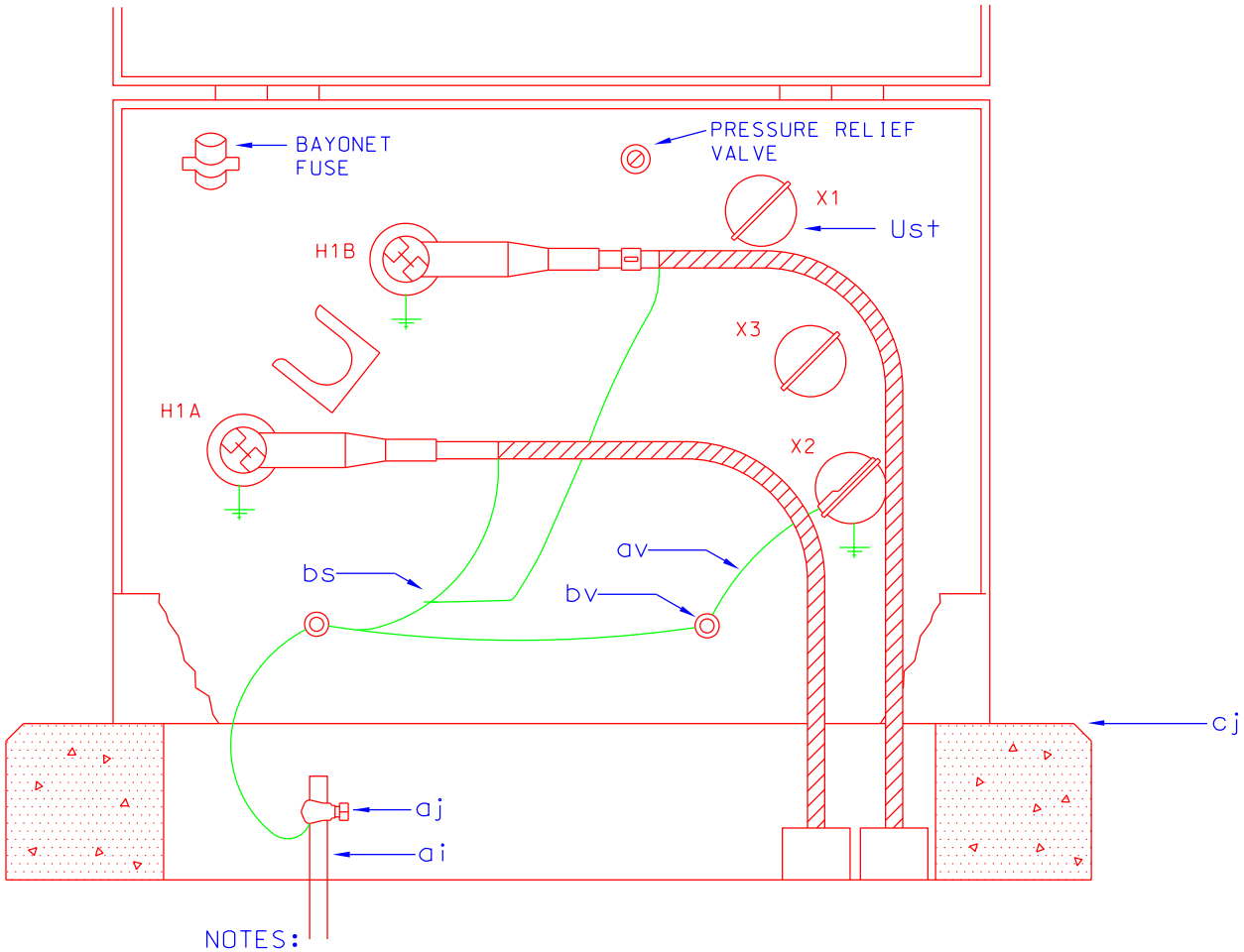
GDE

BUSHING MOUNTED LIGHTNING ARRESTEOR FOR A DEAD-FRONT PAD-MOUNTED TRANSFORMER

DATE: 7/17/23

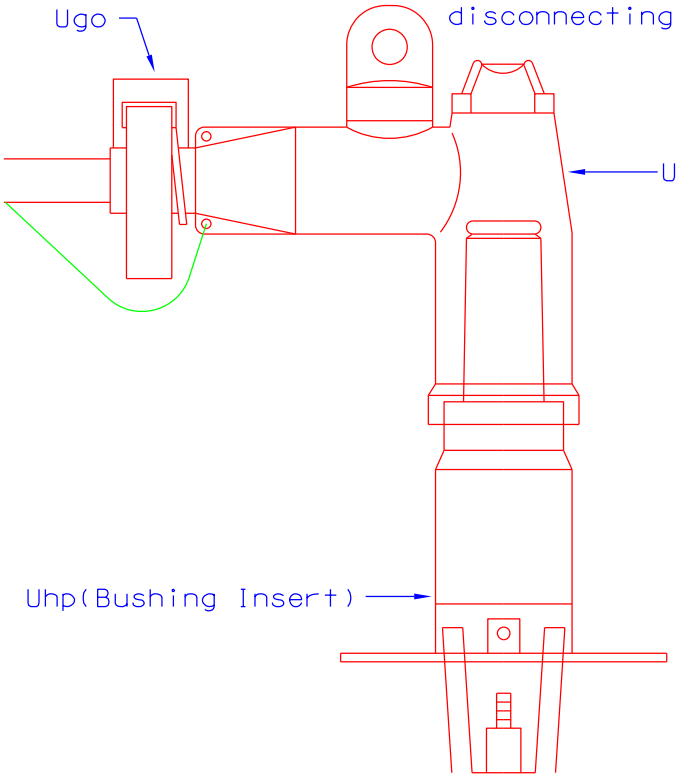
STANDARD NUMBER

UGT-1PDE



NOTES:

1- When connecting concentric neutrals to transformer ground, leave an adequate length so elbows can be removed without disconnecting neutrals from ground.



ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bv	2	Connector, Case Gnd Lug #4
	1	Lock, Company
ai	1	Rod, Ground 5/8" X 8'
Ust	3	Terminal, URD Sec 4 Position, Sm
bs	2	URD, Med Bronze Bolted Connector
Uhp	2	URD, Bushing, LB Insert, 15kv
Ump	2	URD, Elbow Term 1/0 Str 15KV
	2	URD, Duckbill 2"
	1	URD, Sign - Shrub Locations
cj	1	URD, Transformer Pad, Fiberglass
av	*	Wire, #4 Bare Copper, SD

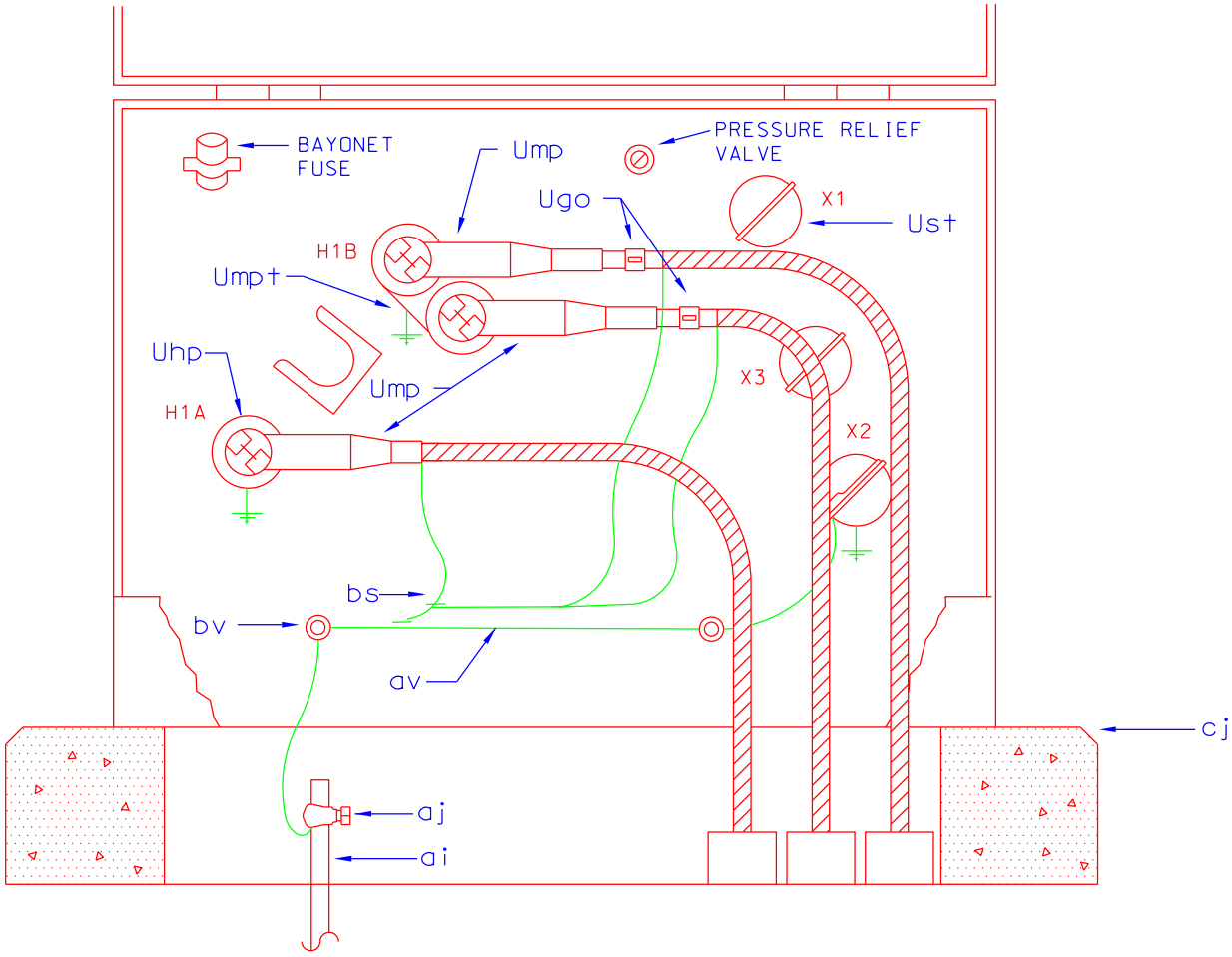
GDE

UG PRIMARY, SINGLE PHASE DEAD-FRONT PAD-MOUNTED TRANSFORMER

DATE: 7/17/23

STANDARD NUMBER

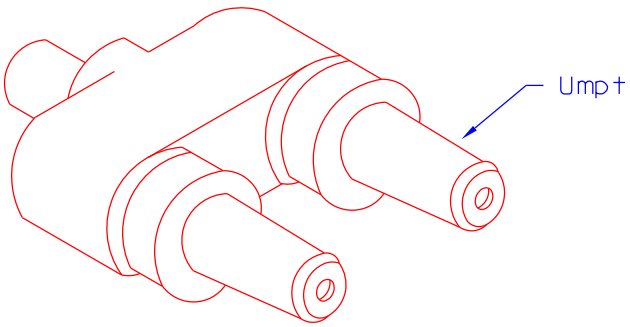
UGT-1PL



NOTES:

1- Cable duct or conduit is to extend a minimum 2" above ground level in the cable slot.

2- In grounding the concentric neutral slack is to be allowed for operating the elbow connector.



ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bv	2	Connector, Case Gnd Lug #4
	1	Lock, Company
ai	1	Rod, Ground 5/8" X 8'
Ust	3	Terminal, URD Sec 4 Position, Sm
bs	3	URD, Med Bronze Bolted Connector
Uhp	1	URD, Bushing, LB Insert, 15kv
Umpt	1	URD, Bushing, FT LB Insert, 15KV
Ump	3	URD, Elbow Term 1/0 Str 15KV
	3	URD, Duckbill 2"
	1	URD, Sign - Shrub Locations
cj	1	URD, Transformer Pad, Fiberglass
av	*	Wire, #4 Bare Copper, SD

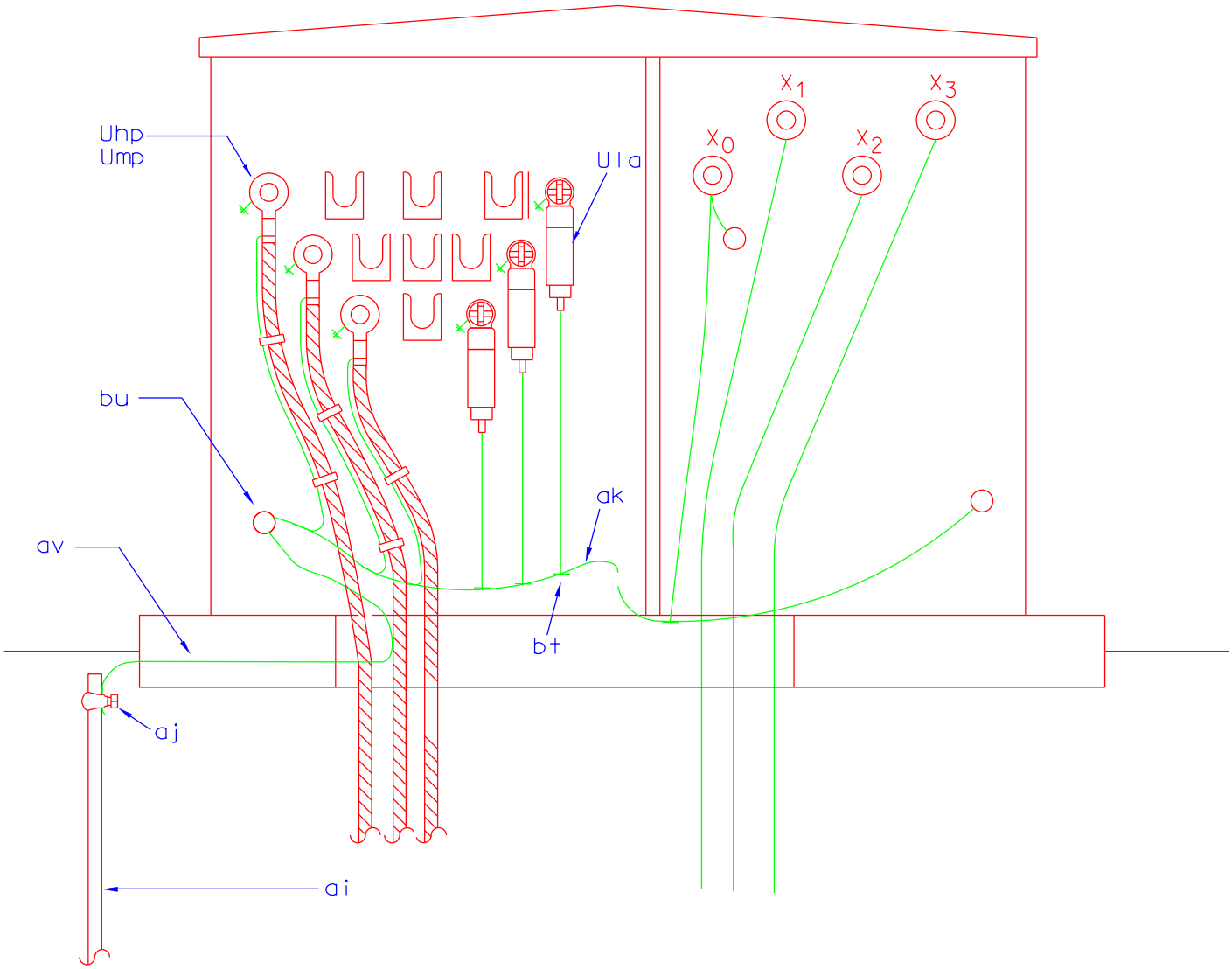
GDE

UG PRIMARY, SINGLE PHASE DEAD-FRONT PAD-MOUNTED TRANSFORMER WITH TAP

DATE: 7/17/23

STANDARD NUMBER

UGT-1PT



ITEM	QTY	MATERIAL
aj	1	Clamp, Ground Rod
bu	2	Connector, Case Gnd Lug 4/0
	1	Lock, Company
ai	1	Rod, Ground 5/8" X 8'
bt	6	URD, Large Bolted Connector
Uhq	6	URD, Bushing, LB Insert, 15KV
Ula	3	URD, Elbow Lightning Arrester
Uhq	3	URD, Elbow Term 1/0 Str 15KV
	*	URD, Duckbill
	1	URD, Sign - Shrub Locations
av	*	Wire, #4 Bare Copper, SD
ak	*	Wire, 4/0 Bare Copper, SD

GDE

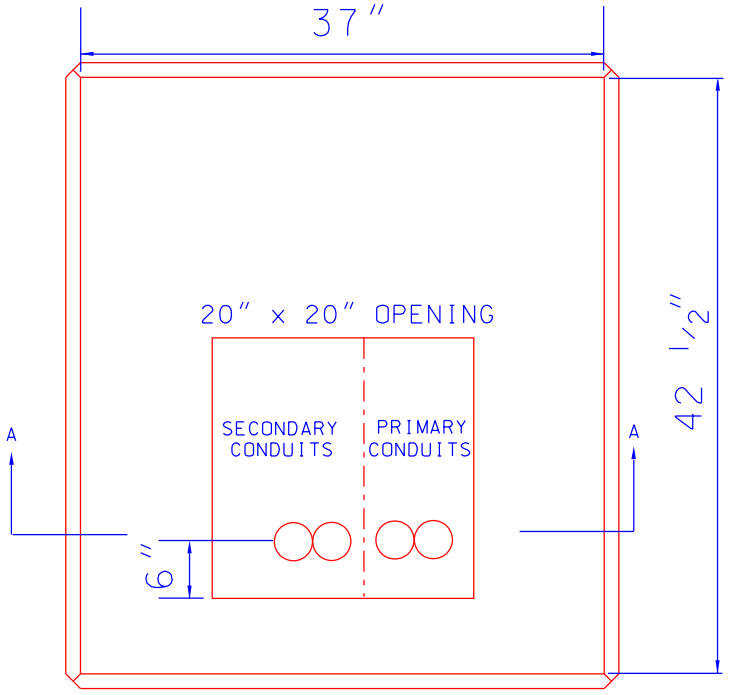
UG PRIMARY, THREE PHASE PAD-MOUNTED TRANSFORMER

DATE: 7/17/23

STANDARD NUMBER

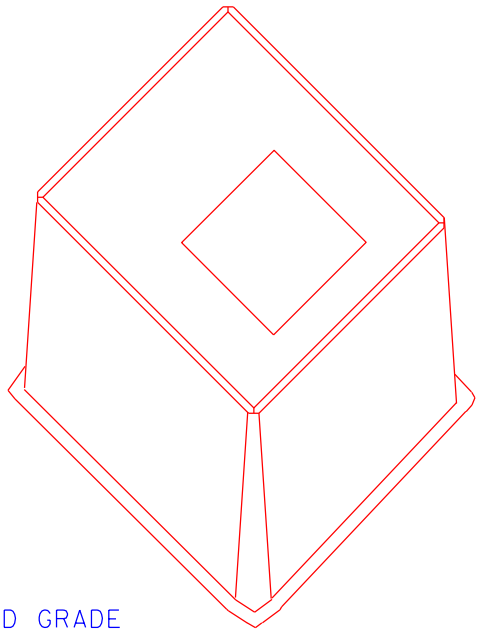
UGT-3P

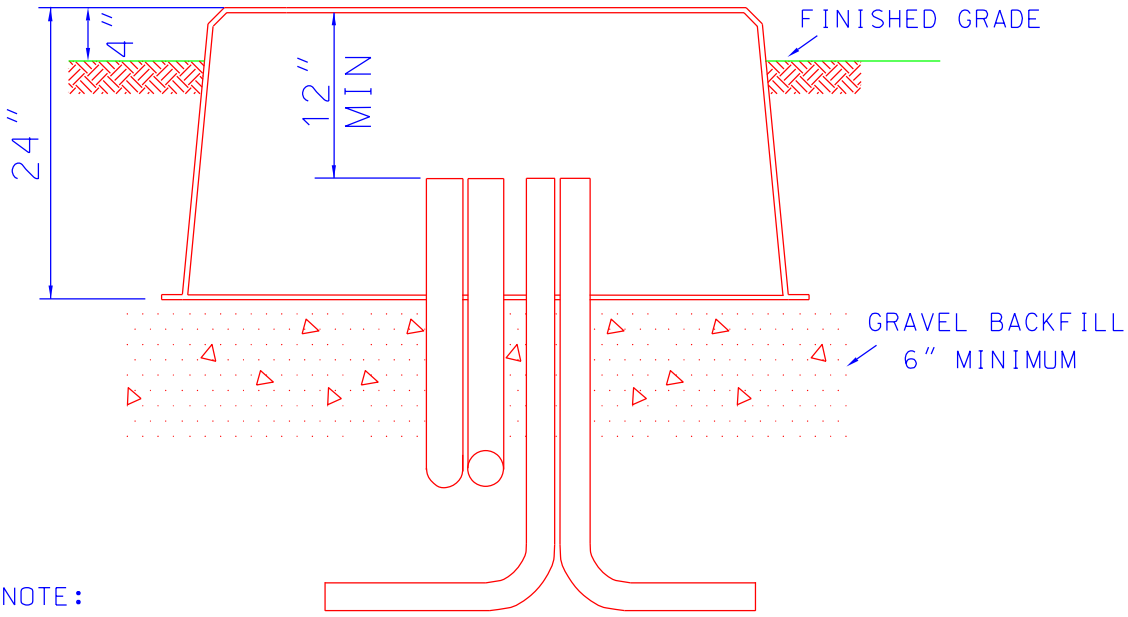
GDE PH. # (615) 452-5152



FRONT OF TRANS.

PLAN





NOTE:

1 - PRIMARY & SECONDARY CONDUITS TO BE LOCATED AS SHOWN ABOVE.
2 - CONDUITS TO STOP AT LEAST 12" BELOW TOP OF PAD.
3 - PRIMARY CONDUITS TO BE 48" DEEP.
4 - SECONDARY CONDUITS TO BE 30" DEEP.
5 - SLEEVE TO SET ON GRAVEL BACKFILL FROM BOTTOM OF DITCH TO PAD BOTTOM.
6 - CONDUIT & SLEEVES DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER.
7 - TRANSFORMER 0-75KVA TO BE A MINIMUM OF 10' FROM STRUCTURE.
TRANSFORMERS 76-333KVA TO BE A MINIMUM OF 20' FROM STRUCTURE.

GDE

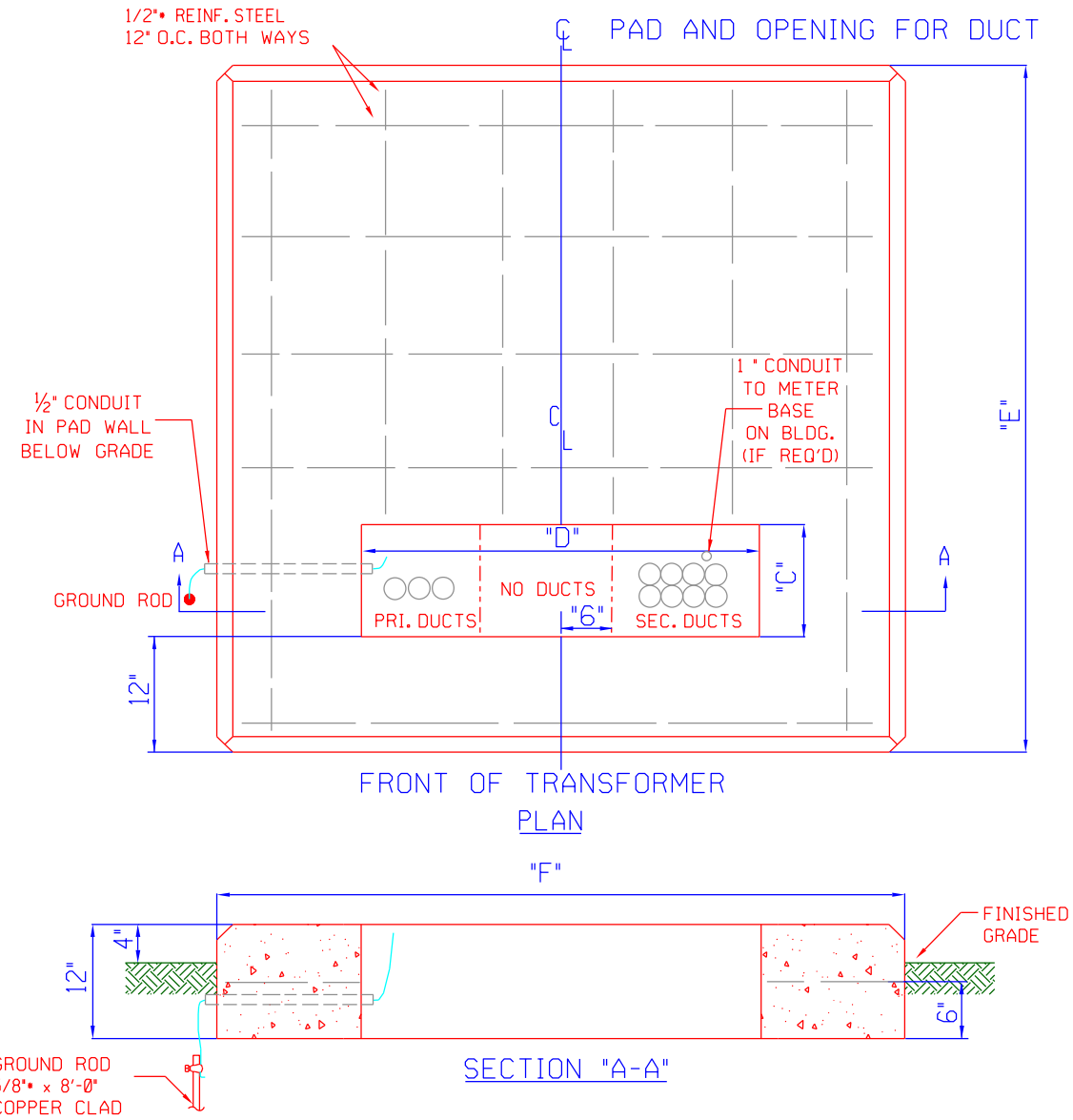
TRANSFORMER GROUND SLEEVE DETAIL

SINGLE PHASE

DATE: 5/31/23

STANDARD NUMBER

UMF-1P



DIMENSION	C	D	E	F
75 KVA	12"	40"	84"	84"
150 KVA	12"	40"	84"	84"
225 KVA	18"	40"	84"	84"
300 KVA	18"	40"	84"	84"
500 KVA	18"	52"	84"	84"
750 KVA	18"	52"	84"	84"
1000 KVA	24"	52"	84"	84"
1500 KVA	24"	52"	84"	84"
2000 KVA	24"	60"	120"	120"
2500 KVA	24"	60"	120"	120"

NOTES:

1- Concrete testing, 2,000 lbs. psi minimum.
2- Reinforcing steel, ASTM-A615 Grade 60, placing approximately 12" O.C. each way and securely tied together.
3- Conduits to stop a maximum of 1" above pad.
4- Conduits to be placed as shown. Allow at least 12" between pri. and sec. conduits.
5- Primary conduits shall be 48" deep and have rigid galvanized elbows.
6- GDE to be notified after forming, but before pad is poured for an inspection of the pad.
7- Float finish, leaving no depressions.
8- Conduit damaged before wire is installed must be replaced/repaired by developer.

GDE

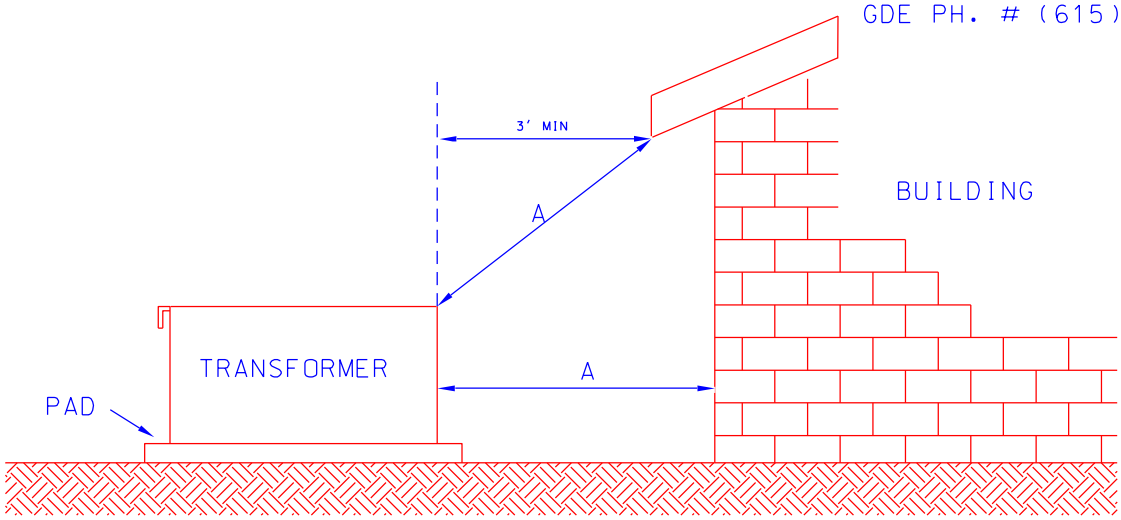
CONCRETE PAD DETAIL
THREE PHASE PAD MOUNTED TRANSFORMER

DATE: 7/17/23

STANDARD NUMBER

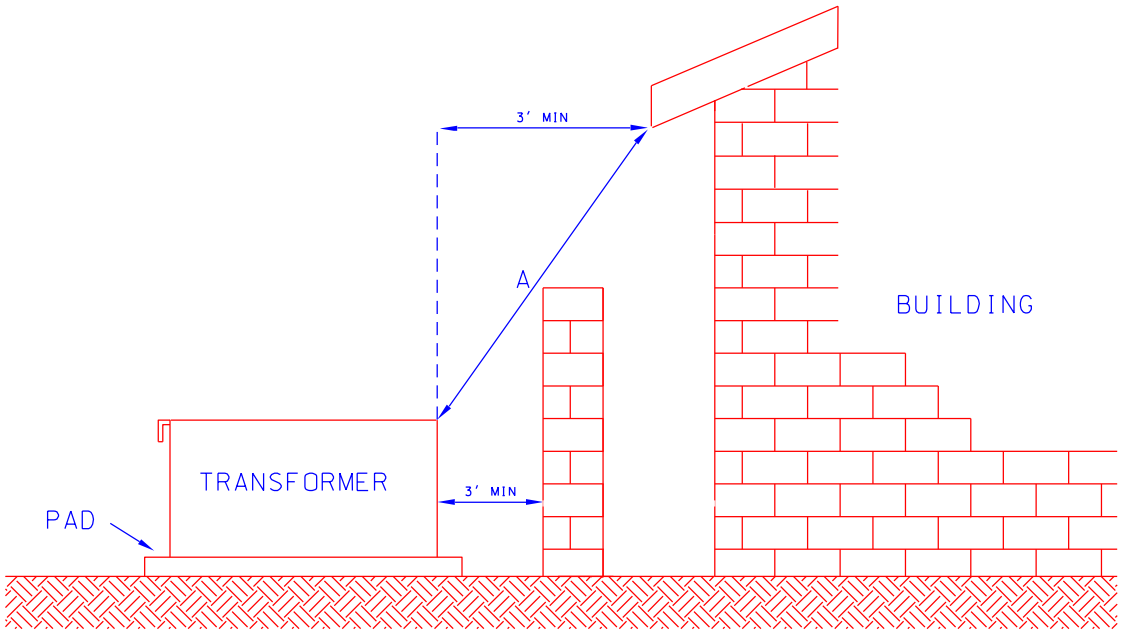
UM-3P

GDE PH. # (615) 452-5152



TRANSFORMER CLEARANCES

DIMENSION A	TRANSFORMER KVA	BUILDING WALL & EAVES
10'	0-75	COMBUSTIBLE
20'	76-333	COMBUSTIBLE
30'	334 AND LARGER	COMBUSTIBLE
3'	ALL SIZES	NON-COMBUSTIBLE



FIRE BARRIER WALL

GDE

TRANSFORMER CLEARANCE REQUIREMENTS

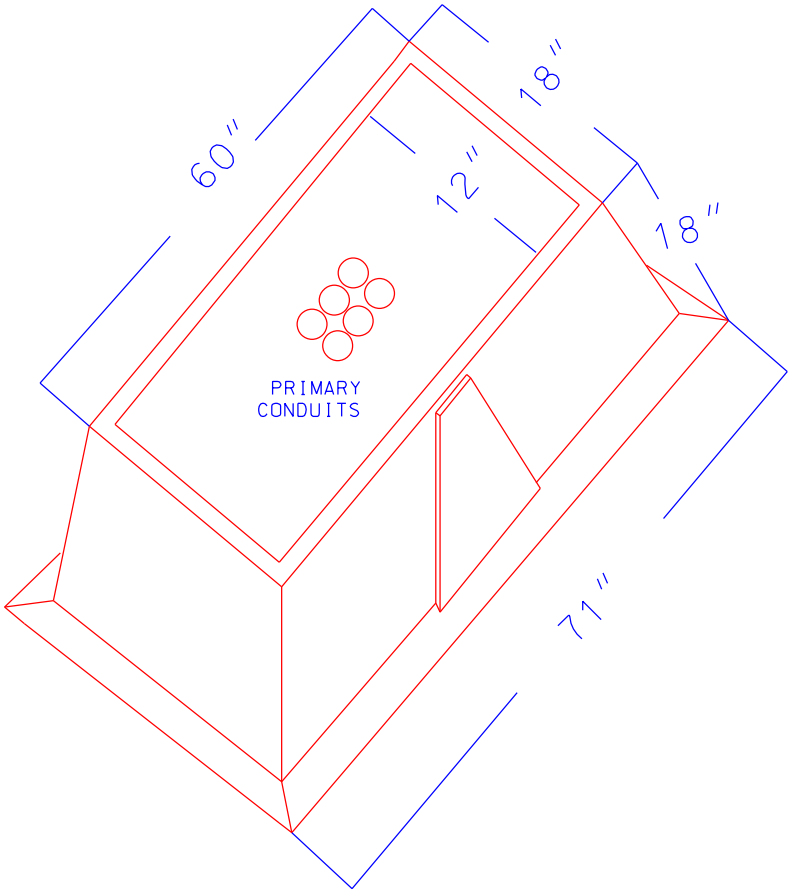
FOR PAD-MOUNT TRANSFORMER

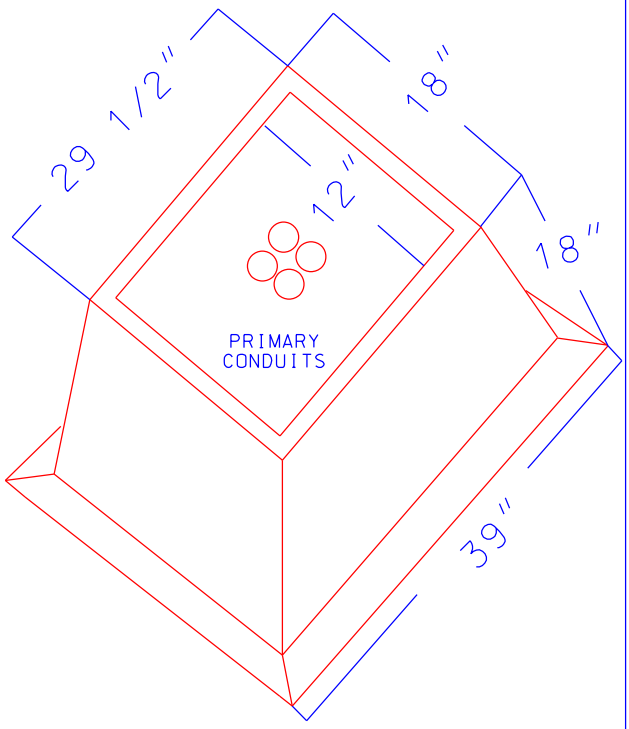
DATE: 7/17/23

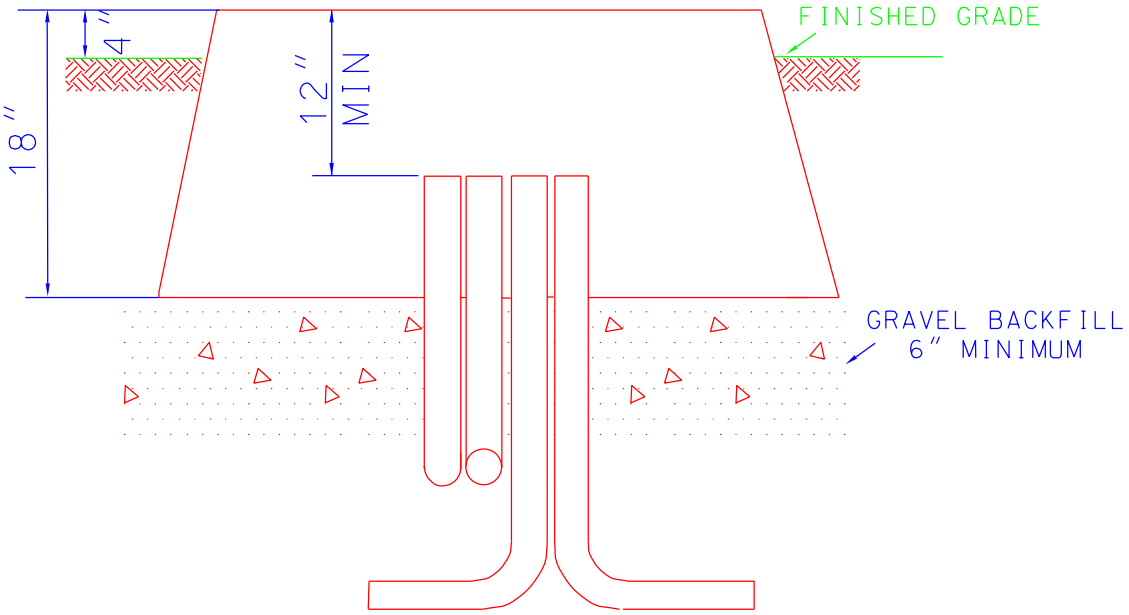
STANDARD NUMBER

UMT-1

GDE PH. # (615) 452-5152







NOTE:

1 – PRIMARY CONDUITS TO BE LOCATED AS SHOWN ABOVE.
2 – CONDUITS TO STOP AT LEAST 12" BELOW TOP OF PAD.
3 – PRIMARY CONDUITS TO BE 48" DEEP.
4 – SLEEVES TO SET ON GRAVEL BACKFILL FROM BOTTOM OF DITCH TO PAD BOTTOM.
5 – VAULTS TO BE A MINIMUM OF 10' FROM STRUCTURE.
6 – CONDUIT & SLEEVES DAMAGED BEFORE WIRE IS INSTALLED MUST BE REPLACED/REPAIRED BY DEVELOPER.

GDE

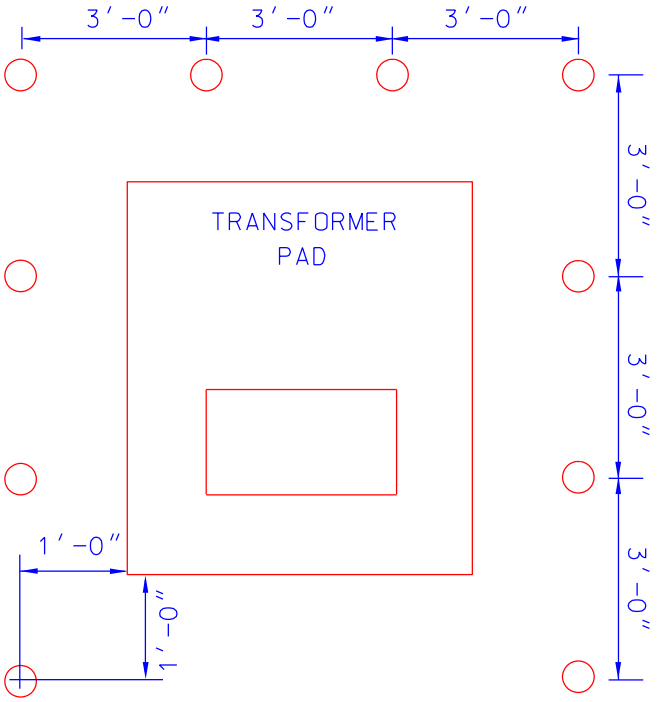
PRIMARY VAULT GROUND SLEEVE DETAIL
SINGLE AND THREE PHASE

DATE: 7/17/23

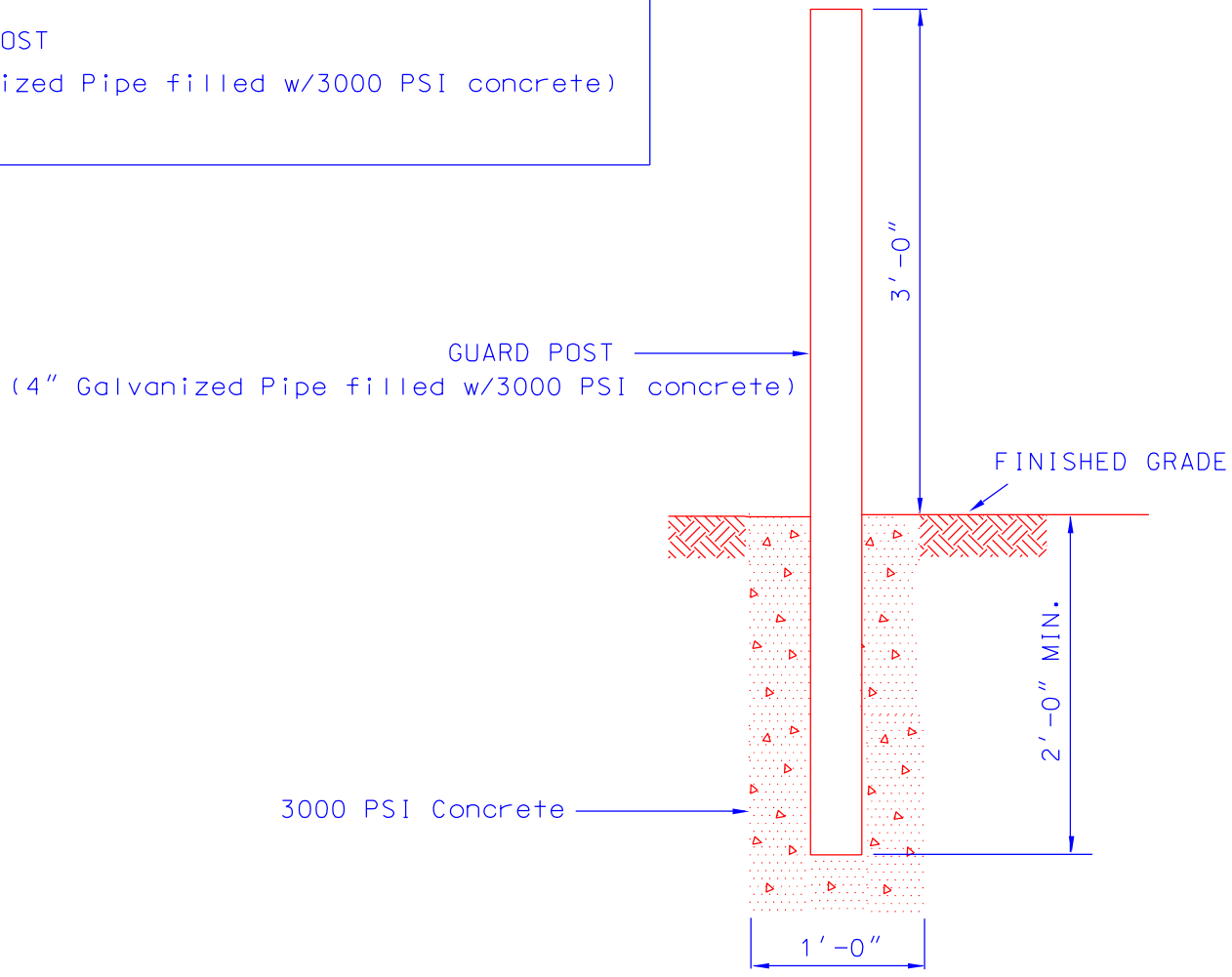
STANDARD NUMBER

UPV-1P

UPV-3P



GUARD POST
(4" Galvanized Pipe filled w/3000 PSI concrete)



GDE

GUARD POST DETAIL FOR PAD MOUNTED TRANSFORMER

DATE: 6/2/23

STANDARD NUMBER

UM-2P