STANDARD SECTION	SECTION TITLE
100	MISCELLANEOUS
200	CLEARANCES
300	CONDUCTORS
400	POLES
500	15KV SINGLE PHASE 2000#
600	15KV THREE PHASE 2000#
700	15KV THREE PHASE 3000#
800	35KV SINGLE PHASE 2000#
900	35KV THREE PHASE 2000#
1000	35KV THREE PHASE 3000#
1100	SECONDARY VOLTAGE DROP
1200	CAPACITORS
1300	GUYING
1400	REGULATORS
1500	RECLOSERS
1600	SWITCHES
1700	SAG CHARTS
1800	STREET LIGHTS
1900	CATV
2100	CABLE RISERS
2200	UNDERGROUND INSTALLATIONS
2600	OVERHEAD TRANSFORMERS
2700	SERVICE STANDARDS
2900	METERING

CLICK ON THE SECTION LABELS IN THIS DOCUMENT TO OPEN THAT SECTION

REVISED 11-14-2022

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX – SECTIONS

LAST REVISED	DRAWING
03–19–2021	SECTIONS

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
101	FOREWORD	12-14-2010
102	GROUNDING ON OVERHEAD MULTI-GROUNDED SYSTEMS	3-8-2010
103	NEUTRAL ISOLATOR INSTALLATION FOR 120/240V SINGLE PHASE TRANSFORMER	3-9-2010
104	NEUTRAL ISOLATOR INSTALLATION USING CURRENT BALANCING TRANSFORMER	3-9-2010
105	LINE VOLTAGE VARIATIONS	3-8-2010
106	MOTORS & OTHER UTILIZATION EQUIPMENT	12-22-2009
107	PERMANENT CIRCUIT SEPARATION PROCEDURE	01-14-2021
110	AIR BREAK SWITCH ADAPTERS FOR DUAL LOCK CAPABILITY STAINLESS STEEL STOCK	12-22-2009
150	PRIVATE LINE POLE MARKING	12-18-2009
160	TYPICAL TRANSMISSION/DISTRIBUTION DEVICE NUMBERING	3-8-2010
161	TYPICAL DISTRIBUTION DEVICE NUMBERING	3-8-2010

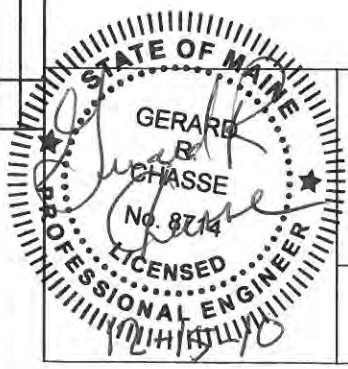
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-14-10	GAN

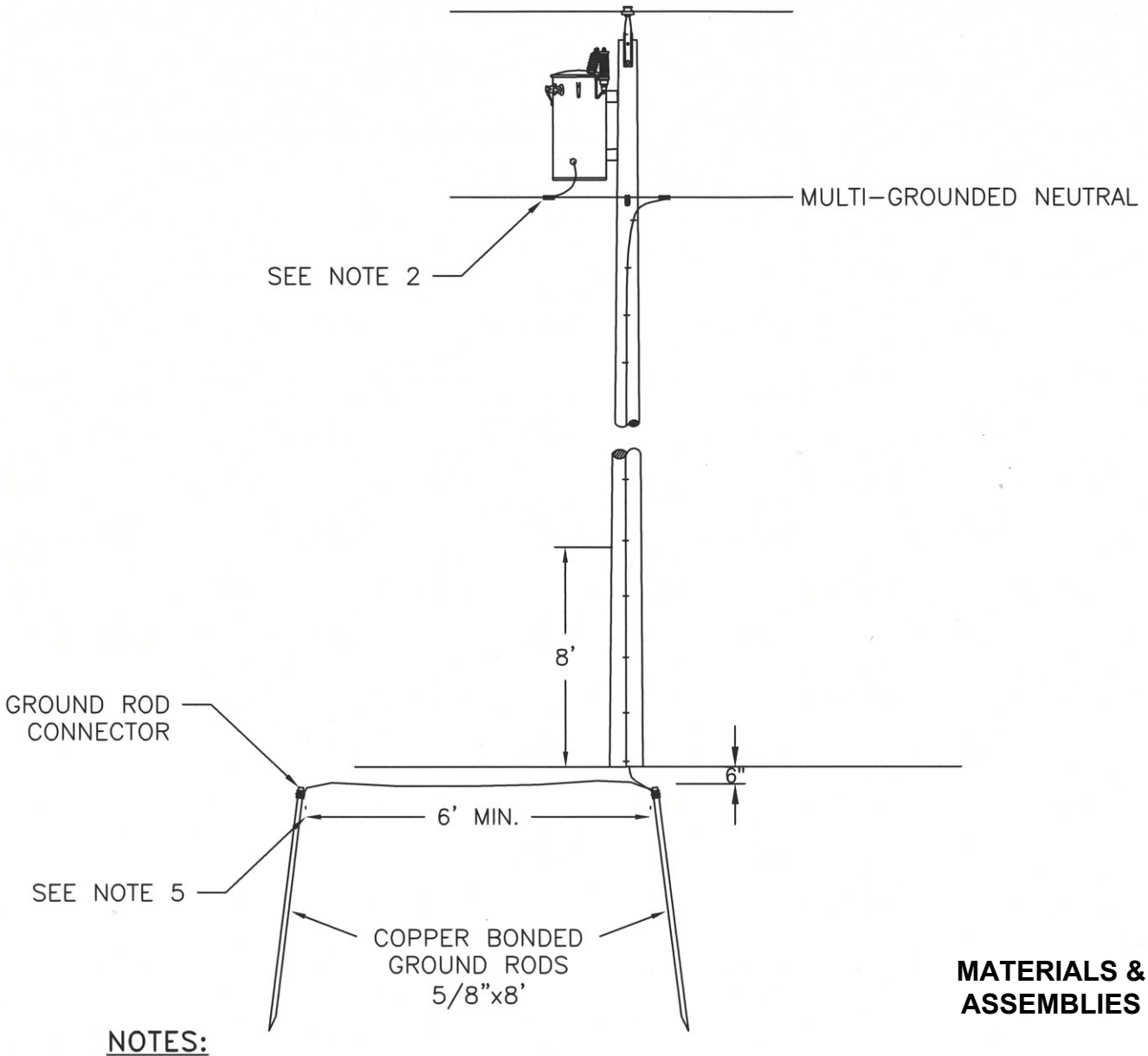
Foreword:

The construction standards contained herein represent Bangor Hydro Electric Company's approved specifications for distribution line construction contained within its' territory. These standards are based on the National Electrical Safety Code, and have been designed to reflect Bangor Hydro's commitment to the safe, efficient and uniform construction of its distribution system.

Users of this book should understand that no standard can cover all conceivable circumstances and thus the standard should be viewed as a guideline for construction. However, it is expected that users of the standards will adhere as closely as possible to the standards, and that deviation from them will be minimal. Approval for company deviation from these standards shall only be given by T& D Engineering on a case-by-case basis. Bangor Hydro Electric Company will not assume any liability for deviations from the standards made by those outside the company. The standards shall be used for all new construction as well as substantial upgrades to existing construction.



DISTRIBUTION CONSTRUCTION STANDARDS	FOREWORD	
BANGOR HYDRO ELECTRIC Co.		DRAWING 101



MATERIALS & ASSEMBLIES

NOTES:

1. STAPLE #4 STRANDED BARE COPPER WIRE TO THE POLE SURFACE, RUNNING DIRECTLY FROM THE GROUND ROD TO THE SYSTEM NEUTRAL OR SECONDARY "BUS". THE VERTICAL RUN ON THE POLE SHOULD BE FASTENED WITH STAPLES SPACED 15 INCHES APART. MAINTAIN A MINIMUM OF 2" CLEARANCE BETWEEN THE VERTICAL RUN (INCLUDING STAPLES) AND ALL METAL HARDWARE.
2. EQUIPMENT GROUNDS (TRANSFORMERS, REGULATORS, CAPACITORS, RECLOSERS, ETC.) ARE TO BE MADE TO THE SYSTEM NEUTRAL RATHER THAN THE DOWN LEAD.
3. IF THE SYSTEM NEUTRAL IS IN THE CROSSARM POSITION, RUN THE GROUND LEAD TO THE CROSSARM AND UNDER THE CROSSARM TO THE NEUTRAL POSITION. MAINTAIN AT LEAST A 2" OF CLEARANCE FROM ALL METAL HARDWARE BY LOOPING THE GROUND LEAD UNDER THE CROSSARM IF NECESSARY.
4. ON NEW POLE INSTALLATIONS THE GROUND ROD MAY BE INSTALLED IN THE SAME HOLE AS THE POLE.
5. WHEN A SECOND GROUND ROD IS REQUIRED, IT MUST BE INSTALLED A MINIMUM OF 6' FROM THE FIRST GROUND ROD.
6. MINIMUM OF FOUR(4) GROUNDS PER MILE OF LINE MUST BE INSTALLED, AND AT EVERY TRANSFORMER LOCATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

GROUNDING ON OVERHEAD MULTI–GROUNDED SYSTEMS

LAST REVISED	DRAWING
7–22–20	102

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
127102	1		**NEUTRAL BONDING & POLE GROUND**	
		1	GROUND ROD8' X 5/8' COPPER BONDED:AL	1127101
		1	CLAMP, GROUND, CU & AL TO 1" ROD	1206305
		1	CONNECTOR NEUTRAL TO POLE GROUND	1207203
		30	STAPLES BARB FENCE, GALV. 2"	1452100
		40	CABLE COPPERWELD HIDE #4 7X	1203600

MATERIALS & ASSEMBLIES

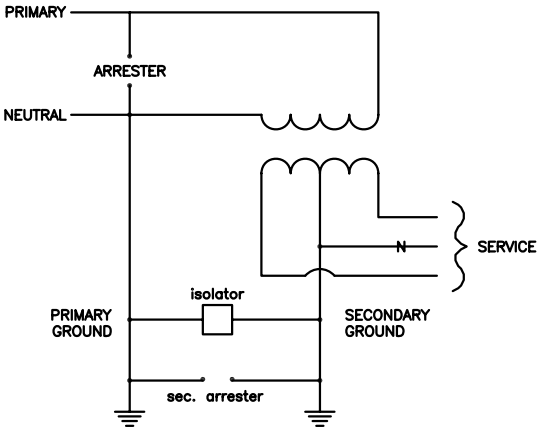
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

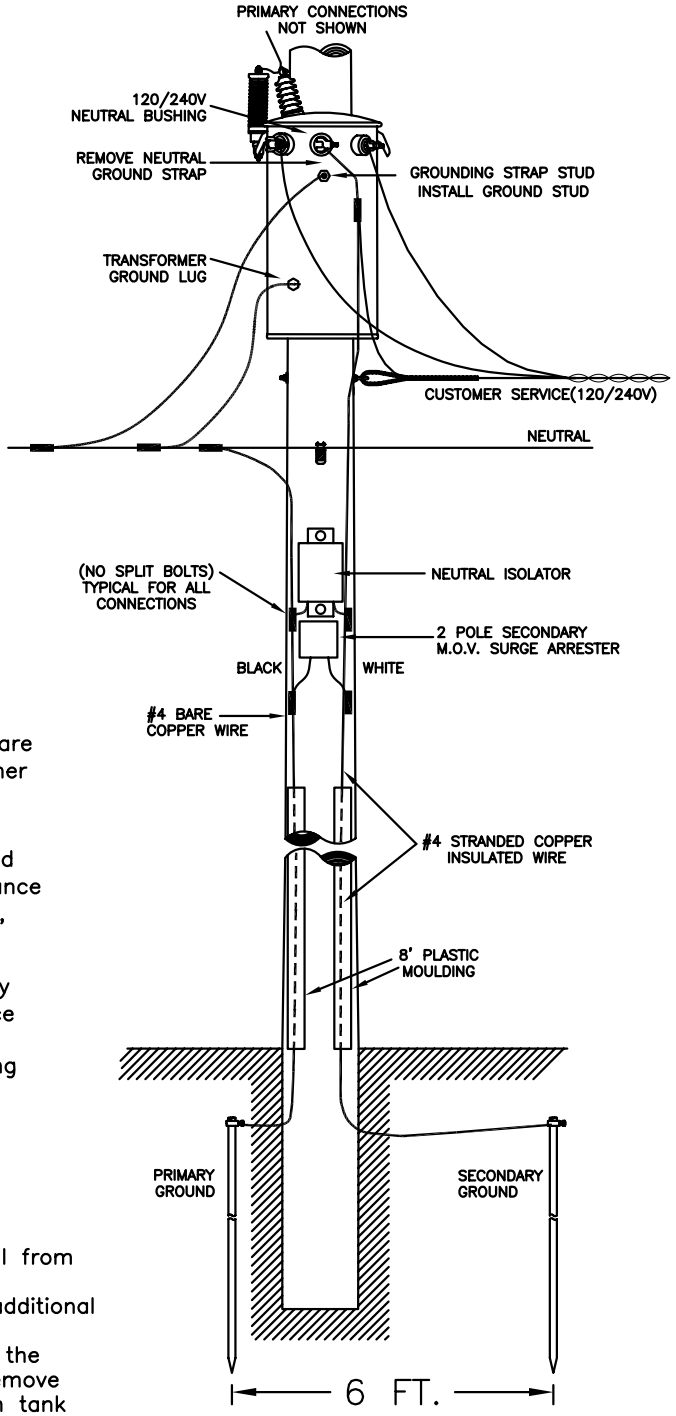
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

GROUNDING ON OVERHEAD MULTI-GROUNDED SYSTEMS

LAST REVISED	DRAWING
7-22-20	102





PROCEDURE IN EVENT OF BLOWN TRANSFORMER FUSE

1. The neutrals should be solidly jumpered together before re–energizing the transformer.
2. If the transformer remains energized, or after the transformer has been replaced or other trouble resolved, check the Neutral Isolator.
3. To check the Neutral Isolator, an ohmmeter and megger are required. Before checking, disconnect one lead (from either terminal).

   If the DC resistance between the terminals using an ohmmeter is a high value (greater than 5,000 ohms and typically 100,000's of ohms or greater), AND the resistance using a megger is very low (i.e. less than 5,000 ohms), THEN the unit is functional.

   If the DC resistance using an ohmmeter is approximately zero ohms (typically 0.3 – 0.5 ohms), OR the resistance using a megger is infinite (indicating an open circuit), THEN the unit should be returned to the T&D Engineering Dept. for inspection.

NOTES:

1. The installation of any neutral isolator requires approval from T&D Engineering.
2. For one service only. Install separate transformer for additional services.
3. Use of two bushing transformers is preferred. Remove the neutral strap if present. If CSP transformer is used, remove neutral strap and install additional primary ground from tank strap lug to primary neutral. Use insulated wire.
4. Care shall be taken in stapling the insulated ground wire so as not to damage insulation.
5. The primary and secondary neutrals shall be interconnected through a protective device, complying with N.E.S.C. Sect. 97.d.2.
6. An alternate method of neutral isolation is for the customer to supply an isolation transformer on the service entrance.
7. Use insulated conductor sized to match the service neutral.
8. If a two pole (3 wire) arrester is used, connect the two black leads together at primary neutral ground.
9. Change arrester if fuse operates.

DAIRYLAND ELECTRIC INDUSTRIES
NEUTRAL ISOLATOR # 1201945

SECONDARY
SURGE ARRESTER # 1201101

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3–9–10	GAN

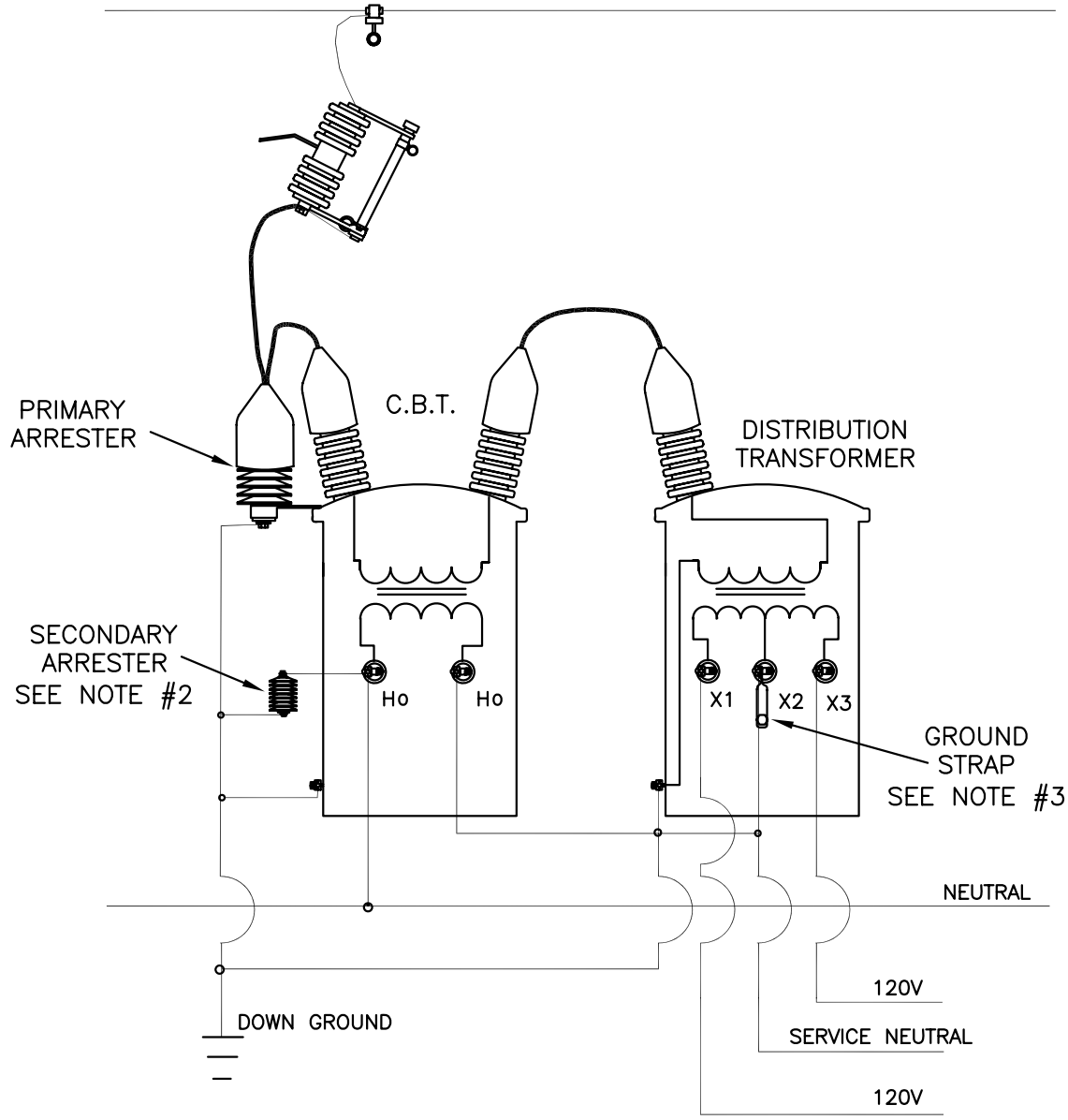
DISTRIBUTION CONSTRUCTION STANDARDS

NEUTRAL ISOLATOR INSTALLATION FOR 120/240V SINGLE PHASE TRANSFORMER

BANGOR HYDRO ELECTRIC Co.

DRAWING
103

CURRENT BALANCING TRANSFORMER (CBT)



NOTES:

1. SINGLE PHASE INSTALLATION ON CLUSTER MOUNT BRACKET.
2. BECAUSE OF LIGHTNING STRIKE TRANSIENT, A SECONDARY ARRESTER SHOULD BE INSTALLED BETWEEN THE Ho BUSHING OF THE C.B.T. TRANSFORMER AND THE DOWN GROUND BECAUSE OF A DIFFERENCE IN THE VOLTAGE GRADIENT.
3. THE COPPER GROUND STRAP ON THE DISTRIBUTION X2 TERMINAL CAN BE LEFT CONNECTED.
4. FOR ONE SERVICE ONLY. INSTALL SEPARATE SERVICE TRANSFORMER FOR ADDITIONAL SERVICES.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-9-10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

NEUTRAL ISOLATOR INSTALLATION USING CURRENT BALANCING TRANSFORMER

BANGOR HYDRO ELECTRIC Co.

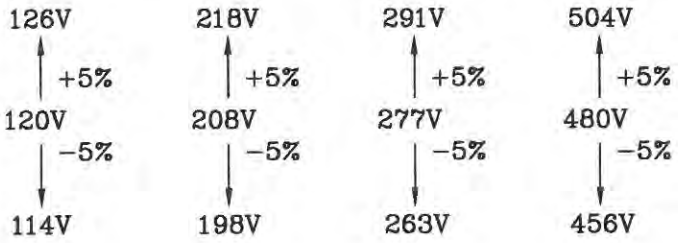
DRAWING 104

LINE VOLTAGE VARIATIONS

When considering circuit loading and capital betterment projects or when evaluating customer complaints regarding voltage levels, please consider the following which is excerpted from the Maine Public Utilities Commission, Electric Utilities Service Standards designated as Chapter 32 of the Commission rules.

VOLTAGE VARIATION:

(1) For service rendered principally for residential or commercial purposes the normal voltage variation shall not exceed plus or minus five percent (±5%) from the standard voltage for any period longer than one (1) minute.



The standard allows greater variation than depicted above for service rendered for power purposes (±10%) and service from transmission lines, however, essentially all of our distribution circuits must meet the above standard.

ANSI C84.1 further addresses the national voltage standard and sets 120/240 as the nominal system voltage, the minimum at 114 and the maximum at 126 volts. If the system voltage falls outside of the above limits, corrective action should be taken.

NOTE:

1. IF SERVICE VOLTAGE EXCEEDS ±5% CONSULT T&D ENGINEERING.

STATE OF MAINE GERARD R CHASSE No. 8714 LICENSED PROFESSIONAL ENGINEER 12/15/10

DISTRIBUTION CONSTRUCTION STANDARDS

LINE VOLTAGE VARIATIONS

BANGOR HYDRO ELECTRIC Co.

DRAWING 105

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN

NO.	REVISION	DATE	CK

MOTOR STARTING

CALCULATIONS FOR GREATER THAN 5 H.P. 1ø OR 10 H.P. 3ø :

The following are the limits for calculations with regard to flicker on distribution circuits which could be caused by motor starting, welding and other large intermittent loads affecting the system. Contact T&D Engineering to evaluate these loads.

(1) For frequent operation any time of day, 2–3% line voltage dip.

(2) For cases occurring not more than four times per day and preferably not on circuits where there is exposure to business operated microprocessors, 3–5% voltage dip. Additional limits may also be imposed depending upon the engineer's evaluation of other affected loads on the circuit with regard to number of starts per day and appropriate times.

For most motor calculations (code F and G motors) calculate voltage dip with a starting current of six (6) times running current at 35% power factor (PF). Power factor can vary 25–50%, depending on the particular motor.

Rotophase converters which are utilized to run three phase motors on single phase lines will tend to reduce the locked rotor current by 30% which can be taken into account.

Reduced voltage starters, wye start–delta run switching, variable speed drives and other equipment may be used to reduce inrush current.

NO.	REVISION	DATE	CK

CALCULATIONS FOR 5 H.P.–1ø OR 10 H.P.–3ø AND BELOW:

Calculations are not required for installation of single phase motors rated at 5 H.P. and smaller.

Calculations are not required for installation of three phase motors rated at 10 H.P. and smaller.

ENERGY EFFICIENT MOTORS

Obtain starting inrush currents on actual motor or data sheets.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-22-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	MOTORS & OTHER UTILIZATION EQUIPMENT
BANGOR HYDRO ELECTRIC Co.	DRAWING 106

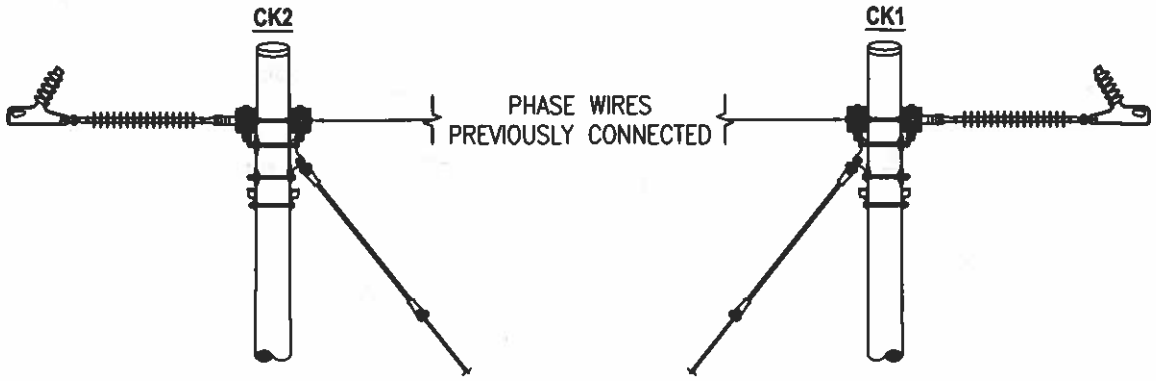


FIG.1

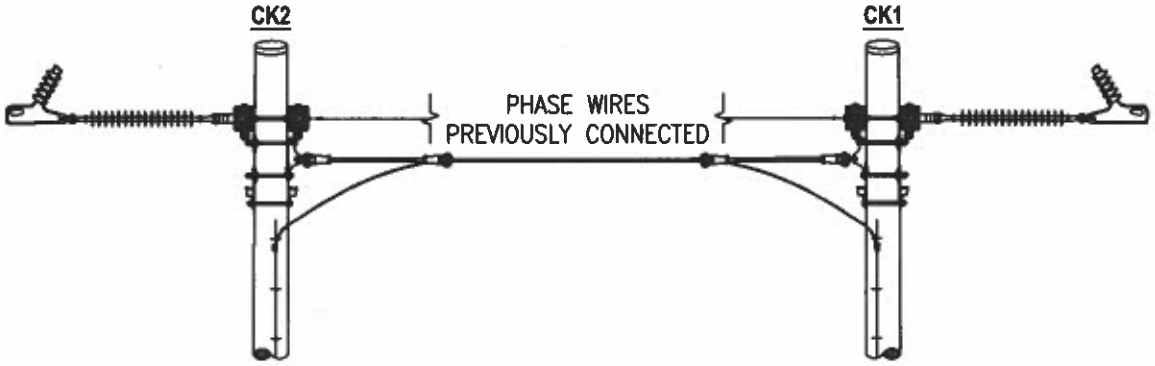
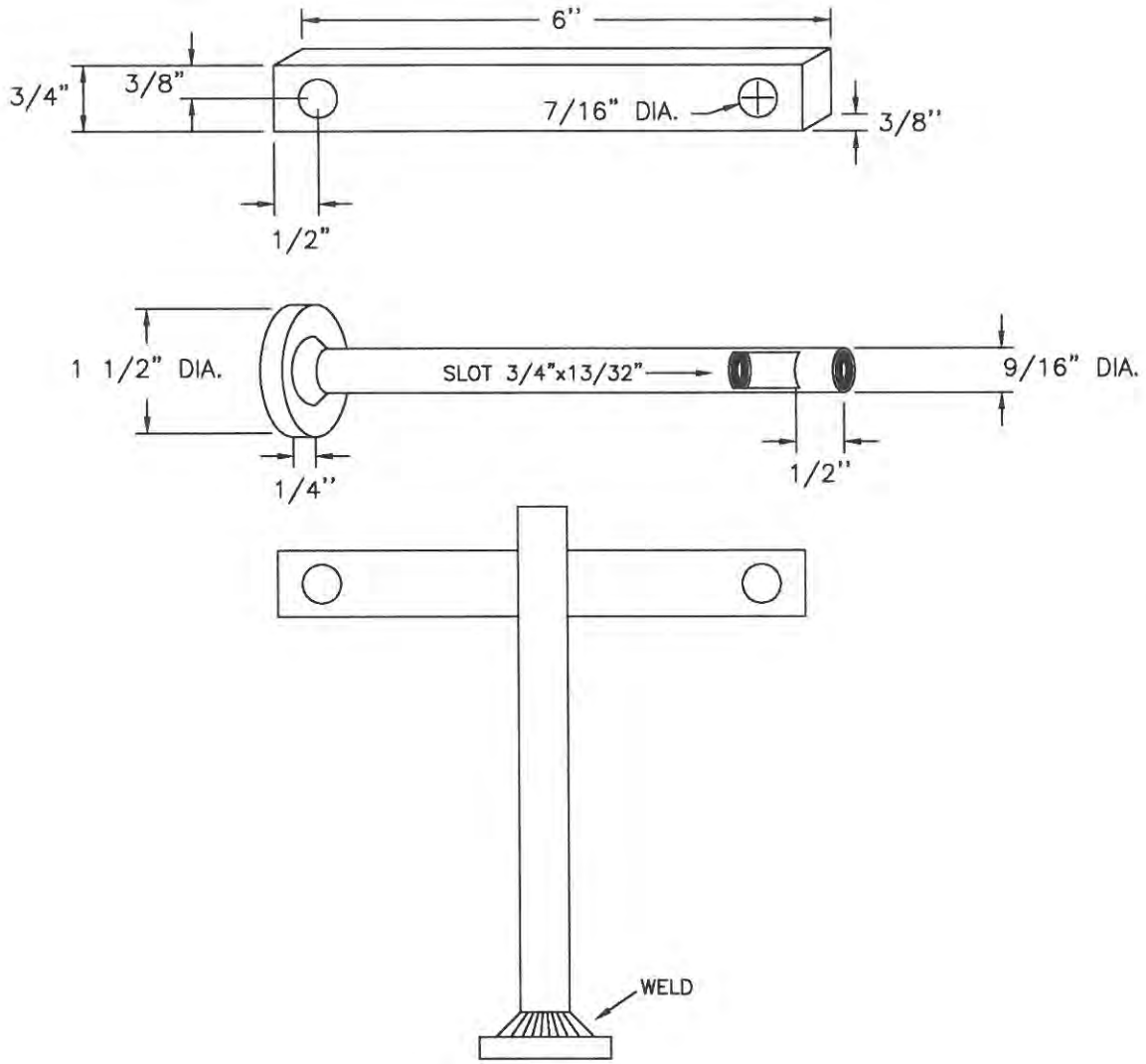


FIG.2

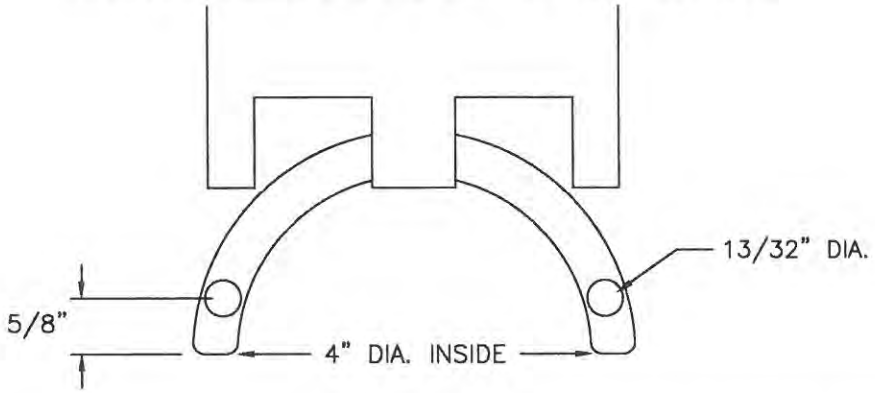
NOTES:

1. WHEN SEPARATING A LINE INTO TWO CIRCUITS, THE PRIMARY METHOD SHOULD BE REMOVAL OF EXISTING PHASE WIRES, AND ADDITION OF A STANDARD GUY ASSEMBLY (FIG 1).
2. IN THE EVENT THAT STANDARD GUY ASSEMBLIES CAN NOT BE INSTALLED DUE TO TERRAIN OR ROW CONSTRAINTS, AERIAL GUYS WITH INSULATED RODS SHALL BE INSTALLED AS CLOSE TO ELEVATION OF REMOVED PHASE WIRES AS PRACTICABLE (FIG 2.).
3. WHEN POSSIBLE INSTALL AERIAL GUYS ON ARM USING AN EYENUT TO ATTACH ASSEMBLY.
4. THE PRACTICE OF LEAVING EXISTING PHASE WIRES IN PLACE AND GROUNDING THEM AND INSTALLING YELLOW GUY GUARDS WILL NO LONGER BE PERMITTED.
5. AFFIX "DO NOT TIE" POLE WRAP TO POLE OR POLES TO ENSURE VISUAL IDENTIFICATION.

STATE OF MAINE ★ DAVID W. NORMAN No. 8377 ★ LICENSED PROFESSIONAL ENGINEER 1/20/22	DISTRIBUTION CONSTRUCTION STANDARDS	PERMANENT CIRCUIT SEPARATION PROCEDURE	
	VERSANT POWER	LAST REVISED 01/14/2021	DRAWING 107



LIMITED ACCESS HARDWARE

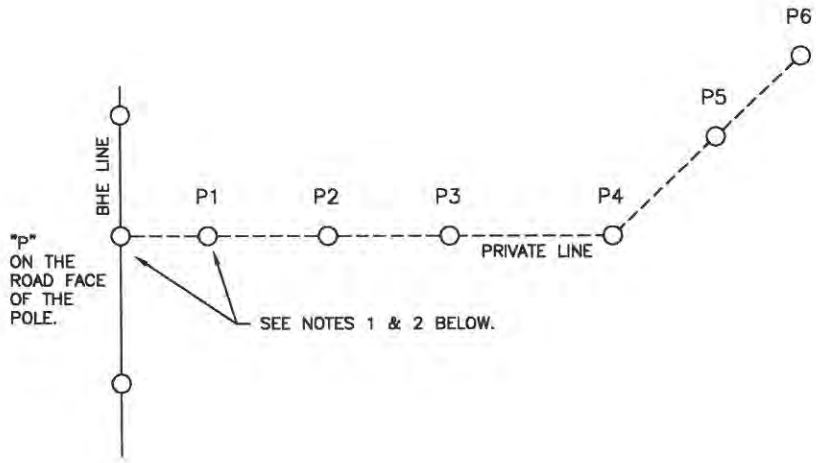


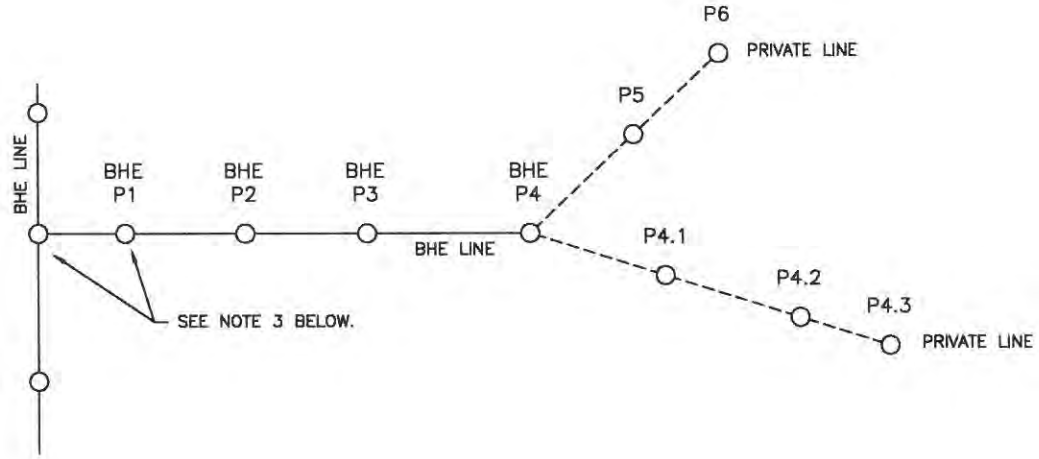
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-22-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	AIR BREAK SWITCH ADAPTERS FOR DUAL LOCK CAPABILITY STAINLESS STEEL STOCK
BANGOR HYDRO ELECTRIC Co.	DRAWING 110





NOTES:

1. PRIVATE POLES SHOULD BE NUMBERED AS SHOWN ABOVE WITH A "P" AND THE APPROPRIATE NUMBER. B.H.E. Co. WILL PROVIDE NUMBER TAGS, TO BE PLACED BY CUSTOMER.
2. THE B.H.E. Co. LINE POLE SHOULD BE TAGGED INITIALLY ON THE ROAD FACE OF THE POLE WITH A "P" TO INDICATE A PRIVATE LINE BRANCHES FROM THAT POINT.
3. IF THE LINE IS PURCHASED BY B.H.E. Co. TO SERVE MULTIPLE CUSTOMERS AT A LATER DATE, THE LINE POLE ON THE ROAD SHOULD BE MARKED ON THE ROADSIDE WITH A "BHE" TAG ABOVE THE "P". IN ADDITION AT LEAST THE FIRST POLE ON THE LINE SHOULD HAVE THE "BHE" TAG PLACED ABOVE THE "P1". ALL OTHERS MAY BE SIMILARLY TAGGED.
4. THE NUMBERS SHOULD BE LOCATED APPROXIMATELY 6' ABOVE GROUND ON THE POLE.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-18-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
LICENSED PROFESSIONAL ENGINEER

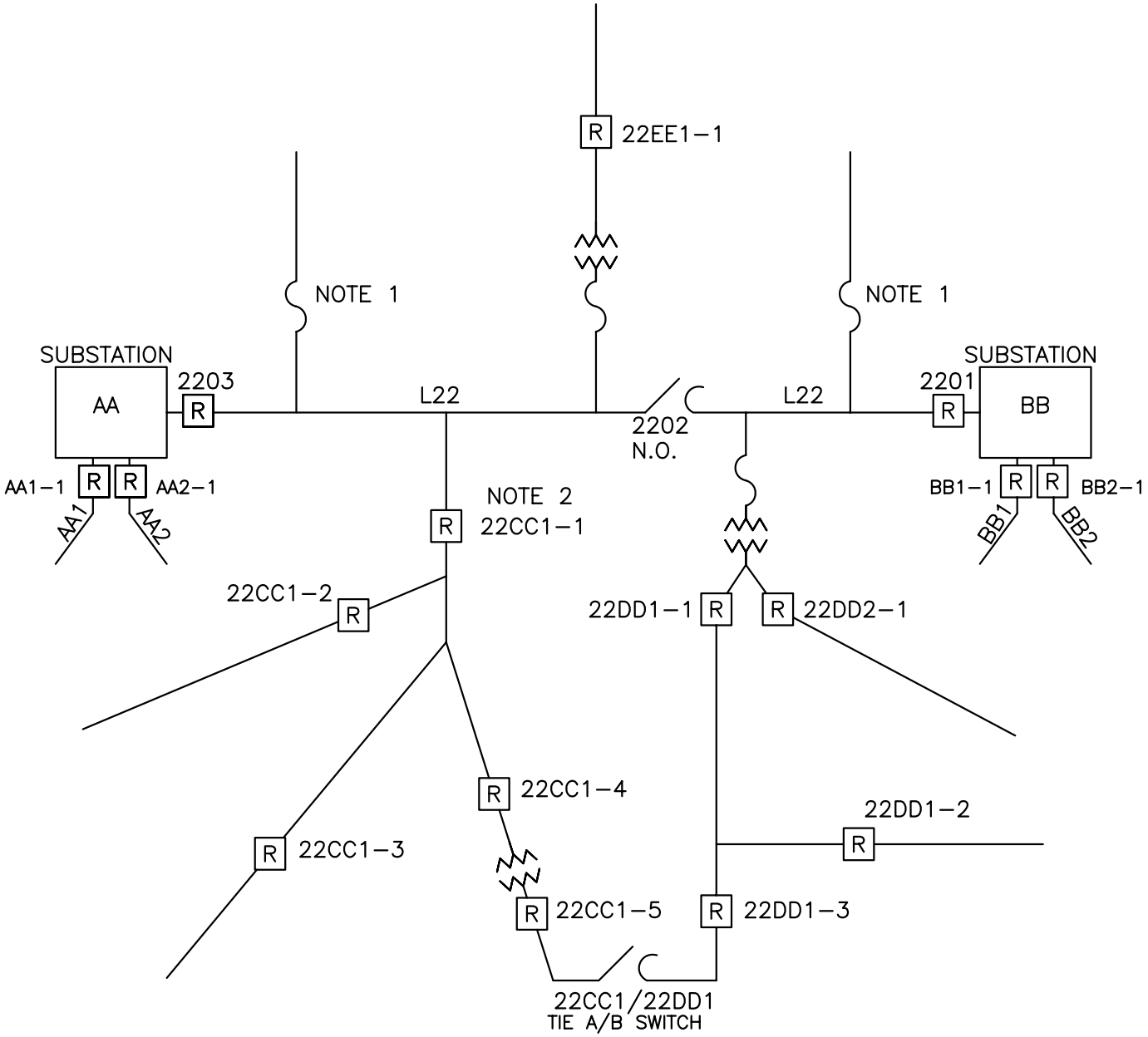
DISTRIBUTION CONSTRUCTION STANDARDS

PRIVATE LINE POLE MARKING

BANGOR HYDRO ELECTRIC Co.

DRAWING
150

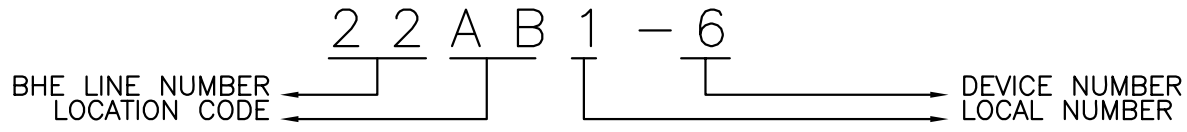
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN



NOTES:

1. SMALL TAPS ARE NOT NUMBERED.
2. FIRST DEVICE NUMBER IS ALWAYS 1.

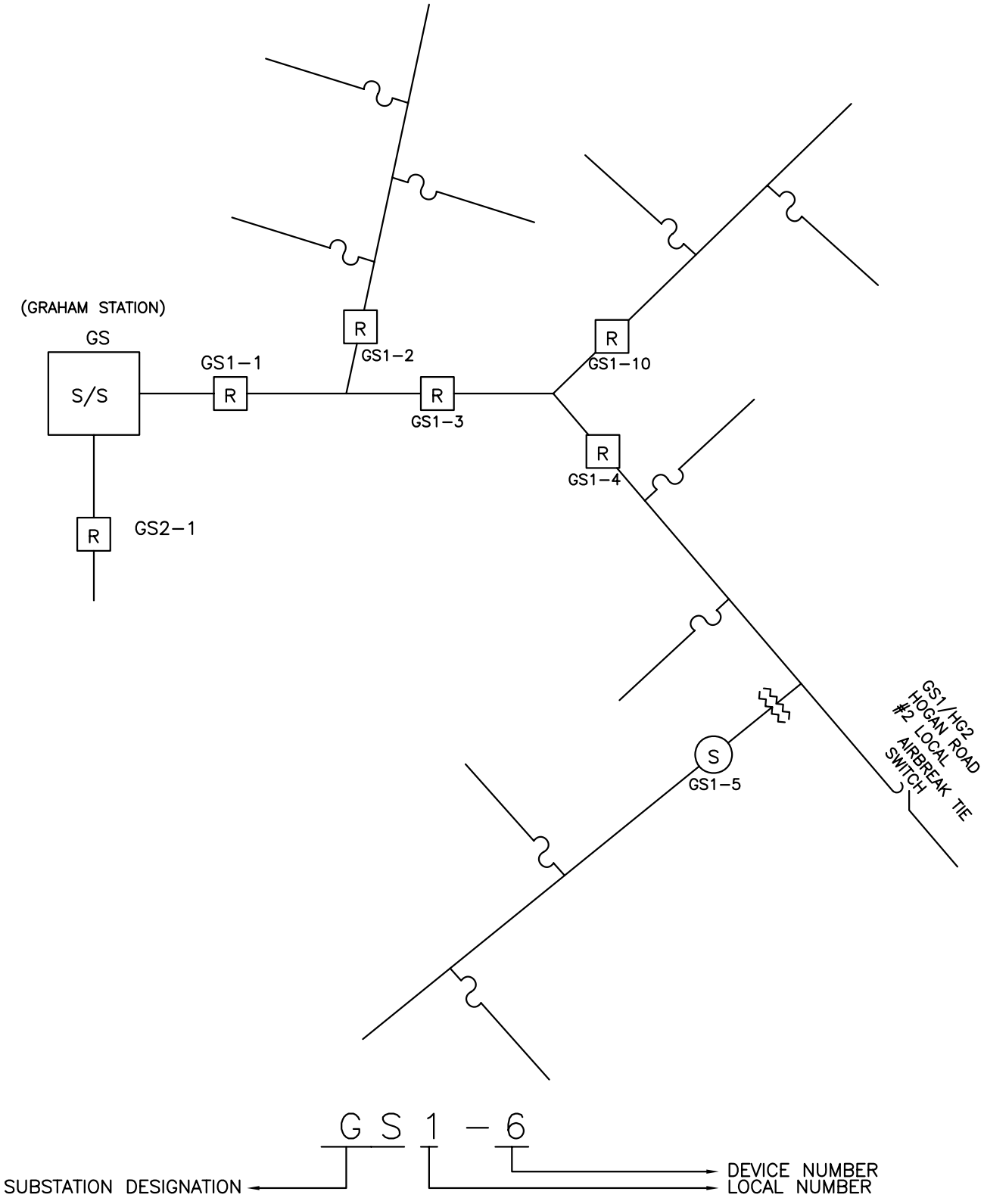
DEVICE NAMES ARE CONSTRUCTED AS FOLLOWS:



	DISTRIBUTION CONSTRUCTION STANDARDS	TYPICAL TRANSMISSION/DISTRIBUTION DEVICE NUMBERING
	BANGOR HYDRO ELECTRIC Co.	DRAWING 160

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN



	DISTRIBUTION CONSTRUCTION STANDARDS	TYPICAL DISTRIBUTION DEVICE NUMBERING
	BANGOR HYDRO ELECTRIC Co.	DRAWING 161

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
201	VERTICAL CLEARANCES OF WIRES ABOVE GROUND, ROADWAY, RAIL OR WATER SURFACES	8-30-2020
202	MINIMUM CLEARANCES FOR SERVICE DROPS	3-8-2010
203	CLEARANCES FROM BUILDINGS AND OTHER INSTALLATIONS EXCEPT BRIDGES	3-8-2010
204	MINIMUM CLEARANCES FOR SERVICES 0-750 VOLTS	7-14-2020
205	TREE TRIM STANDARD	12-14-2010
206	LINE CLEARANCE STANDARD	12-21-2009
207	CLEARANCE BETWEEN ELECTRIC METERS/EQUIPMENT AND GAS EQUIPMENT	7-14-2020
208	CLEARANCE BETWEEN ELECTRIC CABLES/EQUIPMENT AND GAS EQUIPMENT	7-9-2020
209	DIGSAFE SAFETY ZONE & TOLERANCE ZONE FOR ELECTRICAL FACILITIES	7-9-2020

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

- INDEX -
CLEARANCE

LAST REVISED
03-17-2021

DRAWING
200

	Insulated communication conductors and cable; messengers surge protection wires; grounded guys; neutral conductors.	Non-insulated communication conductors; secondary cables.	Supply cables over 750V; open supply conductors 0-750V.	Open Supply Conductors, Over 750V to 22kV
Where wires, conductors, or cables cross over or overhang				
1. Track rails of railroads. (Note 3)	27'	27'	28'	30'
2. Roads, streets, alleys; non-residential driveways, parking lots, and other areas subject to truck traffic.	18'	18'	18'	18.5'
3. Residential driveways.	15.5'	16'	16.5'	18.5'
4. Other land traversed by vehicles, such as cultivated, grazing, forest, orchard, etc.	15.5'	16'	16.5'	18.5'
5. Spaces and ways subject to pedestrians or restricted traffic only.	12'	12'	16.5'	18.5'
A.) Residential services to bottom of drip loop less than 150V to grd.		10'		
B.) Residential & commercial areas not subject to truck traffic less than 300V to grd.		12'		
6. Water areas not suitable for sailboating or where where sailboating is prohibited.	14'	14.5'	15'	17'
7. Water areas suitable for sailboating including lakes, ponds, reservoirs, tidal waters, rivers, streams and canals with an unobstructed surface.	For controlled impoundments, the surface areas and corresponding clearances shall be based upon the design high water level. For other waters, the surface area shall be that enclosed by its annual high water mark, and clearances shall be used on the normal flood level. The clearances over rivers, streams, and canals shall be based upon the largest surface area of any 1 mile long segment which includes the crossing. The clearance over a canal, river, or stream normally used to provide access for sailboats to a larger body of water shall be the same as that required for the larger body of water.			
(a) Less than 20 acres	31.5'	32.0'	32.5'	34.5'
(b) 20 - 200 acres	31.5'	32.0'	32.5'	34.5'
(c) 201- 2000 acres	31.5'	32.0'	32.5'	34.5'
(d) Over 2000 acres	37.5'	38.0'	38.5'	40.5'
8. Public or private land and water areas posted for rigging or launching sailboats.	Clearance above ground shall be 5 ft. greater than in 7 above, for the type of water areas served by the launching site.			
Where wires, conductors, or cables run along and within the limits of highways or other road rights-of-way but do not overhang the roadway.				
9. Roads, streets, or alleys	15.5'	16'	16.5'	18.5'

NOTE: 1. These are minimum clearances per NESC. See NESC Table 232-1.

2. For all other clearances on circuits above 22kV to ground, contact T&D Engineering.

3. Additional clearance requested by rail company.

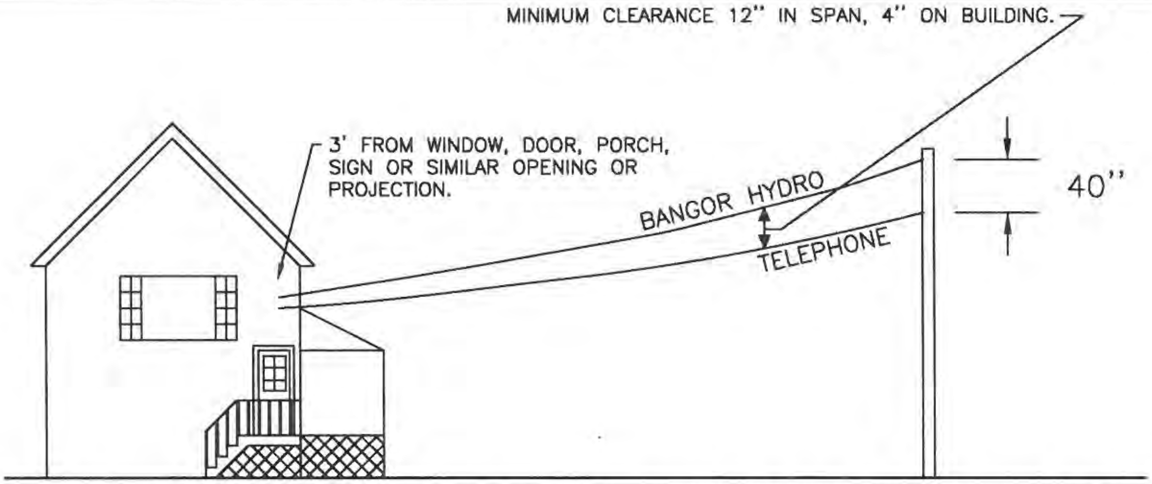
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/8/20

DISTRIBUTION CONSTRUCTION STANDARDS

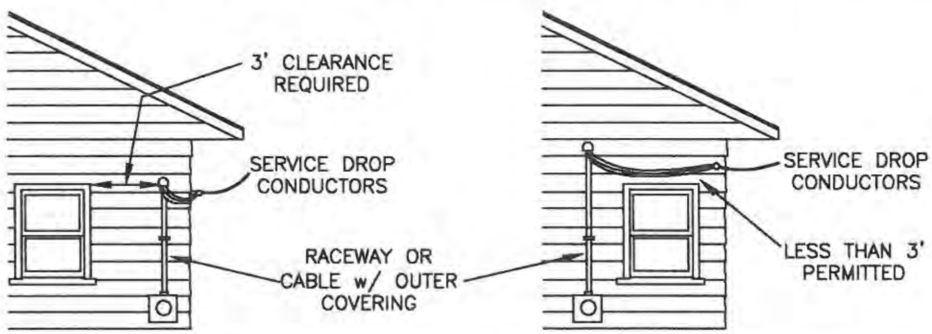
VERSANT POWER

VERTICAL CLEARANCES OF WIRES ABOVE GROUND, ROADWAY, RAIL OR WATER SURFACES @ 120°F

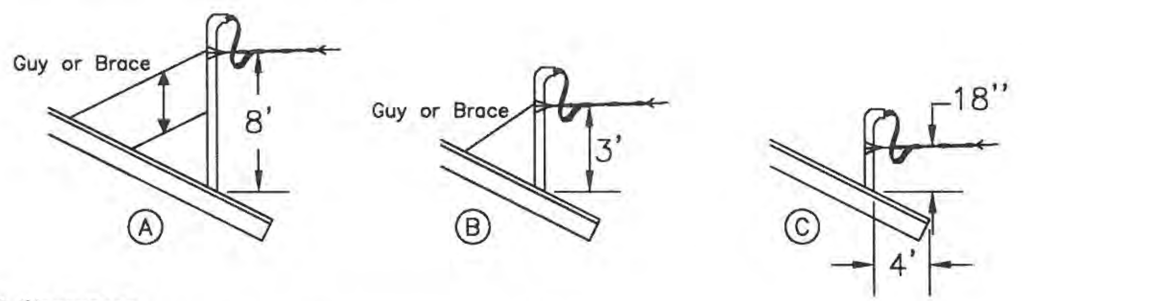
LAST REVISED	DRAWING
8/30/2020	201



It is Company practice not to cross roofs with energized conductors where other alternatives are available. See Rule 234 in NESC. (or see BHE drawing 203.1)



Clearances from building openings
Service conductors shall have a clearance of not less than 3' from windows, doors, fire escapes, or similar locations. EXCEPTION: Conductors run above the top level of a window shall be permitted to be less than 3' ft. from the window. See NEC Article 230-9.



Roof Clearances
"A" – More than 300 volts, 8' clearance is required.
"B" – 300 volts or less, 3' minimum, clearance is permitted if roof slope is not less than 4" x 12".
"C" – 300 volts or less, 18 in. clearance is permitted if conductors pass over not more than 4' of roof overhang.

NOTE:
1. MUST BE GUYED IF POINT OF ATTACHMENT EXCEEDS 30" ABOVE TOP SUPPORT. USE MINIMUM 3/16" STEEL GUY WIRE WITH ADEQUATE ATTACHMENTS.
2. CUSTOMER TO PROVIDE THE POINT OF ATTACHMENT. POINT OF ATTACHMENT SHALL BE LOCATED BELOW THE WEATHERHEAD, A MAXIMUM OF 12". SEE STANDARD #2704 FOR DETAILS.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
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No. 8714
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

MINIMUM CLEARANCES FOR SERVICE DROPS

BANGOR HYDRO ELECTRIC Co.

DRAWING
202

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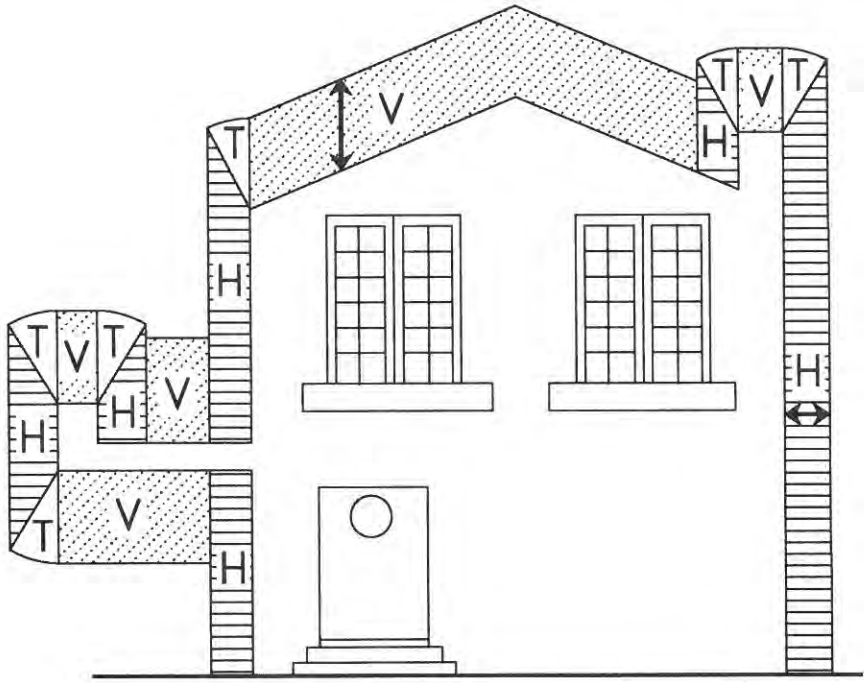

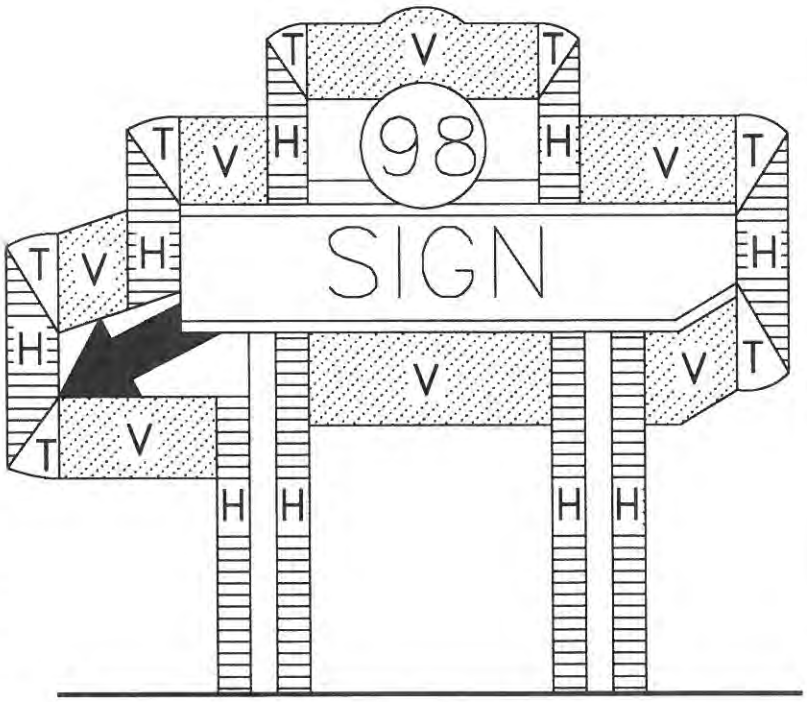

LEGEND

REGIONS WHERE CONDUCTORS ARE PROHIBITED	CONTROLLING CLEARANCE
H	HORIZONTAL
V	VERTICAL
T	TRANSITIONAL= VERTICAL(ARC)

SEE STANDARD 203.2 FOR DIMENSIONS

STATE OF MAINE
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DISTRIBUTION CONSTRUCTION STANDARDS

CLEARANCES FROM BUILDINGS AND OTHER INSTALLATIONS EXCEPT BRIDGES

BANGOR HYDRO ELECTRIC Co.

DRAWING
203.1

CLEARANCE AT REST OF WIRES, CONDUCTORS, CABLES, AND UNGUARDED RIGID LIVE PARTS ADJACENT BUT NOT ATTACHED TO BUILDINGS AND OTHER INSTALLATIONS EXCEPT BRIDGES. REFER TO NESC RULE 234.

THIS TABLE PERTAINS TO THE DRAWINGS ON STANDARD #203.1

BUILDINGS	GROUNDED GUYS SERVICE CABLES CONDUCTOR CATEGORY 1&2	OPEN SUPPLY CONDUCTORS 0 – 750V CONDUCTOR CATEGORY 3	OPEN SUPPLY CONDUCTORS 750 – 22KV CONDUCTOR CATEGORY 4	OPEN SUPPLY CONDUCTORS GREATER THAN 22KV CONDUCTOR CATEGORY 4 NOTE 3
a. Horizontal	5'	7' NOTE 2	10' NOTE 2	
b. Vertical (NOTE 5) Over & under roofs and balconies not accessible to pedestrians (NOTE 1).	3'6"	10'6"	12'6"	
Over & under roofs and balconies accessible to pedestrians (NOTE 1).	11'	11'6"	13'6"	
Over roofs accessible to vehicles not exceeding 8 feet in height.	11'	11'6"	13'6"	
Over roofs accessible to vehicles exceeding 8' in height.	16'	16'6"	18'6"	

SIGNS, CHIMNEYS, BILLBOARDS, ANTENNAS, TANKS AND OTHER INSTALLATIONS	CONDUCTOR CATEGORY 1&2	CONDUCTOR CATEGORY 3	CONDUCTOR CATEGORY 4	CONDUCTOR CATEGORY 4 NOTE 3
a. Horizontal	3'6"	7' NOTE 2	10' NOTE 2	
b. Vertical over or under	3'6"	6'	8'	

NOTES:

1. A ROOF, BALCONY, OR AREA IS CONSIDERED ACCESSIBLE TO PEDESTRIANS IF THE MEANS OF ACCESS IS THROUGH A DOORWAY, RAMP, WINDOW, STAIRWAY OR PERMANENTLY MOUNTED LADDER. A PERMANENTLY MOUNTED LADDER IS NOT CONSIDERED A MEANS OF ACCESS IF IT'S BOTTOM RUNG IS EIGHT FEET OR MORE FROM THE GROUND OR OTHER PERMANENTLY INSTALLED ACCESSIBLE SURFACE.
2. REFER TO NESC RULE 234 OR T&D ENGINEERING FOR MINIMUM CLEARANCES.
3. REFER TO THE T&D ENGINEERING AS APPLICABLE FOR CLEARANCES OF THESE CONDUCTORS.
4. REFER TO STANDARD #203.3 FOR THE CONDUCTOR CATEGORY CLASSIFICATIONS.
5. IT IS NOT THE STANDARD OF B.H.E. TO CROSS CONDUCTORS OVER ROOFS AND BALCONIES, HOWEVER, IF DUE TO CONSTRUCTION CONSTRAINTS IT IS FOUND NECESSARY THESE CLEARANCES MAY BE USED.
6. REFER TO NESC 234–A.3 FOR AN EXPLANATION OF TRANSITIONAL CLEARANCE.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN

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DISTRIBUTION CONSTRUCTION STANDARDS

CLEARANCES FROM BUILDINGS AND OTHER INSTALLATIONS EXCEPT BRIDGES

BANGOR HYDRO ELECTRIC Co.

DRAWING
203.2

CONDUCTOR CATEGORIES:

Conductor clearances vary depending on the voltage level and type of the conductor involved. These can be divided into 5 basic categories. Ungaurded rigid live parts can also be placed into these categories, based on their voltage level. For clarity and simplicity, the following conductor categories are defined for use with the clearance guidelines.

CATEGORY 1: Grounded guys,

Effectively grounded messengers,

Effectively grounded neutrals on 0 – 22 kV phase to ground circuits,

Effectively grounded concentric neutral cables operating at 0 – 22 kV phase to ground circuits,

Cables of any voltage having an effectively grounded continuous metal sheath or shield, supported on an effectively grounded messenger, or

Insulated communications conductors and cables.

CATEGORY 2: Unguarded rigid live parts, 0 – 750 v,

Duplex, triplex, or quadruplex cable with an effectively grounded bare messenger, operating at 0 – 750 v,

Non–insulated communications conductors (bare or covered).

CATEGORY 3: Open supply conductors 0 – 750 v,

Cables of any voltage, covered with a continuously auxiliary semiconducting shield in combination with metallic drainage, supported on and cabled together with an effectively grounded bare messenger,

Insulated, non–shielded cable operated at 5 kV phase to phase or 2.9 kV phase to ground, supported on and cabled together with an effectively grounded bare messenger. (Not equivalent to tree wire)

CATEGORY 4: Unguarded rigid live parts, 750 v – 22 kV phase to ground,

Open supply conductors 750 v – 22 kV, phase to ground,

Unshielded, covered conductors 750v – 22kV, phase to gnd.

CATEGORY 5: Open supply conductors exceeding 22 kV phase to ground. Clearances shall be increased at the rate of 0.4" per kV in excess of 22kV. Refer to T&D Engineering where applicable.

VOLTAGE DESIGNATIONS: Unless otherwise specified, the voltage designations used in this guideline are phase to ground for effectively grounded circuits and other circuits where all ground faults are cleared by promptly de–energizing the faulted section, both initially and following subsequent breaker operations.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-21-09	GAN

STATE OF MAINE
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DISTRIBUTION CONSTRUCTION STANDARDS	CONDUCTOR CATEGORIES
BANGOR HYDRO ELECTRIC Co.	DRAWING 203.3

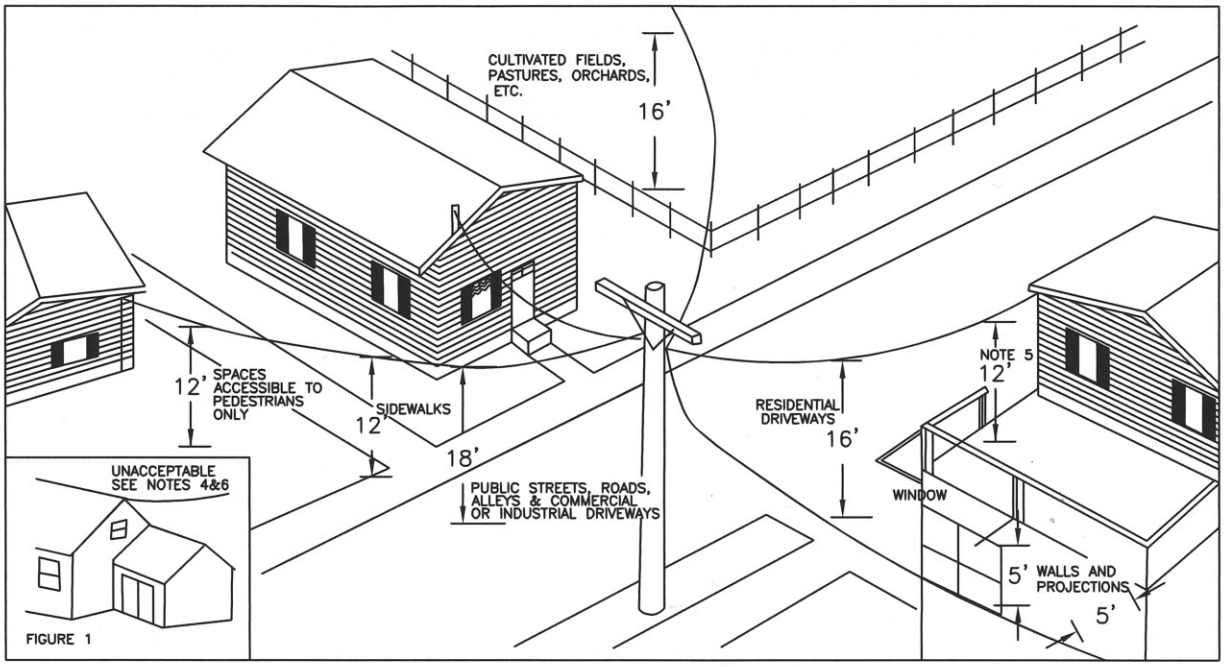

FIGURE 1

NOTES:

1. Dimensions shown above are based on NESC Rule 232 for vertical clearance, and NESC Rule 234 for horizontal clearance, with maximum wind displacement.
2. The above clearances are for services only. These are the minimum clearances required at 120°F final sag or 32°F and 1/2" ice, whichever produces the greatest sag (NESC Requirement).
3. Maintain 3'–6'' vertical and horizontal clearances to signs, chimneys, billboards, radio and television antennas, tanks, other installations not classified as buildings, bridges and structures supporting lighting, traffic signals, and other lines without being attached to.
4. Service attachment located above building extension as shown in Figure 1 is not acceptable because the service connections cannot be directly reached from a ladder placed securely on the ground.
5. This clearance applies to flat roofs, balconies, and areas restricted to pedestrians only or to vehicles not exceeding 8' in height.
6. Crossing over the roof is unacceptable for Versant Power standards. Explore other options.
7. Where the height of a building does not permit the service drop to meet above clearances, the ground clearance for services 300 volts or less to ground and consisting of Triplex or Quadraplex cable may be reduced to 10.5' for insulated drip loops, 12.5' over residential driveways and 16' over commercial or industrial driveways.
8. Maximum height of weatherhead shall be no greater than 20' above ground where not accessible with a bucket truck.
9. Other utilities must be allowed for when considering the above clearances.

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DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

MINIMUM CLEARANCES FOR SERVICES 0–750 VOLTS

LAST REVISED	DRAWING
07–14–2020	0204

CLEARANCES:

SIDE: TREE TO CONDUCTOR CLEARANCES WILL BE 10 FEET TO THE SIDE OF THE CLOSEST CONDUCTOR.

OVERHEAD: TREE TO CONDUCTOR CLEARANCES WILL BE 15 FEET OVER THE CLOSEST CONDUCTOR.

UNDERNEATH: WHENEVER POSSIBLE ALL POTENTIAL SPECIES WILL BE REMOVED FROM UNDERNEATH THE CONDUCTOR(S) TO THE EDGE OF THE TREE LINE. LOW GROWING DESIRABLE SPECIES SHOULD BE CUT IN THE WIRE ZONE BUT MAY BE LEFT IN REMAINING PORTIONS OF THE CLEARED STRIP.

DISTRIBUTION RIGHT-OF-WAY: TREE TO CONDUCTOR CLEARANCES WILL BE THE SAME AS OUTLINED ABOVE FOR SIDE, OVERHEAD AND UNDERNEATH CLEARANCES, BUT WILL BE FOR BOTH SIDES OF THE CONDUCTOR(S). SEE STANDARD #206.

SERVICE CABLE: WHEN SECONDARY SERVICES ARE TRIMMED, SIDE AND VERTICAL CLEARANCES SHOULD BE TWO FEET MINIMUM FROM THE CABLE. LARGE TREE OR LEADER REMOVAL IS NOT APPLICABLE TO SECONDARY SERVICES UNLESS DAMAGE TO PRIMARY OVERHEAD LINES IS POSSIBLE.

QUALITY:

ALL WORK SHALL CONFORM TO ANSI A-300 STANDARD PRACTICES FOR TREE MAINTENANCE. ALL CUTS SHOULD BE MADE TO THE SOLID BOLE OF THE TREE WHERE POSSIBLE. AS APPLICABLE, THE CLEARANCES DESCRIBED IN THESE STANDARDS SHALL BE OBTAINED UPON COMPLETION OF LINE CLEARING WORK.

STUMPS:

HEIGHT: ALL STUMPS WILL BE CUT TO A MAXIMUM HEIGHT OF TWO (2) INCHES.

TREATMENT: ALL HARDWOOD SPECIES WILL BE TREATED WITH HERBICIDES WHERE POSSIBLE. SOFTWOOD SPECIES DO NOT REQUIRE TREATMENT.

HERBICIDES:

TYPES: ONLY CHEMICALS APPROVED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA), MAINE BOARD OF PESTICIDE CONTROL (MBPC) AND BANGOR HYDRO-ELECTRIC (BHE) WILL BE USED.

APPLICATION: ONLY PROCEDURES APPROVED BY THE EPA, MBPC AND BHE WILL BE FOLLOWED. THE TIMING OF TREATMENT WILL BE AS CLOSE TO THE ACTUAL CUTTING OF THE TREE AS POSSIBLE.

CLEANUP:

ALL BRUSH WILL BE CHIPPED BY THE END OF THE WORKING DAY. ALL CHIP PILES WILL BE LEVELED TO LEAVE THE WORK SITE CLEAN AND NEAT. WOOD WILL BE PILED ON THE TREE LINE WHERE POSSIBLE OR LEFT IN ACCORDANCE WITH THE STATE OF MAINE SLASH LAW (SEC 1.12 MRSA 9332 & 9333.) SEE SPECIAL CONDITIONS, ITEM #4.

SPECIAL CONDITIONS:

1. SMALL DIAMETER POTENTIAL SPECIES, SUCH AS BIRCH AND POPLARS, LOCATED OUTSIDE OF THE STANDARD CLEARANCE AREA BUT CAPABLE OF LEANING OR GROWING INTO THE CONDUCTOR(S) WILL BE REMOVED WHERE POSSIBLE.

2. LARGE HEALTHY TREES WITH SOLID BOLES LOCATED WITHIN THE STANDARD CLEARANCE AREA BUT NOT CAPABLE OF LEANING INTO THE CONDUCTOR(S) UNDER NORMAL CONDITIONS OR UNDER ICE OR SNOW LOADING MAY BE LEFT.

3. ALL TREES CONSIDERED TO BE A POTENTIAL HAZARD EITHER BY NATURE OF THE SPECIES OR BECAUSE OF STRUCTURE DEFECT SUCH AS: HOLES, WEAK OR SPLIT CROTCHES, EXTERNAL SIGNS OF ROT OR DETERIORATION, MULTIPLE TOPS OR ARE DEAD OR DECLINING, WILL BE REMOVED WHERE POSSIBLE. THESE HAZARDOUS TREES MAY BE LOCATED WITHIN OR OUTSIDE OF THE STANDARD CLEARANCES.

4. WHERE CHIPPING IS NOT POSSIBLE OR ADVISABLE, APPROVED METHODS OF HAULING OR DICING WILL BE USED IN CLEANING OF THE WORK AREA. THIS WORK MUST BE DONE IN ACCORDANCE WITH THE STATE OF MAINE SLASH LAW REFERENCED ABOVE.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-14-10	GAN

STATE OF MAINE
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12-15-10
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DISTRIBUTION CONSTRUCTION STANDARDS

TREE TRIM STANDARD

BANGOR HYDRO ELECTRIC Co.

DRAWING
205

NO.	REVISION	DATE	CK

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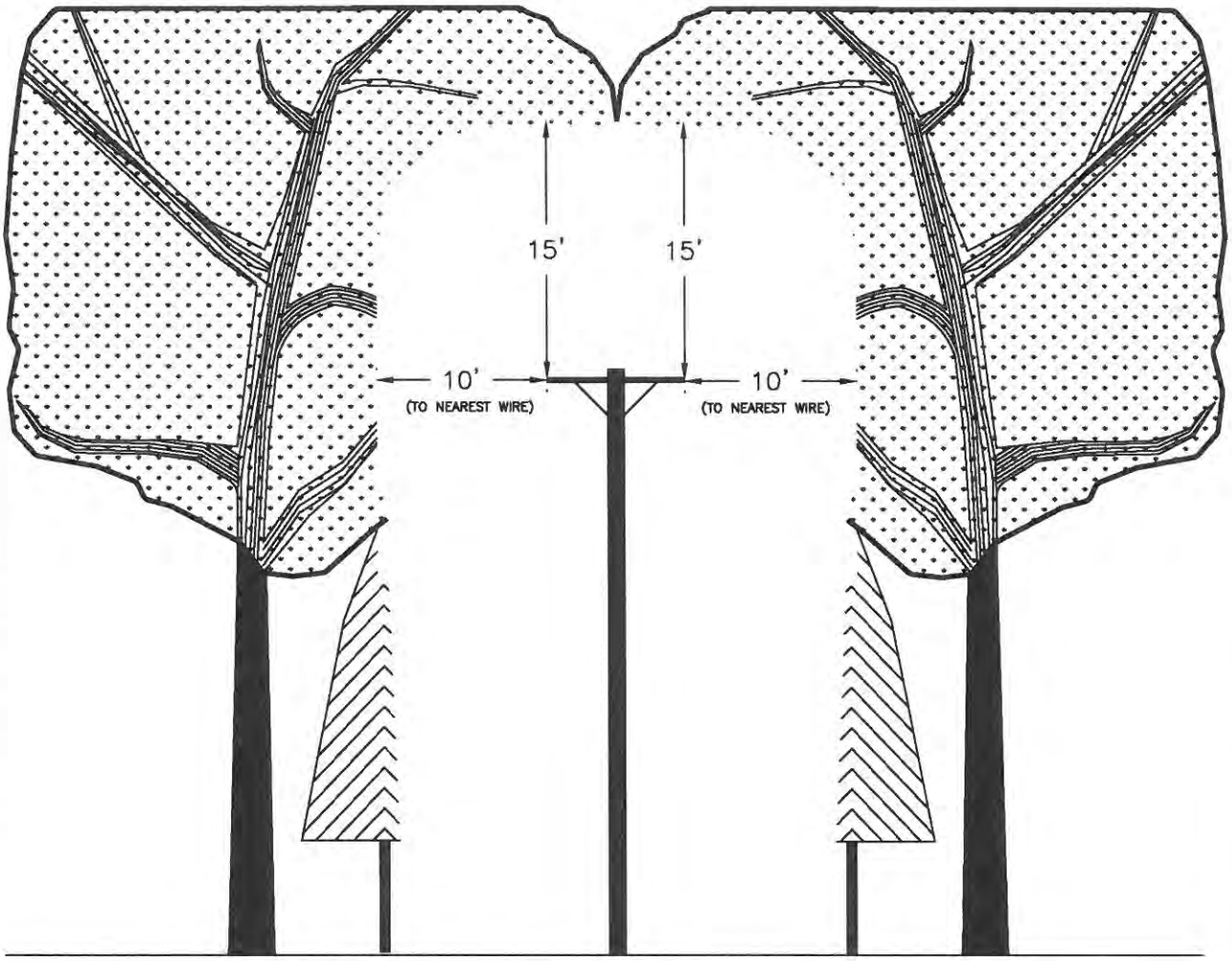
1	2009 REVISIONS & REFORMAT	12-21-09	GAN



NOTES:

1. PREFERENCE IS TO GROUND CUT HARD & SOFTWOOD TREES UNDER THE LINE.
2. A SCREEN CAN BE LEFT UPON CUSTOMER REQUEST. THE SCREEN SHALL BE AT LEAST 12' BELOW ANY WIRES ON THE POLE.

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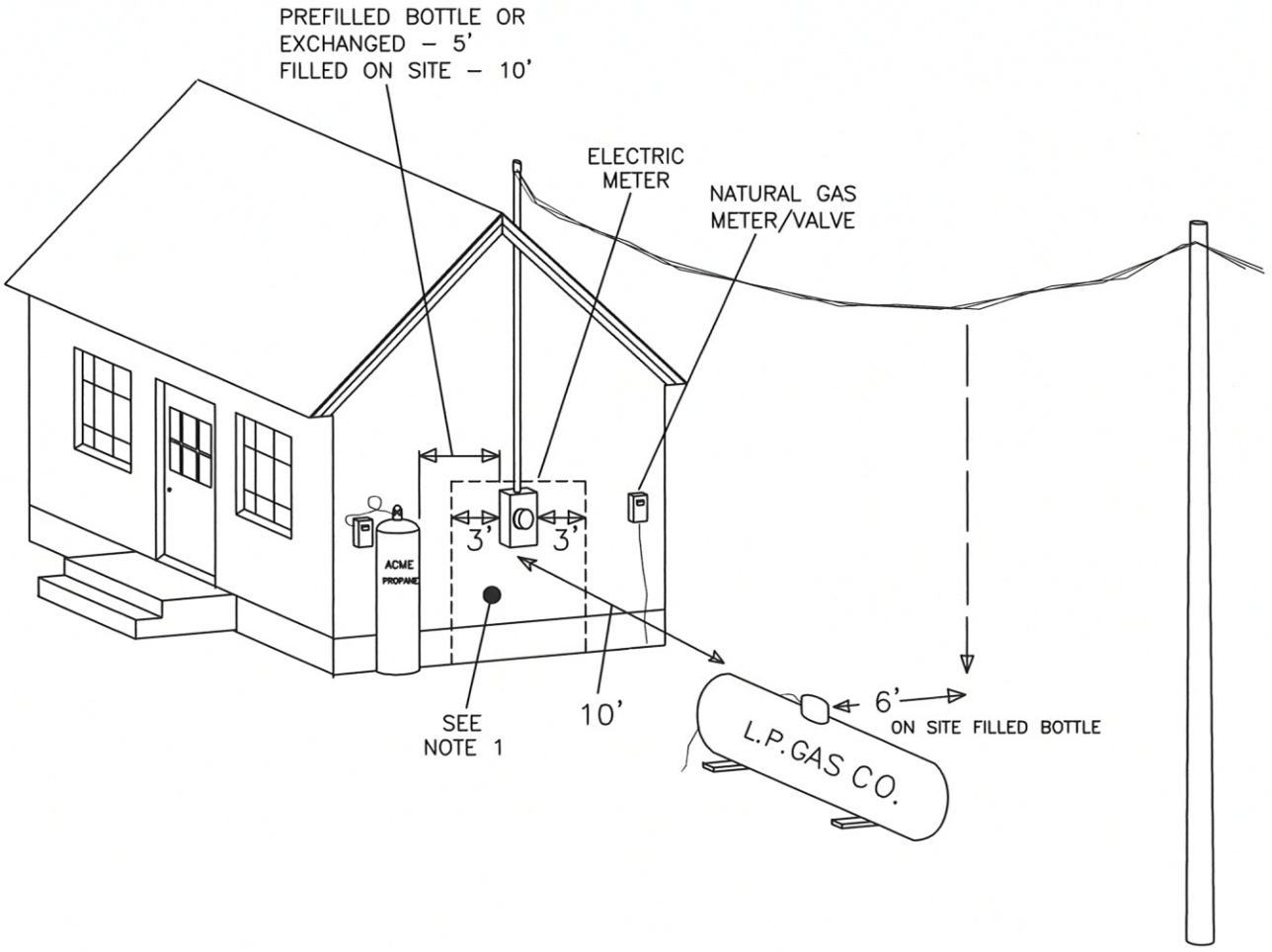
DISTRIBUTION CONSTRUCTION STANDARDS	LINE CLEARANCE STANDARD	
BANGOR HYDRO ELECTRIC Co.		DRAWING 206



NOTES:

1. NO GAS EQUIPMENT, INCLUDING METERS, REGULATORS AND LINES SHALL BE PLACED IN THE ELECTRIC WORKSPACE, INDICATED AS THE AREA INSIDE THE DASHED LINES.
2. NO PART OF AN ABOVE GROUND L.P. GAS CONTAINER SHALL BE LOCATED IN THE AREA 6' HORIZONTALLY FROM A VERTICAL PLANE BENEATH OVERHEAD ELECTRIC POWER LINES. REFER TO NFPA 58.
3. THE DISTANCE MEASURED IN ANY DIRECTION FROM THE CONNECTION OF THE POINT OF DISCHARGE OF A CONTAINER PRESSURE RELIEF VALVE TO ANY SOURCE OF IGNITION (ELECTRIC METER) SHALL BE 10'.
4. NATIONAL GAS CODES REFER TO CLEARANCE FROM SOURCES OF IGNITION FOR METERS, SERVICE REGULATORS, RELIEF VALVES, FILL CONNECTIONS AND OTHER COMPONENTS. ELECTRIC METERS, DEPENDING ON FEATURES OF THIER DESIGNS, MAY BE SOURCES OF IGNITION. THIS STANDARD IS INTENDED TO SERVE AS A GUIDELINE IN SPECIFYING POINT OF ELECTRIC SERVICE WHERE LIQUID PETROLEUM OR NATURAL GAS INSTALLATIONS ARE PRESENT. (A). INSIDE INSTALLATIONS SHOULD MAINTAIN CLEARANCE OF NOT LESS THAN 3 FEET. (B). OUTSIDE INSTALLATION SHOULD MAINTAIN CLEARANCE SHOWN ON FIGURE ABOVE. REFERENCE NATIONAL FUEL GAS CODE NFPA54, NFPA 58.

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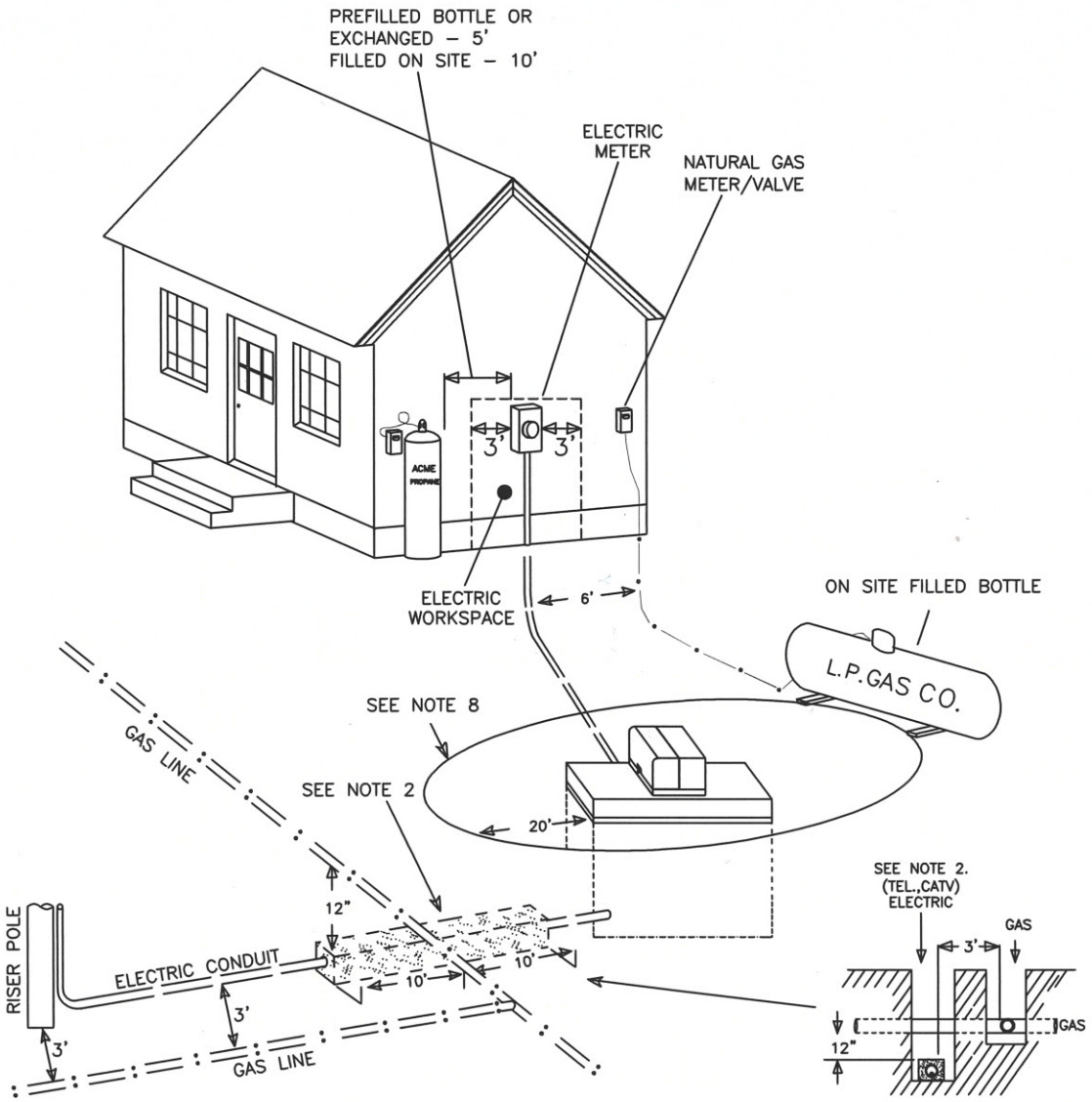
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

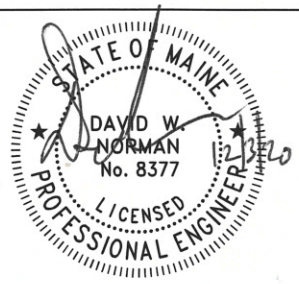
CLEARANCE BETWEEN ELECTRIC METERS/EQUIPMENT AND L.P. OR NATURAL GAS EQUIPMENT

LAST REVISED	DRAWING
07–14–2020	0207



NOTES:

1. NO GAS EQUIPMENT, INCLUDING METERS, REGULATORS AND LINES SHALL BE PLACED IN THE ELECTRIC WORKSPACE, INDICATED AS THE AREA INSIDE THE DASHED LINES.
2. COMMUNICATIONS UTILITIES – 1' SEPARATION, HORIZONTAL & VERTICAL.
3. GAS, WATER & SEWER UTILITIES – 6' SEPARATION. CONSULT T&D ENGINEERING FOR CLOSER APPROACHES. CROSSINGS, IF POSSIBLE SHOULD BE DONE AT RIGHT ANGLES. ENCASE THE CONDUIT IN A 4" ENVELOPE OF CONCRETE FOR 10' ON EACH SIDE OF CROSSING. RIGID STEEL CONDUIT MAY BE SUBSTITUTED. GAS, WATER & SEWER LINES WILL NOT BE ALLOWED IN THE ELECTRICAL TRENCH. UNDISTURBED EARTH BARRIER SEPARATION IS REQUIRED BETWEEN TRENCHES. 1' VERTICAL SEPARATION OF ELECTRICALAL DUCT FACILITY FROM GAS LINES REQUIRED(WHEN CROSSING).
4. SWIMMING POOLS (OR ASSOCIATED EQUIPMENT) – 10' SEPARATION. CONSULT T&D ENGINEERING FOR CLOSER APPROACHES.
5. OTHER STRUCTURES – 10' SEPARATION. CONSULT T&D ENGINEERING CLOSER APPROACHES TO COMPANY OWNED ELECTRIC SUPPLY CABLES. ELECTRIC SUPPLY CABLE SHALL NOT BE INSTALLED UNDER BUILDINGS.
6. MARKING TAPE REQUIRED IN ALL ELECTRICAL TRENCHES.
7. RAILROAD CROSSINGS – 5' VERTICAL CLEARANCE FROM TOP OF RAIL WHEN INSTALLED LONGTUDINALLY UNDER THE RAILROAD BED.
8. PADMOUNT TRANSFORMERS, SWITCHGEAR & JUNCTION CABINETS – 20' SEPARATION FOR GAS LINES, SWIMMING POOLS & PROPANE TANKS.



DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

CLEARANCE BETWEEN ELECTRIC CABLES/EQUIPMENT AND L.P. OR NATURAL GAS EQUIPMENT

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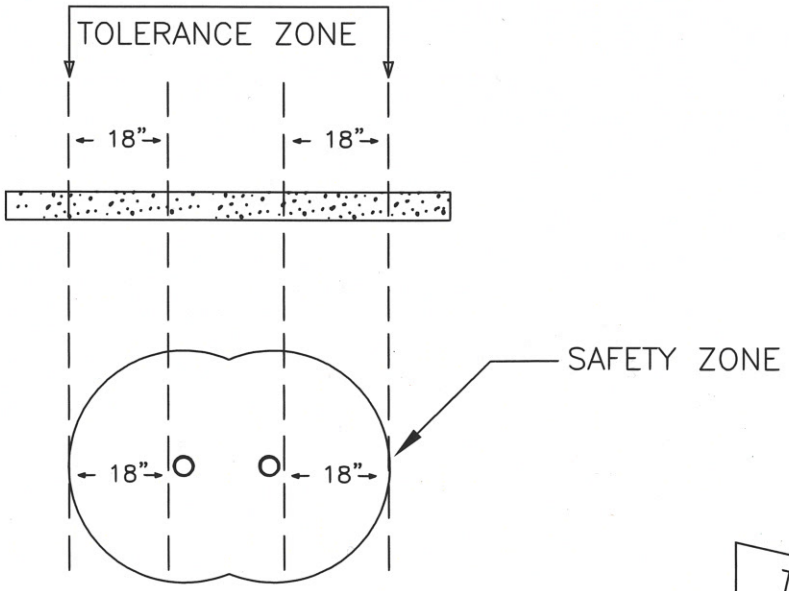
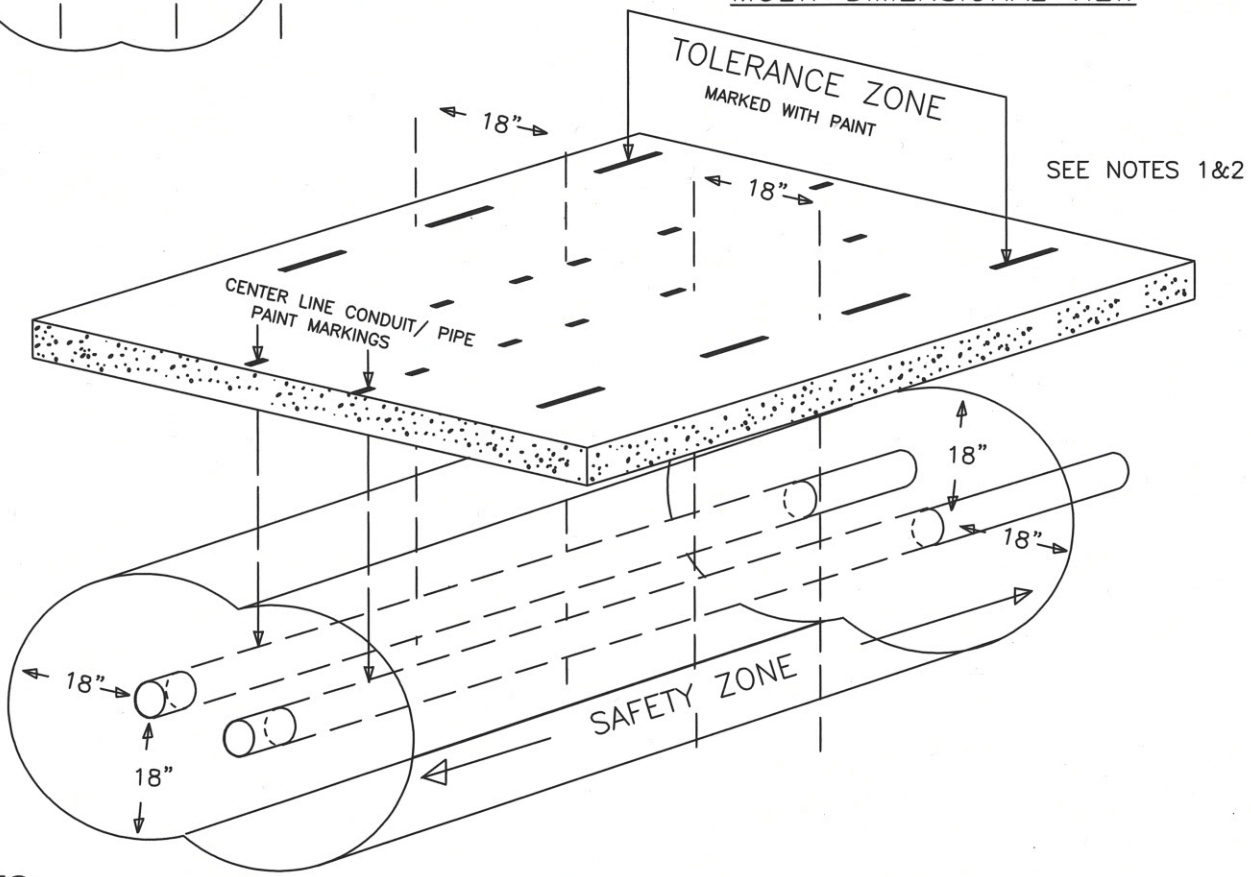
07–09–2020	0208

FRONT VIEW

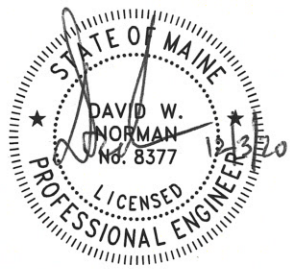


MULTI–DIMENSIONAL VIEW



NOTES:

1. THIS IS AN EXAMPLE OF A CORRIDOR MARKED LOCATE.
2. ALWAYS HAND DIG WITHIN 18" IN ANY DIRECTION OF ANY UNDERGROUND LINE UNTIL THE LINE IS EXPOSED. WHEN CABLE DEPTH IS KNOW, MECHANICAL METHODS MAY BE USED FOR INITIAL SITE PENETRATION, SUCH AS REMOVAL OF PAVEMENT OR ROCK.



DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

DIGSAFE SAFETY ZONE & TOLERANCE ZONE FOR ELECTRICAL FACILITIES

LAST REVISED	DRAWING
07–09–2020	0209

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
301.1	CONDUCTOR INFORMATION OVERHEAD CONDUCTORS	3–9–2010
301.2	CONDUCTOR INFORMATION OVERHEAD SERVICE & UNDERGROUND CONDUCTORS	3–9–2010

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
CONDUCTORS

LAST REVISED
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DRAWING
300

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-9-10	GAN

Overhead Conductors

Covered Conductor

Conductor	Voltage (kV)	Conductor Diameter (in)	Covering Thickness (in)	Overall Diameter (in)	Weight (lbs/1000')	Ampacity (A)
1/0 AAAC compact (75 mil insulation)	15	0.336	0.165	0.666	215	234
1/0 AAAC compact (175 mil insulation)	35	0.336	0.315	0.966	384	222
1/0 AAAC compact (225 mil insulation)	46	0.336	0.415	1.166	509	216
336 kcm AAC compact (75 mil insulation)	15	0.603	0.165	0.933	497	475
336 kcm AAC compact (175 mil insulation)	35	0.603	0.315	1.233	721	448
336 kcm AAC compact (225 mil insulation)	46	0.603	0.415	1.433	874	435
556 kcm AAC compact (75 mil insulation)	15	0.78	0.165	1.12	752	647
556 kcm AAC compact (175 mil insulation)	35	0.78	0.32	1.42	1004	609
556 kcm AAC compact (225 mil insulation)	46	0.78	0.42	1.62	1198	588
795 kcm AAC compact (80 mil insulation)	15	0.932	0.18	1.292	1049	805
795 kcm AAC compact (175 mil insulation)	35	0.932	0.32	1.572	1315	757
795 kcm AAC compact (225 mil insulation)	46	0.932	0.42	1.772	1511	731

Bare Aluminum Conductor

Conductor	Conductor Diameter (in)	Weight (lbs/1000')	Ampacity (A)
#4 ACSR, Swanate	0.257	66.9	140
#2 ACSR, Sparrow	0.316	91.2	184
1/0 ACSR, Raven	0.398	145.1	242
3/0 ACSR, Pigeon	0.502	230.4	315
4/0 ACSR, Penguin	0.563	290.8	357
266.8 ACSR Partridge	0.642	366.9	457
477 ACSR, Flicker	0.846	613.9	655
795 ACSR, Drake	1.108	1093.4	907
336.4 AAC, Tulip	0.666	315.5	513
556.5 AAC, Dahlia	0.856	521.4	703
795 AAC, Arbutus	1.026	745.3	878
1/0 AAAC, Azuza	0.368	114.9	256
312.8 AAAC, Butte	0.642	291.6	460
559.5 AAAC, Darien	0.858	521.7	663

Bare Copper Conductor

Conductor	Conductor Diameter (in)	Weight (lbs/1000')	Ampacity (A)
#6 Solid MHD	0.162	79	128
# 4 Str Soft Drawn	0.232	128	174
#2 Str Soft Drawn	0.292	204.9	233
1/0 Str, Soft Drawn	0.368	325.9	311
4/0 Str Soft Drawn	0.528	652.9	483
4/0 Str, Hard Drawn	0.5217	653.6	482
350 MCM Soft Drawn	0.6811	1081.5	662
500 MCM Soft Drawn	0.813	1542.5	826

Ampacities of overhead conductors are based on 75 degree C conductor temperature, 25 degree C ambient temperature and 2 ft/sec wind velocity, except service cables which are rated based on 90 degree C conductor and 40 degree C ambient temperature with a 2 ft/sec wind velocity.

DISTRIBUTION CONSTRUCTION STANDARDS

CONDUCTOR INFORMATION OVERHEAD CONDUCTORS

BANGOR HYDRO ELECTRIC Co.

DRAWING 301.1

NO.	REVISION	DATE	CK

Aluminum Service Cables

Conductor	Weight (lbs/1000')	Ampacity
# 2 Solaster triplex, #4 messenger, XLP	216	150
1/0 Gammarus triplex, XLP	390	205
4/0 Lepas triplex, XLP	728	315
1/0 Shetland quadraplex, XLP	519	180
4/0 Walking quadraplex, XLP	977	275

Ampacities of overhead conductors are based on 75 degree C conductor temperature, 25 degree C ambient temperature and 2 ft/sec wind velocity, except service cables which are rated based on 90 degree C conductor and 40 degree C ambient temperature with a 2 ft/sec wind velocity.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-9-10	GAN

Underground Conductors

URD & Power Cables

Cable	Voltage (kV)	Conductor Diameter (in)	Overall Diameter (in)	Weight (lbs/1000')	Ampacity (A)
#2 AL 220 mil TRXLP URD	15	0.283	1.093	549	120
4/0 AL 220 mil TRXLP URD	15	0.512	1.352	1148	230
1/0 AL 345 mil TRXLP URD	35	0.362	1.458	957	155
350 MCM CU 220 mil EPR Power Cable	15	0.66	1.38	1825	400
500 MCM CU 220 mil EPR Power Cable	15	0.789	1.5	2365	485

Ampacities of URD and Power Cables are based on NEC Table 310.78 (URD) and Table 310.79 (Power)

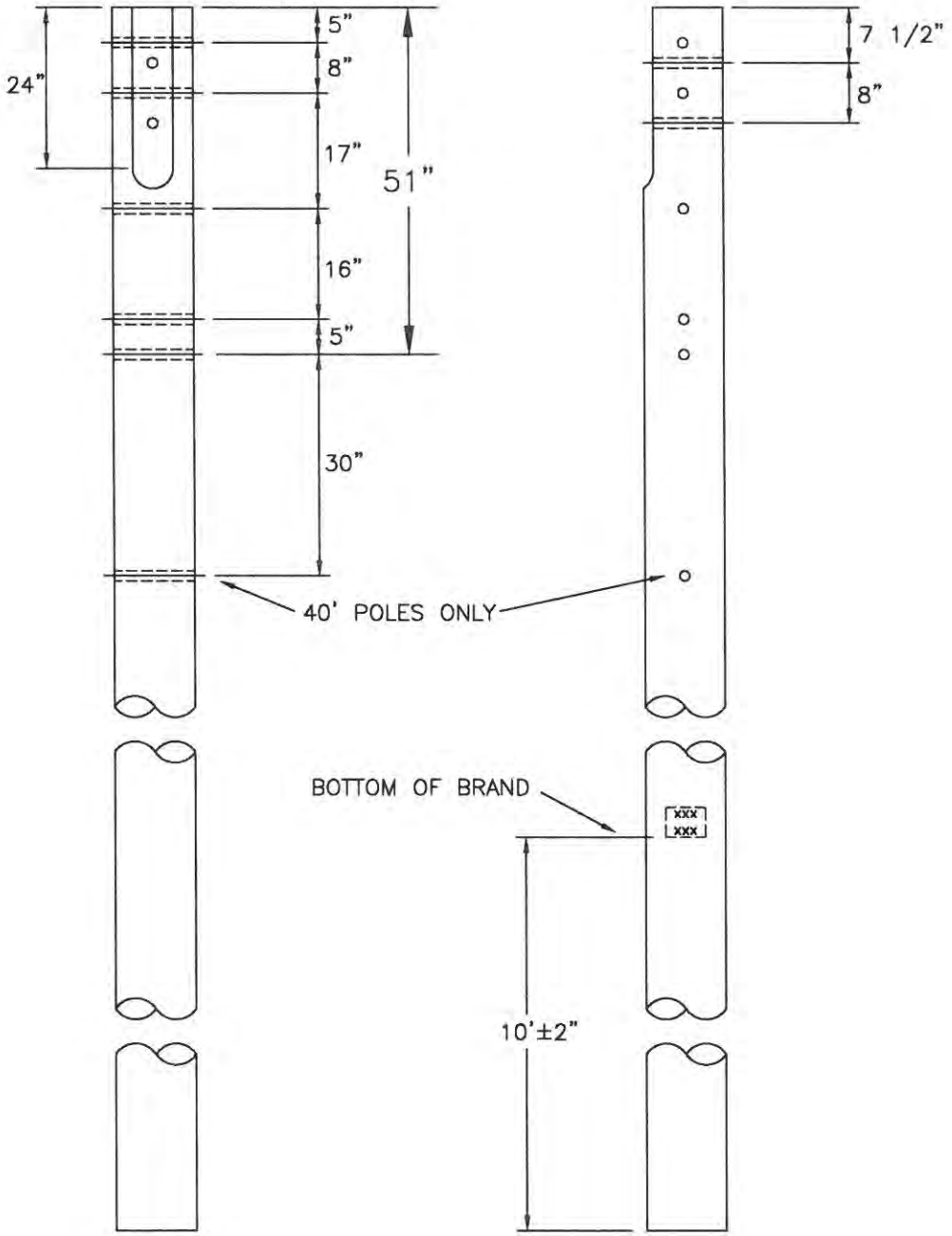
DISTRIBUTION CONSTRUCTION STANDARDS

CONDUCTOR INFORMATION OVERHEAD SERVICE CONDUCTORS & UNDERGROUND CONDUCTORS

BANGOR HYDRO ELECTRIC Co.

DRAWING
301.2

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
401	DISTRIBUTION POLE STANDARD 35' TO 55'	9–16–2010
403	AVERAGE POLE WEIGHTS	12–16–2010
404	MINIMUM POLE DIMENSIONS	12–16–2010
405	POLE SETTING REQUIREMENTS	7–8–2020
406	JOINT USE OF POLES ASSIGNED SPACE CHART	3–10–2009
407	JOINT USE OF POLES POLE SPACE – TYPICAL 40' POLE	3–8–2010
409	10' CROSSARM STANDARD	12–21–2009
410	8' CROSSARM STANDARD	7–14–2020
411	POLE CLASS SELECTOR POLES WITH EQUIPMENT MOUNTING	12–21–2009
412	OVERHEAD DISTRIBUTION EQUIPMENT TYPICAL WEIGHTS	12–31–2009
413	POLE SETTING STANDARD FOR NEW LINE ON STATE AND TOWN ROADS	12–21–2009



NOTES

1.) ALL HOLES TO BE 11/16" DIAMETER.

2.) FOR POLES 55' IN LENGTH, THE BRAND MARK SHOULD BE PLACED AT 14'±2"

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-16-10	GAN

STATE OF MAINE
GERARD B CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

DISTRIBUTION POLE STANDARD 35' TO 55'

BANGOR HYDRO ELECTRIC Co.

DRAWING
401

AVERAGE POLE WEIGHTS

LENGTH	CLASS	SOUTHERN PINE	WESTERN RED CEDAR	EASTERN WHITE CEDAR
30'	1	1122 #	800 #	
35'	1	1441 #	960 #	
40'	1	1793 #	1200 #	
45'	1	2162 #	1440 #	
50'	1	2563 #	1600 #	
55'	1	3258 #	1840 #	
60'	1	3756 #	2080 #	
30'	2	979 #	680 #	
35'	2	1254 #	800 #	
40'	2	1551 #	1040 #	
45'	2	1876 #	1240 #	
50'	2	2222 #	1440 #	
55'	2	2826 #	1600 #	
60'	2	3252 #	1760 #	
30'	3	847 #	585 #	870 #
35'	3	1084 #	680 #	1060 #
40'	3	1348 #	880 #	1250 #
45'	3	1623 #	1040 #	
50'	3	1925 #	1240 #	
55'	3	2448 #	1400 #	
60'	3	2820 #	1600 #	
30'	4	732 #	490 #	630 #
35'	4	941 #	600 #	820 #
40'	4	1166 #	720 #	1020 #
45'	4	1408 #	920 #	
50'	4	1672 #	1120 #	
55'	4	2124 #	1280 #	
60'	4	2442 #	1520 #	
25'	5	473 #		420 #
30'	5	638 #	400 #	520 #
35'	5	814 #	520 #	720 #
40'	5	1012 #	640 #	790 #
45'	5	1221 #	800 #	

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-16-10	GAN

STATE OF MAINE
NATHAN C. COTA
No. 11989
12/16/10
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

AVERAGE POLE WEIGHTS

BANGOR HYDRO ELECTRIC Co.

DRAWING
403

MINIMUM POLE DIMENSIONS

CLASS	1	2	3	4	5
CIRCUMFERENCE AT TOP ALL WOODS–ALL LENGTHS	27	25	23	21	19
DIAMETER AT TOP ALL WOODS–ALL LENGTHS	8.6	8.0	7.3	6.7	6.0

CIRCUMFERENCE 6 FEET FROM BUTT

	LENGTH					
SOUTHERN YELLOW PINE	30'	36.5	34.0	32.0	29.5	27.5
	35'	39.0	36.5	34.0	31.5	29.0
	40'	41.0	38.5	36.0	33.5	31.0
DOUGLAS FIR	45'	43.0	40.5	37.5	35.0	32.5
	50'	45.0	42.0	39.0	36.5	34.0
	55'	46.5	43.5	40.5	38.0	
HACKMATACK	60'	48.0	45.0	42.0	39.0	

	LENGTH					
	30'	39.0	36.5	34.0	31.5	29.0
	35'	41.5	38.5	36.0	33.5	31.0
RED PINE (NORWAY PINE)	40'	44.0	41.0	38.0	35.5	33.0
	45'	46.0	43.0	40.0	37.0	34.5
DOUGLAS FIR	50'	48.0	45.0	42.0	39.0	36.0
	55'	49.5	46.5	43.5	40.5	
	60'	51.5	48.0	45.0	42.0	

	LENGTH					
	30'	40.0	37.5	35.0	32.5	30.0
	35'	42.5	40.0	37.5	34.5	32.0
	40'	45.0	42.5	39.5	36.5	34.0
WESTERN RED CEDAR	45'	47.5	44.5	41.5	38.5	36.0
	50'	49.5	46.5	43.5	40.0	37.5
	55'	51.5	48.5	45.0	42.0	
	60'	53.5	50.0	46.5	43.5	
	65'	55.0	51.5	48.0	45.0	

	LENGTH					
EASTERN WHITE CEDAR	25'	42.0	39.5	36.5	34.0	31.5
	30'	45.5	43.0	40.0	37.0	34.5
	35'	49.0	46.0	42.5	39.5	37.0
	40'	51.5	48.5	45.0	42.0	39.0
WHITE PINE	45'	54.5	51.0	47.5	44.0	41.0

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-16-10	GAN

STATE OF MAINE
NATHAN C. COTA
No. 11989
12/16/10
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

MINIMUM POLE DIMENSIONS

BANGOR HYDRO ELECTRIC Co.

DRAWING
404

POLE LENGTHS SHALL BE SPECIFIED TO PROVIDE VERTICAL CLEARANCES WHEN SET TO THE REQUIRED DEPTHS.

POLE SETTING DEPTHS

MINIMUM SETTING DEPTH

LENGTH	SOIL	COMBINATION SOIL & LEDGE
25'	5'–0"	4'–6"
30'	5'–6"	4'–6"
35'	6'–0"	5'–0"
40'	6'–0"	5'–0"
45'	6'–6"	5'–6"
50'	7'–0"	6'–0"
55'	7'–6"	6'–6"
60'	8'–0"	7'–0"
65'	8'–6"	7'–6"
70'	9'–0"	8'–0"
75'	9'–6"	8'–6"
80'	10'–0"	9'–0"
85'	10'–6"	9'–6"
90'	11'–0"	10'–0"
95'	11'–6"	10'–6"
100'	12'–0"	11'–0"
105'	12'–6"	11'–6"
110'	13'–0"	12'–0"

ON SIDE HILLS, HOLE DEPTH SHALL BE MEASURED FROM DOWNHILL SIDE OF HOLE.

WHEN A POLE IS TO BE SET IN SOFT SOIL WHERE SETTING IS INSECURE, THE POLE MAY BE SET IN A BARREL WORKED INTO A HOLE TO THE REQUIRED DEPTH. ALL HOLES SHALL BE DUG AS SMALL IN DIAMETER AS PRACTICAL. HOLES SHALL BE GENERALLY DUG ONLY LARGE ENOUGH TO RECEIVE THE BUTT END OF THE POLE AND TO ALLOW THE USE OF TAMPING BARS AROUND THE POLE.

TAMPING BARS SHALL BE USED TO TAMP BACKFILL AROUND THE POLE FOR THE FULL DEPTH OF THE HOLE AFTER THE POLE HAS BEEN SET.

WHEN SETTING POLES, ALL LOOSE DIRT SHALL BE REMOVED FROM THE HOLE BEFORE SETTING THE POLE INTO THE HOLE.

ALL DEAD–END AND CORNER POLES SHALL BE RAKED AGAINST THE PULL OF THE LINE.

POLES SHALL BE PLACED TO THE BACK SIDE OF THE STAKE. STAKING WILL BE AT THE FACE OF THE POLE.

TREATED UTILITY POLES MAY NOT BE SET WITHIN 75' OF WELLS FOR POTABLE OR NON–POTABLE WATER.

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

POLE SETTING REQUIREMENTS

LAST REVISED	DRAWING
07–08–2020	0405

Assigned Space Chart

		Bangor Hydro Electric			Telecommunication Space	
Pole Size	Depth in Ground	Assigned Space	Bottom Limit Above Ground	Neutral Space	Assigned Space	Top Limit Above Ground
Standard Pole						
35'	6'-0"	4'-5"	24'-7"	3'-4"	3'-3"	21'-3"
40'	6'-0"	6'-11"	27'-1"	3'-4"	5'-9"	23'-9"
Mutual Excess Height (MEH)						
45'	6'-6"	9'-2"	29'-4"	3'-4"	8'-0"	26'-0"
50'	7'-0"	11'-5"	31'-7"	3'-4"	10'-3"	28'-3"
55'	7'-6"	13'-8"	33'-10"	3'-4"	12'-6"	30'-6"
Bangor Hydro Owns 5' Excess Height						
45'	6'-6"	11'-5"	27'-1"	3'-4"	5'-9"	23'-9"
50'	7'-0"	13'-8"	29'-4"	3'-4"	8'-0"	26'-0"
55'	7'-6"	15'-11"	31'-7"	3'-4"	10'-3"	28'-3"
Bangor Hydro Owns 10' Excess Height						
50'	7'-0"	15'-11"	27'-1"	3'-4"	5'-9"	23'-9"
55'	7'-6"	18'-2"	29'-4"	3'-4"	8'-0"	26'-0"
Telephone Owns 5' Excess Height						
45'	6'-6"	6'-11"	31'-7"	3'-4"	10'-3"	28'-3"
50'	7'-0"	9'-2"	33'-10"	3'-4"	12'-6"	30'-6"
55'	7'-6"	11'-5"	36'-1"	3'-4"	14'-9"	32'-9"
Telephone Owns 10' Excess Height						
50'	7'-0"	6'-11"	36'-1"	3'-4"	14'-9"	32'-9"
55'	7'-6"	9'-2"	38'-4"	3'-4"	17'-0"	35'-0"

1)	40' shall be the minimum pole height for all new construction
2)	The 3'-4" neutral space may be reduced to 2'-6" between effectively grounded non-current carrying equipment and communications conductor.
3)	Street light brackets may be mounted in neutral space, provided N.E.S.C. requirements are met.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-10-09	GAN

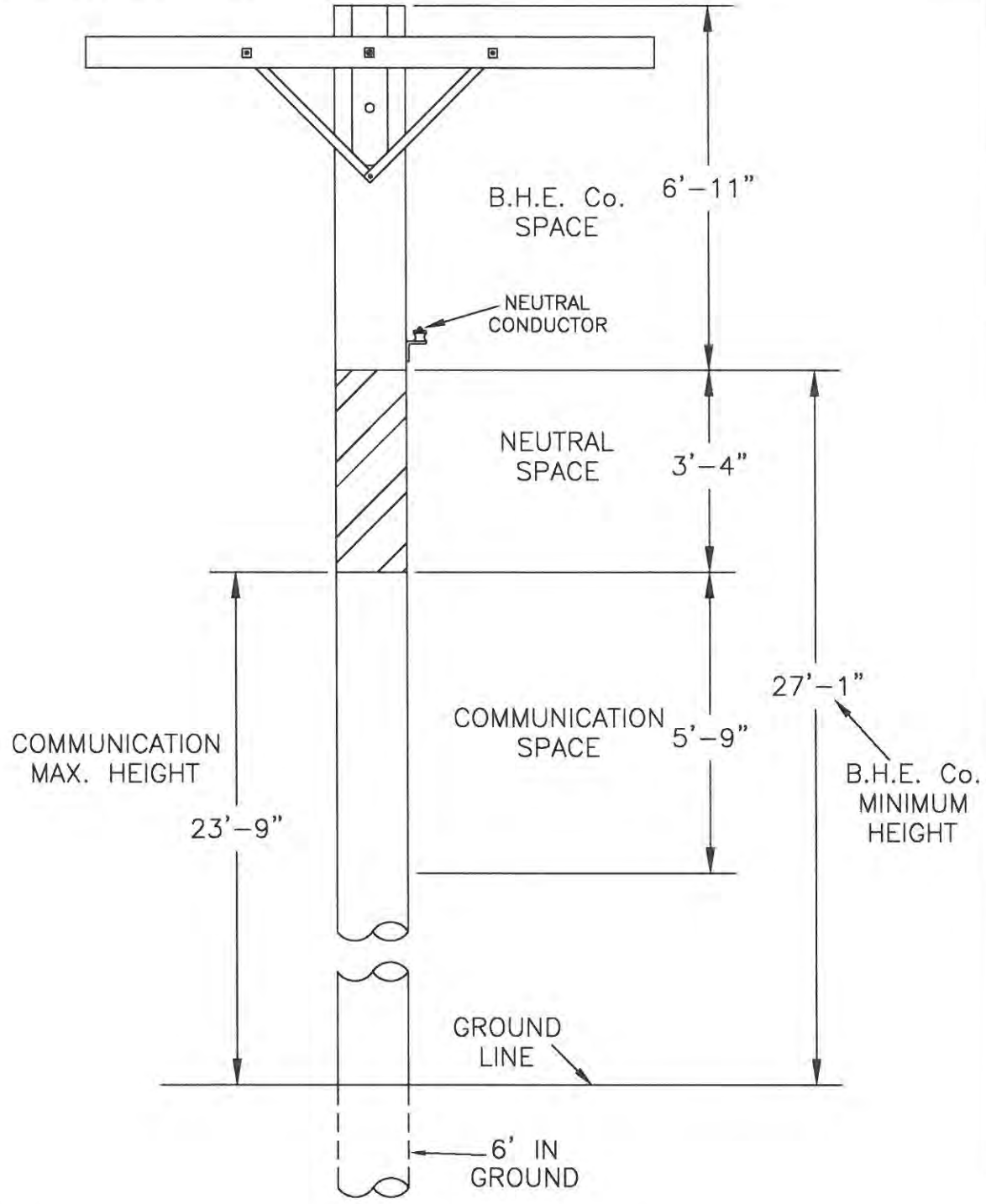
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

JOINT USE OF POLES
ASSIGNED SPACE CHART

BANGOR HYDRO ELECTRIC Co.

DRAWING
406



NOTES:

1. STREET LIGHT BRACKETS MAY BE MOUNTED IN THE NEUTRAL SPACE, PROVIDED N.E.S.C. REQUIREMENTS ARE MET.
2. EFFECTIVELY GROUNDED, NON CURRENT CARRYING EQUIPMENT MAY EXTEND 10" INTO THE 40" NEUTRAL SPACE.
3. NO ELECTRIC OR COMMUNICATION CONDUCTORS IN THE NEUTRAL SPACE.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

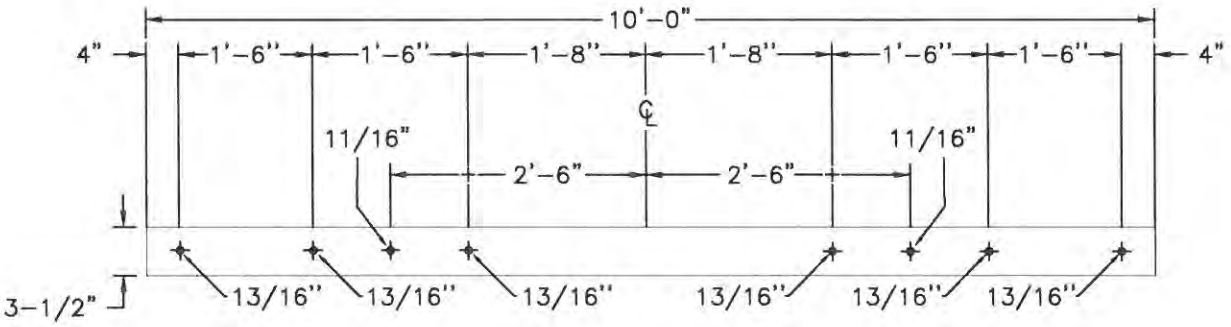
DISTRIBUTION CONSTRUCTION STANDARDS

JOINT USE OF POLES
POLE SPACE
TYPICAL 40' POLE

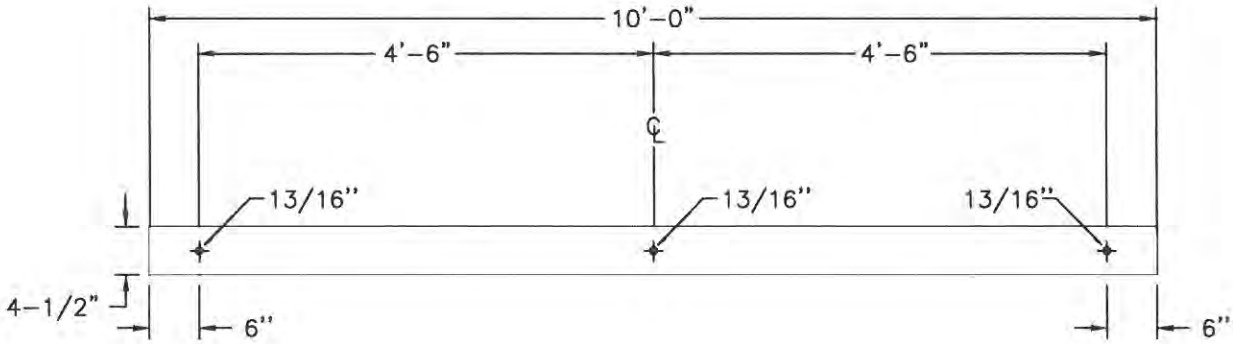
BANGOR HYDRO ELECTRIC Co.

DRAWING
407

TOP VIEW



FRONT VIEW



SCOPE –

SPECIES – THIS GUIDE COVERS SOLID SAWN, AIR DRIED OR KILN DRIED, TREATED DOUGLAS FIR CROSSARMS.

STRENGTH – IT IS THE INTENT OF THIS GUIDE TO PROVIDE CROSSARMS OF SUFFICIENT STRENGTH TO EXCEED THE MINIMUM STRENGTH REQUIREMENTS FOR GRADES B AND C CONSTRUCTION AS SPECIFIED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC SAFETY CODE.

GENERAL –

CONTENT – UNLESS OTHERWISE STATED ON THE PURCHASE ORDER, ALL CROSSARMS FURNISHED UNDER THIS GUIDE SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS HEREINAFTER STATED. CROSSARMS SHALL BE IN ACCORDANCE WITH ANSI 05.3–1989 FOR WOOD PRODUCTS – SOLID SAWN – WOOD CROSSARMS AND BRACES – SPECIFICATION AND DIMENSIONS.

PRESERVATION TREATMENT –

CROSSARMS SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C25–89 AS FOLLOWS:

DOUGLAS FIR	PENTACHLOROPHENOL	.4 P/CF

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-21-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

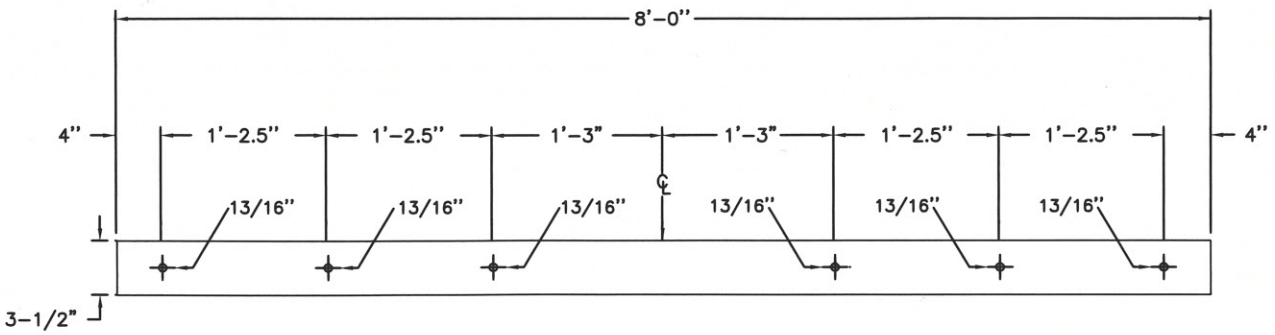
DISTRIBUTION CONSTRUCTION STANDARDS

10' CROSSARM STANDARD

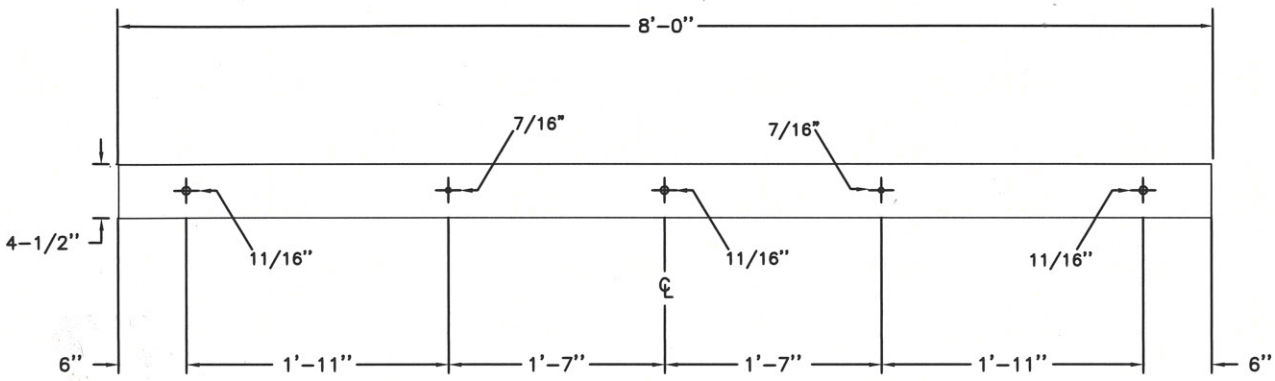
BANGOR HYDRO ELECTRIC Co.

DRAWING
409

TOP VIEW



FRONT VIEW



SCOPE –

SPECIES – THIS GUIDE COVERS SOLID SAWN, AIR DRIED OR KILN DRIED, TREATED DOUGLAS FIR CROSSARMS.

STRENGTH – IT IS THE INTENT OF THIS GUIDE TO PROVIDE CROSSARMS OF SUFFICIENT STRENGTH TO EXCEED THE MINIMUM STRENGTH REQUIREMENTS FOR GRADES B AND C CONSTRUCTION AS SPECIFIED IN THE LATEST EDITION OF THE NATIONAL ELECTRIC SAFETY CODE.

GENERAL –

CONTENT – UNLESS OTHERWISE STATED ON THE PURCHASE ORDER, ALL CROSSARMS FURNISHED UNDER THIS GUIDE SHALL CONFORM IN ALL RESPECTS TO THE REQUIREMENTS HEREINAFTER STATED. CROSSARMS SHALL BE IN ACCORDANCE WITH ANSI 05.3–1989 FOR WOOD PRODUCTS – SOLID SAWN – WOOD CROSSARMS AND BRACES – SPECIFICATION AND DIMENSIONS.

PRESERVATION TREATMENT –

CROSSARMS SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AWPA STANDARD C25–89 AS FOLLOWS:

DOUGLAS FIR	PENTACHLOROPHENOL	.4 P/CF

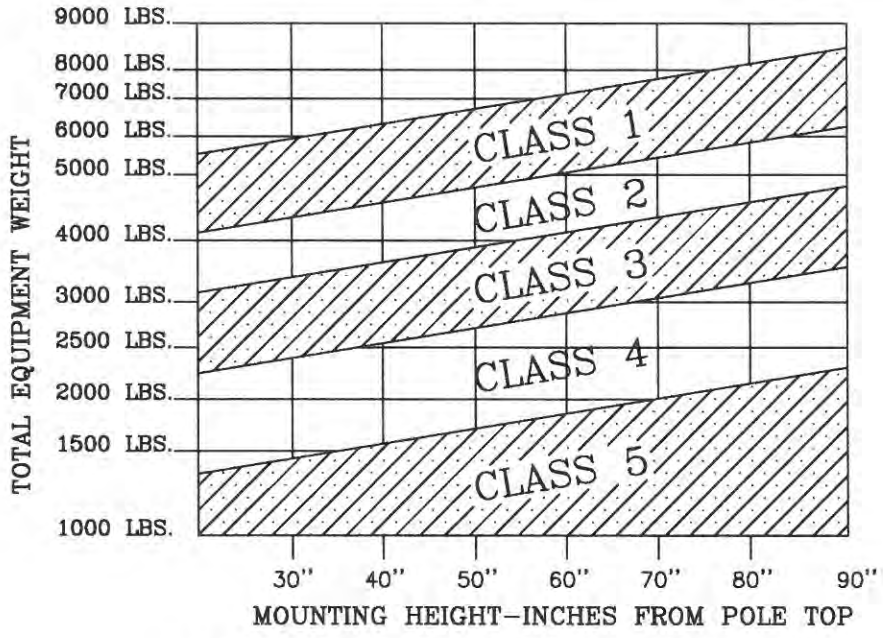
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/14/20

DISTRIBUTION CONSTRUCTION STANDARDS

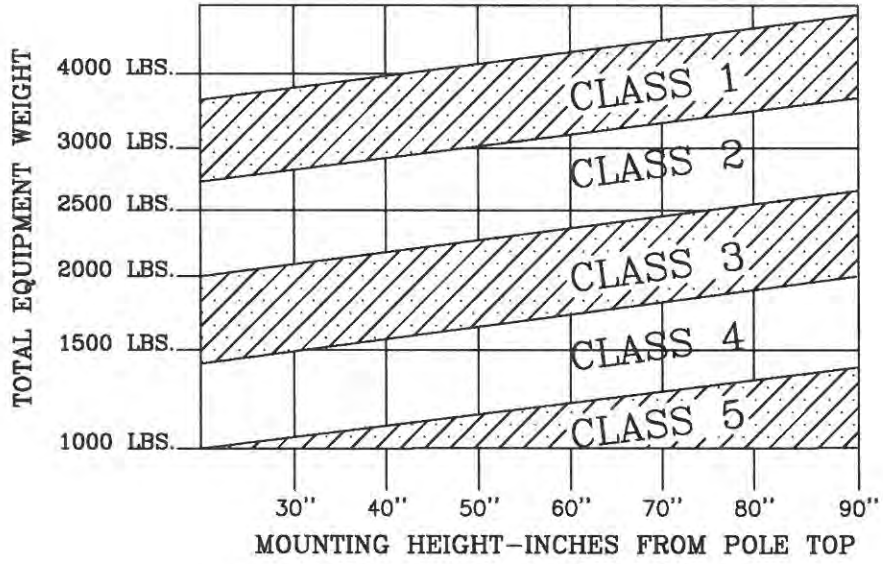
VERSANT POWER

8' CROSSARM STANDARD

LAST REVISED	DRAWING
07–14–2020	410



CLUSTER MOUNTED EQUIPMENT



SINGLE MOUNTED EQUIPMENT

NOTES:

1. REFER TO STANDARD #412 FOR TYPICAL EQUIPMENT WEIGHTS.
2. THESE GRAPHS ARE FOR FREE STANDING SOUTHERN PINE OR DOUGLAS FIR POLES. FOR OTHER SPECIES OF POLES, ADD 50% TO THE WEIGHT BEFORE DETERMINING THE POLE CLASS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-21-09	GAN

STATE OF MAINE
GERARD R. CLASSE
No. 8714
12-15-18
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

POLE CLASS SELECTOR
POLES w/ EQUIPMENT MOUNTING

BANGOR HYDRO ELECTRIC Co.

DRAWING
411

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-31-09	GAN

Transformers - Single Phase

kVA	Weight (lb)
10	390
15	420
25	485
37.5	685
50	825
75	1080
100	1310
167	1750
250	1975
333	2500
500	3200

Transformers - Three phase

kVA	Weight (lb)
30	740
45	950
75	1365
150	2500

* BHE work practice is to limit cluster mounted service transformers to no larger than 75 kVA.
Any installation needing a larger transformer must go to a platform mounting configuration or primary underground feed.

Regulators

kVA	Weight (lb)
38.1	1300
57.2	1500
76.2	1600
114.3	2400
167	2500

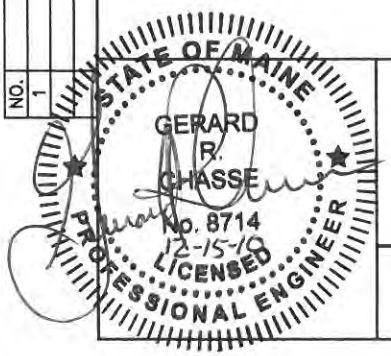
Capacitors

kVAR	Weight (lb)
600	600
1200	975
1800	1290
2400	1710

Switches

Type	kV	Weight lb)
Gang Operated Air Break	15	550
Gang Operated Air Break	34.5	560
Gang Operated Air Break-Load Break	46	1286
Gang Operated Air Break-Non Load Break	46	926

These weights may be used as a guideline for handling and mounting this equipment.
Nameplate data should be used if more exact information is required



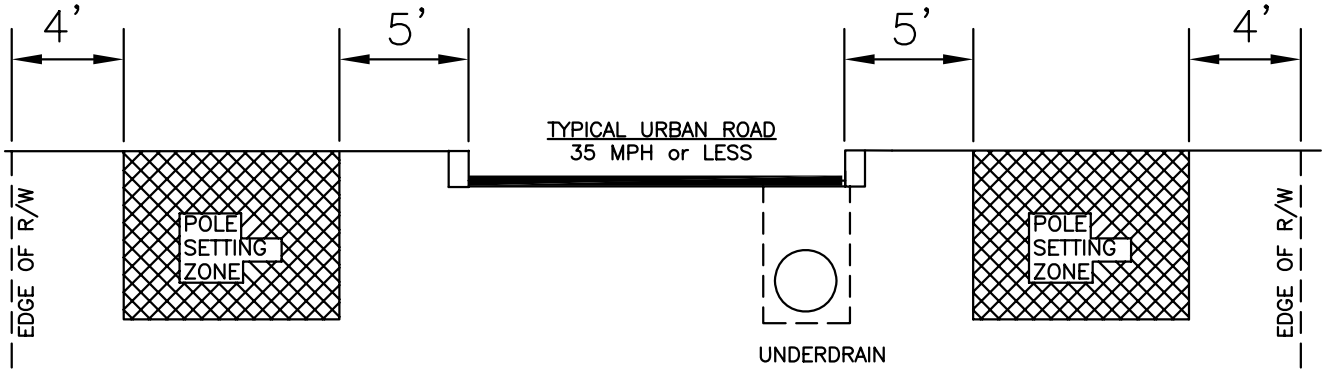
DISTRIBUTION CONSTRUCTION STANDARDS

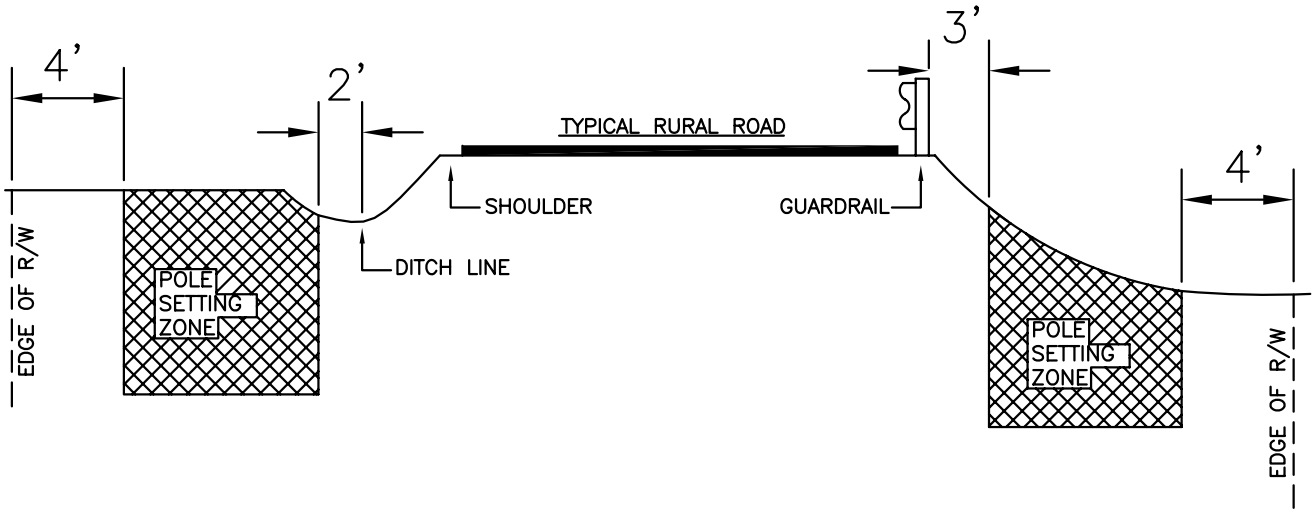
OVERHEAD DISTRIBUTION EQUIPMENT
TYPICAL WEIGHTS

BANGOR HYDRO ELECTRIC Co.

DRAWING
412

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-21-09	GAN





NOTES:

1. IF THERE IS NOT A DEFINED DITCH LINE OR CURB, ALL POLES MUST BE A MINIMUM OF 6' FROM EDGE OF SHOULDER OR 10' FROM EDGE OF PAVEMENT.
2. FOR CLARIFICATION OR EXCEPTIONS, CONSULT T&D PLANNING OR T&D ENGINEERING.

	DISTRIBUTION CONSTRUCTION STANDARDS	POLE SETTING STANDARD FOR NEW LINE ON STATE & TOWN ROADS
	BANGOR HYDRO ELECTRIC Co.	DRAWING 413

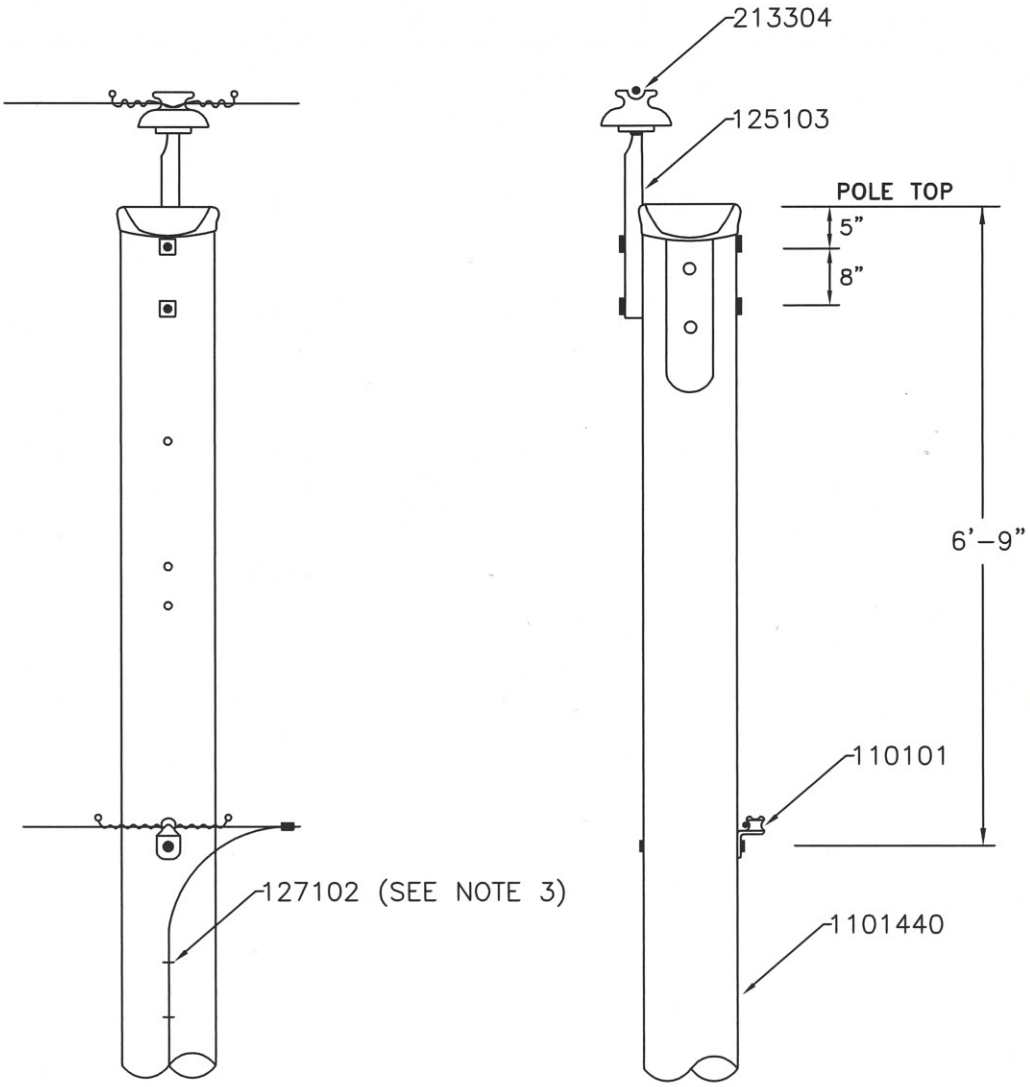
STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
501	15 kV SINGLE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
502	15 kV SINGLE PHASE 1-30° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
503	15 kV SINGLE PHASE 31-60° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
504	15 kV SINGLE PHASE 61-90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
505	15 kV SINGLE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
506	15 kV SINGLE PHASE FUSED CUTOUT STRUCTURE 2000# TENSION 1/0 & 336 CONDUCTOR	08-17-2020
507	15 kV SINGLE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
508	15 kV SINGLE PHASE 0°-5° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
509	15 kV SINGLE PHASE 5°-15° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
510	15 kV SINGLE PHASE 15°-30° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
511	15 kV SINGLE PHASE 31°-45° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
511.2	15 kV SINGLE PHASE 31°-45° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
512	15 kV SINGLE PHASE 45-90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020
513	15 kV SINGLE PHASE FUSED CUTOUT STRUCTURE 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	12-16-2020

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

- INDEX -
15 kV SINGLE PHASE
2000 LBS TENSION

LAST REVISED	DRAWING
12-16-2020	500



NOTES:

1. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
2. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
3. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08-17-2020	501

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	1		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH, 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
1101101	1		**NEUTRAL BRACKET**	
		1	BOLT, MACH, 14" X 5/8"	1106514
		1	BRACKET, NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

MATERIALS & ASSEMBLIES

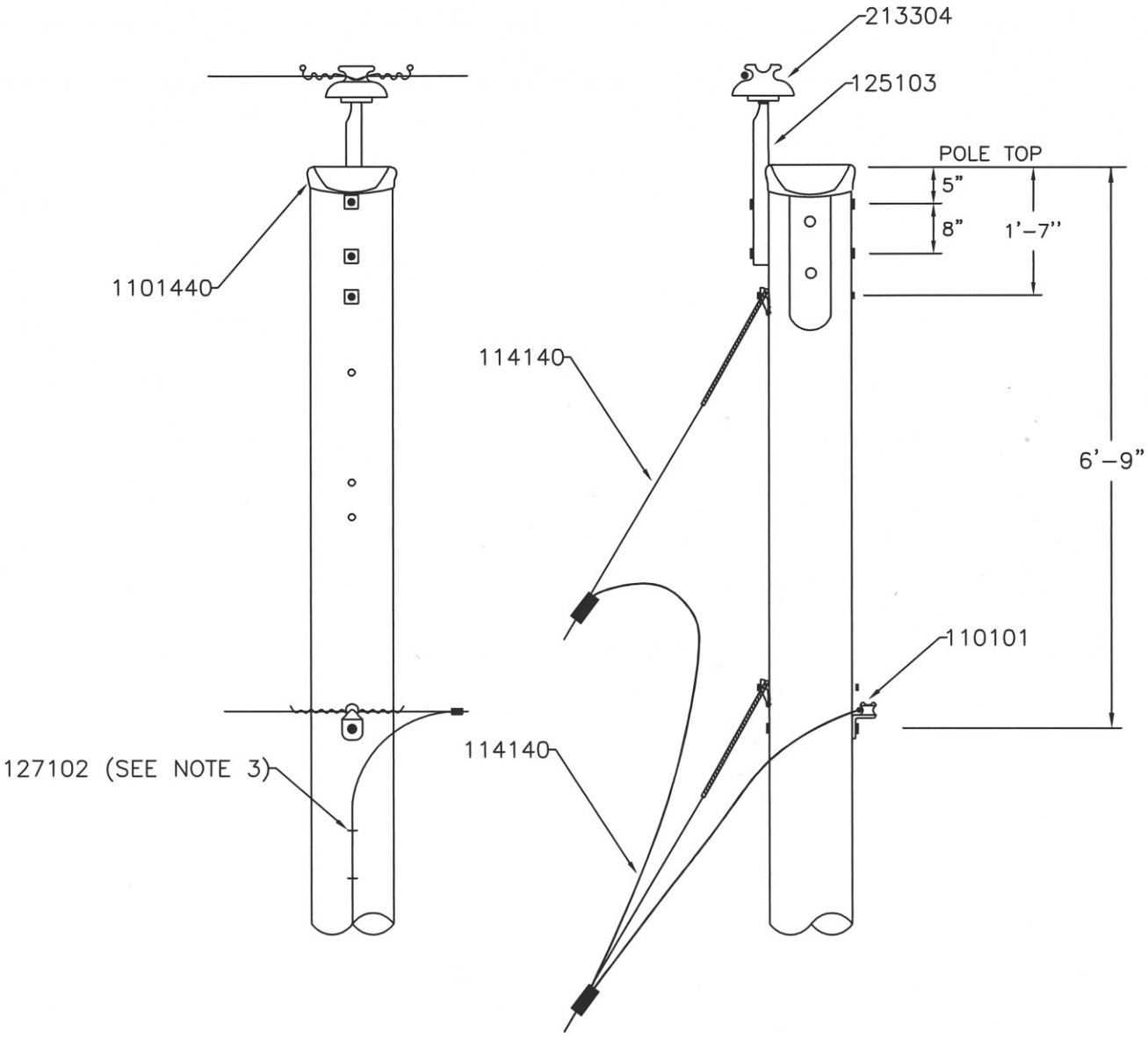
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
0° TANGENT
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08-17-2020	501



NOTES:

1. MINIMUM 15' GUY LEAD @30° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 1–30° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	502

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	1		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

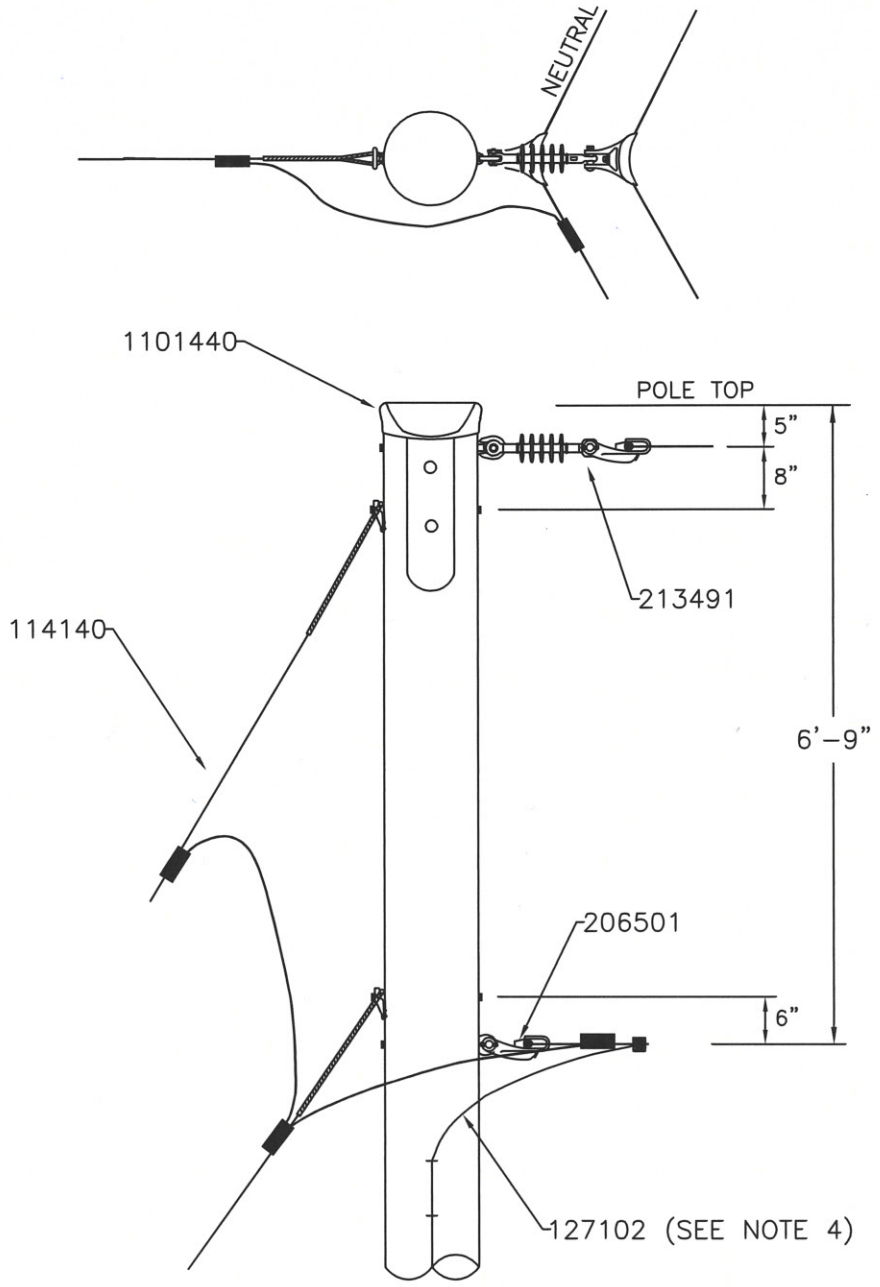
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
1–30° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	502



NOTES:

1. MINIMUM 15' GUY LEAD @60° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 31–60° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	503

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213491	1		**15 KV C CORNER**	
		1	15 KV DEADEND INSULATOR	1213415
		1	14" X 5/8" EYE BOLT	1107514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	ANGLE SUSP CLAMP	1206401
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		2	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

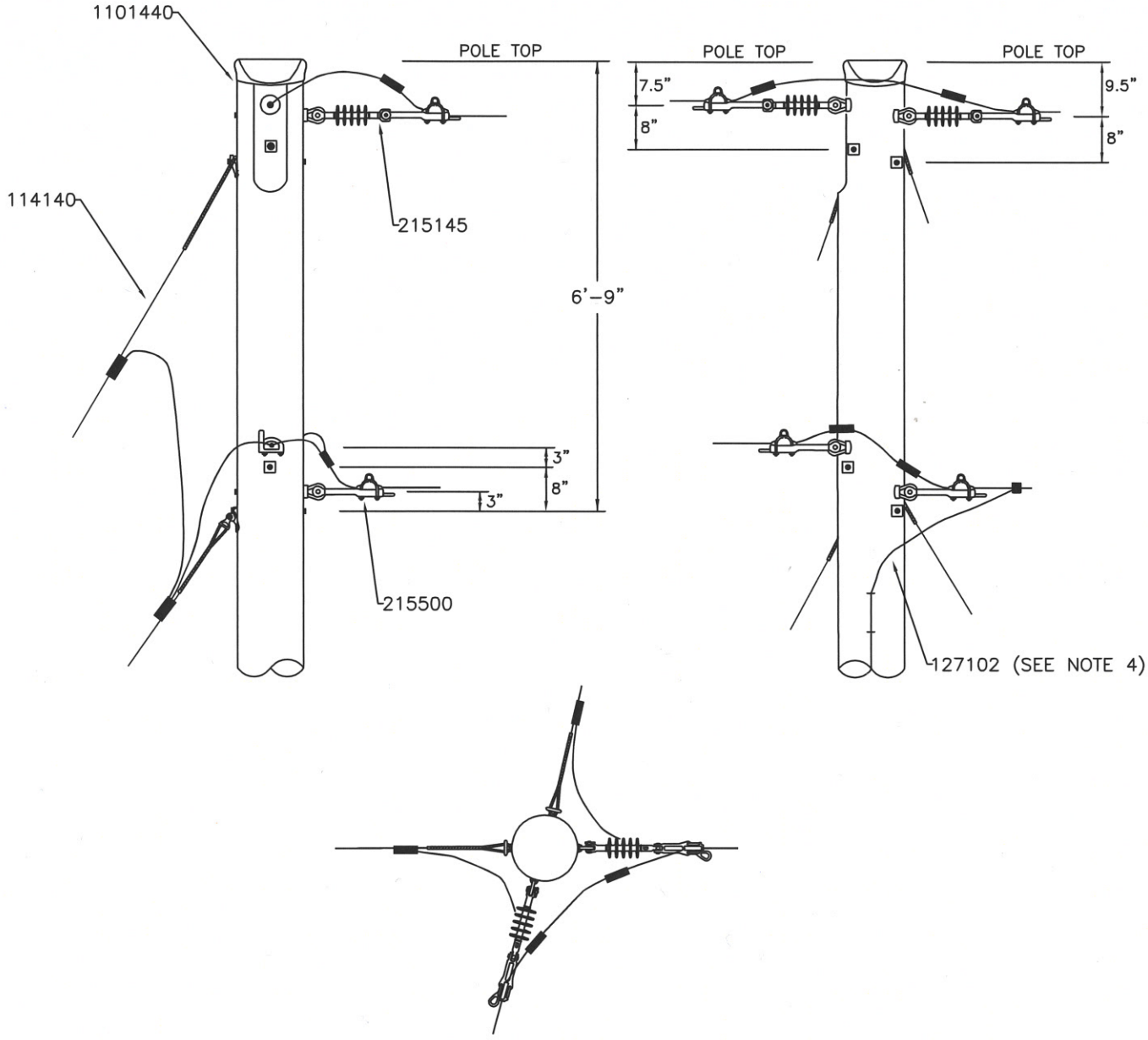
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/2/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
31–60° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	503



NOTES:

1. MINIMUM 15' GUY LEAD @90° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 61–90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	504

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	2		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114140	4		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	2		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

MATERIALS & ASSEMBLIES

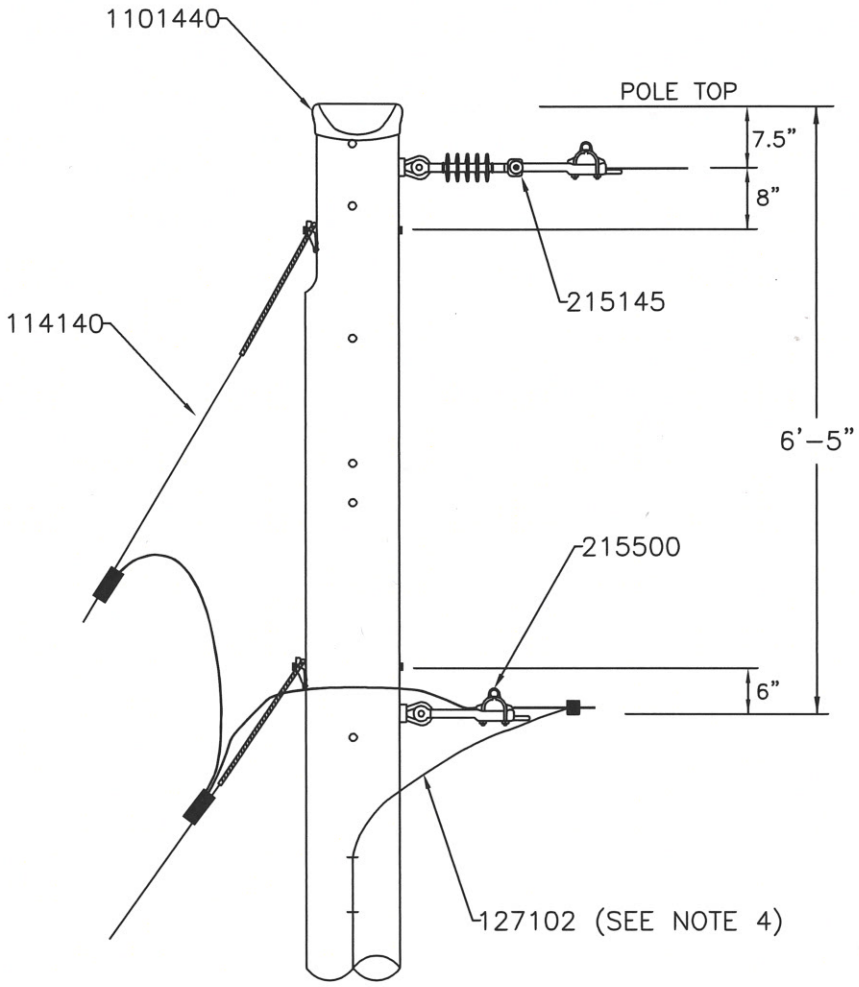
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/2/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 61–90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	504



NOTES:

1. MINIMUM 20' GUY LEAD W/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

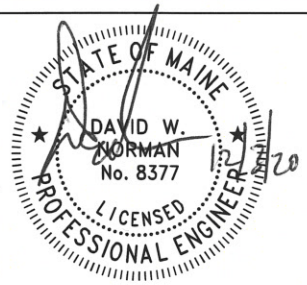
VERSANT POWER

15 kV – SINGLE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	505

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	1		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
215500	1		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

MATERIALS & ASSEMBLIES

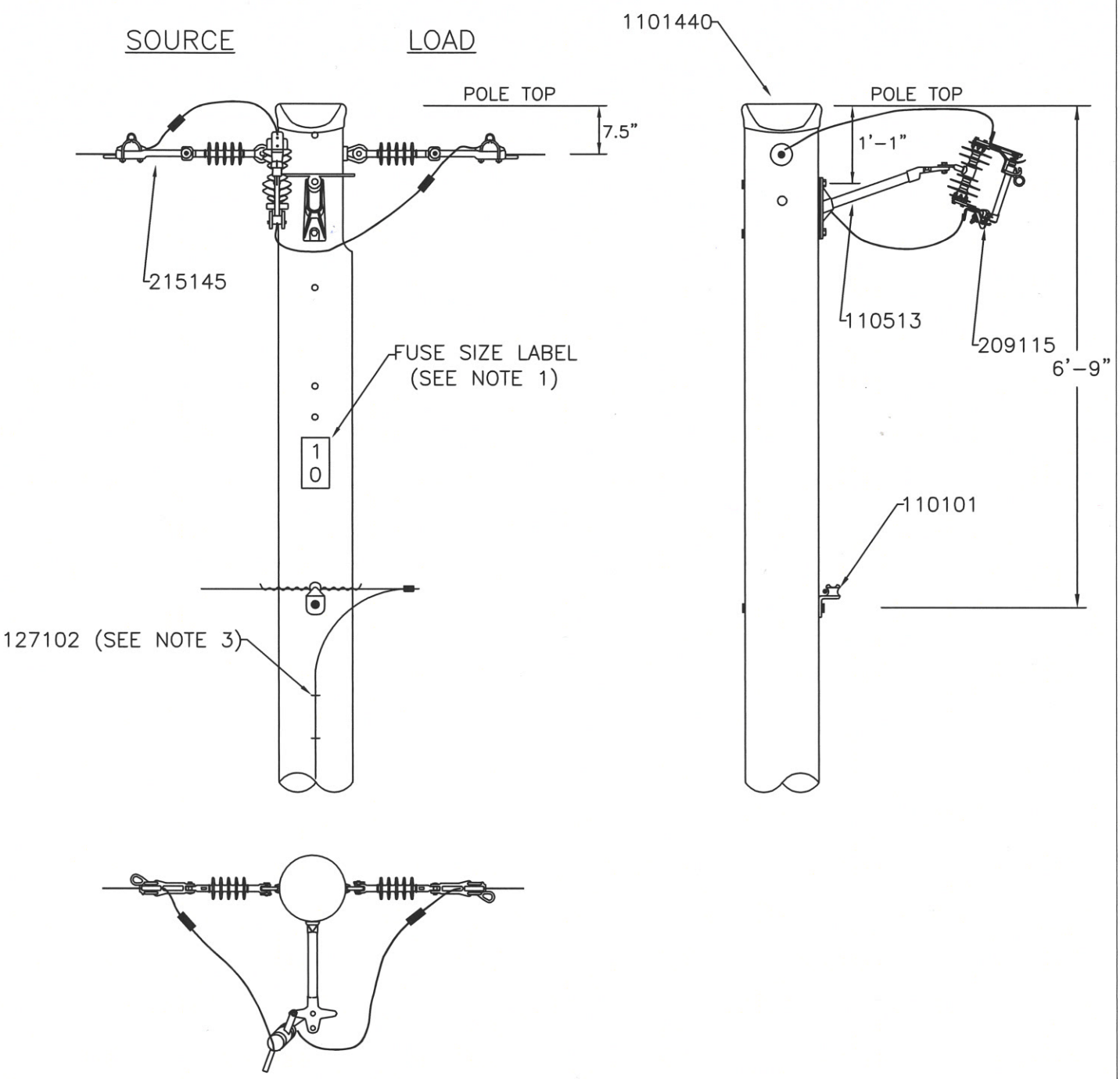


DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE DEADEND
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
08–17–2020	505



NOTES:

1. FUSE SIZE TAG SHALL BE INSTALLED ON THE ROAD SIDE BETWEEN PRIMARY & NEUTRAL.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE FUSED CUTOUT STRUCTURE

LAST REVISED	DRAWING
08-17-2020	506

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	2		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
110513	1		**18" FG APPARATUS BKT**	
		1	18" FG APPARATUS BKT	1110513
		2	BOLTS MACH, 14" X 5/8"	1106514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	DBL COIL SPRING WASHER, 5/8"	1138602
209115	1		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
209130	1		**15 KV OPEN CUTOUT LG**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

MATERIALS & ASSEMBLIES

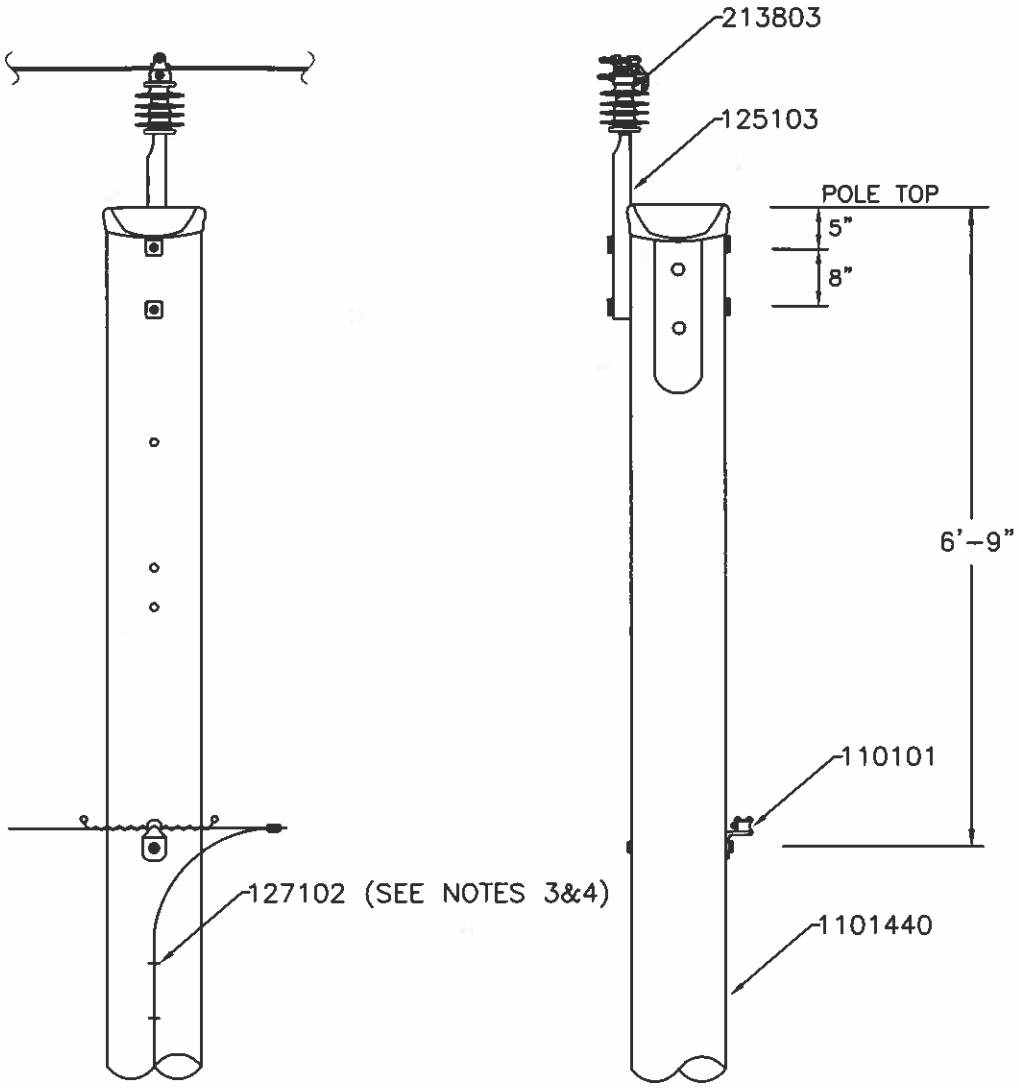
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER

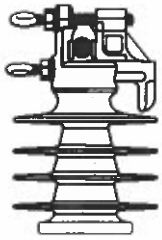
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE FUSED CUTOUT STRUCTURE

LAST REVISED	DRAWING
08–17–2020	506





INSULATOR FRONT VIEW

NOTES:
1. FOR TANGENT STRUCTURES, CONDUCTOR MUST BE INSTALLED IN THE SADDLE OF THE INSULATOR, AND SECURED BY TIGHTENING OF THE BOLTS.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-04-2020	507

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	1		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15kV VISETOP	1213803
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH, 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
1101101	1		**NEUTRAL BRACKET**	
		1	BOLT, MACH, 14" X 5/8"	1106514
		1	BRACKET, NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

MATERIALS & ASSEMBLIES

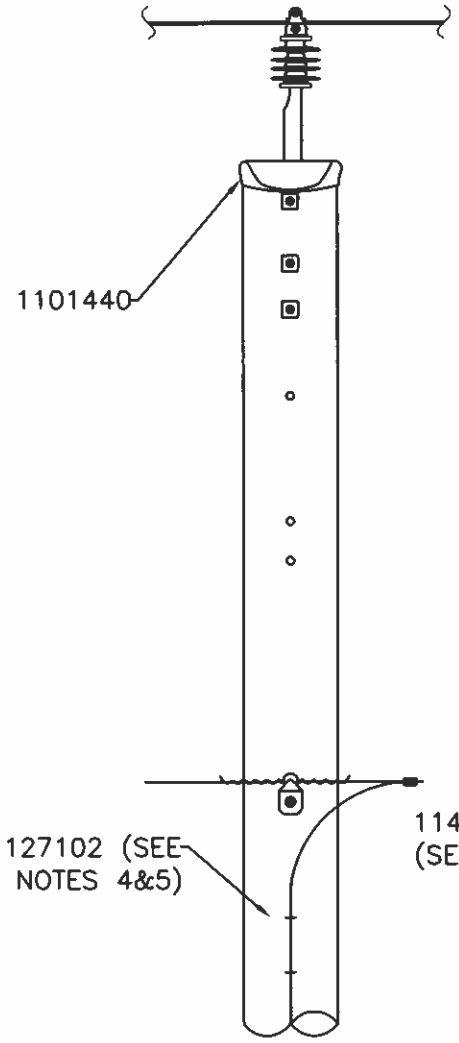
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

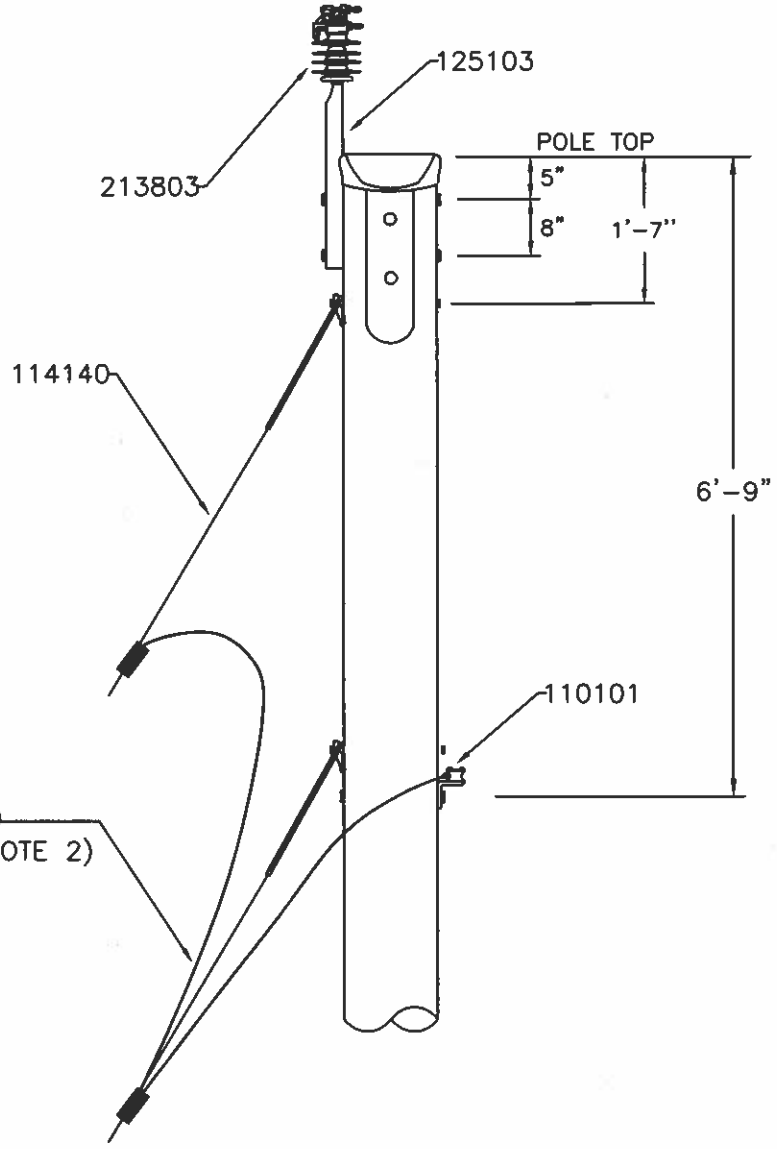
DISTRIBUTION CONSTRUCTION STANDARDS

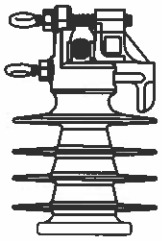
VERSANT POWER

15 kV – SINGLE PHASE
0° TANGENT
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-04-2020	507







INSULATOR FRONT VIEW

NOTES:

1. FOR STRUCTURES 5° OR LESS, CONDUCTOR MUST BE INSTALLED IN THE SADDLE OF THE INSULATOR, AND SECURED BY TIGHTENING THE BOLTS.
2. MINIMUM 15' GUY LEAD @5° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 0–5° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-16-2020	508

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	2		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213803
125103	2		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

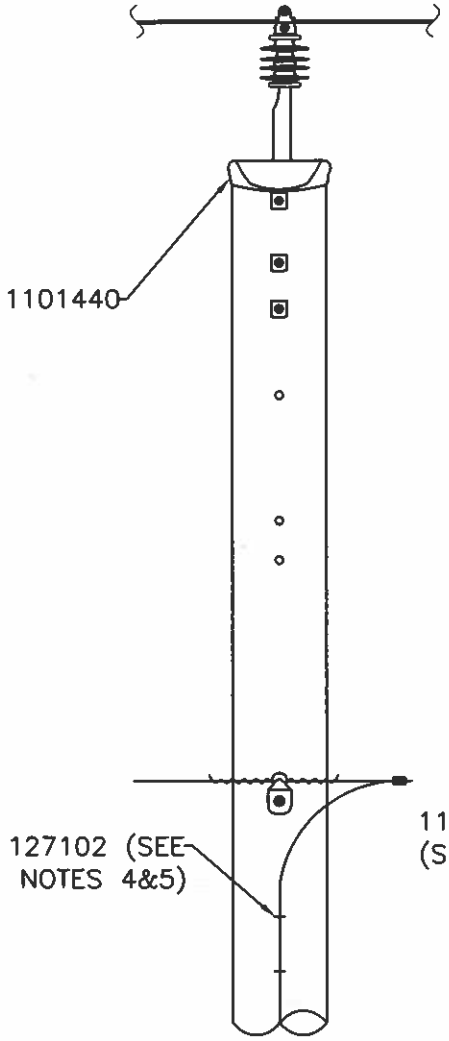
STATE OF MAINE
DAVID W. NORMAN
No. 8577
LICENSED PROFESSIONAL ENGINEER
7/30/22

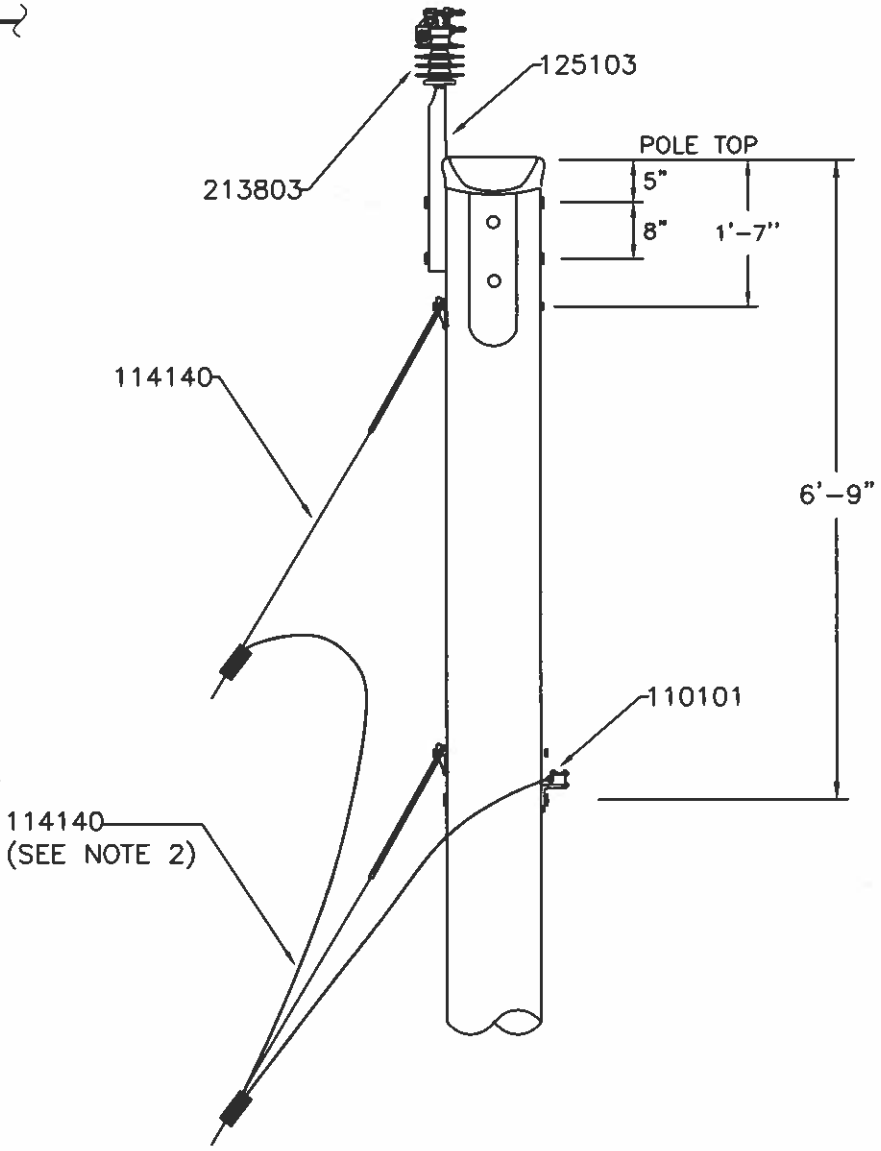
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

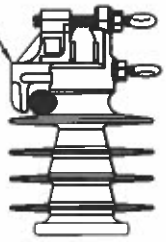
15 kV – SINGLE PHASE
0–5° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12–16–2020	508





SEE NOTE 1



INSULATOR FRONT VIEW

NOTES:

1. FOR STRUCTURES 5°-15°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATOR.
2. MINIMUM 15' GUY LEAD @15° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 5-15° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-16-2020	509

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	2		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213803
125103	2		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

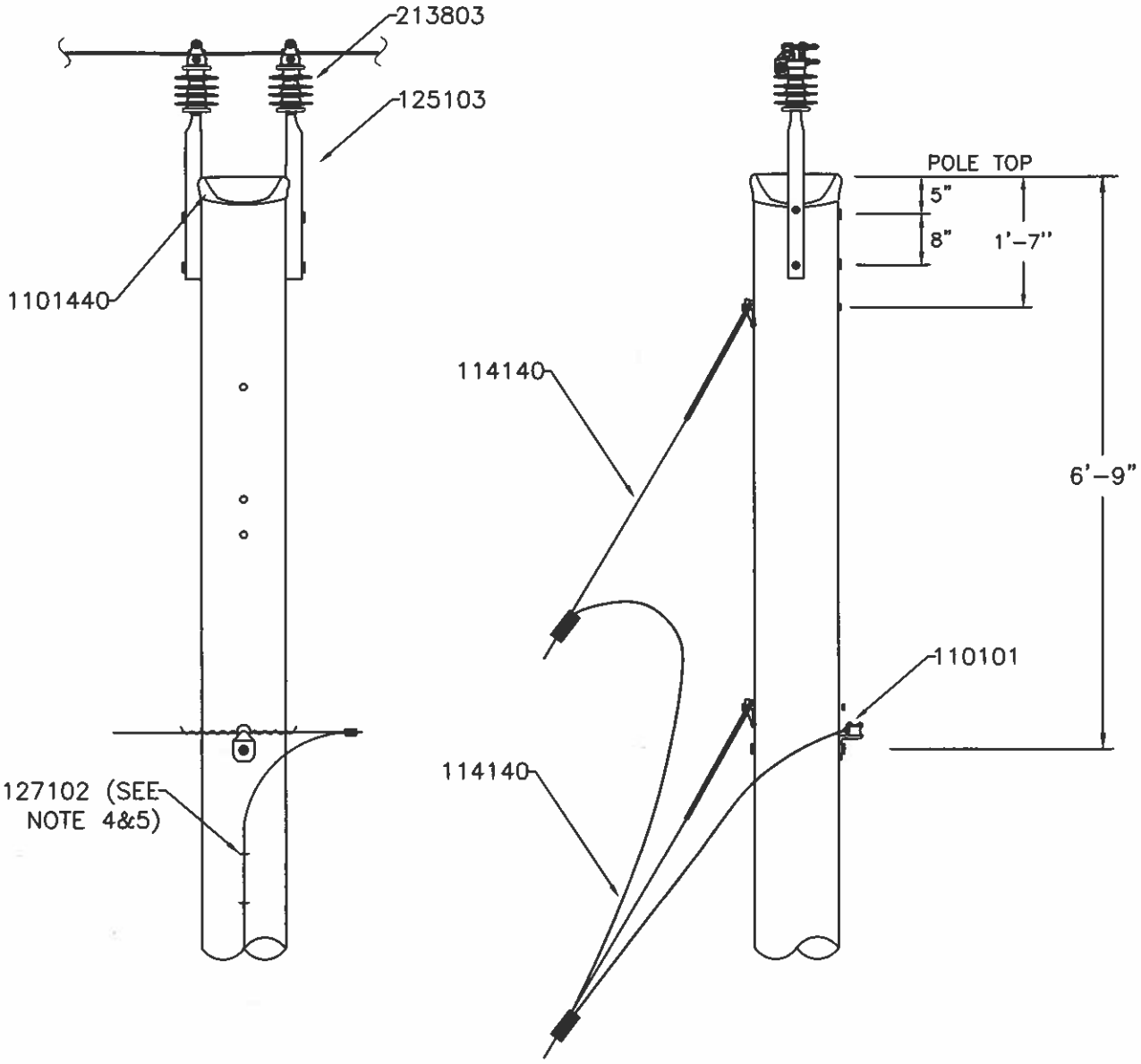
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/20/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

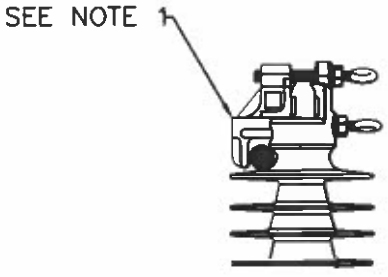
15 kV – SINGLE PHASE
5–15° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12–16–2020	509



NOTES:

1. FOR STRUCTURES 15°–30°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATORS.
2. MINIMUM 15' GUY LEAD @30° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.



INSULATOR FRONT VIEW

STATE OF MAINE
DAVID W. NORMAN
LICENSED PROFESSIONAL ENGINEER
7/20/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 15–30° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-16-2020	510

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	2		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213803
125103	2		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

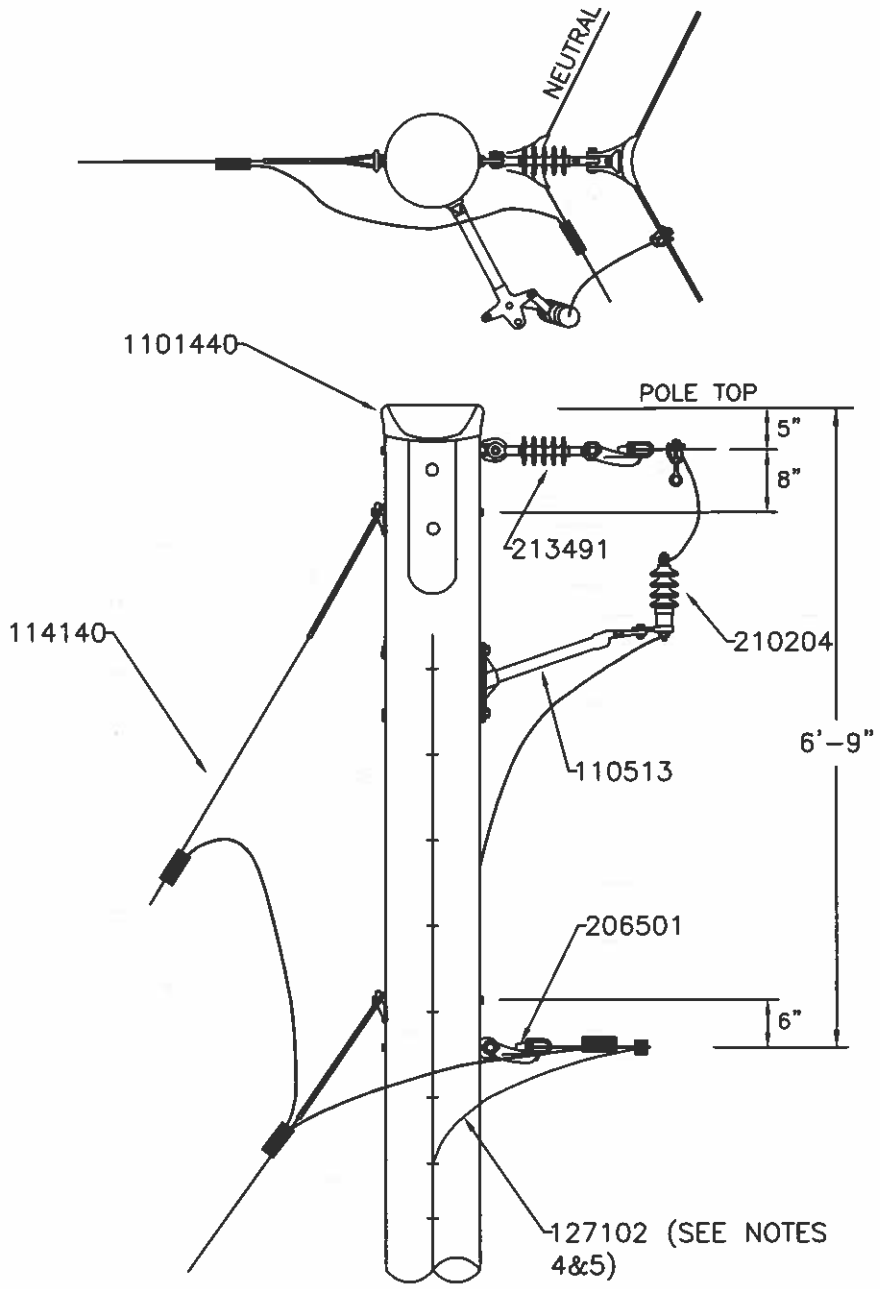
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/20/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
15–30° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12–16–2020	510



NOTES:

1. MINIMUM 15' GUY LEAD @60° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.
6. SKIN OUT CONDUCTOR INSULATION TO SEAT SECURELY IN CONDUCTOR CLAMP AND ATTACH HOT-LINE CONNECTION TO ARRESTER.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 31-45° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
12-16-2020	511

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213491	1		**15 KV C CORNER**	
		1	15 KV DEADEND INSULATOR	1213415
		1	14" X 5/8" EYE BOLT	1107514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	ANGLE SUSP CLAMP	1206401
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
110513	1		**18" FG APPARATUS BKT**	
		1	18" FG APPARATUS BKT	1110513
		2	BOLTS MACH, 14" X 5/8"	1106514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	DBL COIL SPRING WASHER, 5/8"	1138602
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		2	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
201204	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
201204	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

MATERIALS & ASSEMBLIES

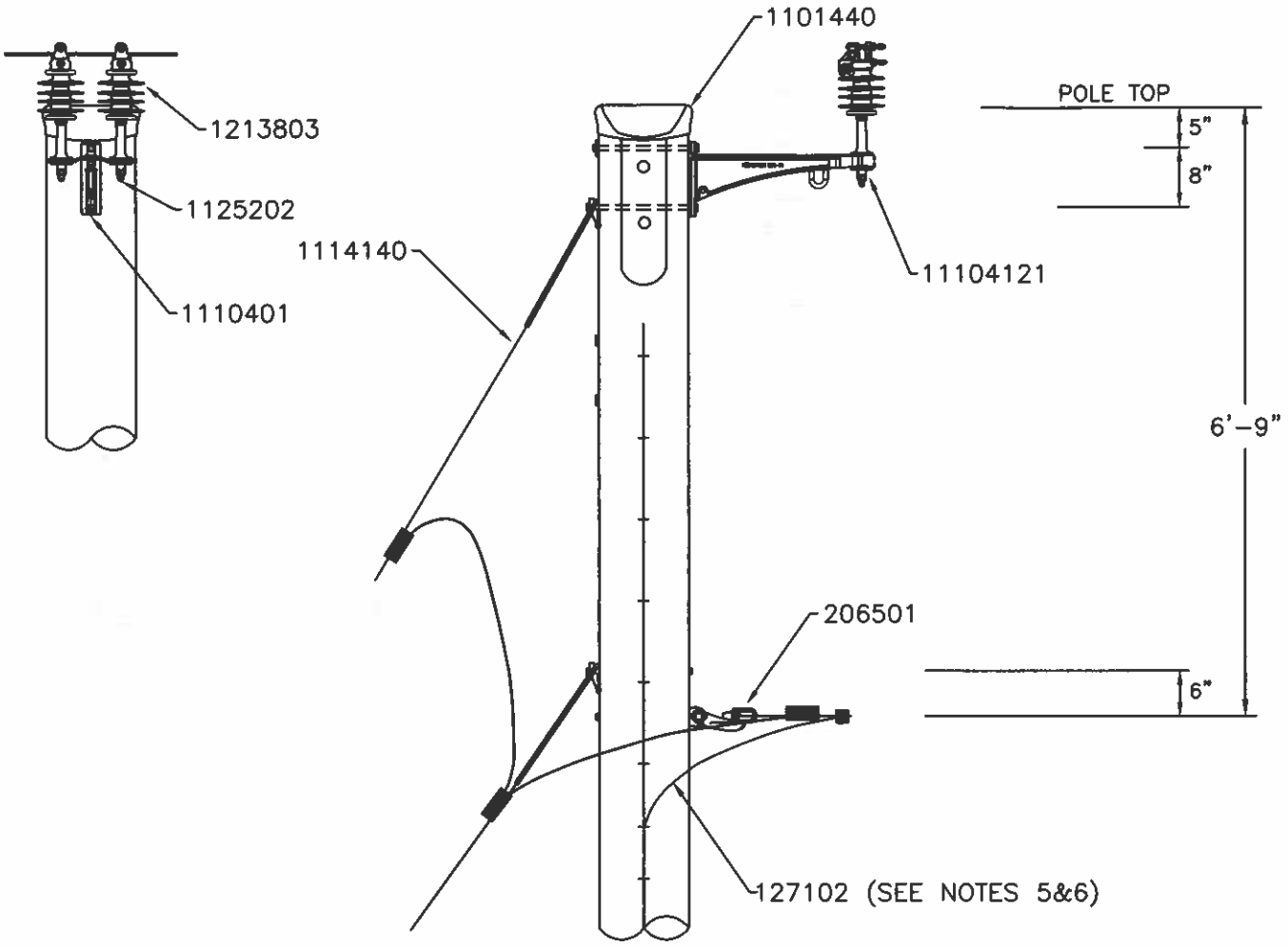
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/21

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
31–45° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12–16–2020	511



NOTES:

1. FOR STRUCTURES 31°–45°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATORS.
2. MINIMUM 15' GUY LEAD @45° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
4. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
5. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
6. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.
7. SKIN OUT CONDUCTOR INSULATION TO SEAT SECURELY IN CONDUCTOR CLAMP AND ATTACH HOT–LINE CONNECTION TO ARRESTER.
8. TO ATTACH DOUBLE INSULATOR PLATE TO BM–14 BRACKET, REMOVE MESSENGER CLAMP AND USE MACHINE BOLT TO DOUBLE INSULATOR PLATE TO BRACKET.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 31–45° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11–04–2021	511.2

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
11104121	1		**15 KV DBL INS PLATE**	
		1	DOUBLE INSULATOR PLATE	1110412
		1	DUCTILE IRON BRACKET BM-14	1110401
		2	INSULATOR PIN TYPE, 15 kV VISETOP	1213803
		2	INSULATOR STUD, SHORT SHANK	1125202
		2	BOLTS MACH, 14" X 5/8"	1106514
		2	DBL COIL SPRING WASHER, 5/8"	1138602
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		2	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

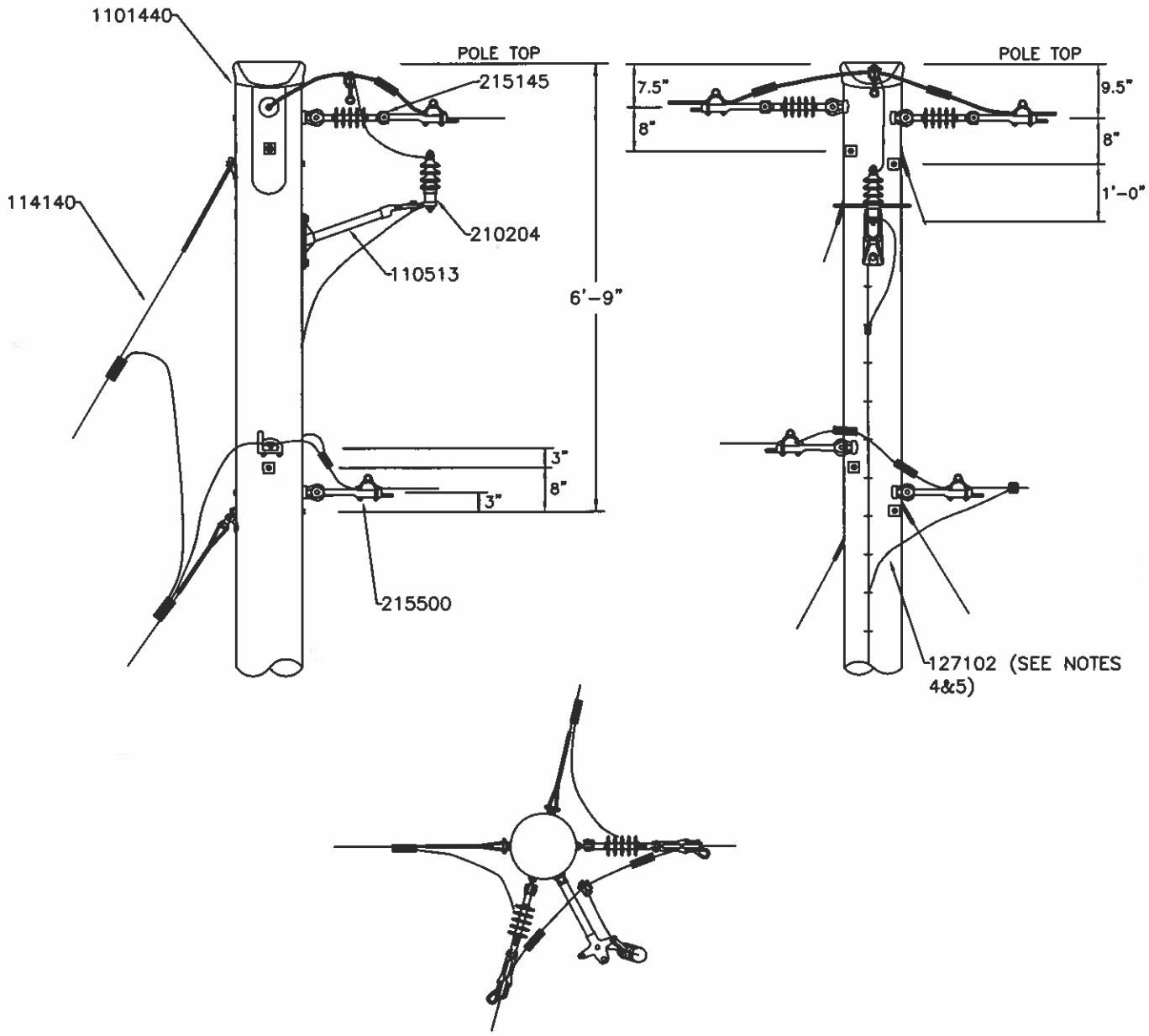
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
31–45° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
11–04–2021	511.2



NOTES:

1. MINIMUM 20' GUY LEAD @90° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.
6. SKIN OUT CONDUCTOR INSULATION TO SEAT SECURELY IN CONDUCTOR CLAMP AND ATTACH HOT-LINE CONNECTION TO ARRESTER.

STATE OF MAINE
DAVID W. FORMAN
No. 8577
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 45-90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12-16-2020	512

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	2		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114140	4		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	2		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
110513	1		**18" FG APPARATUS BKT**	
		1	18" FG APPARATUS BKT	1110513
		2	BOLTS MACH, 14" X 5/8"	1106514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	DBL COIL SPRING WASHER, 5/8"	1138602
201203	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
201204	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

MATERIALS & ASSEMBLIES

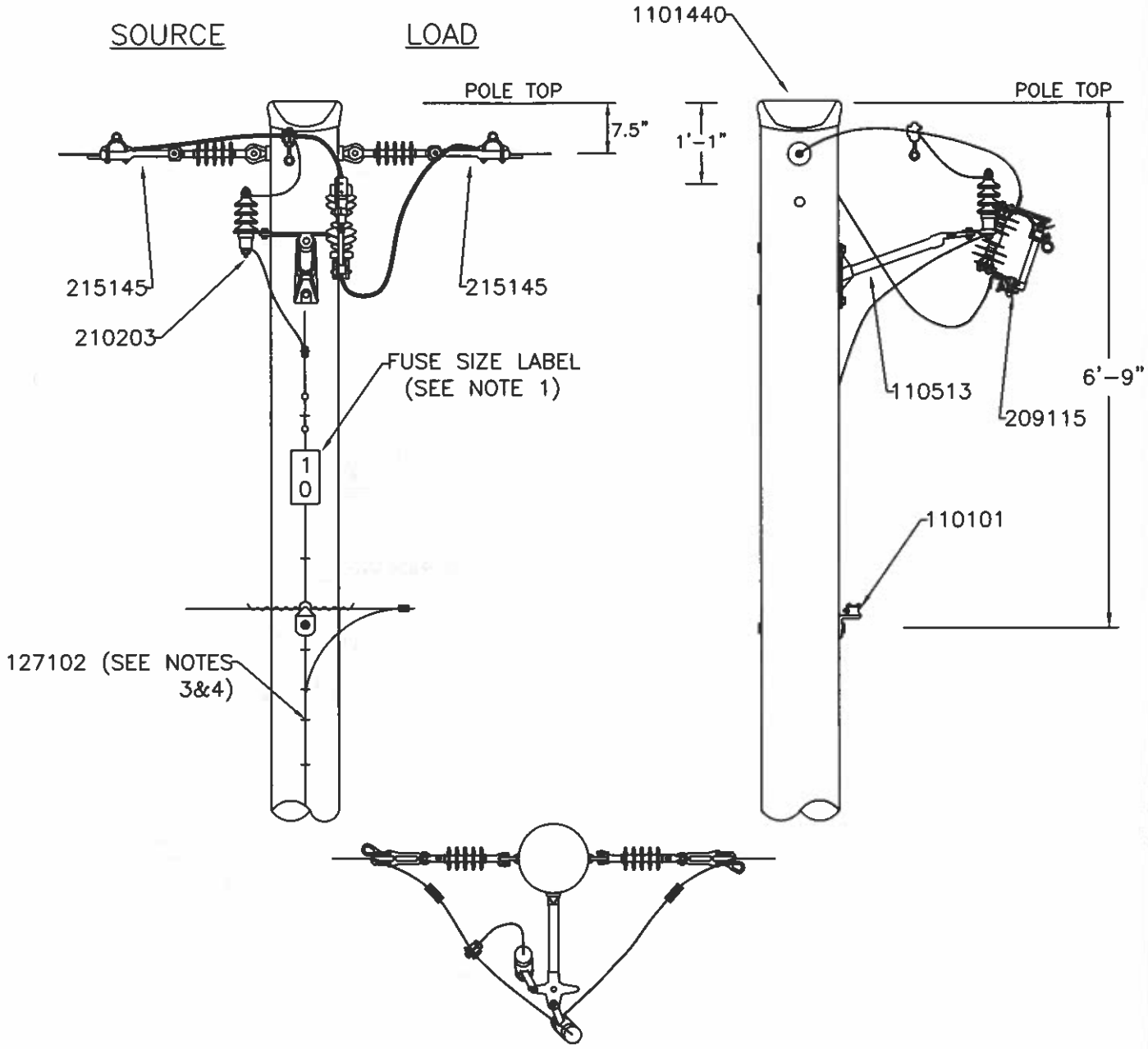
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE 45–90° DOUBLE DEADEND 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
12–16–2020	512



NOTES:

1. FUSE SIZE TAG SHALL BE INSTALLED ON THE ROAD SIDE BETWEEN PRIMARY & NEUTRAL.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.
5. SKIN OUT CONDUCTOR INSULATION TO SEAT SECURELY IN CONDUCTOR CLAMP AND ATTACH HOT-LINE CONNECTION TO ARRESTER.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
11/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE FUSED CUTOUT STRUCTURE 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
12-15-2020	513

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	2		**15 kV DEADEND SM**	
		1	15 kV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
110513	1		**18" FG APPARATUS BKT**	
		1	18" FG APPARATUS BKT	1110513
		2	BOLTS MACH, 14" X 5/8"	1106514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	DBL COIL SPRING WASHER, 5/8"	1138602
209115	1		**15 kV CUTOUT SM**	
		1	15 kV CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
201203	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 kV DEADEND LG**	
		1	15 kV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
209130	1		**15 kV CUTOUT LG**	
		1	15 kV CUTOUT LG	1209115
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203
201204	1		**10 kV ARRESTER**	
		1	10 kV ARRESTER	1201203
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

MATERIALS & ASSEMBLIES

STATE OF MAINE
DAVID W. NORMAN
No. 8577
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – SINGLE PHASE
FUSED CUTOUT STRUCTURE
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
12-15-2020	513

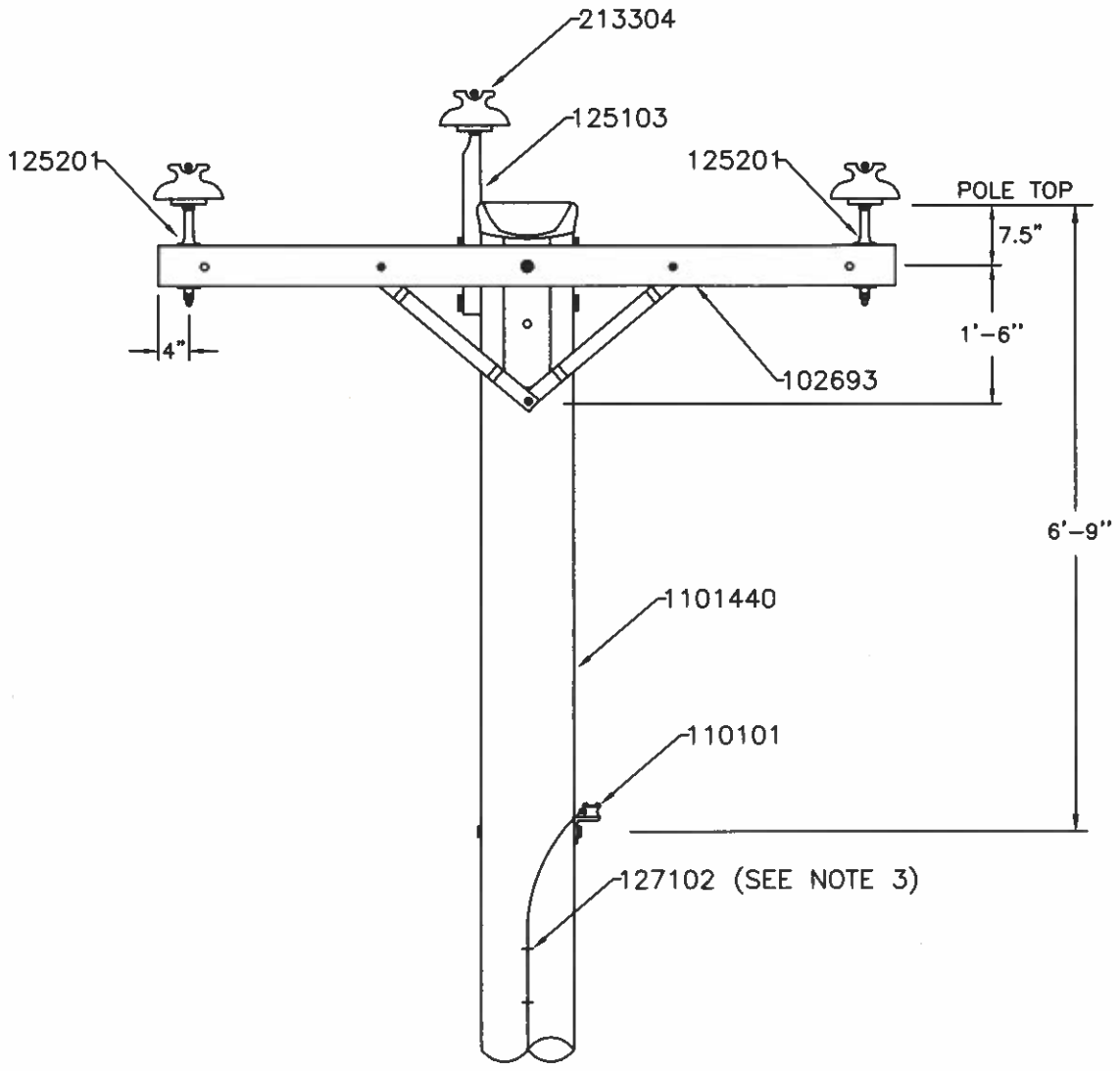
STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
601	15 kV THREE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
602	15 kV THREE PHASE 1-15° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
603	15 kV THREE PHASE 16-30° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
604	15 kV THREE PHASE 31-45° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
605	15 kV THREE PHASE 46-60° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
606	15 kV THREE PHASE 61-90° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR	10-06-2020
607	15 kV THREE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	12-15-2010
608	15 kV THREE PHASE w/ TWO 1ϕ TAPS 2000# TENSION 1/0 & 336 CONDUCTOR	12-15-2010
611	15 kV THREE PHASE w/ ONE 1ϕ TAP 2000# TENSION 1/0 & 336 CONDUCTOR	12-15-2010
612	15 kV THREE PHASE OUTRIGGED ARM 2000# TENSION 1/0 & 336 CONDUCTOR	12-15-2010
613	15 kV THREE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	03-29-2021
614	15 kV THREE PHASE 0-5° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	03-29-2021
615	15 kV THREE PHASE 5-15° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	03-29-2021
616	15 kV THREE PHASE 15-30° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	09-28-2021
617	15 kV THREE PHASE 30-45° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR	09-28-2021

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

- INDEX -
15 kV THREE PHASE
2000 LBS

LAST REVISED	DRAWING
10-26-2022	600



NOTES:

1. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
2. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
3. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
10/06/2020	601

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

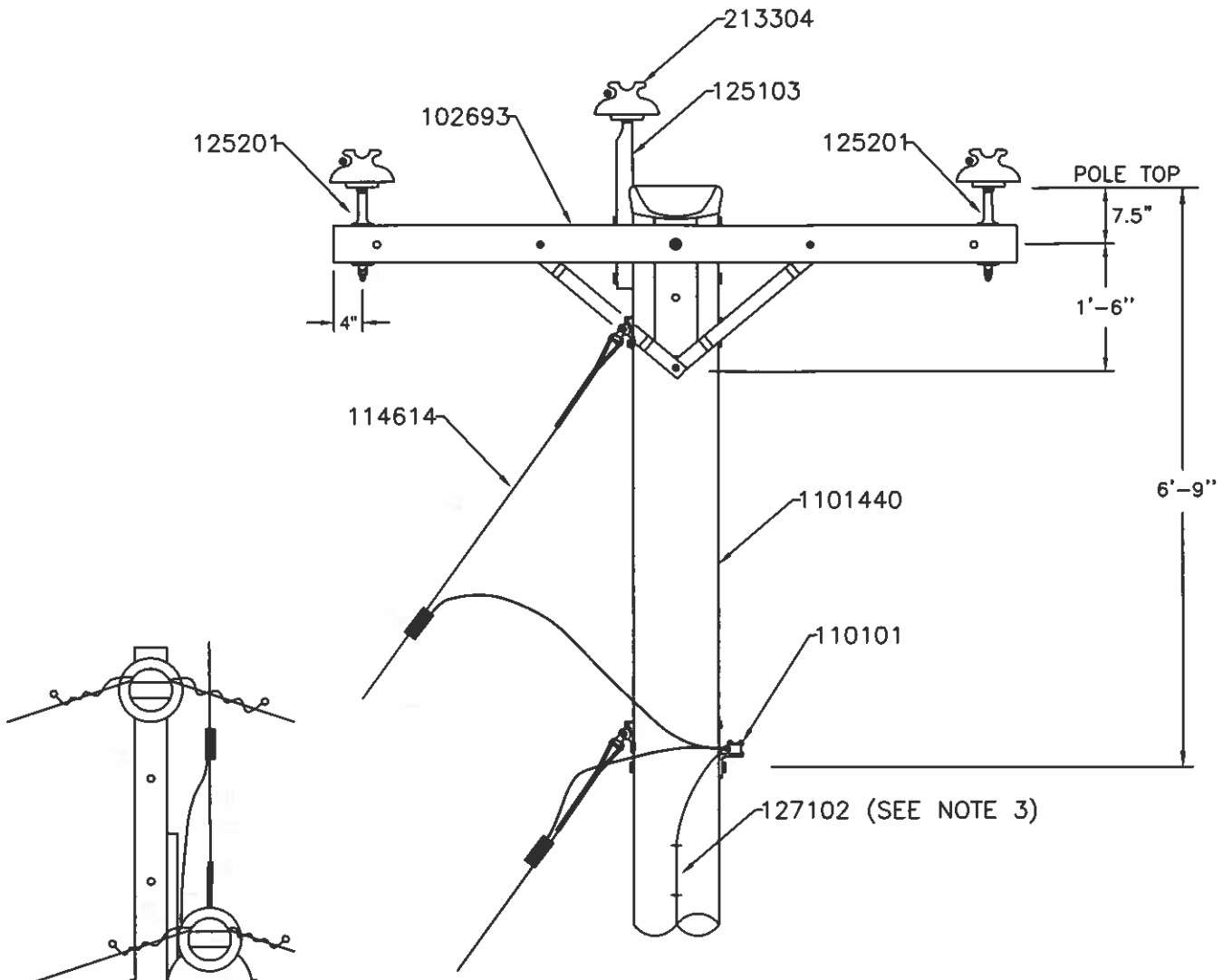
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/20/22

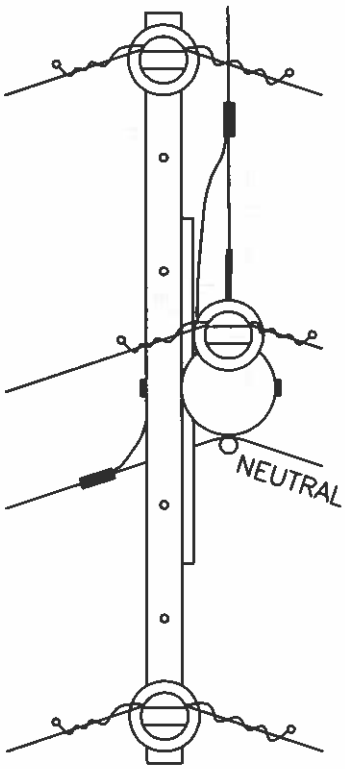
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE
0° TANGENT
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
10/06/2020	601





NOTES:

1. MINIMUM 15' GUY LEAD @ 15° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE
1–15° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
10/07/2020	602

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213809	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102696	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

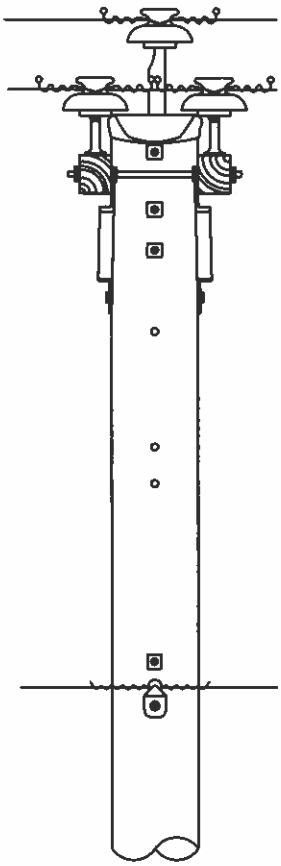
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
1/30/22

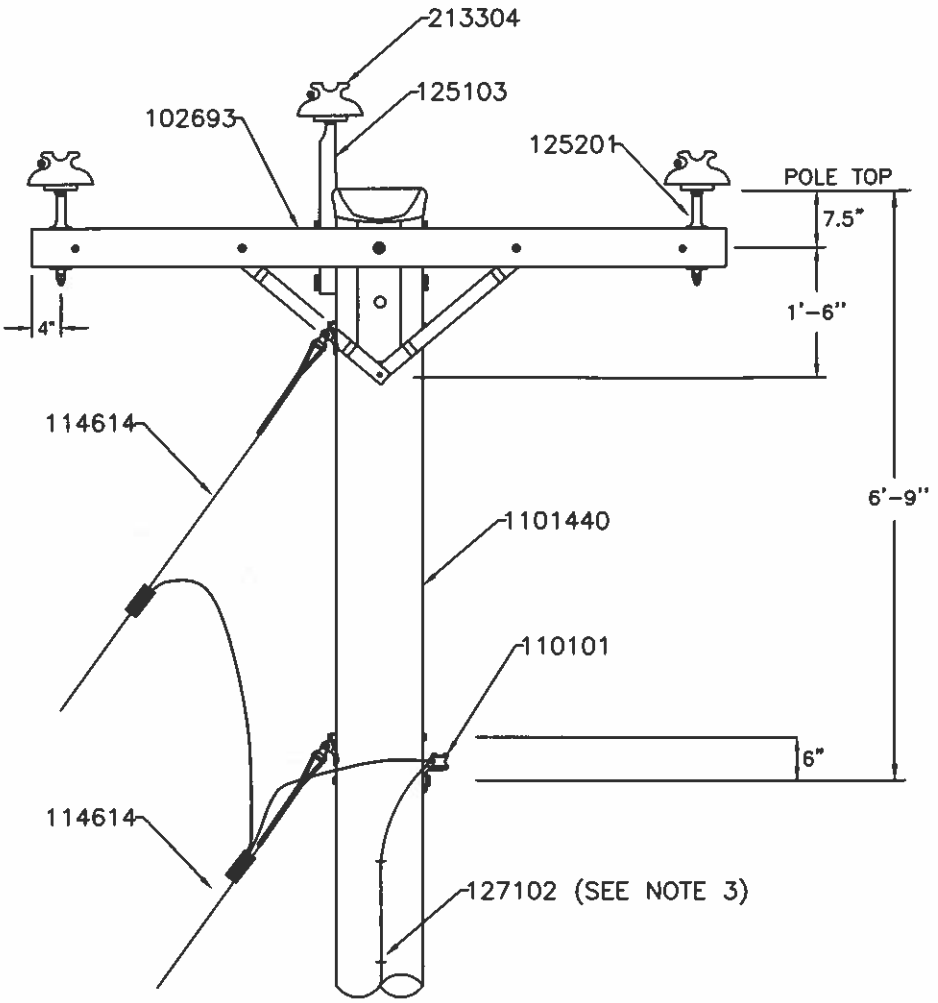
DISTRIBUTION CONSTRUCTION STANDARDS

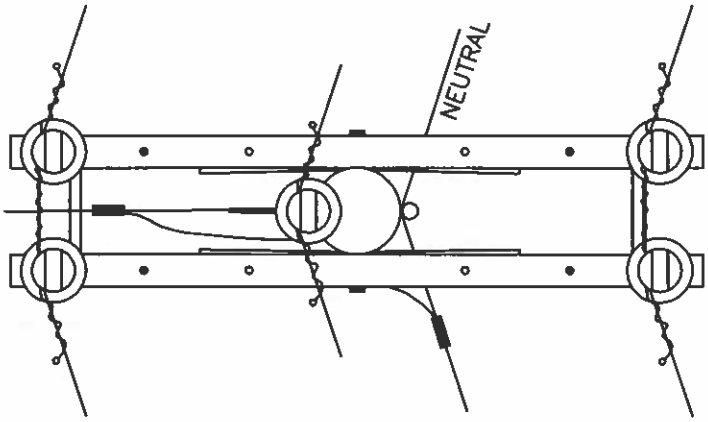
VERSANT POWER

15 kV – THREE PHASE
1–15° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
10/07/2020	602







NOTES:

1. MINIMUM 15' GUY LEAD @ 30° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
7/20/22

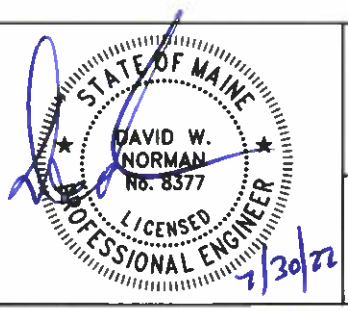
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE
16–30° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	603

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV F-NECK	1213315
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH, 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

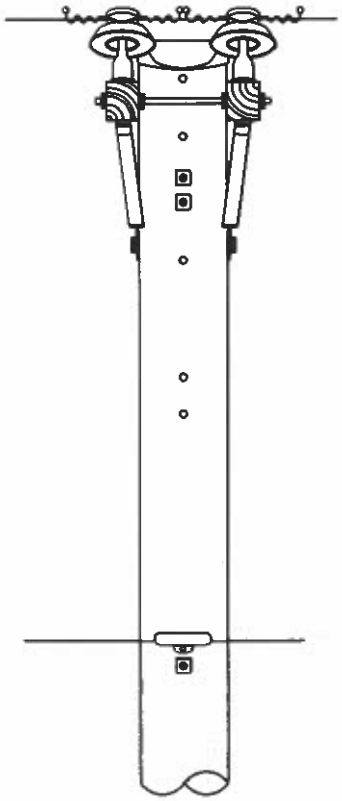


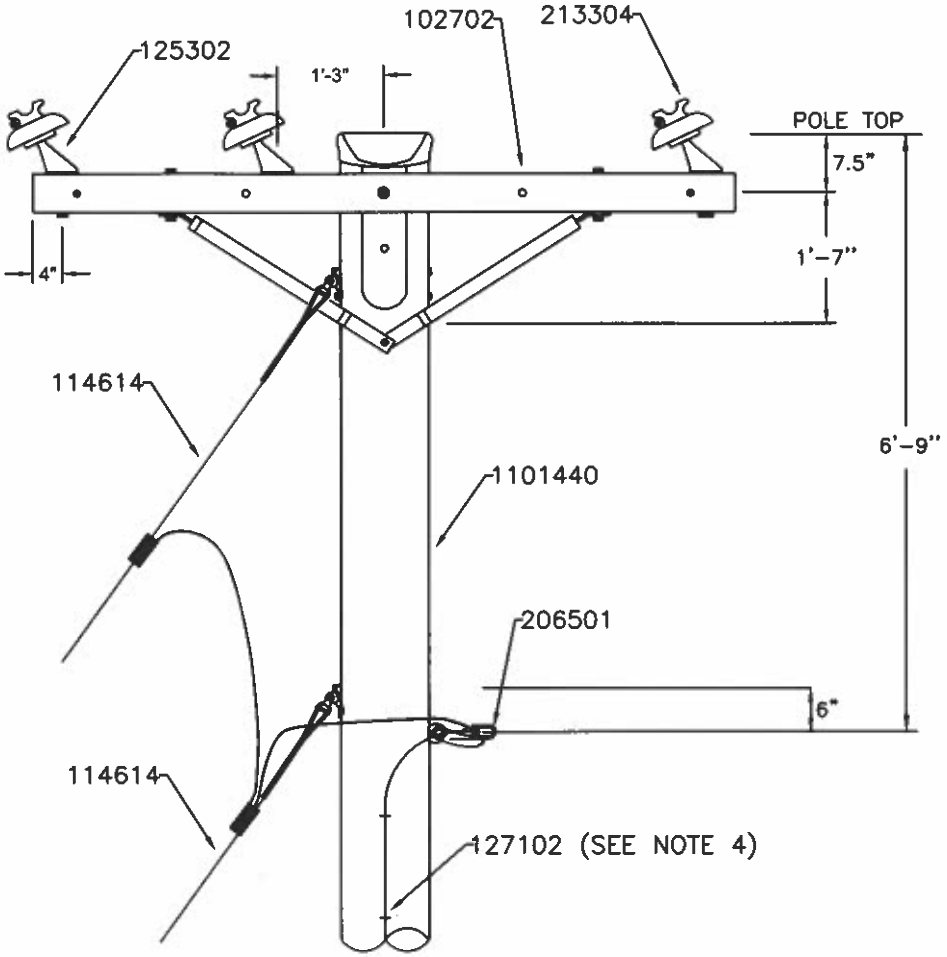
DISTRIBUTION CONSTRUCTION STANDARDS

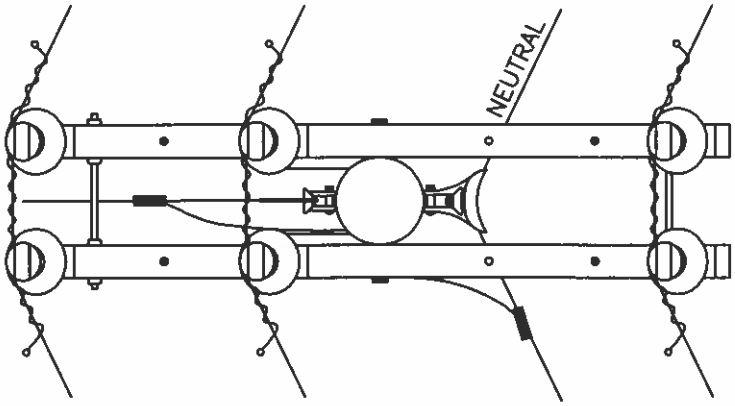
VERSANT POWER

15 kV – THREE PHASE 16–30° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	603







NOTES:

1. MINIMUM 16' GUY LEAD @ 45° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 31–45° CORNER 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	604

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	6		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125302	6		**8" ANGLE PIN**	
		1	6" X 5/8" MACH BOLT	1106506
		1	ANGLE PIN	1125302
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

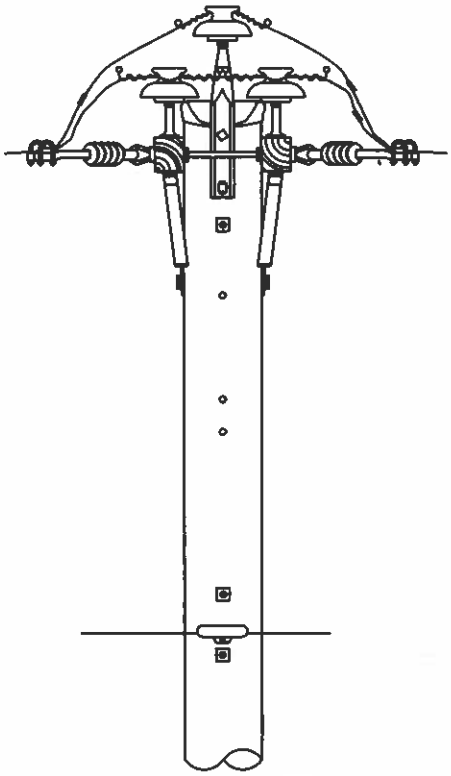
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/20/22

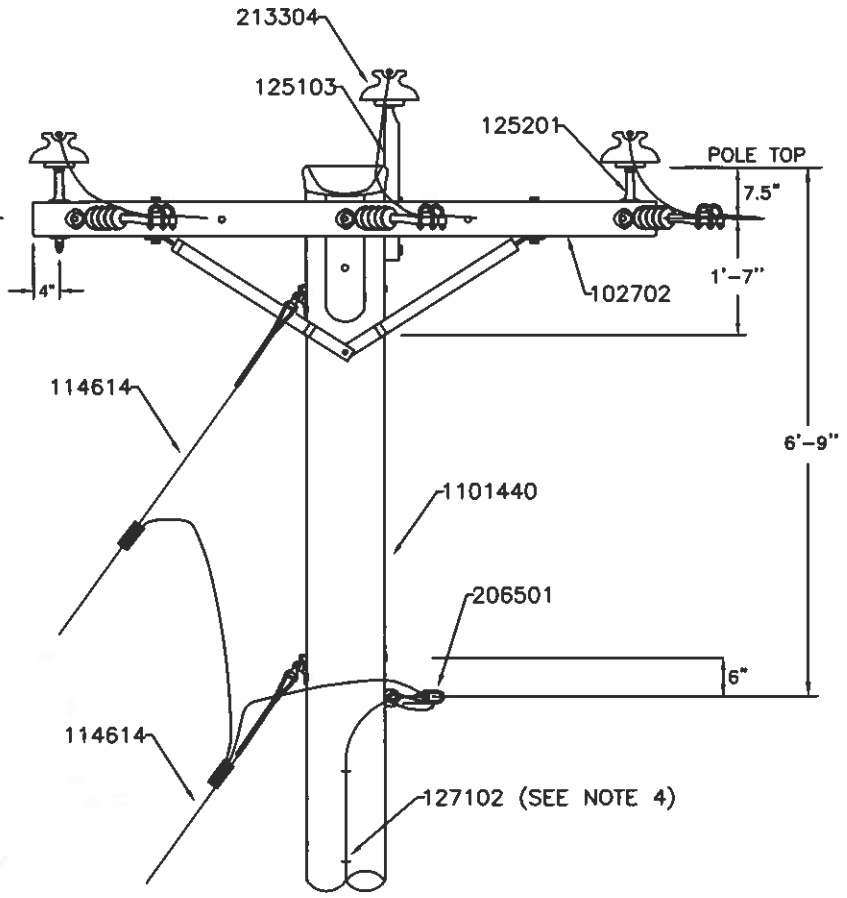
DISTRIBUTION CONSTRUCTION STANDARDS

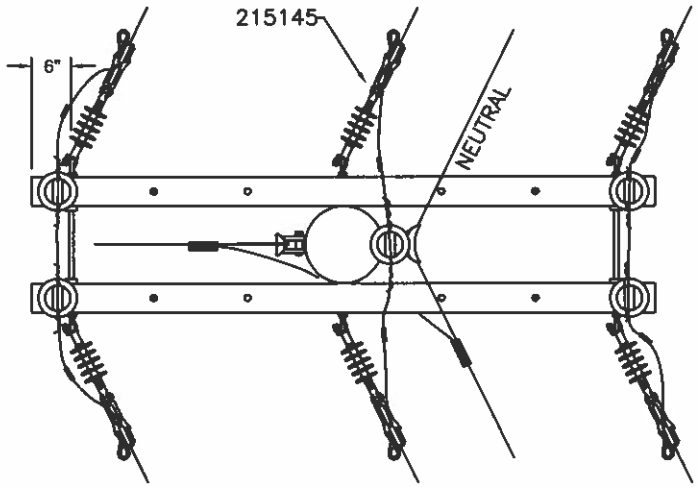
VERSANT POWER

15 kV – THREE PHASE
31–45° CORNER
2000# TENSION
1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	604







NOTES:

1. MINIMUM 22' GUY LEAD @ 60° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 46–60° DOUBLE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	605

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	5		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213315
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215145	6		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
		1	GUY HOOK P345	1206903
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
FOR	**336 AAC**	**CONDUCTOR**		
215160	6		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415

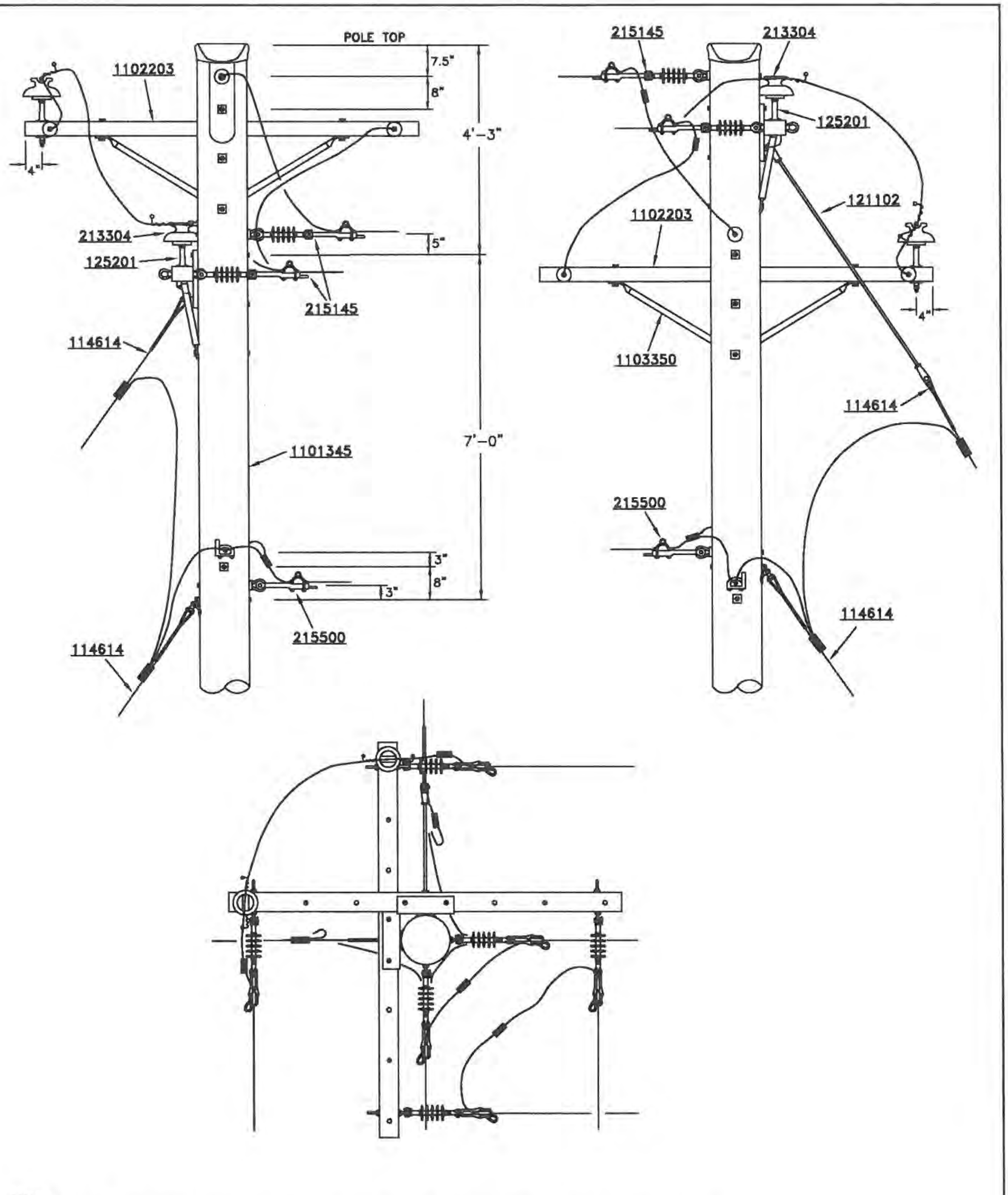
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
4/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 46–60° DOUBLE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11/12/2020	605



NOTE:

1. MINIMUM 22' GUY LEAD @ 90° w/ TWO 14M GUY WIRE AND 14" ANCHOR IN BOTH DIRECTIONS. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM 45/3 POLE REQUIRED. SPACING SHOWN IS FOR FULL EXCESS HEIGHT.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
61–90 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
606

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 45' CLASS 3	1101345
		1	POLE TOPPER	1115306
213304	2		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215145	6		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
1102203	2		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	2		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	4		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
FOR	**336 AAC**	**CONDUCTOR**		
215160	6		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

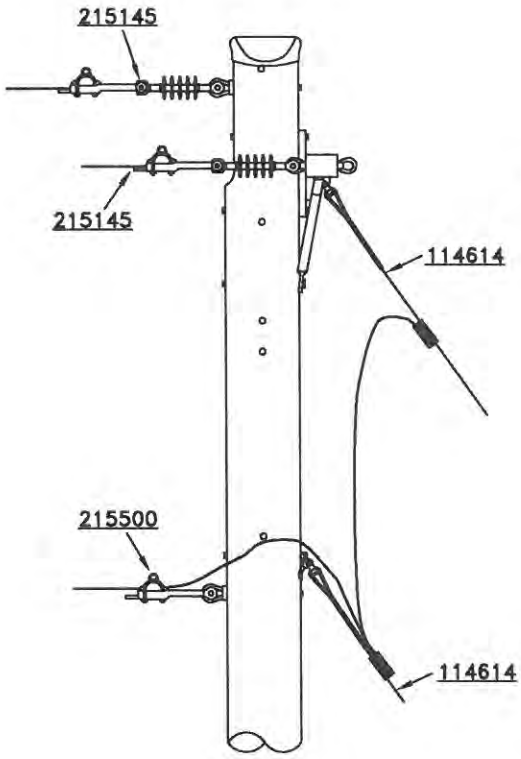
15KV – THREE PHASE
61–90 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

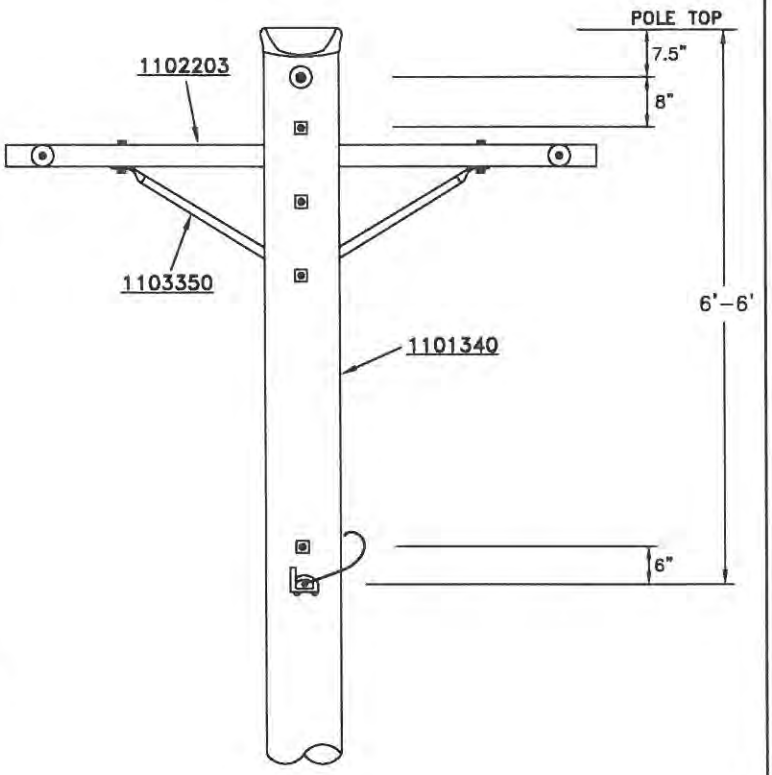
DISTRIBUTION CONSTRUCTION STANDARDS

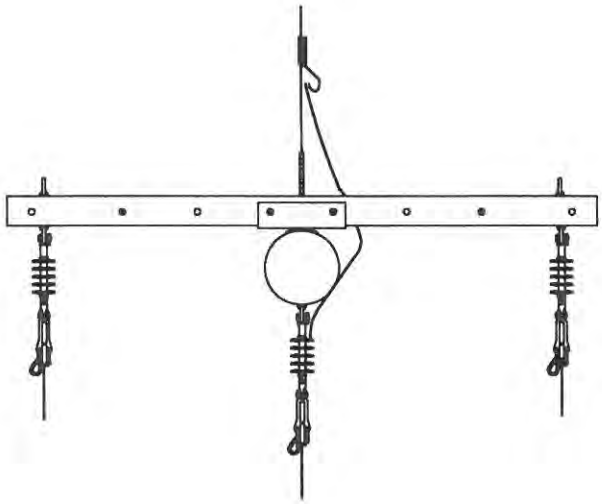
MATERIALS & ASSEMBLIES

DRAWING
606

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 22' GUY LEAD @ 90° w/ TWO 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
607

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
215145	3		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
1102203	1		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	1		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215500	1		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
FOR	**336 AAC**	**CONDUCTOR**		
215160	3		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	2-1-10	GAN

15KV – THREE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

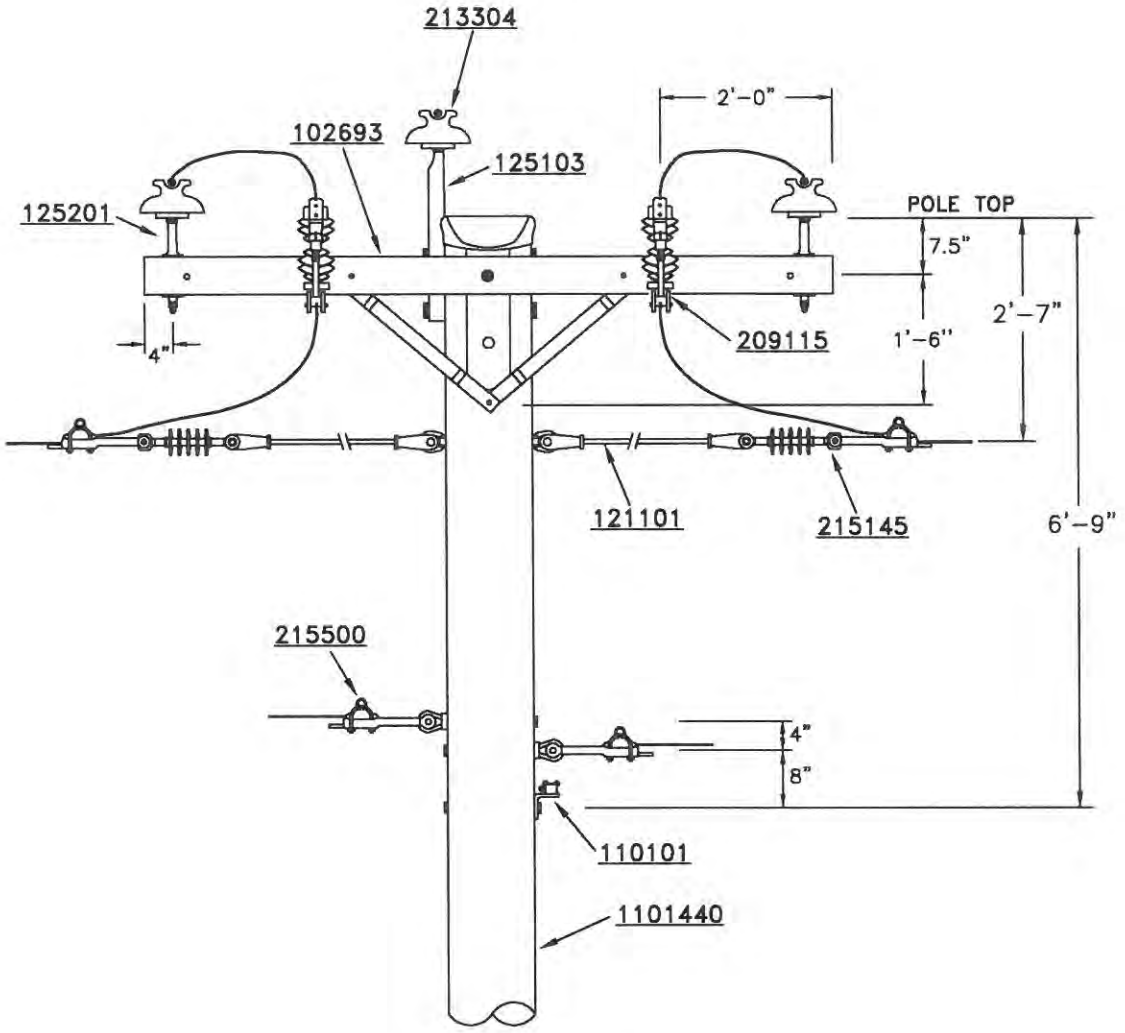
MATERIALS & ASSEMBLIES

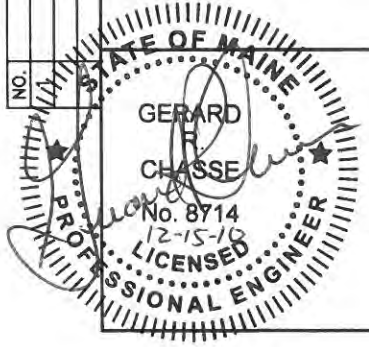
DRAWING 607

BANGOR HYDRO ELECTRIC Co.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN





DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE w/ TWO 1ø TAPS 2000# TENSION 1/0 & 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 608

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	2		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104
209115	2		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
215160	2		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
209130	2		**15 KV OPEN CUTOUT LG**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

15KV – THREE PHASE w/ TWO 1ø TAPS 2000# TENSION 1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

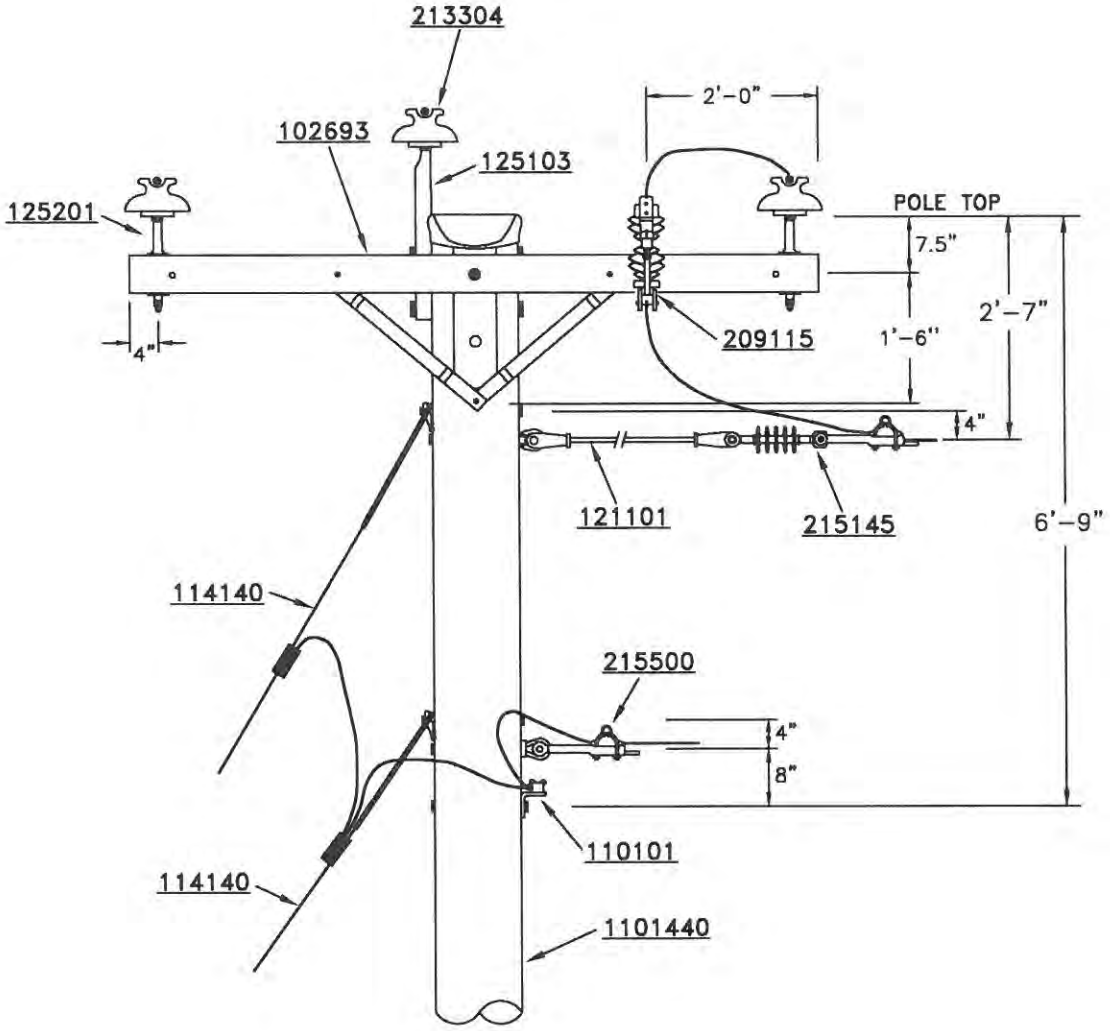
MATERIALS & ASSEMBLIES

DRAWING 608

BANGOR HYDRO ELECTRIC Co.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN



NOTE:

1. MINIMUM 15' GUY LEAD w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. IND. JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
PROFESSIONAL LICENSED ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE w/ ONE 1ø TAP 2000# TENSION 1/0 & 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 611

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215145	1		**15 KV DEADEND SM**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
215500	1		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104
114140	2		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
209115	1		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**336 AAC**	**CONDUCTOR**		
215160	1		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
209130	1		**15 KV OPEN CUTOUT LG**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206104
		1	CONNECTOR	1207203

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

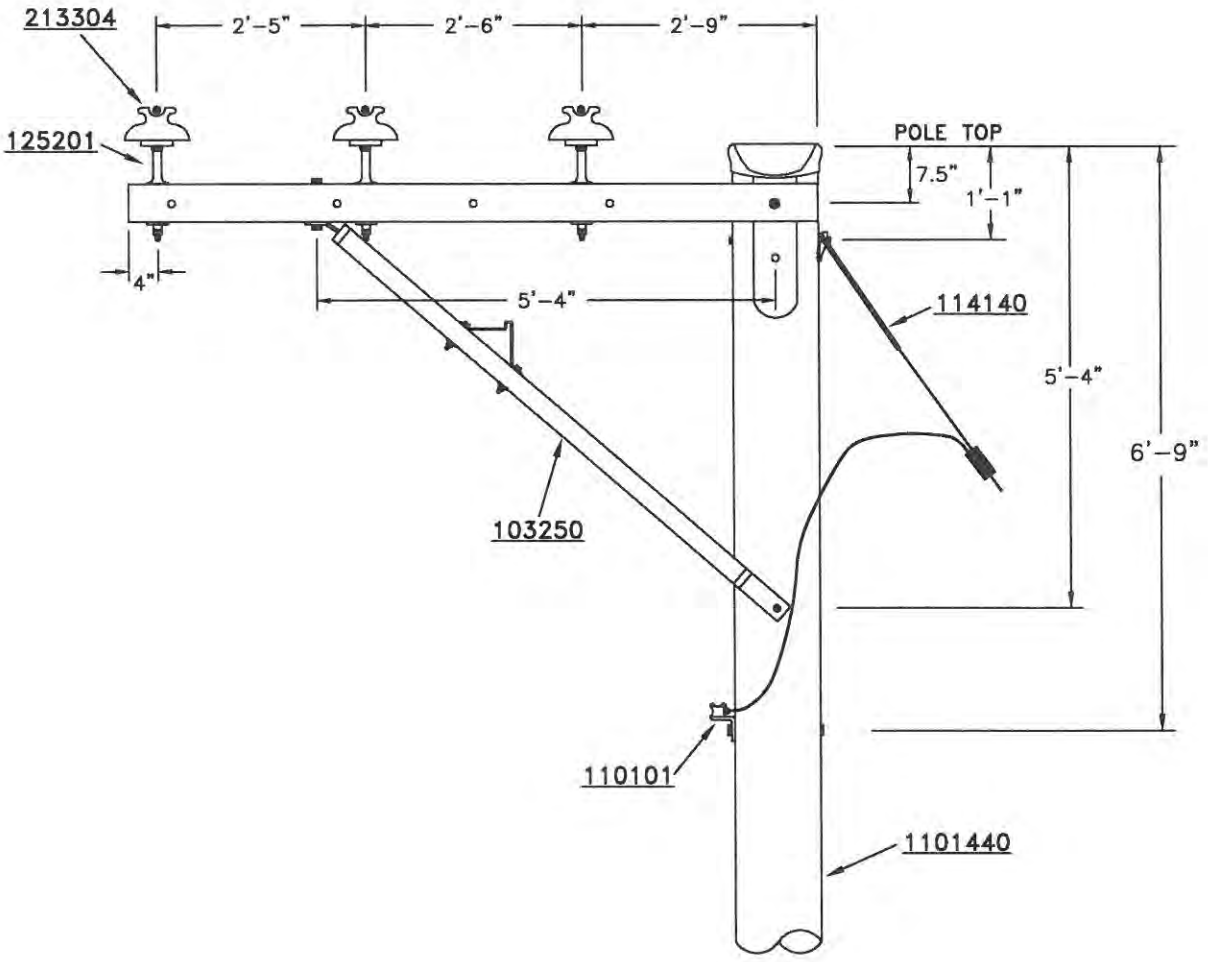
15KV – THREE PHASE w/ ONE 1ø TAP 2000# TENSION 1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING 611

BANGOR HYDRO ELECTRIC Co.



NOTE:
1. USE SINGLE OR DOUBLE ARM, AND STRAIGHT OR ANGLE PINS ACCORDING TO LINE ANGLE. REFER TO 15KV STANDARDS.
2. MINIMUM 10' GUY LEAD w/ ONE 5/16" GUY WIRE AND 10" ANCHOR. FOR OTHER CONFIGURATION, REFER TO SECTION 1300.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-16-09	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE OUTRIGGED ARM 2000# TENSION 1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
612

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125201	3		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
103250	1		**7' ALLEY ARM**	
		1	96" 6 PIN ARM	1102693
		1	ALLEY ARM BRACE, WOOD	1103250
		1	LAG SCREW	1104412
		1	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	3/8" LOCK WASHER	1138400
		1	BOLTS MACH. 12" X 5/8"	1106512
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114140	1		**5/16" GUY**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-151 GUY HOOK	1112011
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

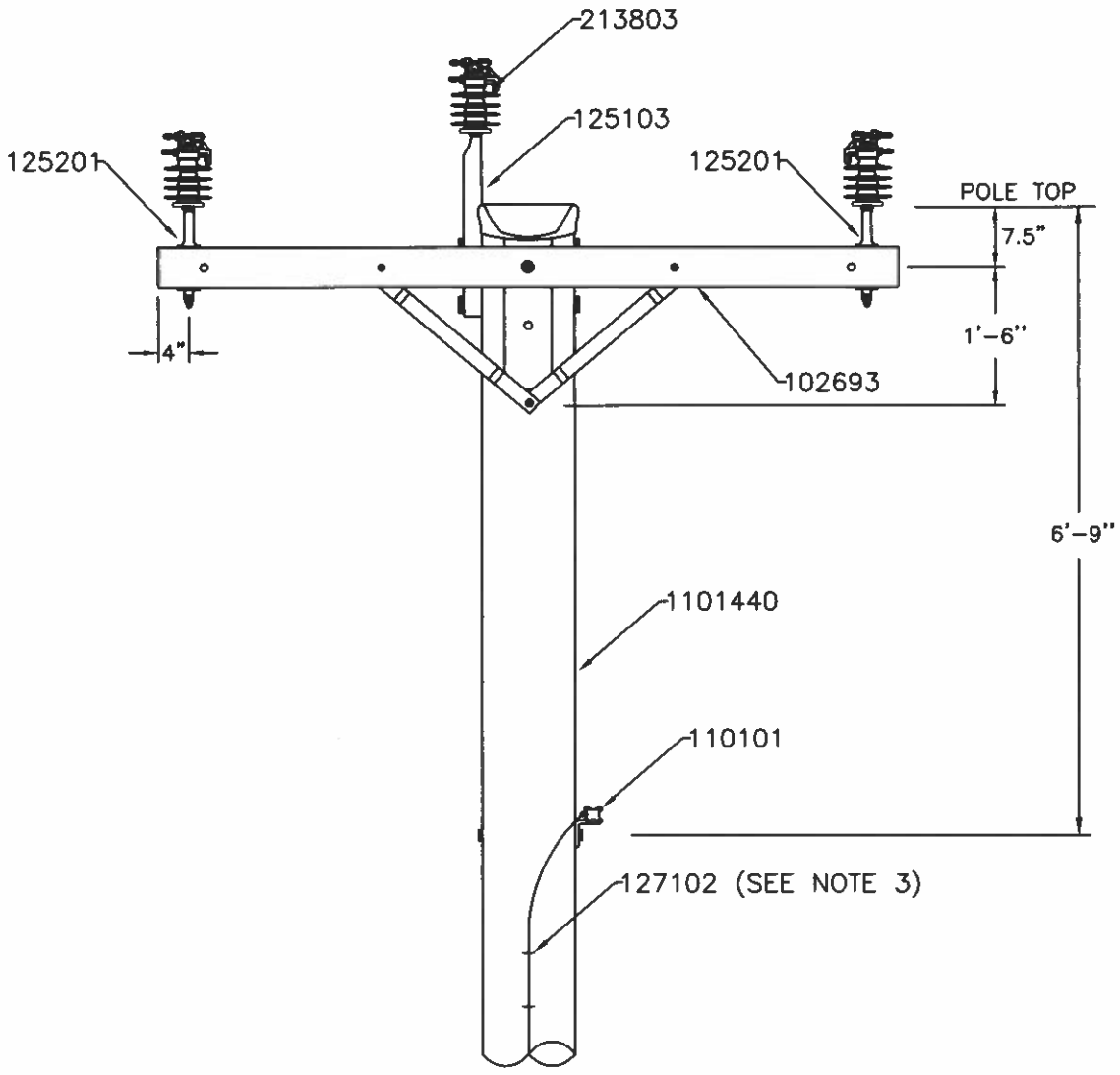
15KV – THREE PHASE
OUTRIGGED ARM
2000# TENSION
1/0 & 336 CONDUCTOR

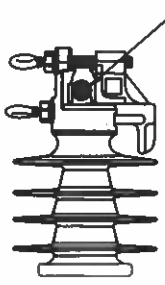
DISTRIBUTION
CONSTRUCTION
STANDARDS

MATERIALS &
ASSEMBLIES

DRAWING
612

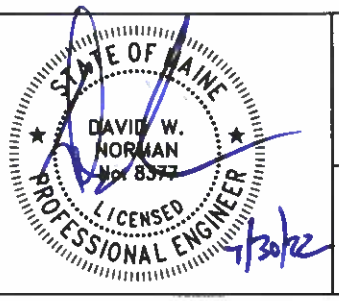
BANGOR HYDRO ELECTRIC Co.





INSULATOR FRONT VIEW

NOTES:
1. FOR TANGENT STRUCTURES, CONDUCTOR MUST BE INSTALLED IN THE SADDLE OF THE INSULATOR, AND SECURED BY TIGHTENING OF THE BOLTS.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.



DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 0° TANGENT 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	613

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213804
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

MATERIALS & ASSEMBLIES

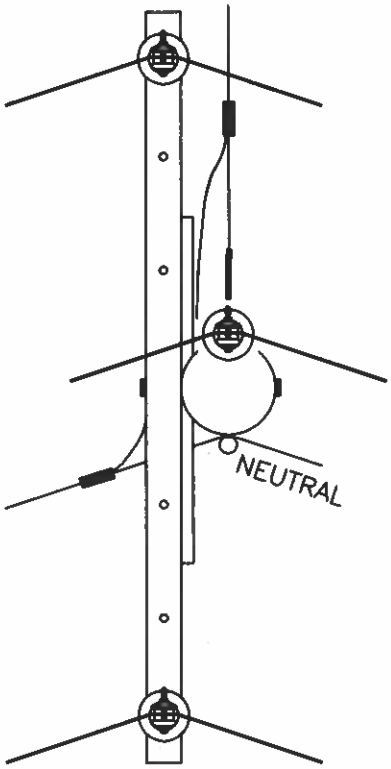
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/20/22

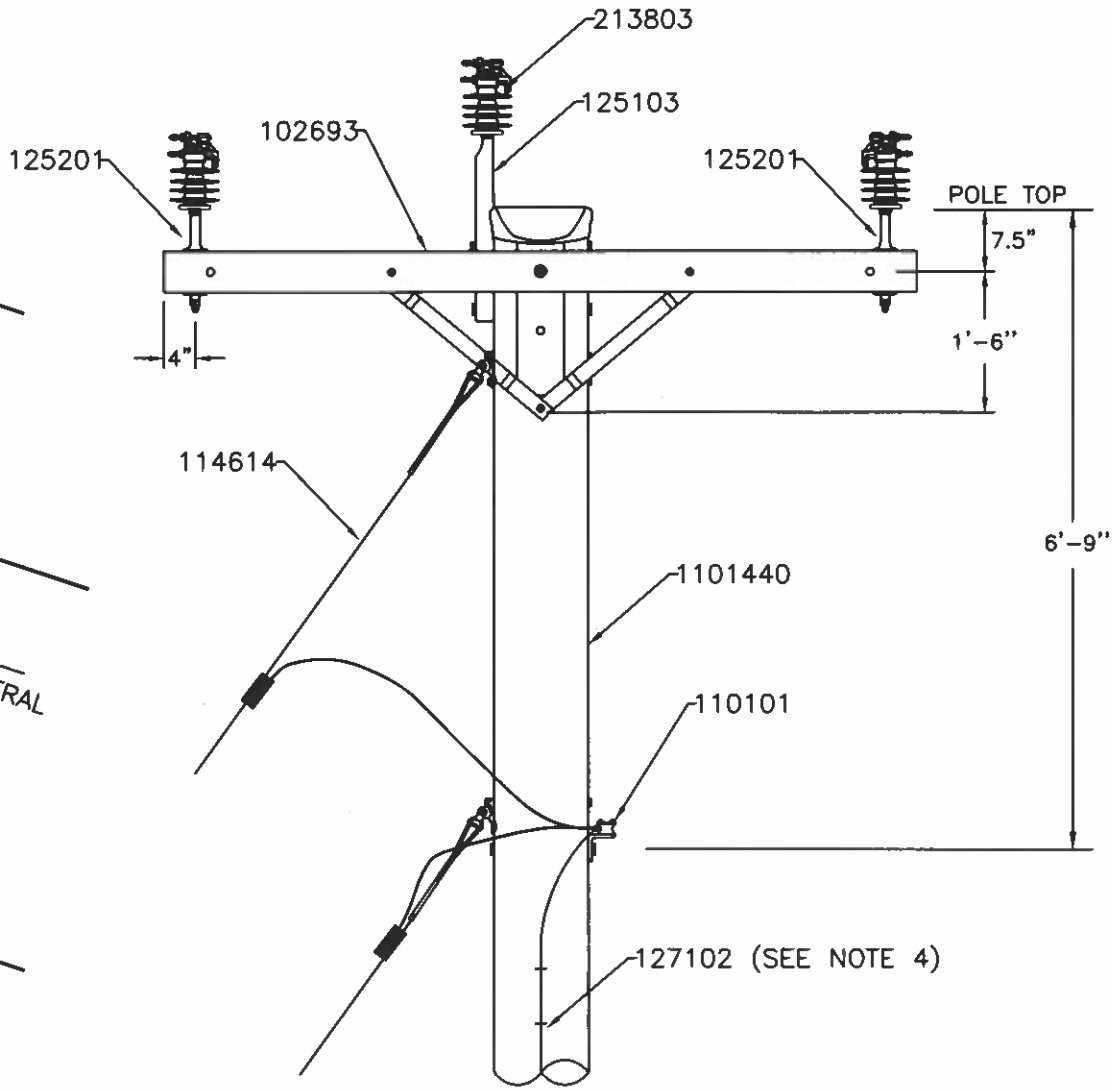
DISTRIBUTION CONSTRUCTION STANDARDS

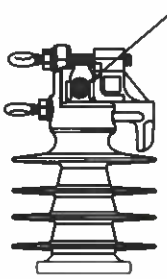
VERSANT POWER

15 kV – THREE PHASE
0° TANGENT
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	613







INSULATOR FRONT VIEW

NOTES:

1. FOR STRUCTURES 0–5°, CONDUCTOR MUST BE INSTALLED IN THE SADDLE OF THE INSULATOR, AND SECURED BY TIGHTENING OF THE BOLTS.
2. MINIMUM 15' GUY LEAD @ 15° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
3/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE
0–5° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	614

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213804
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH, 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
		1	GUY HOOK P345	1206903
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

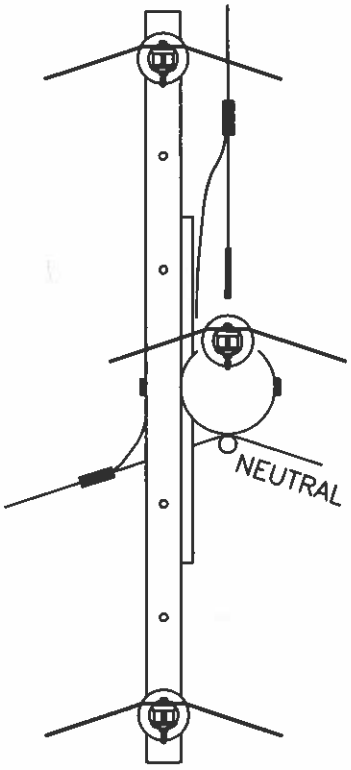
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/8/22

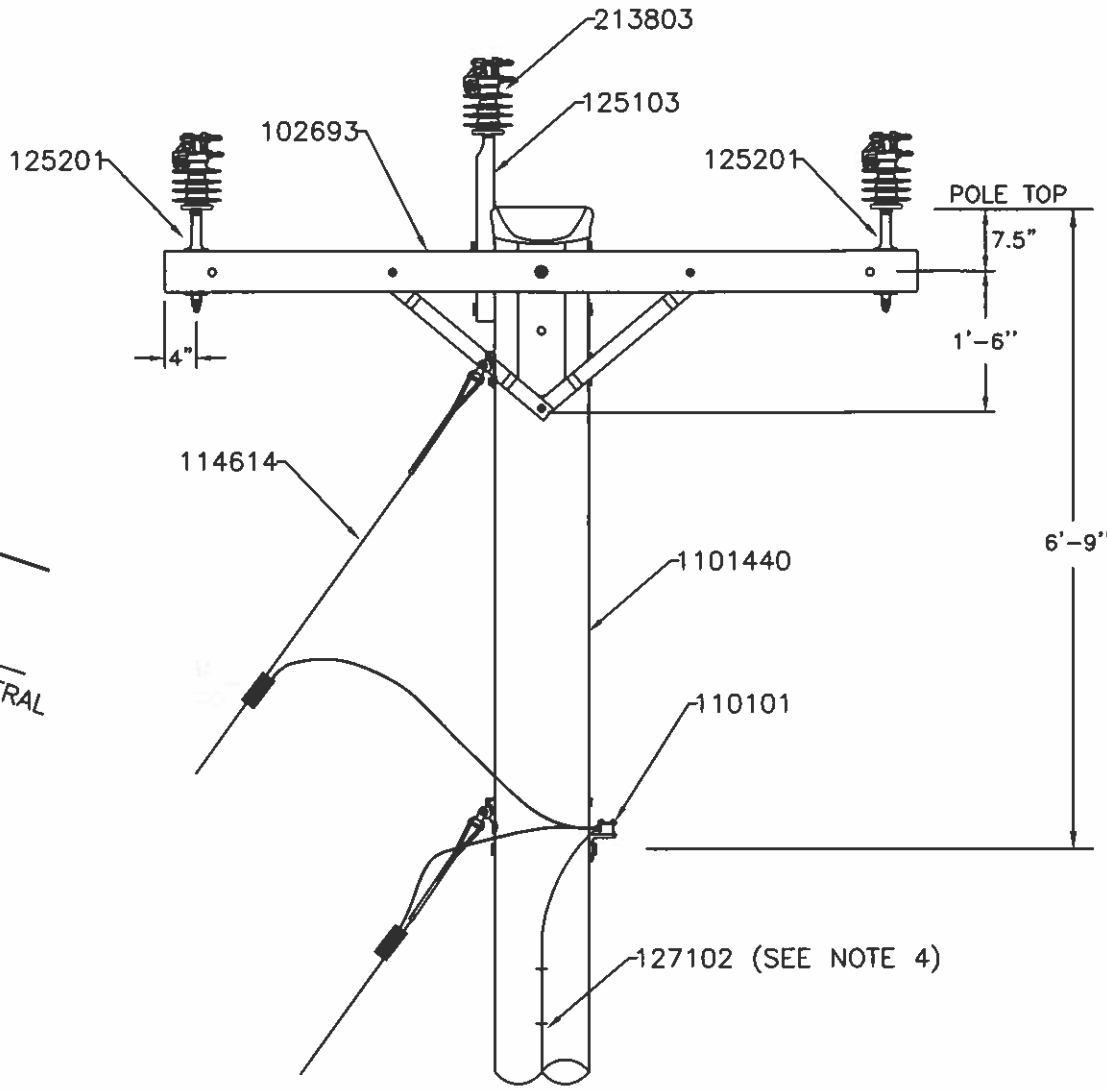
DISTRIBUTION CONSTRUCTION STANDARDS

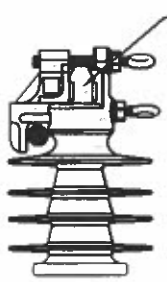
VERSANT POWER

15 kV – THREE PHASE
0–5° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	614







INSULATOR FRONT VIEW

NOTES:
1. FOR STRUCTURES 5°–15°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATOR.
2. MINIMUM 15' GUY LEAD @ 15° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
4. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
5. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
4/20/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE
5°–15° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	615

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213804
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102696	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

MATERIALS & ASSEMBLIES

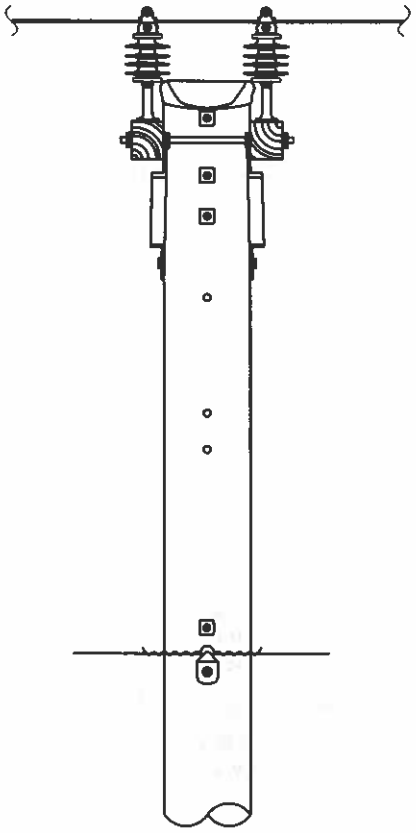
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
4/20/22

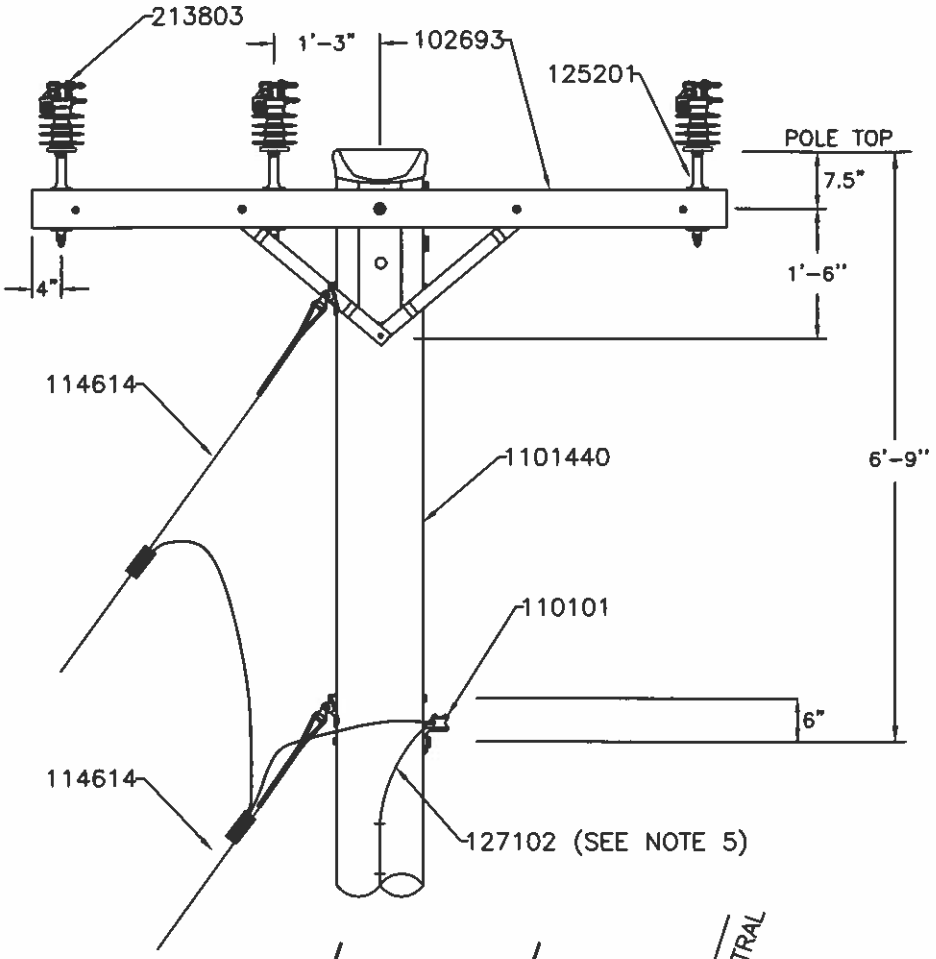
DISTRIBUTION CONSTRUCTION STANDARDS

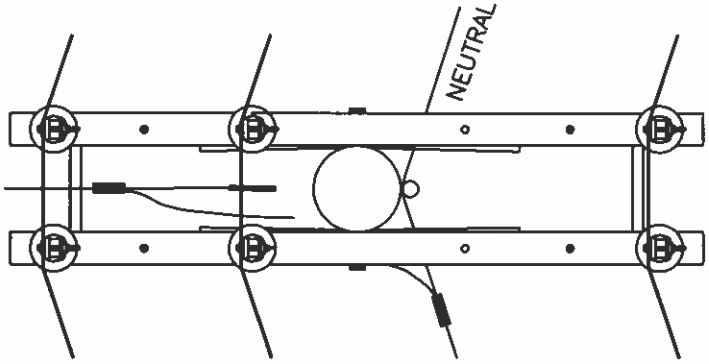
VERSANT POWER

15 kV – THREE PHASE
5°–15° CORNER
2000# TENSION
1/0 & 336 COVERED CONDUCTOR

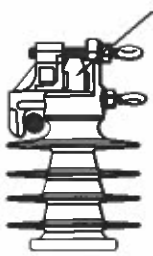
LAST REVISED	DRAWING
03/29/2021	615







NOTES:
1. FOR STRUCTURES 15°–30°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATOR UNDER THE KEEPER CLAMP.
2. MINIMUM 15' GUY LEAD @ 30° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
4. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
5. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
6. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.



INSULATOR FRONT VIEW

STATE OF MAINE
DAVID W NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
3/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 15–30° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
03/29/2021	616

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	6		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213804
125201	6		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**D-96" ARM**	
		2	96" 6 PIN ARM	1102693
		4	CROSSARM BRACE, WOOD	1103301
		2	LAG SCREW	1104412
		3	BOLTS DA, 20" X 5/8"	1106820
		4	4 1/2" X 3/8" CARRIAGE BOLT	1107904
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		4	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
		1	GUY HOOK P345	1206903
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

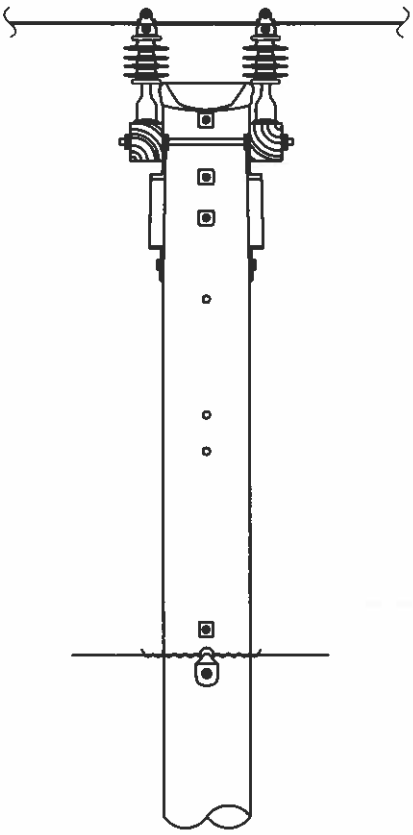
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
4/30/22

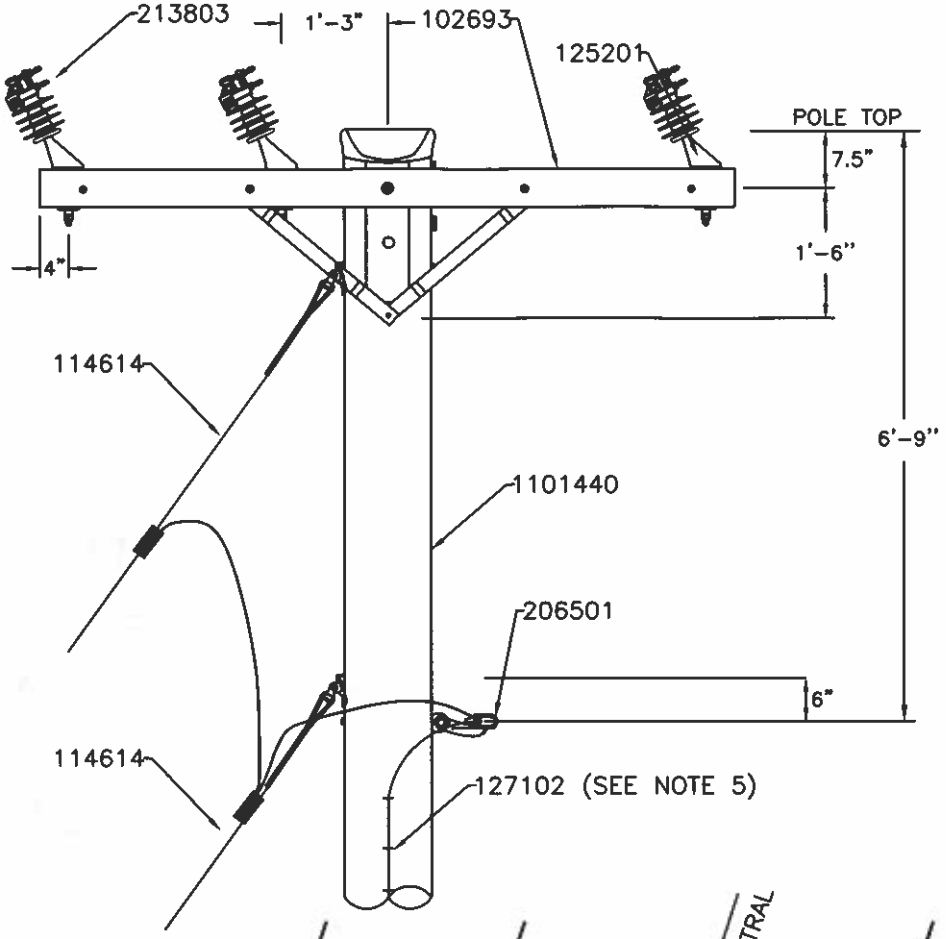
DISTRIBUTION CONSTRUCTION STANDARDS

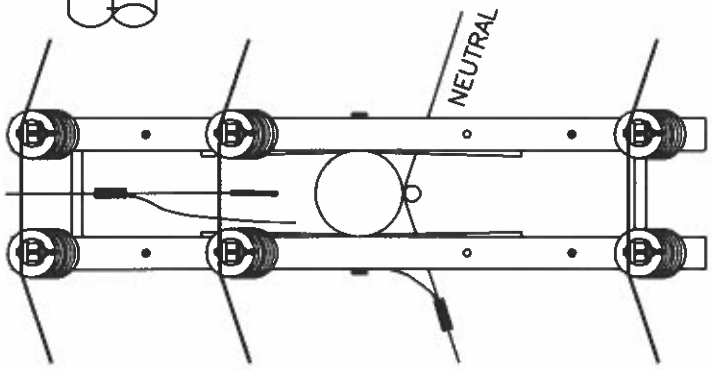
VERSANT POWER

15 kV – THREE PHASE 15–30° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

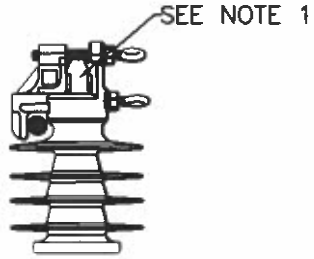
LAST REVISED	DRAWING
03/29/2021	616







NOTES:
1. FOR STRUCTURES 30°–45°, CONDUCTOR MUST BE INSTALLED AGAINST THE NECK OF THE INSULATOR UNDER THE KEEPER CLAMP. DO NOT PLACE CABLE IN THE VISETOP WHILE USING ANGLE PINS.
2. MINIMUM 15' GUY LEAD @ 30° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
3. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
4. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
5. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
6. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.



INSULATOR SIDE VIEW

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 30–45° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
09/28/2021	617

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213803	6		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 kV VISETOP	1213804
125302	6		**8" ANGLE PIN**	
		1	6" X 5/8" MACH BOLT	1106506
		1	ANGLE PIN	1125302
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102696	2		**D-96" ARM**	
		2	96" 6 PIN ARM	1102693
		4	CROSSARM BRACE, WOOD	1103301
		2	LAG SCREW	1104412
		3	BOLTS DA, 20" X 5/8"	1106820
		4	4 1/2" X 3/8" CARRIAGE BOLT	1107904
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		4	3/8" LOCK WASHER	1138400
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
		1	GUY HOOK P345	1206903
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
3/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – THREE PHASE 30–45° CORNER 2000# TENSION 1/0 & 336 COVERED CONDUCTOR

LAST REVISED	DRAWING
09/28/2021	617

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
701	15 kV THREE PHASE 0 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010
702	15 kV THREE PHASE 1-5 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010
703	15 kV THREE PHASE 6-20 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010
704	15 kV THREE PHASE 21-35 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010
705	15 kV THREE PHASE 36-60 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010
706	15 kV THREE PHASE 61-90 DEGREES 3000# TENSION 336 CONDUCTOR	9-8-2010
707	15 kV THREE PHASE DEADEND 3000# TENSION 336 CONDUCTOR	9-8-2010
708	15 kV THREE PHASE OUTRIGGED ARM 0-20 DEGREES 3000# TENSION 336 CONDUCTOR	9-16-2010
709	15 kV THREE PHASE OFFSET 0-20 DEGREES 3000# TENSION 336 CONDUCTOR	9-3-2010

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

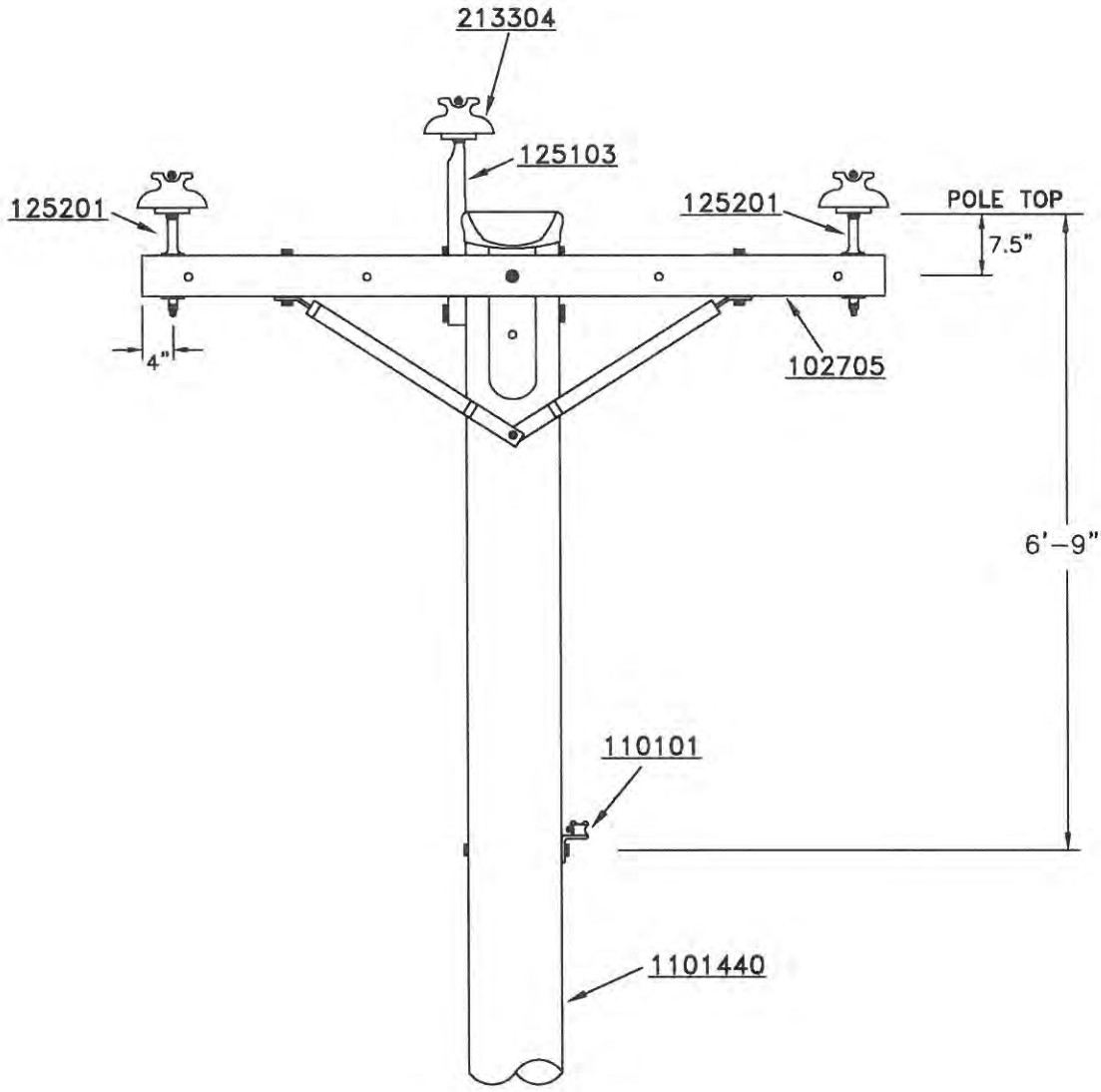
- INDEX -
15 kV THREE PHASE
3000 LBS

LAST REVISED
3-18-2021

DRAWING
700

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN



STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE 0 DEGREES 3000# TENSION 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 701

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102705	1		**96" ARM W/ HVY DUTY BRACE**	
		1	96" 6 PIN ARM	1102693
		2	HVY DUTY CROSSAM BRACE	1103330
		2	6" X 5/8" MACH BOLT	1106506
		2	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		2	DBL COIL SPRING WASHER, 5/8"	1138602
		2	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

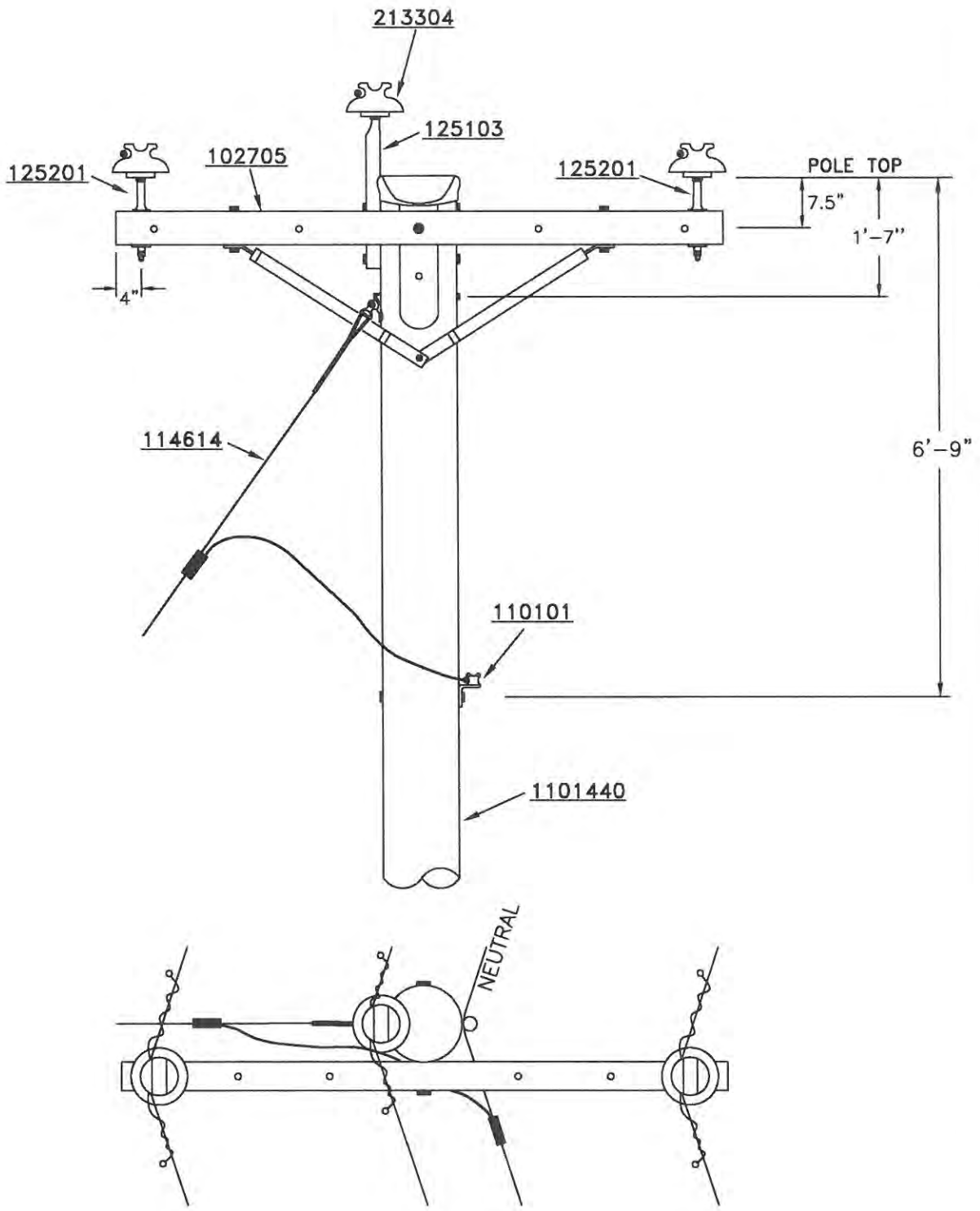
15KV – THREE PHASE
0 DEGREES
3000# TENSION
336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
701

BANGOR HYDRO ELECTRIC Co.



NOTE:
1. MINIMUM 15' GUY LEAD w/ 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CRASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE 1–5 DEGREES 3000# TENSION 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 702

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	5/8" LOCK WASHER	1138402
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102705	1		**96" ARM W/ HVY DUTY BRACE**	
		1	96" 6 PIN ARM	1102693
		2	HVY DUTY CROSSAM BRACE	1103330
		2	6" X 5/8" MACH BOLT	1106506
		2	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		2	DBL COIL SPRING WASHER, 5/8"	1138602
		2	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	1		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

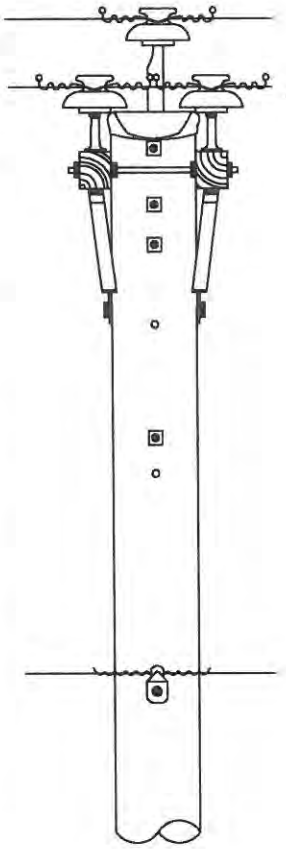
15KV – THREE PHASE
1–5 DEGREES
3000# TENSION
336 CONDUCTOR

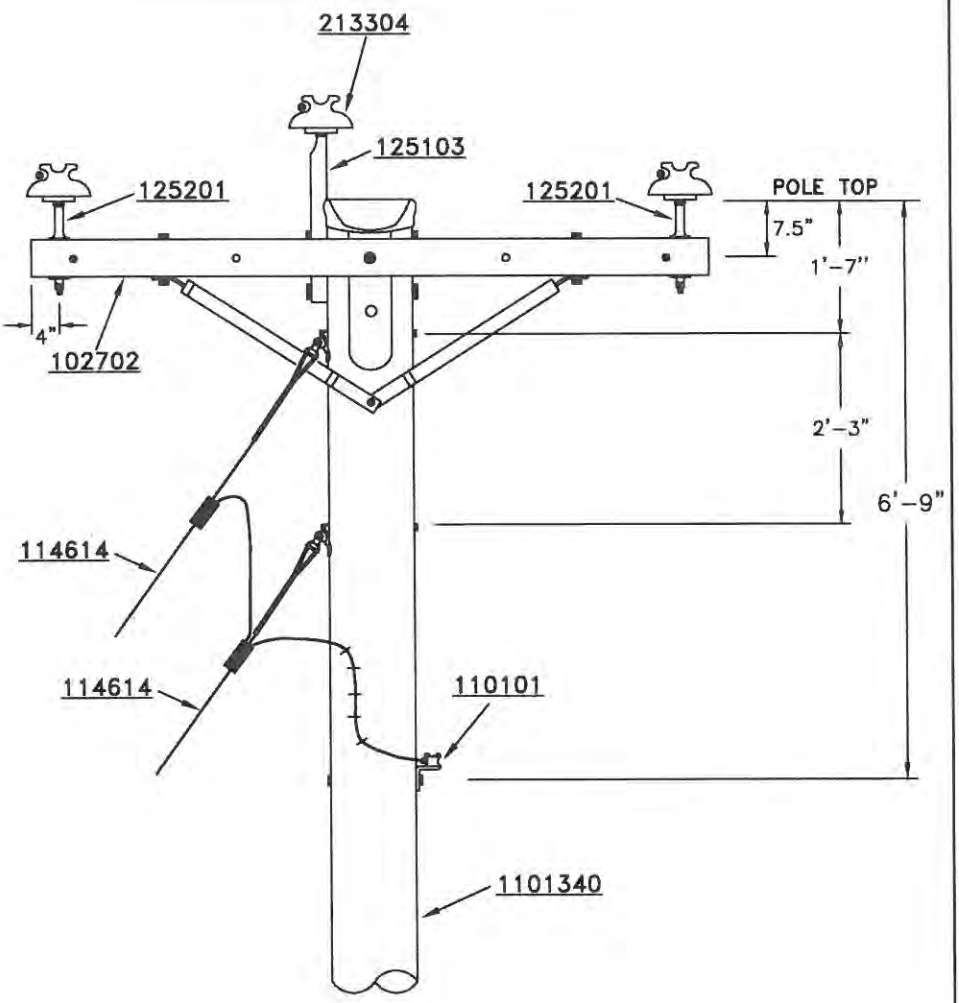
DISTRIBUTION CONSTRUCTION STANDARDS

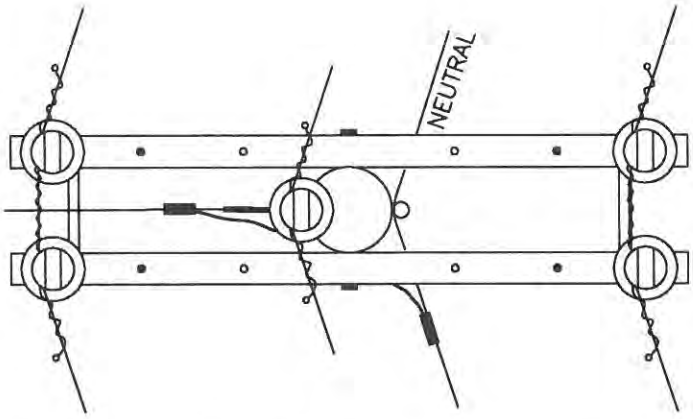
MATERIALS & ASSEMBLIES

DRAWING
702

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 15' GUY LEAD @ 20° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
6–20 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
703

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
213304	5		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

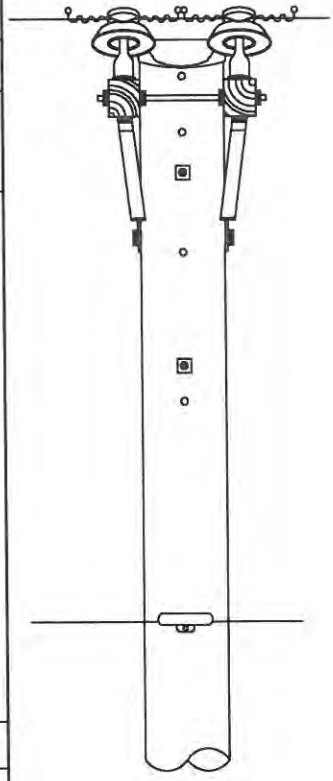
15KV – THREE PHASE
6–20 DEGREES
3000# TENSION
336 CONDUCTOR

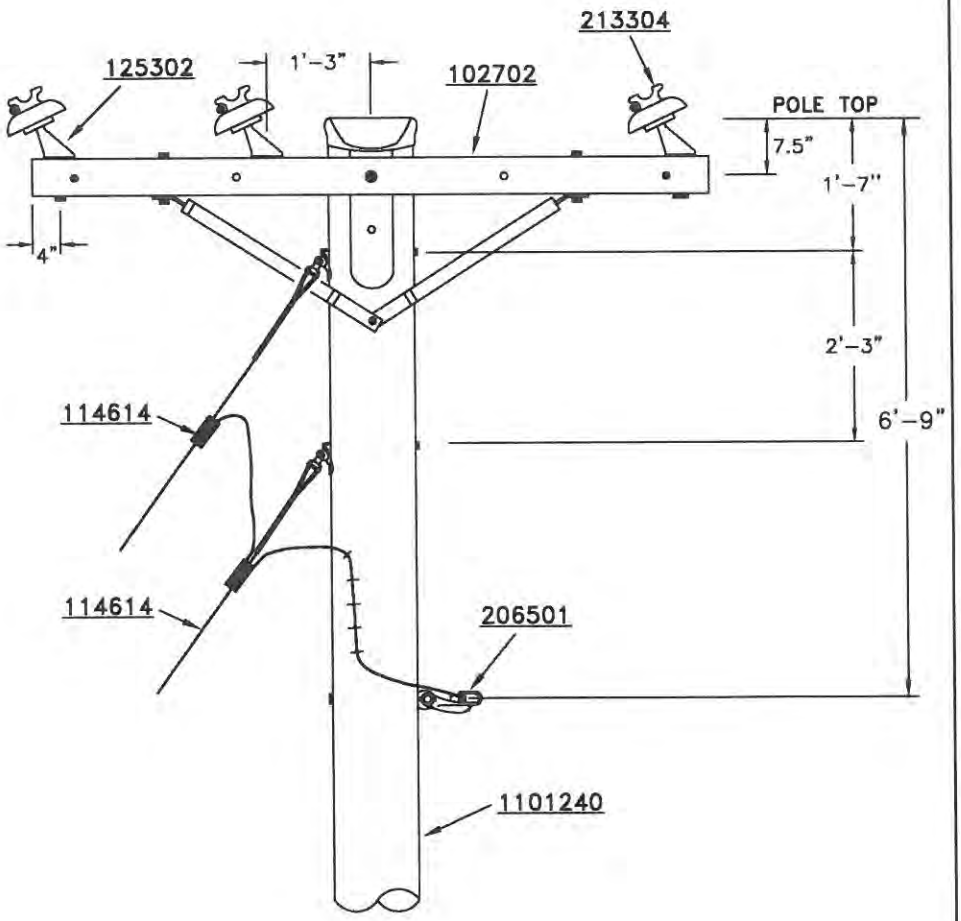
DISTRIBUTION CONSTRUCTION STANDARDS

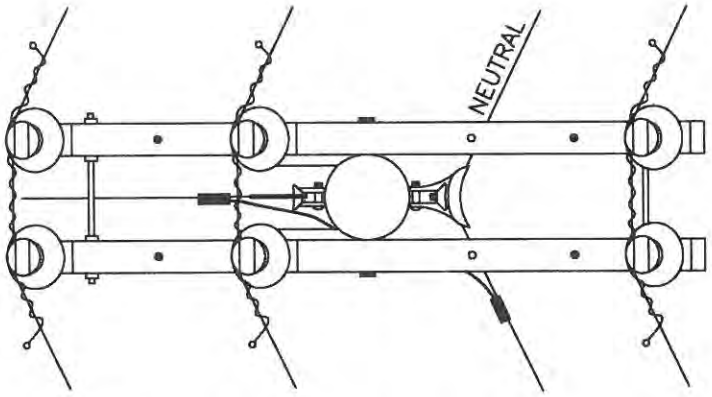
MATERIALS & ASSEMBLIES

DRAWING
703

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 16' GUY LEAD @ 35° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 2 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-16
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
21–35 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
704

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101240	1		**40/2 POLE**	
		1	Pole SPP 40' CLASS 2	1101240
		1	POLE TOPPER	1115306
213304	6		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125302	6		**8" ANGLE PIN**	
		1	6" X 5/8" MACH BOLT	1106506
		1	ANGLE PIN	1125302
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

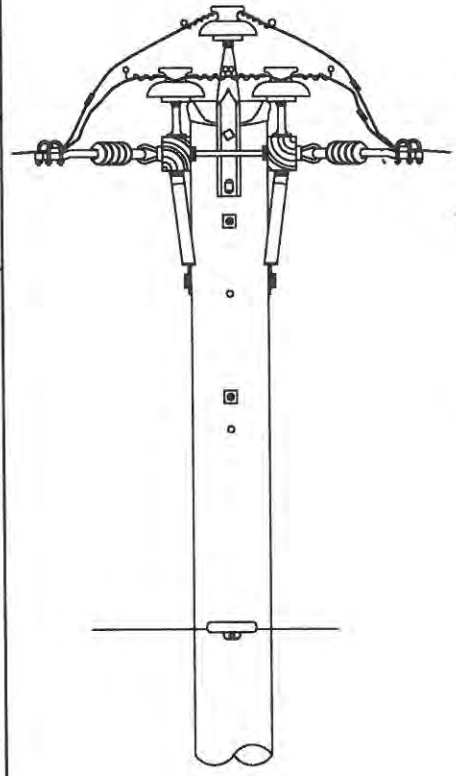
15KV – THREE PHASE
21–35 DEGREES
3000# TENSION
336 CONDUCTOR

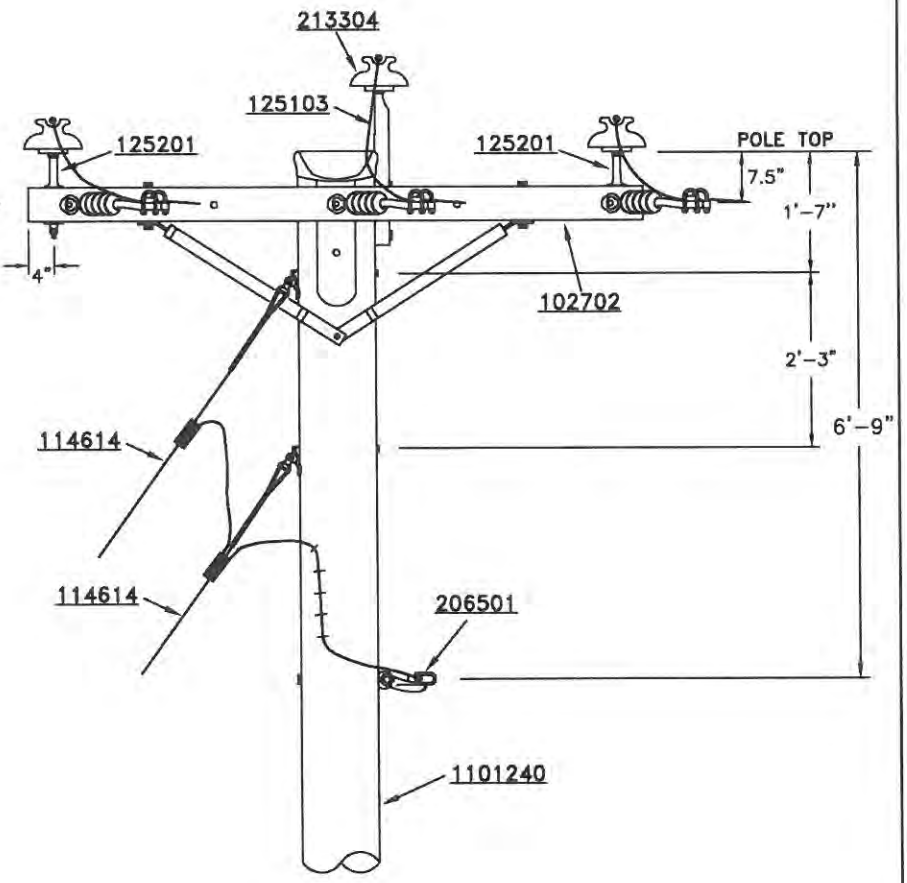
DISTRIBUTION CONSTRUCTION STANDARDS

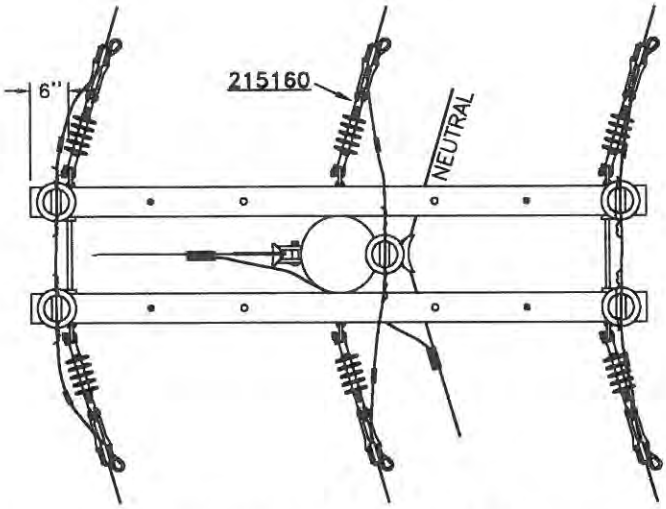
MATERIALS & ASSEMBLIES

DRAWING
704

BANGOR HYDRO ELECTRIC Co.







NOTE:

1. TOP GUY–MINIMUM 25' GUY LEAD @ 60° w/ 14M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 60° w/ 14M GUY WIRE AND 14" ANCHOR.
   FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 2 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
36–60 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
705

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101240	1		**40/2 POLE**	
		1	Pole SPP 40' CLASS 2	1101240
		1	POLE TOPPER	1115306
213304	5		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215160	6		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

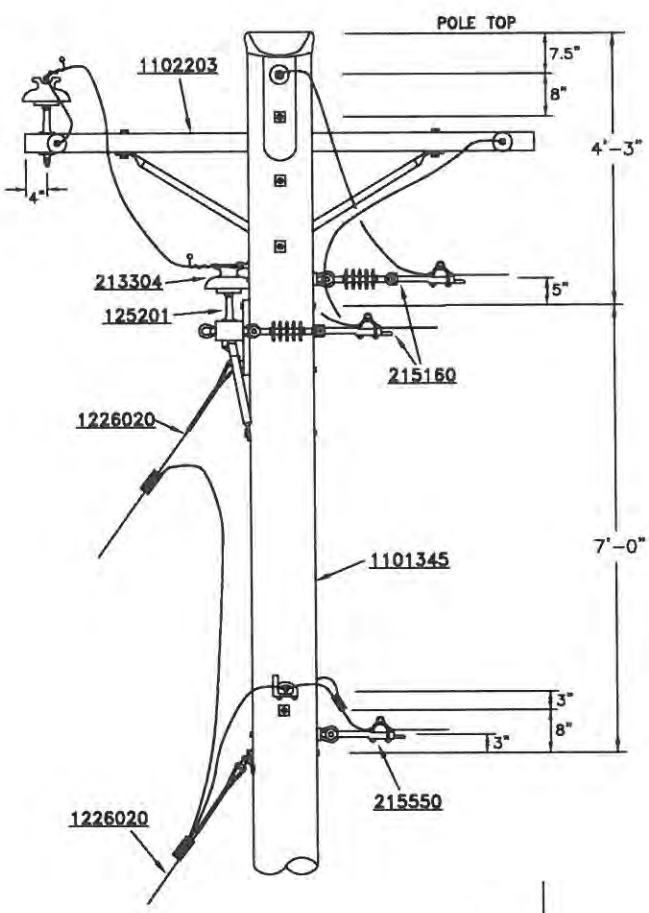
15KV – THREE PHASE
36–60 DEGREES
3000# TENSION
336 CONDUCTOR

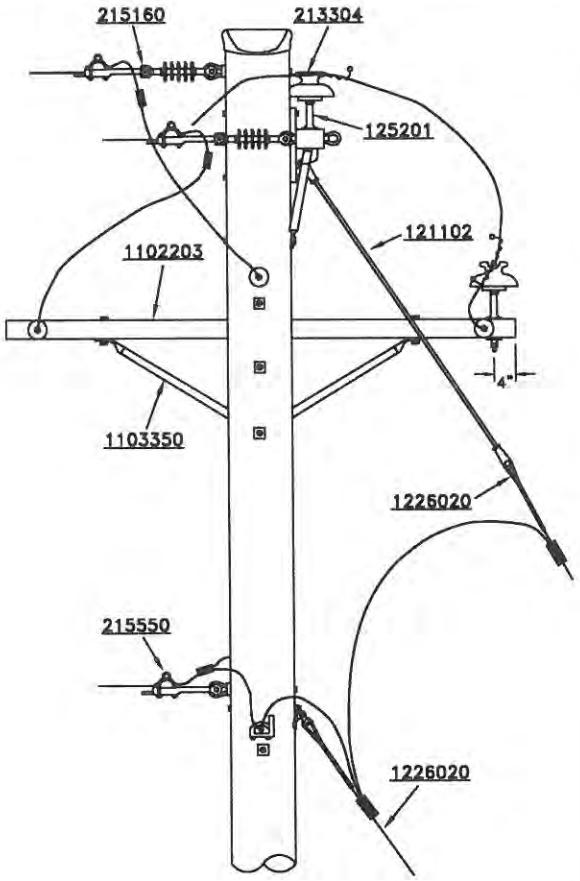
DISTRIBUTION CONSTRUCTION STANDARDS

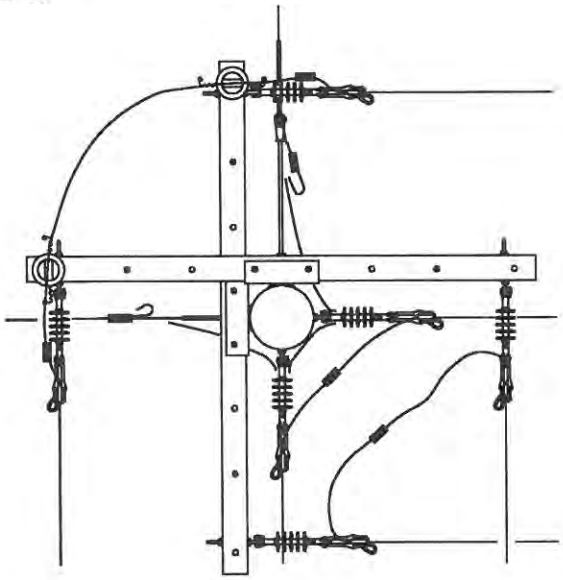
MATERIALS & ASSEMBLIES

DRAWING
705

BANGOR HYDRO ELECTRIC Co.







NOTES:

1. TOP GUY–MINIMUM 25' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 45/3 POLE REQUIRED. SPACING SHOWN IS FOR FULL EXCESS HEIGHT.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE 61–90 DEGREES 3000# TENSION 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 706

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101345
		1	POLE TOPPER	1115306
213304	2		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215160	6		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
1102203	2		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	2		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1226020	4		**20M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	SHACKLE	1141205
		1	CLEVIS	1208272
		2	20M GUY GRIPS	1210120
		75	20M GUY WIRE	1226020
		1	COMP TAP	4871018
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
108115	4		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

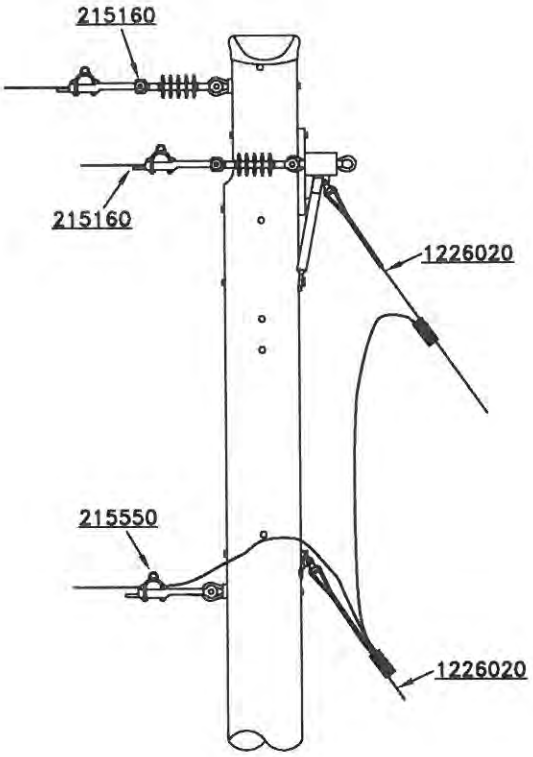
15KV – THREE PHASE
61–90 DEGREES
3000# TENSION
336 CONDUCTOR

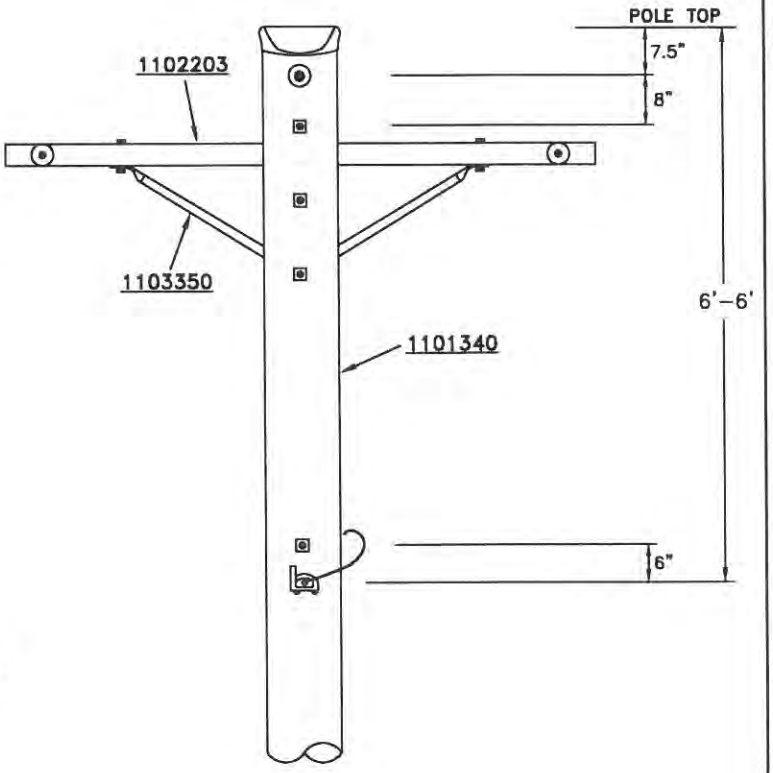
DISTRIBUTION CONSTRUCTION STANDARDS

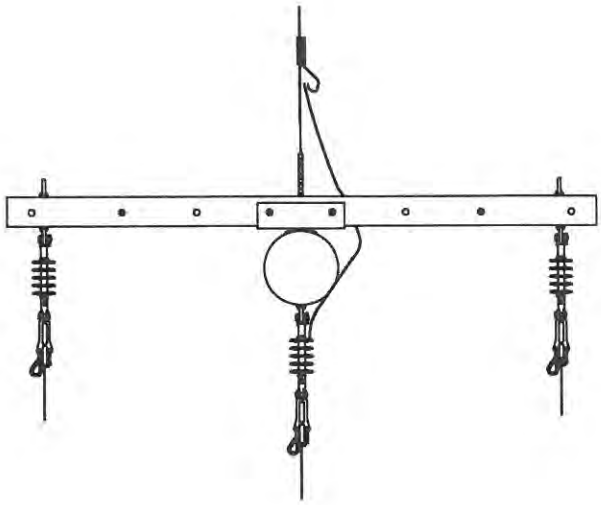
MATERIALS & ASSEMBLIES

DRAWING
706

BANGOR HYDRO ELECTRIC Co.







NOTES:

1. TOP GUY–MINIMUM 25' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	15KV – THREE PHASE DEADEND 3000# TENSION 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 707

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
215160	3		**15 KV DEADEND LG**	
		1	15 KV DEADEND INSULATOR	1213415
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
1102203	1		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	2		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1226020	6		**20M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	SHACKLE	1141205
		1	CLEVIS	1208272
		2	20M GUY GRIPS	1210120
		75	20M GUY WIRE	1226020
		1	COMP TAP	4871018
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

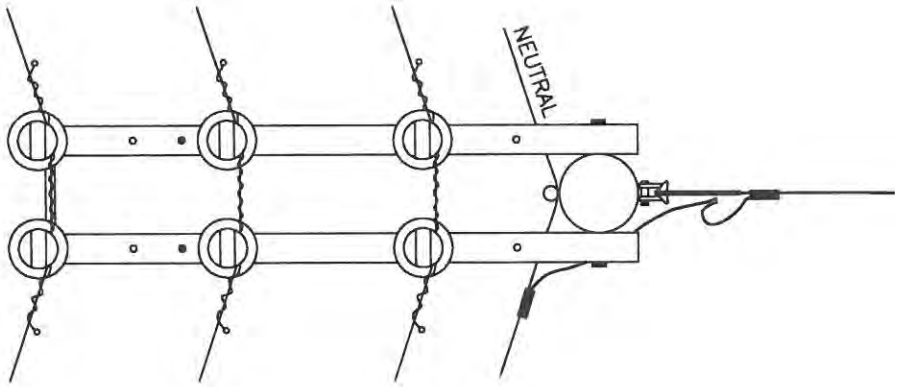
15KV – THREE PHASE
DEADEND
3000# TENSION
336 CONDUCTOR

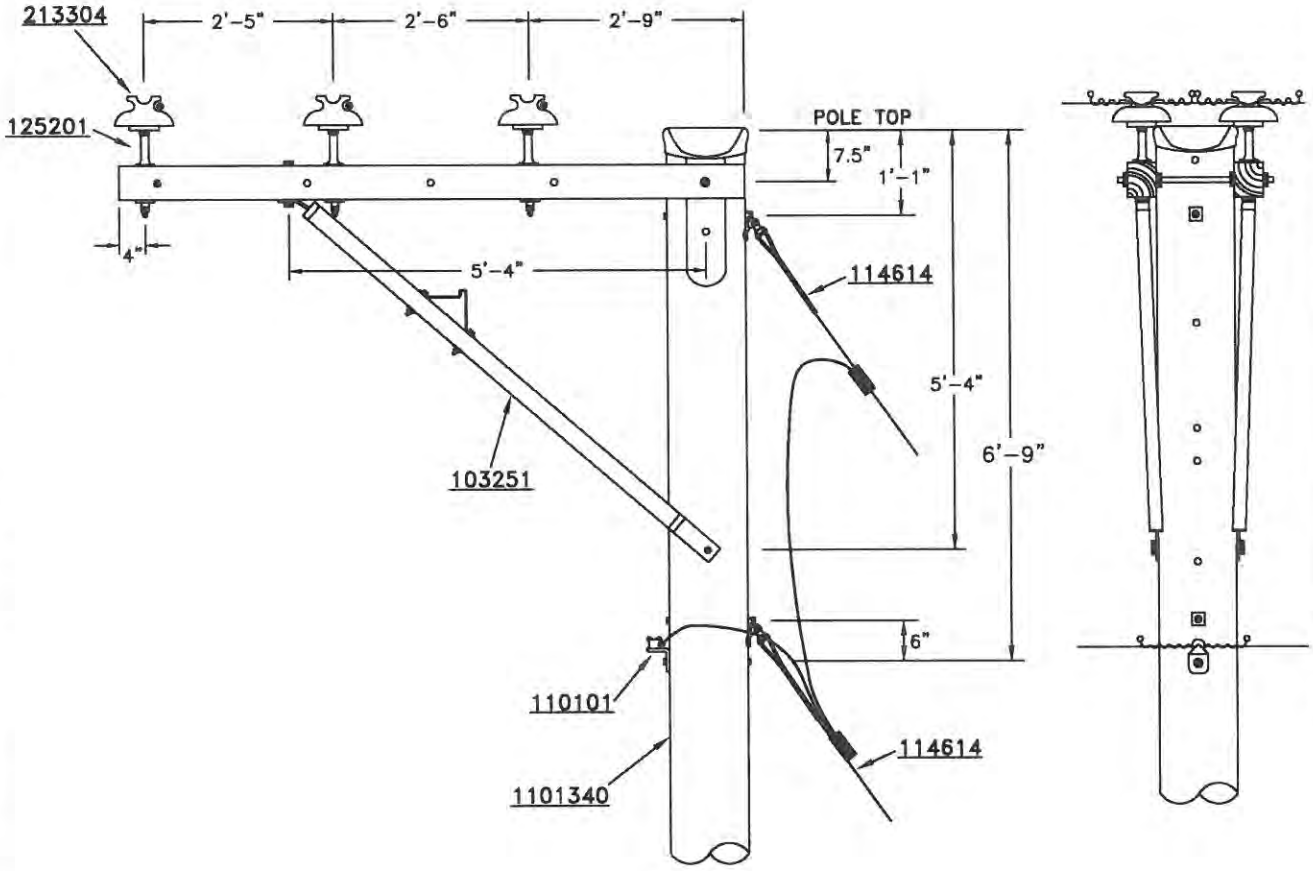
DISTRIBUTION
CONSTRUCTION
STANDARDS

MATERIALS &
ASSEMBLIES

DRAWING
707

BANGOR HYDRO ELECTRIC Co.





NOTE:
1. MINIMUM 15' GUY LEAD @ 20° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-16-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
OUTRIGGED ARM 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
708

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
213304	3		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125201	3		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
103251	1		**DBL 7' ALLEY ARM**	
		2	96" 6 PIN ARM	1102693
		2	ALLEY ARM BRACE, WOOD	1103250
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		14	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/8" LOCK WASHER	1138400
		1	BOLTS MACH, 14" X 5/8"	1106514
		3	20" X 5/8" DA BOLTS	1106820
		1	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

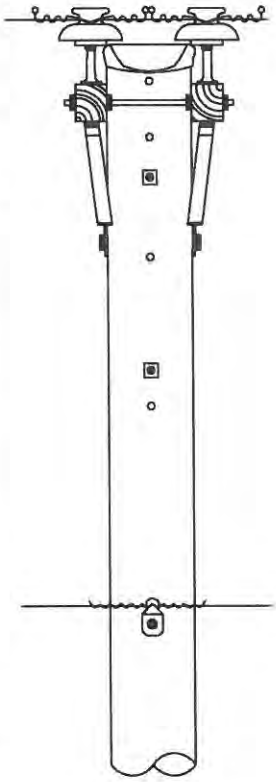
15KV – THREE PHASE
RIGGED ARM 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

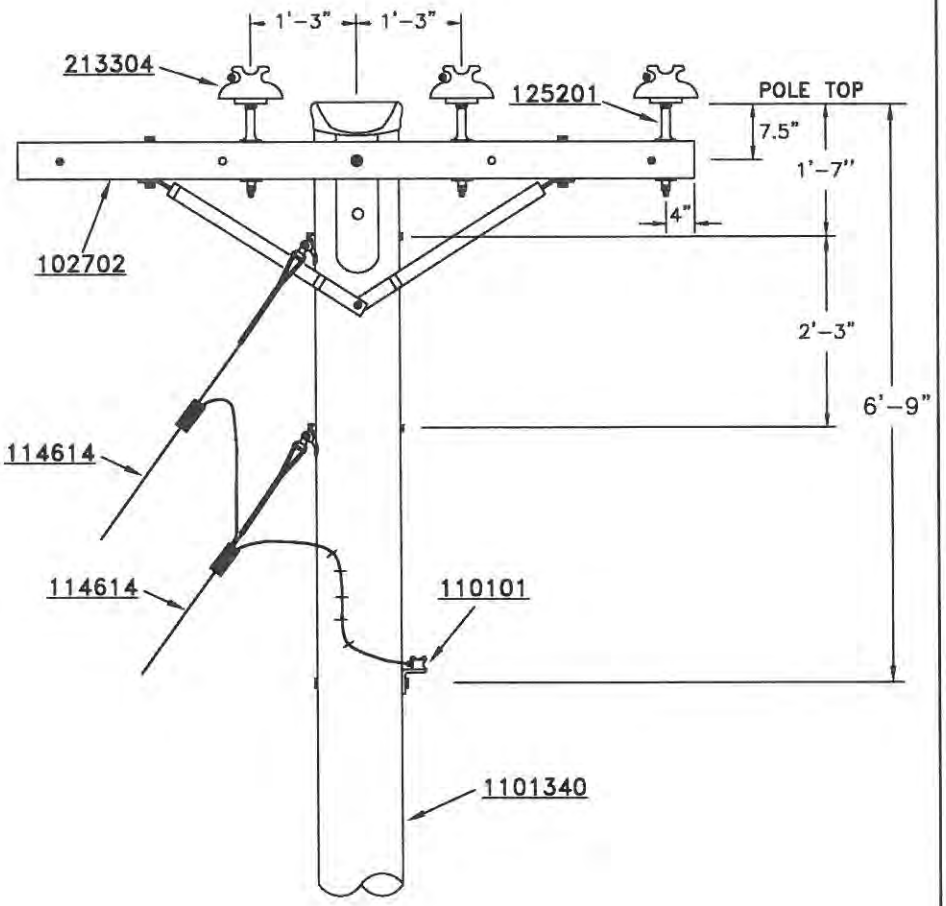
DISTRIBUTION CONSTRUCTION STANDARDS

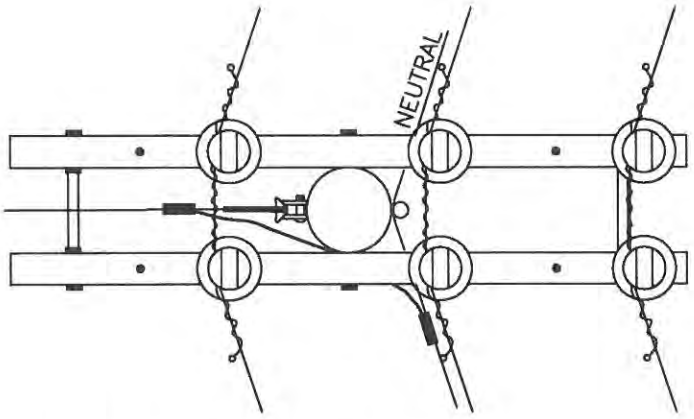
MATERIALS & ASSEMBLIES

DRAWING
708

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 15' GUY LEAD @ 20° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE
OFFSET 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
709

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
213304	6		**15 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 15 KV F-NECK	1213304
125201	6		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	4		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

15KV – THREE PHASE
OFFSET 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
709

BANGOR HYDRO ELECTRIC Co.

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
801	35 kV SINGLE PHASE 0 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-25-2009
802	35 kV SINGLE PHASE 1-30 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010
803	35 kV SINGLE PHASE 31-60 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-20-2010
804	35 kV SINGLE PHASE 61-90 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-9-2010
805	35 kV SINGLE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010

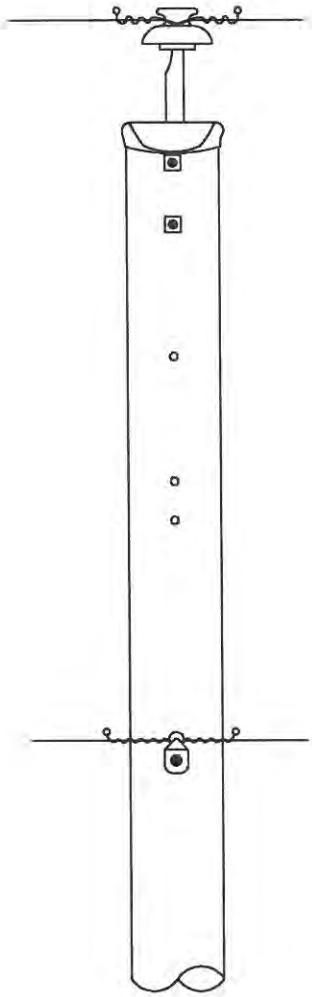
DISTRIBUTION CONSTRUCTION STANDARDS

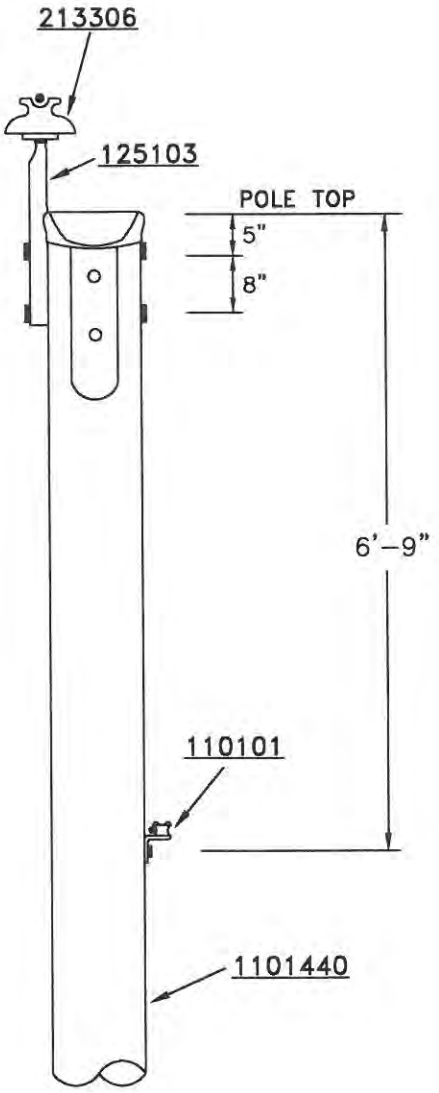
VERSANT POWER

- INDEX -
35 kV SINGLE PHASE
2000 LBS

LAST REVISED
03-18-2021

DRAWING
800





NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-25-09	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – SINGLE PHASE
0 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
801

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	1		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

35KV – SINGLE PHASE
0 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

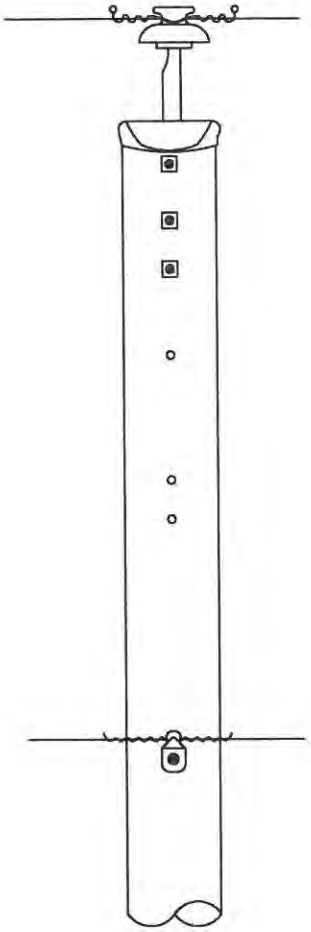
MATERIALS & ASSEMBLIES

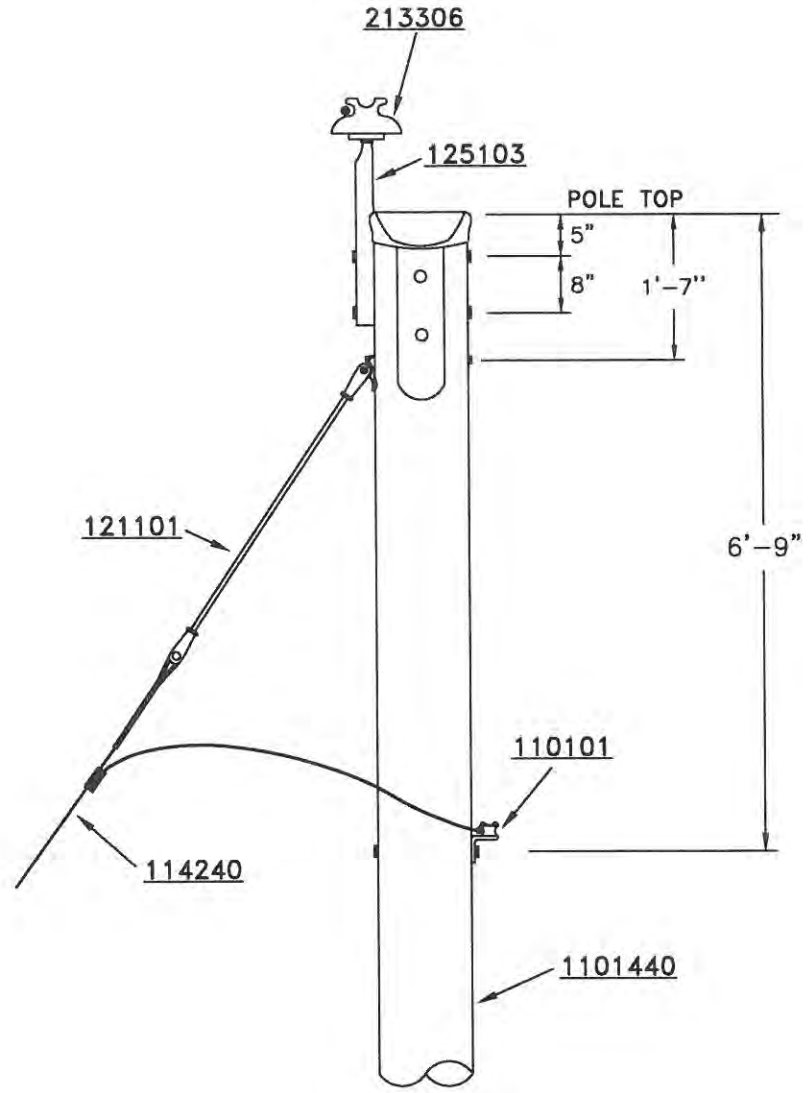
DRAWING
801

BANGOR HYDRO ELECTRIC Co.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-3-10	GAN





NOTE:
MINIMUM 15' GUY LEAD @30° w/ 5/16" GUY WIRE AND 10" ANCHOR. FOR TENSION POLE CONFIGURATION, REFER TO SECTION 1300.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – SINGLE PHASE 1–30 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 802

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	1		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114240	1		**5/16" GUY LG**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-345A GUY HOOK	1206903
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

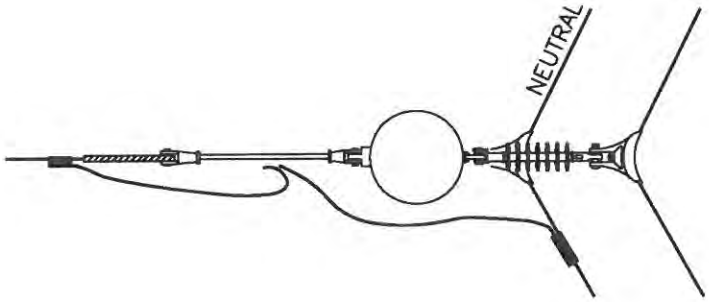
35KV – SINGLE PHASE
1–30 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

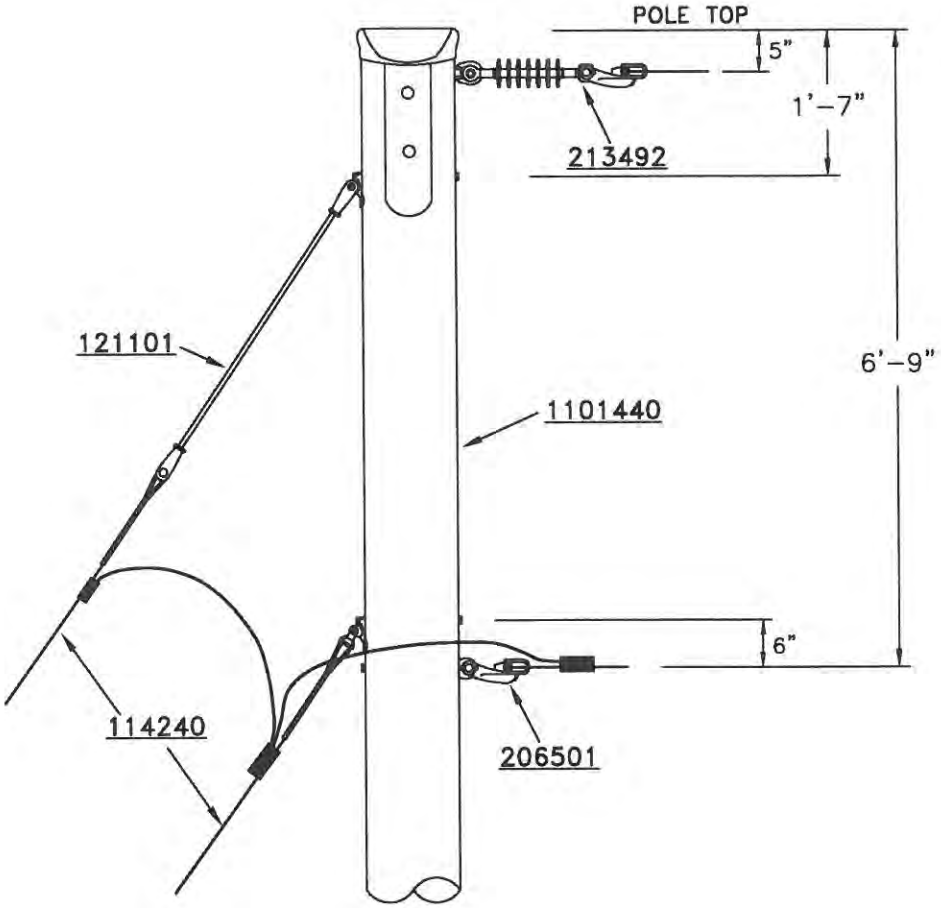
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
802

BANGOR HYDRO ELECTRIC Co.





NOTE:
1. MINIMUM 15' GUY LEAD @60° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-20-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – SINGLE PHASE 31–60 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 803

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213492	1		**35 KV C CORNER**	
		1	35 KV DEADEND INSULATOR	1213434
		1	14" X 5/8" EYE BOLT	1107514
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	ANGLE SUSP CLAMP	1206401
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114240	2		**5/16" GUY LG**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-345A GUY HOOK	1206903
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	2-3-10	GAN

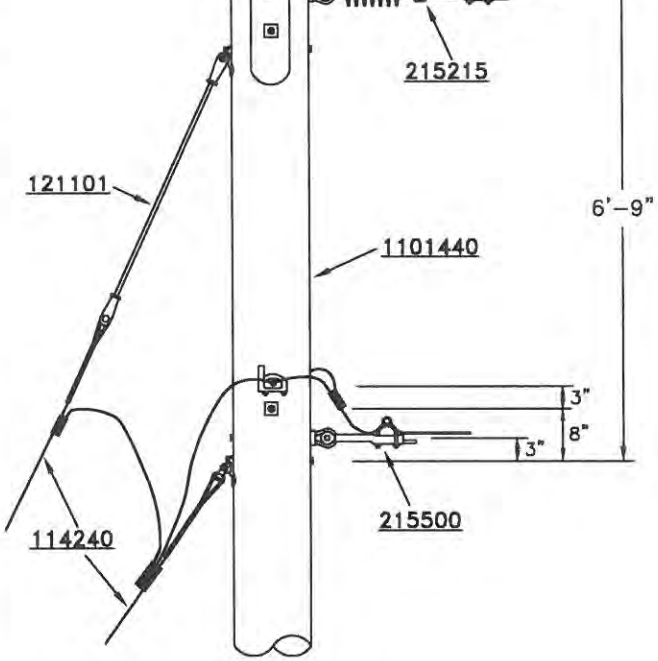
35KV – SINGLE PHASE
31–60 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

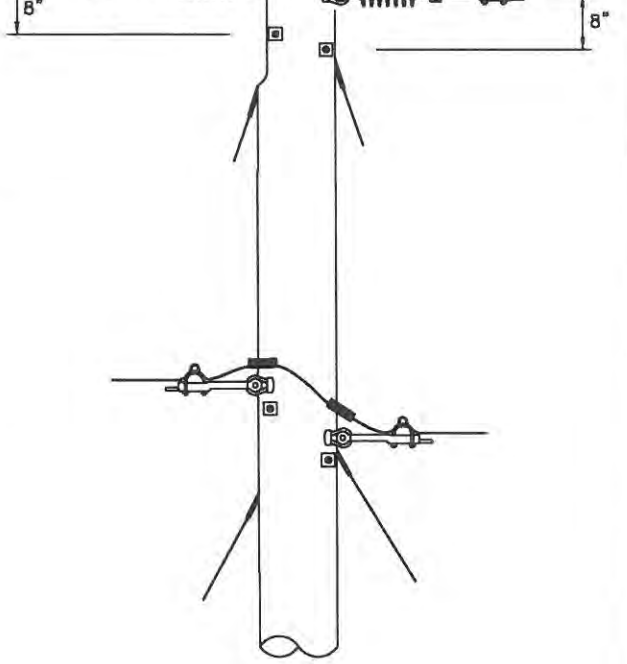
DISTRIBUTION CONSTRUCTION STANDARDS

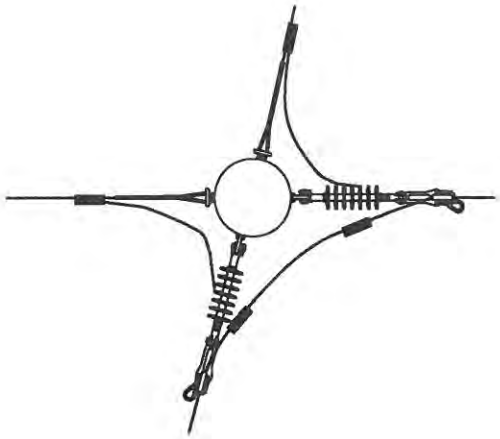
MATERIALS & ASSEMBLIES

DRAWING
803

BANGOR HYDRO ELECTRIC Co.







NOTE:

1. MINIMUM 15' GUY LEAD @ 90° w/ TWO 5/16" GUY WIRES AND 10" ANCHOR IN EACH DIRECTION. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – SINGLE PHASE
61–90 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
804

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215215	2		**35 KV DEADEND SM**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114240	4		**5/16" GUY LG**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-345A GUY HOOK	1206903
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	2		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
121101	2		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104
FOR	**336 AAC**	**CONDUCTOR**		
215230	2		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	2-3-10	GAN

35KV – SINGLE PHASE
61–90 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

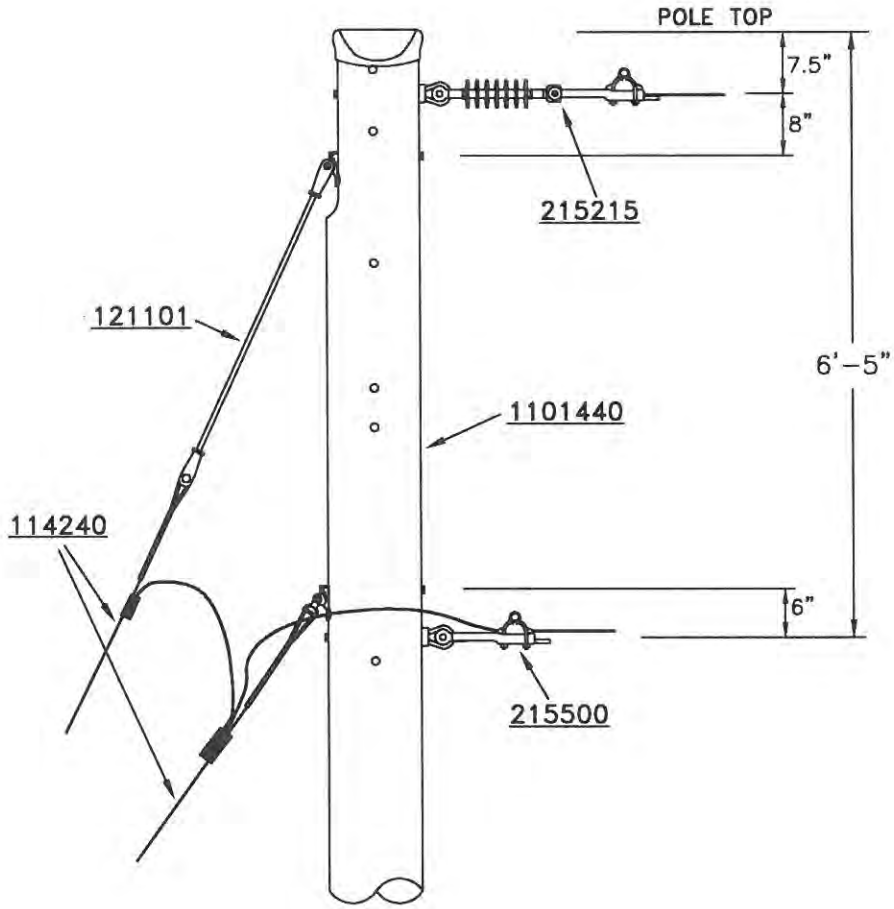
MATERIALS & ASSEMBLIES

DRAWING
804

BANGOR HYDRO ELECTRIC Co.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-3-10	GAN



NOTE:
1. MINIMUM 20' GUY LEAD w/ TWO 5/16" GUY WIRES AND 10" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – SINGLE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 805

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
215215	1		**35 KV DEADEND SM**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
215500	1		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114240	2		**5/16" GUY LG**	
		1	12" X 5/8" MACH BOLT	1106512
		1	P-345A GUY HOOK	1206903
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	GROUND CLAMP	1206305
		1	CONNECTOR	1207203
		2	5/16" GUY GRIP	1210104
		40	5/16" EHS GUY WIRE	1226006
		1	GUY GUARD, YELLOW	1115101
108110	1		**10" SCREW ANCHOR**	
		1	10" SCREW ANCHOR	1108610
		1	7' X 1" ANCHOR ROD	1127205
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	5/16" GUY GRIP	1210104
FOR	**336 AAC**	**CONDUCTOR**		
215230	1		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	2-3-10	GAN

35KV – SINGLE PHASE
DEADEND
2000# TENSION
1/0 & 336 CONDUCTOR

DISTRIBUTION
CONSTRUCTION
STANDARDS

MATERIALS &
ASSEMBLIES

DRAWING
805

BANGOR HYDRO ELECTRIC Co.

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
901	35 kV THREE PHASE 0 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-18-2009
902	35 kV THREE PHASE 1-15 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010
903	35 kV THREE PHASE 16-30 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010
904	35 kV THREE PHASE 31-45 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010
905	35 kV THREE PHASE 46-60 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-3-2010
906	35 kV THREE PHASE 61-90 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	9-8-2010
907	35 kV THREE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	9-8-2010

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

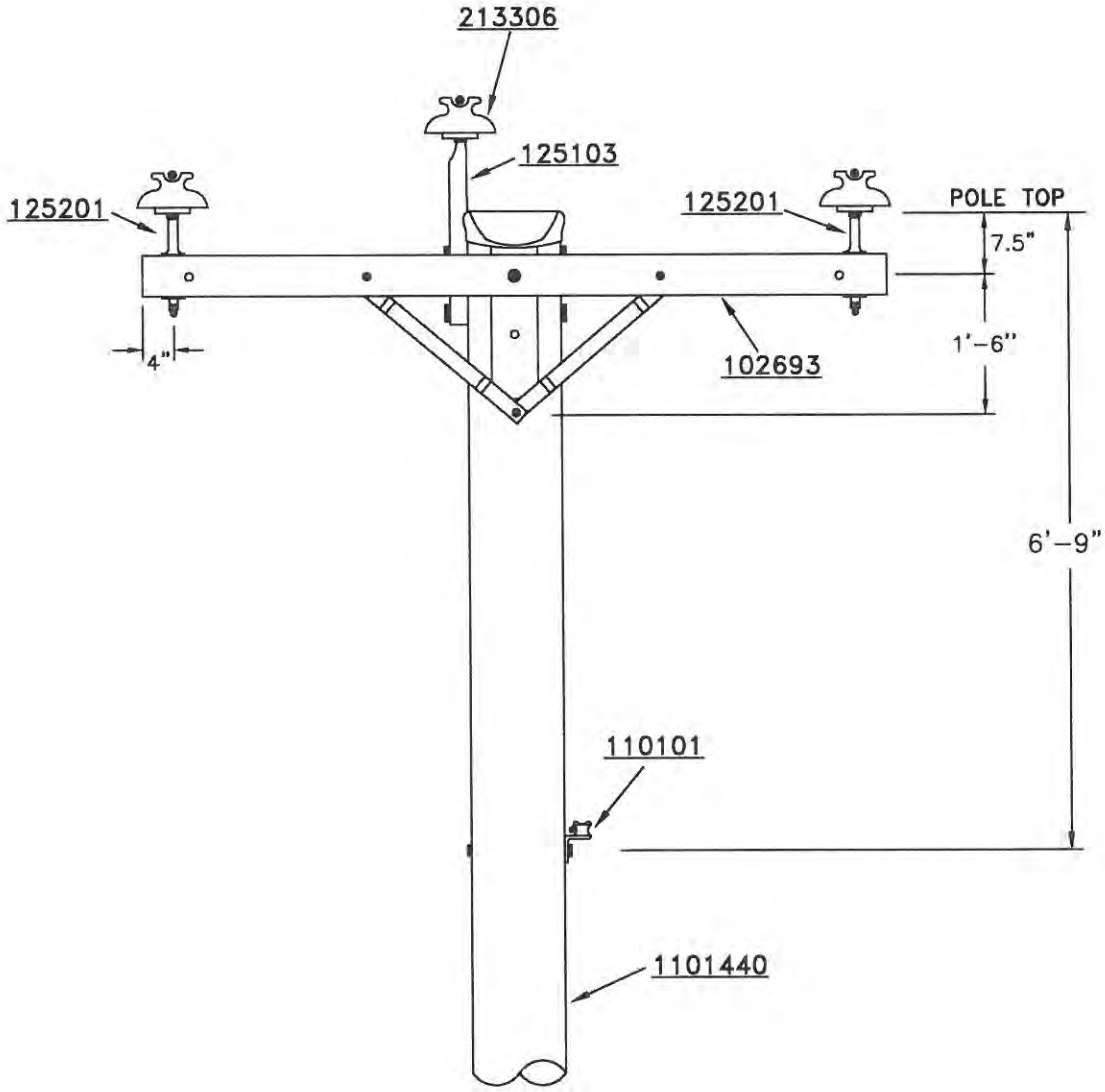
- INDEX -
35 kV THREE PHASE
2000LBS

LAST REVISED
03-18-2021

DRAWING
900

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-18-09	GAN



STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 0 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 901

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	3		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

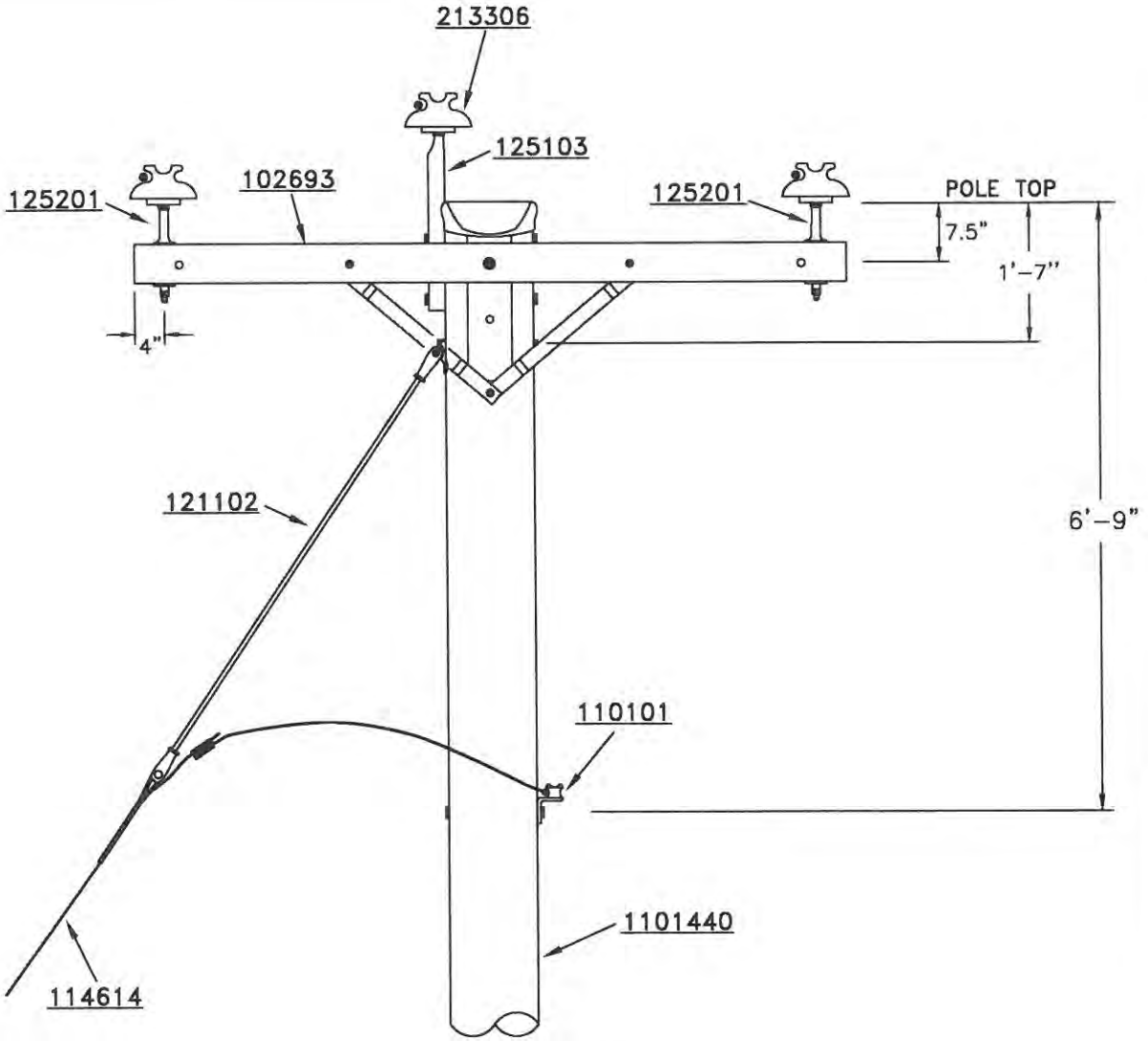
35KV – THREE PHASE
0 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

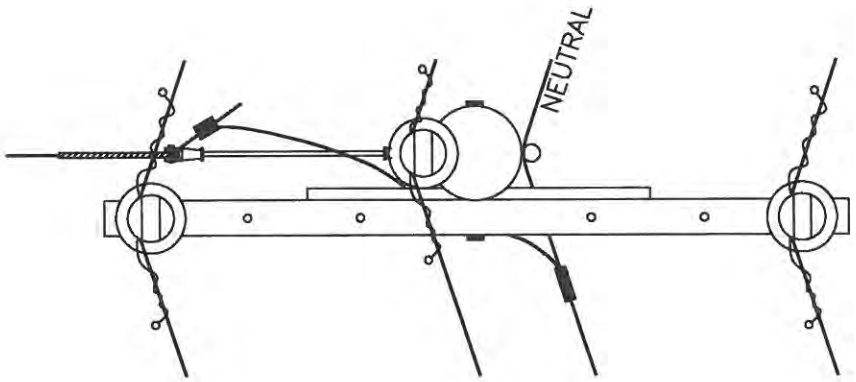
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
901

BANGOR HYDRO ELECTRIC Co.





NOTE:
1. MINIMUM 15' GUY LEAD @ 15° w/ 14M GUY WIRE AND 14" ANCHOR.
FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 1–15 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 902

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	3		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102693	1		**96" ARM**	
		1	96" 6 PIN ARM	1102693
		2	CROSSARM BRACE, WOOD	1103301
		1	LAG SCREW	1104412
		1	BOLTS MACH, 14" X 5/8"	1106514
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		2	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	1		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

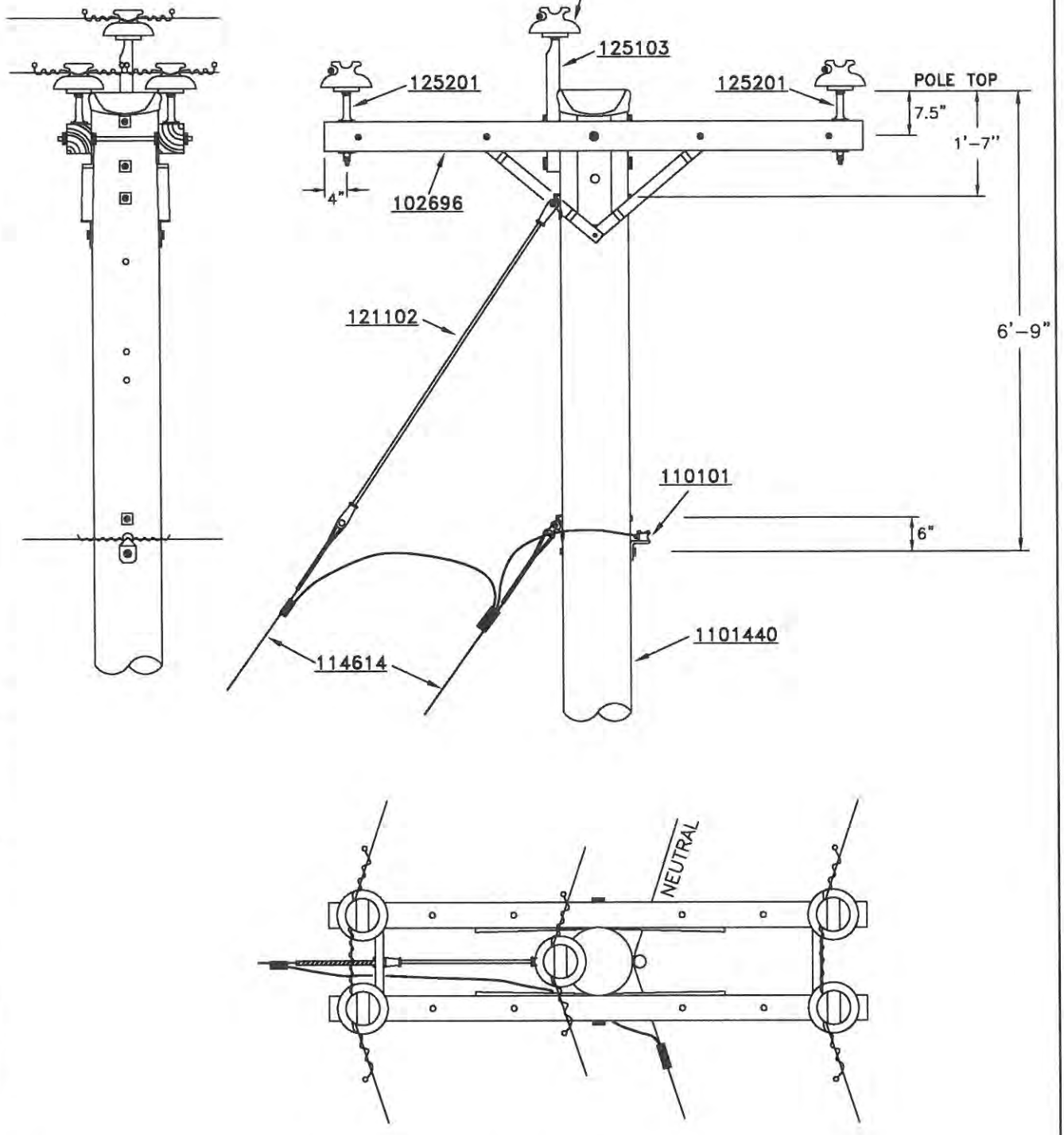
35KV – THREE PHASE
1–15 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
902

BANGOR HYDRO ELECTRIC Co.



NOTE:

1. MINIMUM 15' GUY LEAD @ 30° w/ TWO 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
16–30 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
903

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	5		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		2	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102696	1		**D-96" ARM**	
		2	96" 6 PIN ARM	1102693
		4	CROSSARM BRACE, WOOD	1103301
		2	LAG SCREW	1104412
		4	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		1	DBL COIL SPRING WASHER, 5/8"	1138602
		4	3/8" LOCK WASHER	1138400
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

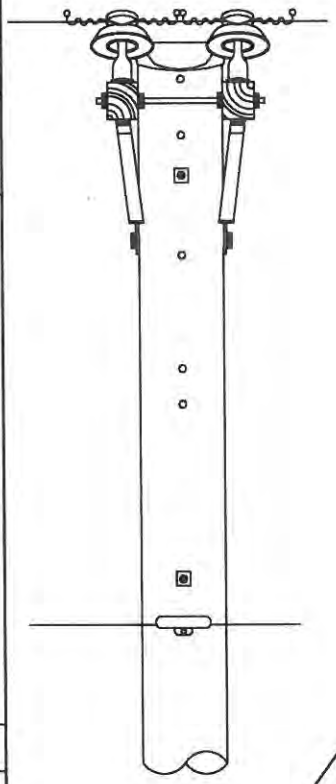
35KV – THREE PHASE
16–30 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

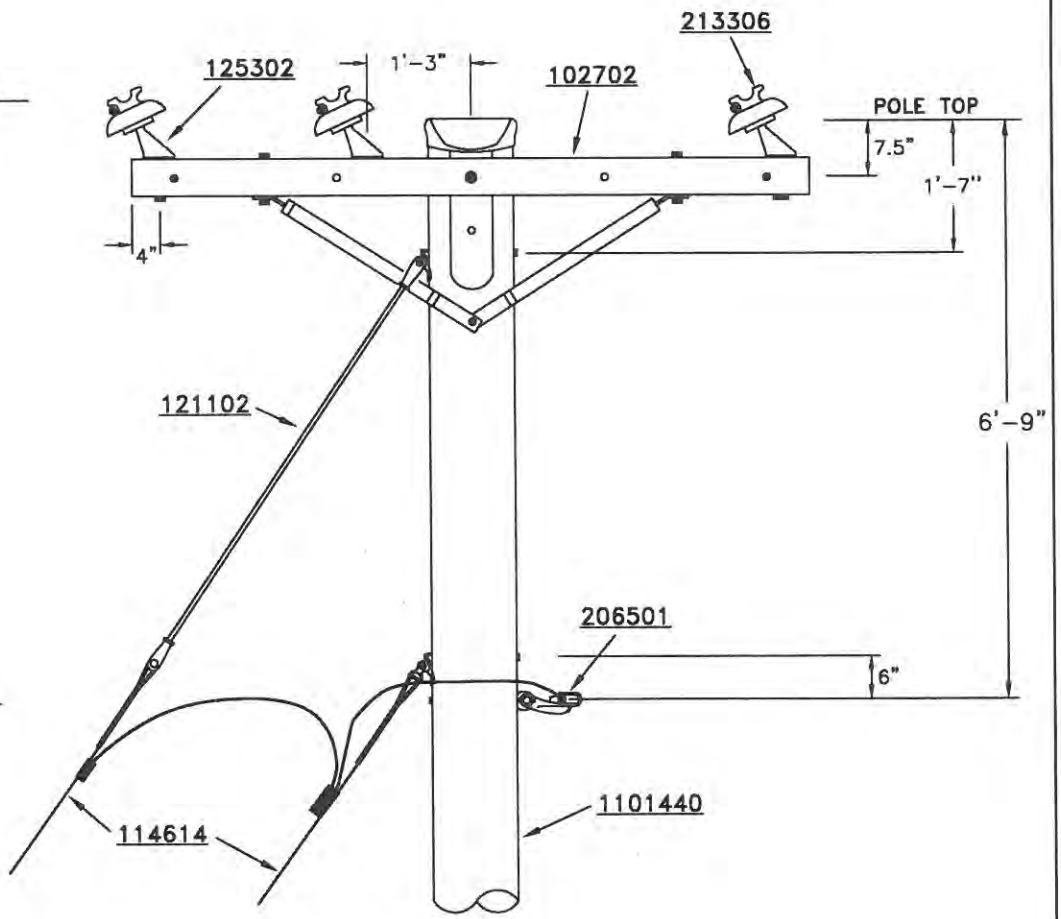
DISTRIBUTION CONSTRUCTION STANDARDS

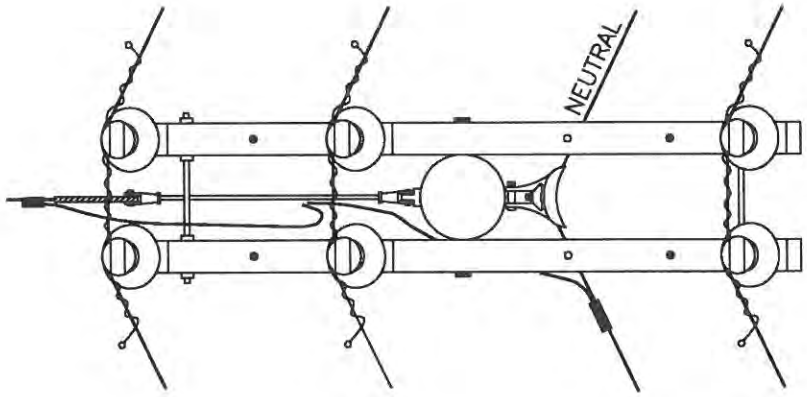
MATERIALS & ASSEMBLIES

DRAWING
903

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 16' GUY LEAD @ 45° w/ TWO 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-3-10	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
31–45 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
904

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	6		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125302	6		**8" ANGLE PIN**	
		1	6" X 5/8" MACH BOLT	1106506
		1	ANGLE PIN	1125302
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

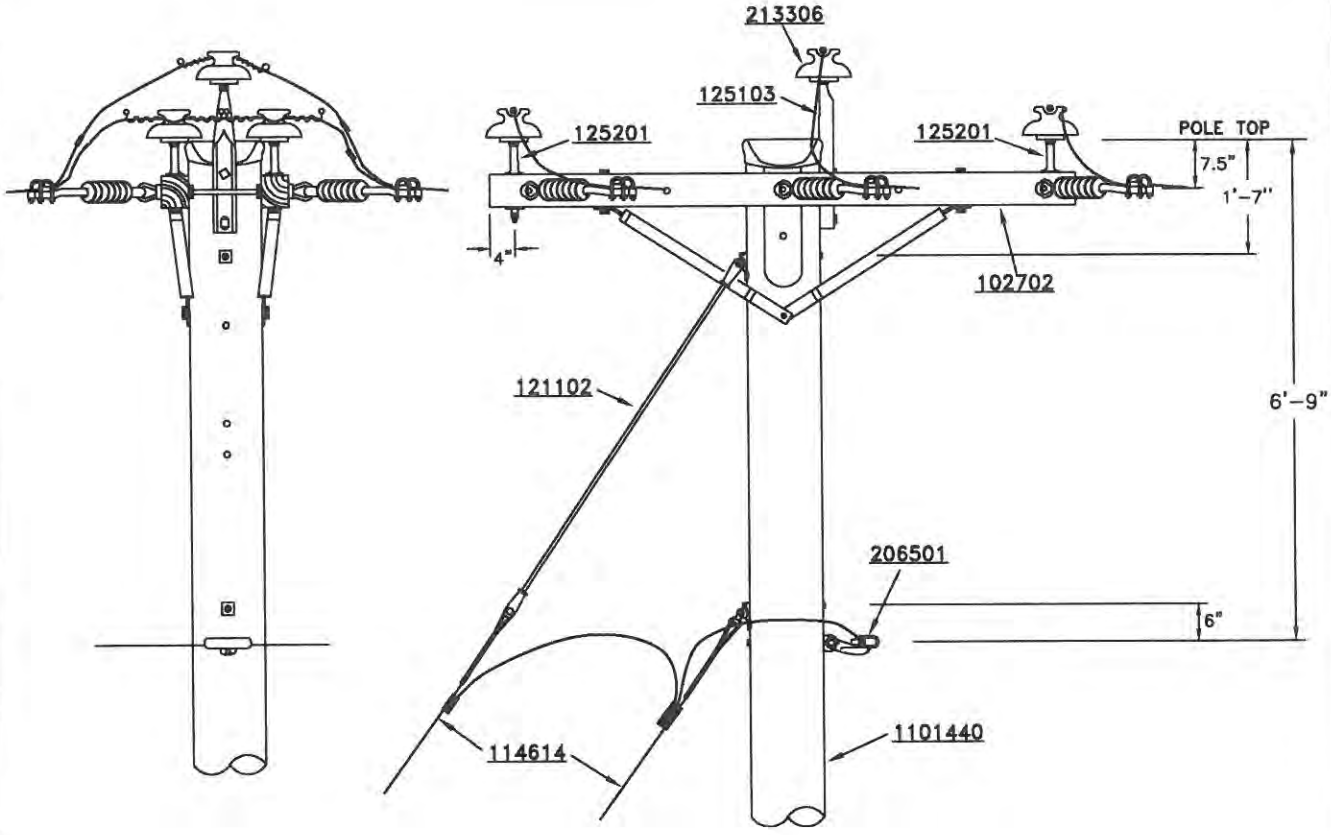
35KV – THREE PHASE
31–45 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

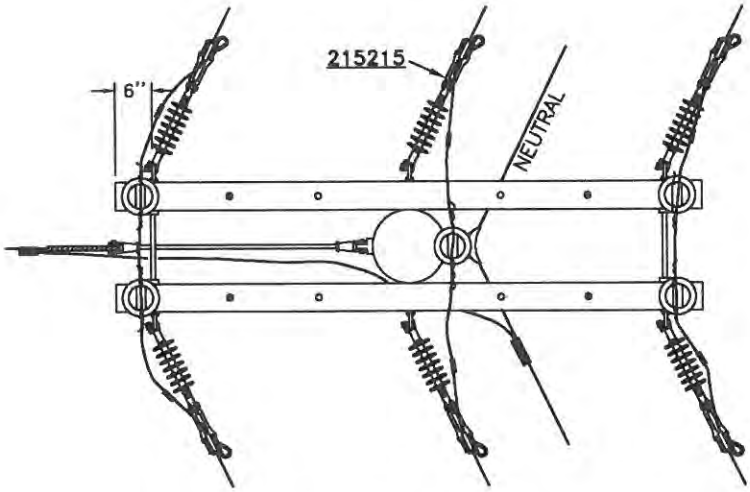
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
904

BANGOR HYDRO ELECTRIC Co.





NOTE:
1. MINIMUM 22' GUY LEAD @ 60° w/ TWO 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
46–60 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
905

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	5		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215215	6		**35 KV DEADEND SM**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
FOR	**336 AAC**	**CONDUCTOR**		
215230	6		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

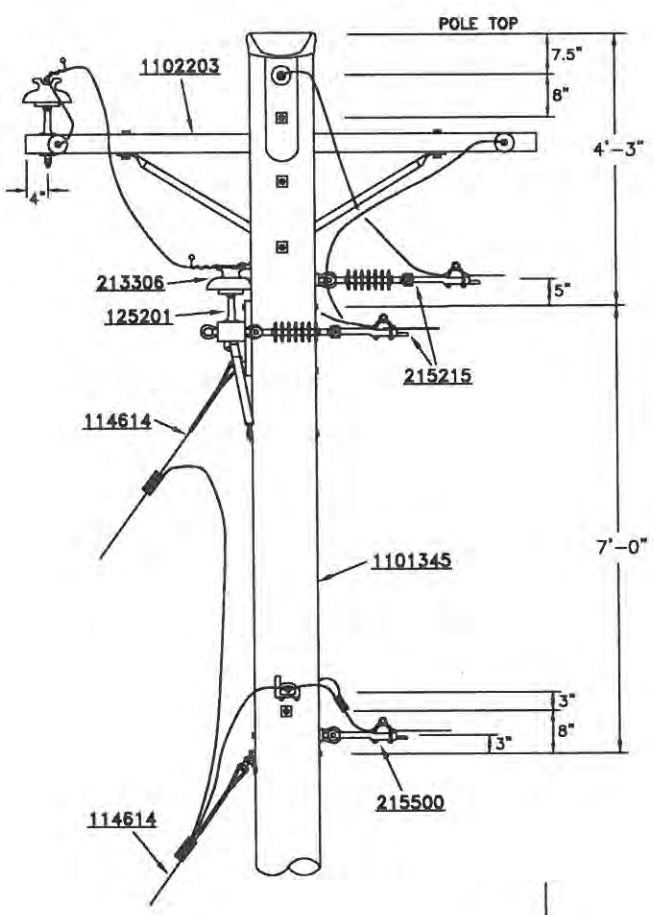
35KV – THREE PHASE
46–60 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

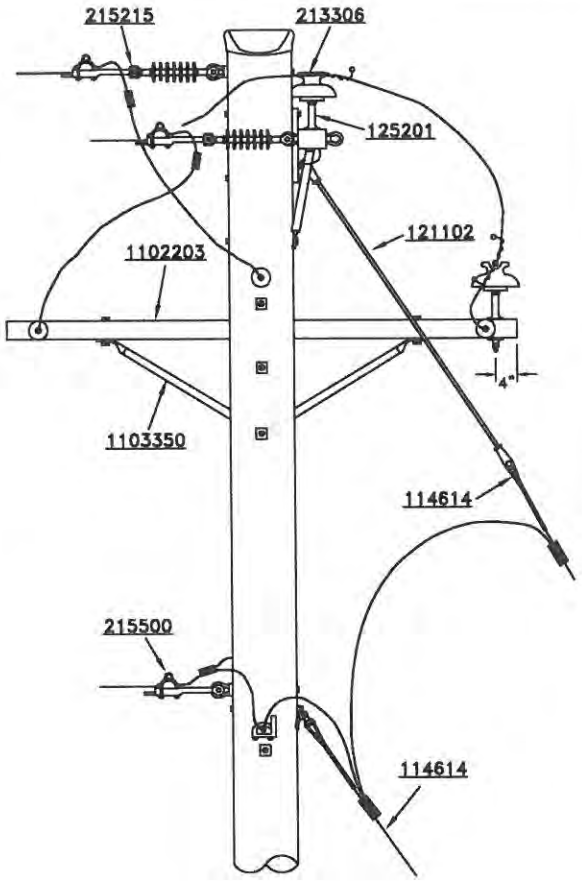
DISTRIBUTION CONSTRUCTION STANDARDS

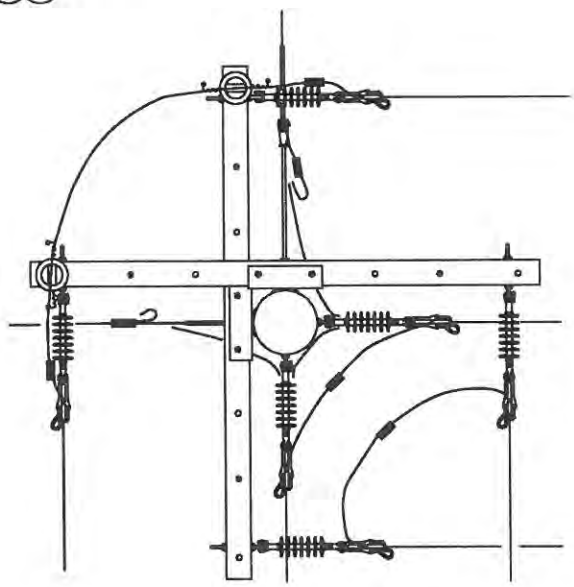
MATERIALS & ASSEMBLIES

DRAWING
905

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 22' GUY LEAD @ 90° w/ TWO 14M GUY WIRE AND 14" ANCHOR IN BOTH DIRECTIONS. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. 30' MINIMUM 45/3 POLE REQUIRED. SPACING SHOWN IS FOR FULL EXCESS HEIGHT.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 61–90 DEGREES 2000# TENSION 1/0 & 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 906

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 45' CLASS 3	1101345
		1	POLE TOPPER	1115306
213306	2		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215215	6		**35 KV DEADEND SM**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
1102203	2		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	2		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215500	2		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	4		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
FOR	**336 AAC**	**CONDUCTOR**		
215230	6		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

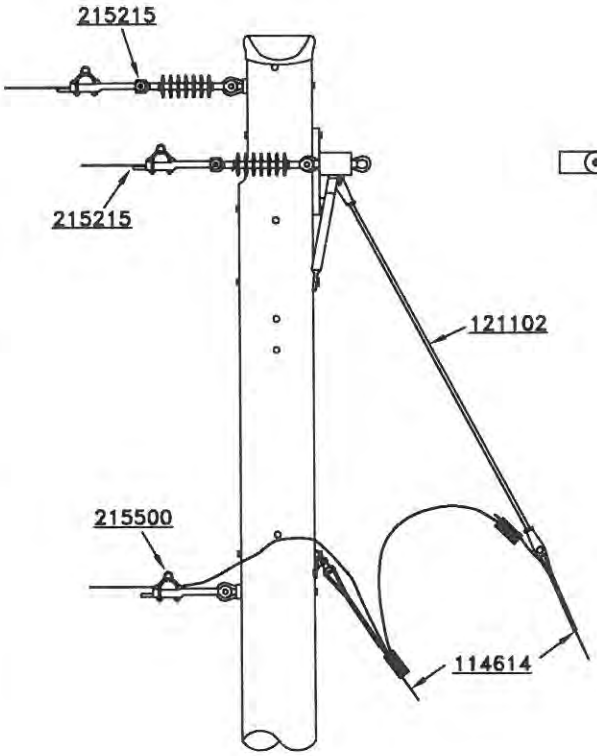
35KV – THREE PHASE
61–90 DEGREES
2000# TENSION
1/0 & 336 CONDUCTOR

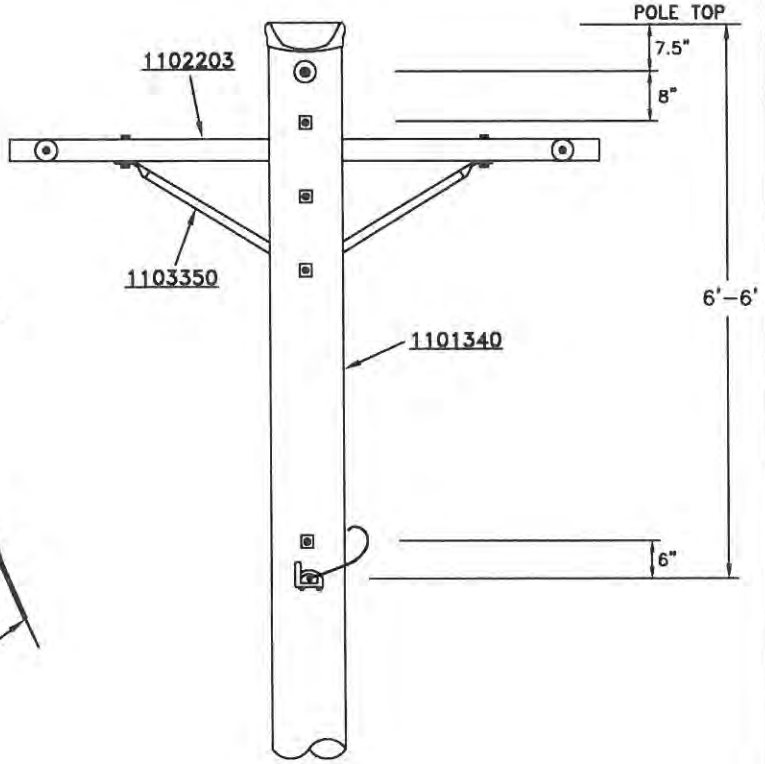
DISTRIBUTION CONSTRUCTION STANDARDS

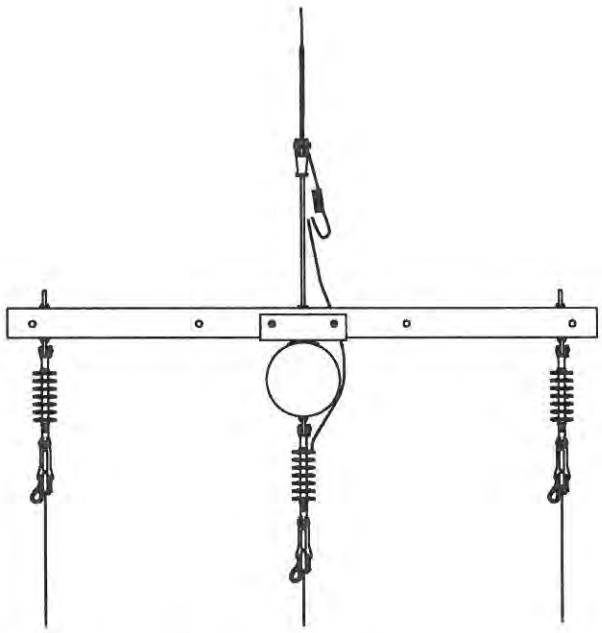
MATERIALS & ASSEMBLIES

DRAWING
906

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 22' GUY LEAD @ 90° w/ TWO 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE DEADEND 2000# TENSION 1/0 & 336 CONDUCTOR	
BANGOR HYDRO ELECTRIC Co.		DRAWING 907

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
215215	3		**35 KV DEADEND SM**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206201
1102203	1		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	1		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215500	1		**NEUTRAL DEADEND SM**	
		1	10" X 5/8" EYE BOLT	1107510
		1	DEADEND CLAMP	1206201
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
FOR	**336 AAC**	**CONDUCTOR**		
215230	3		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

35KV – THREE PHASE
DEADEND
2000# TENSION
1/0 & 336 CONDUCTOR

DISTRIBUTION
CONSTRUCTION
STANDARDS

MATERIALS &
ASSEMBLIES

DRAWING
907

BANGOR HYDRO ELECTRIC Co.

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1001	35 kV THREE PHASE 0 DEGREES 3000# TENSION 336 CONDUCTOR	9–3–2010
1002	35 kV THREE PHASE 1–5 DEGREES 3000# TENSION 336 CONDUCTOR	9–3–2010
1003	35 kV THREE PHASE 6–20 DEGREES 3000# TENSION 336 CONDUCTOR	9–3–2010
1004	35 kV THREE PHASE 21–35 DEGREES 3000# TENSION 336 CONDUCTOR	9–3–2010
1005	35 kV THREE PHASE 36–60 DEGREES 3000# TENSION 336 CONDUCTOR	9–3–2010
1006	35 kV THREE PHASE 61–90 DEGREES 3000# TENSION 336 CONDUCTOR	9–8–2010
1007	35 kV THREE PHASE DEADEND 3000# TENSION 336 CONDUCTOR	9–8–2010
1008	35 kV THREE PHASE OUTRIGGED ARM 0–20 DEGREES 3000# TENSION 336 CONDUCTOR	9–8–2010

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

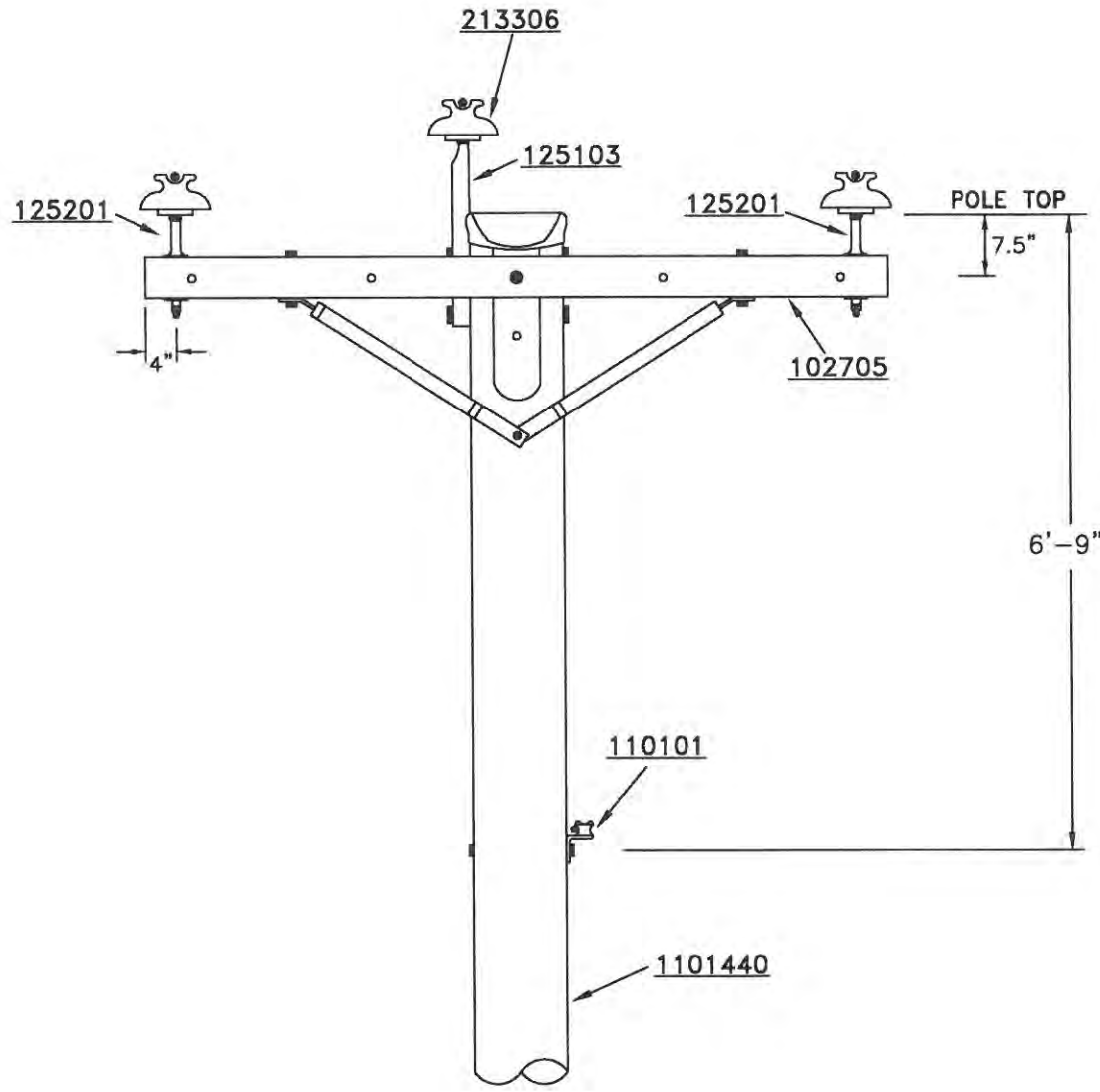
– INDEX –
35 kV THREE PHASE
3000 LBS

LAST REVISED
03–18–2021

DRAWING
1000

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN



STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 0 DEGREES 3000# TENSION 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 1001

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	3		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102705	1		**96" ARM W/ HVY DUTY BRACE**	
		1	96" 6 PIN ARM	1102693
		2	HVY DUTY CROSSAM BRACE	1103330
		2	6" X 5/8" MACH BOLT	1106506
		2	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		2	DBL COIL SPRING WASHER, 5/8"	1138602
		2	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

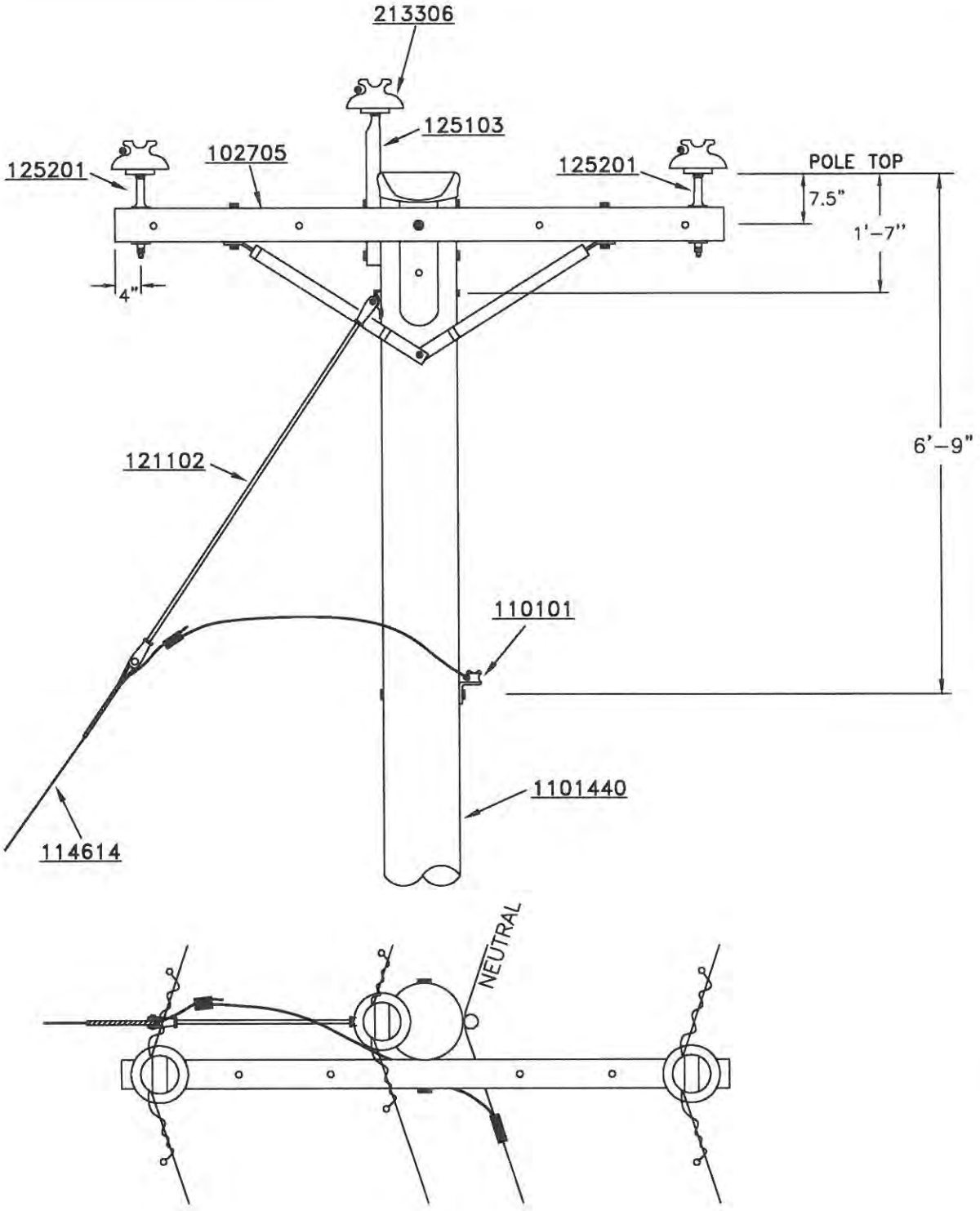
35KV – THREE PHASE
0 DEGREES
3000# TENSION
336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
1001

BANGOR HYDRO ELECTRIC Co.



NOTE:
1. MINIMUM 15' GUY LEAD w/ 14M GUY WIRE AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 1–5 DEGREES 3000# TENSION 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 1002

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	POLE SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
213306	3		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102705	1		**96" ARM W/ HVY DUTY BRACE**	
		1	96" 6 PIN ARM	1102693
		2	HVY DUTY CROSSAM BRACE	1103330
		2	6" X 5/8" MACH BOLT	1106506
		2	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		2	DBL COIL SPRING WASHER, 5/8"	1138602
		2	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	1		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

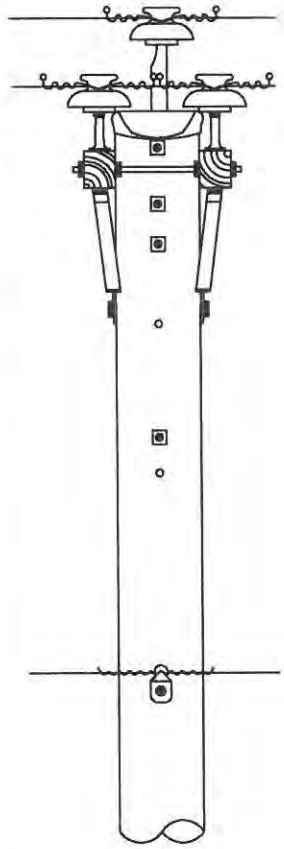
35KV – THREE PHASE
1–5 DEGREES
3000# TENSION
336 CONDUCTOR

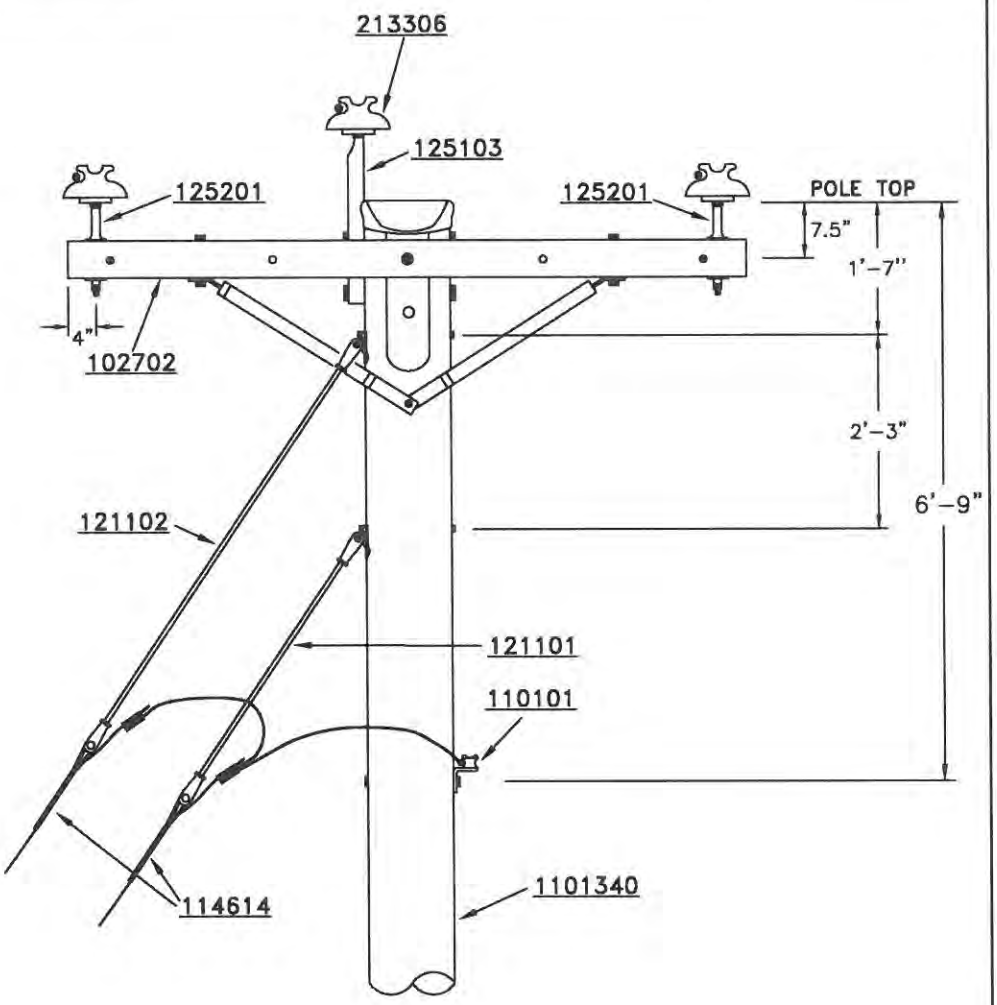
DISTRIBUTION CONSTRUCTION STANDARDS

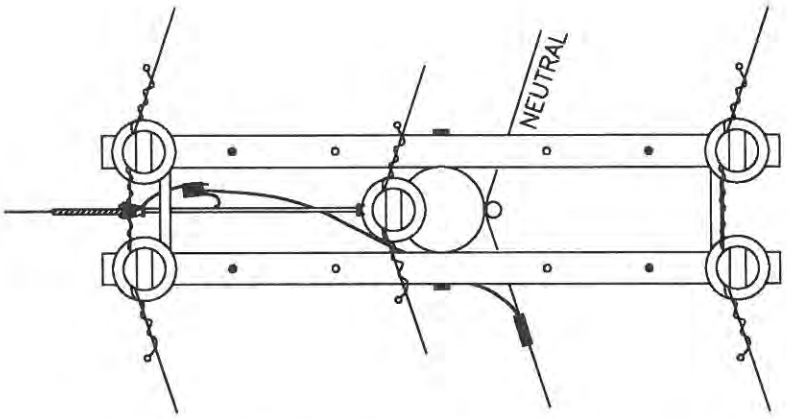
MATERIALS & ASSEMBLIES

DRAWING
1002

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 15' GUY LEAD @ 20° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK
4	2009 REVISIONS & REFORMAT	9-3-10	GAN
3			
2			
1			

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
6–20 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
1003

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
213306	5		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

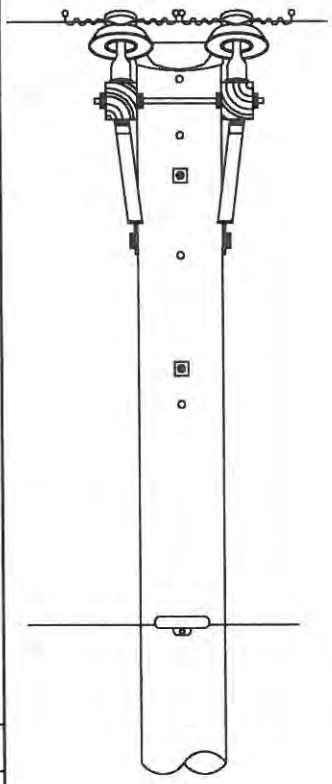
35KV – THREE PHASE
6–20 DEGREES
3000# TENSION
336 CONDUCTOR

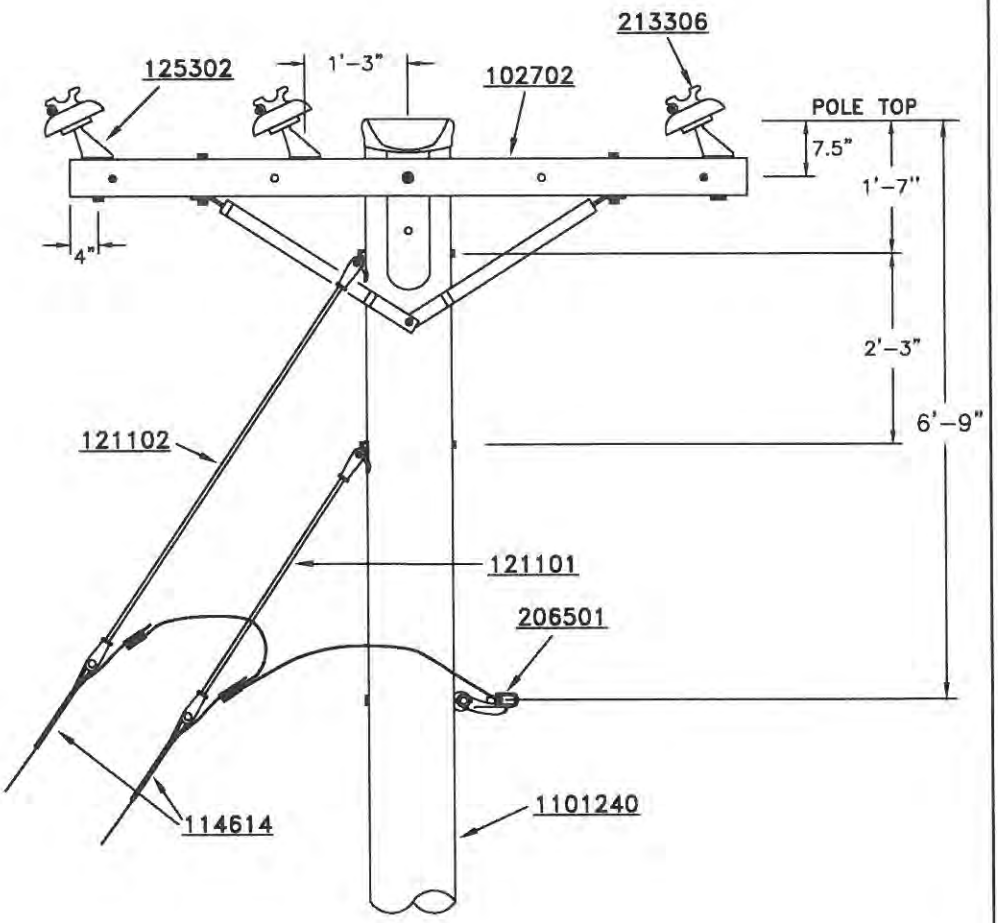
DISTRIBUTION CONSTRUCTION STANDARDS

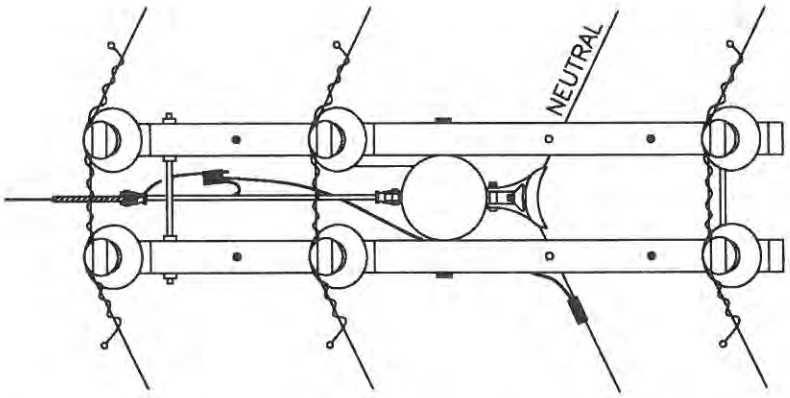
MATERIALS & ASSEMBLIES

DRAWING
1003

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 16' GUY LEAD @ 35° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 2 POLE REQUIRED.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	35KV – THREE PHASE 21–35 DEGREES 3000# TENSION 336 CONDUCTOR
BANGOR HYDRO ELECTRIC Co.	DRAWING 1004

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101240	1		**40/2 POLE**	
		1	Pole SPP 40' CLASS 2	1101240
		1	POLE TOPPER	1115306
213306	6		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125302	6		**8" ANGLE PIN**	
		1	6" X 5/8" MACH BOLT	1106506
		1	ANGLE PIN	1125302
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 3/4"	1138604
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

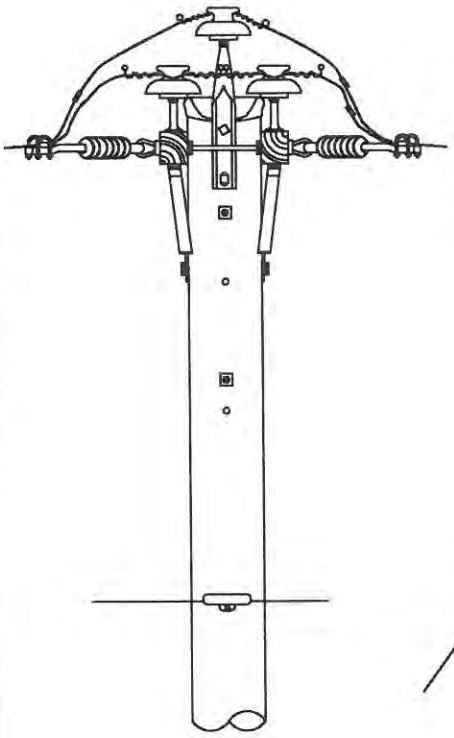
35KV – THREE PHASE
21–35 DEGREES
3000# TENSION
336 CONDUCTOR

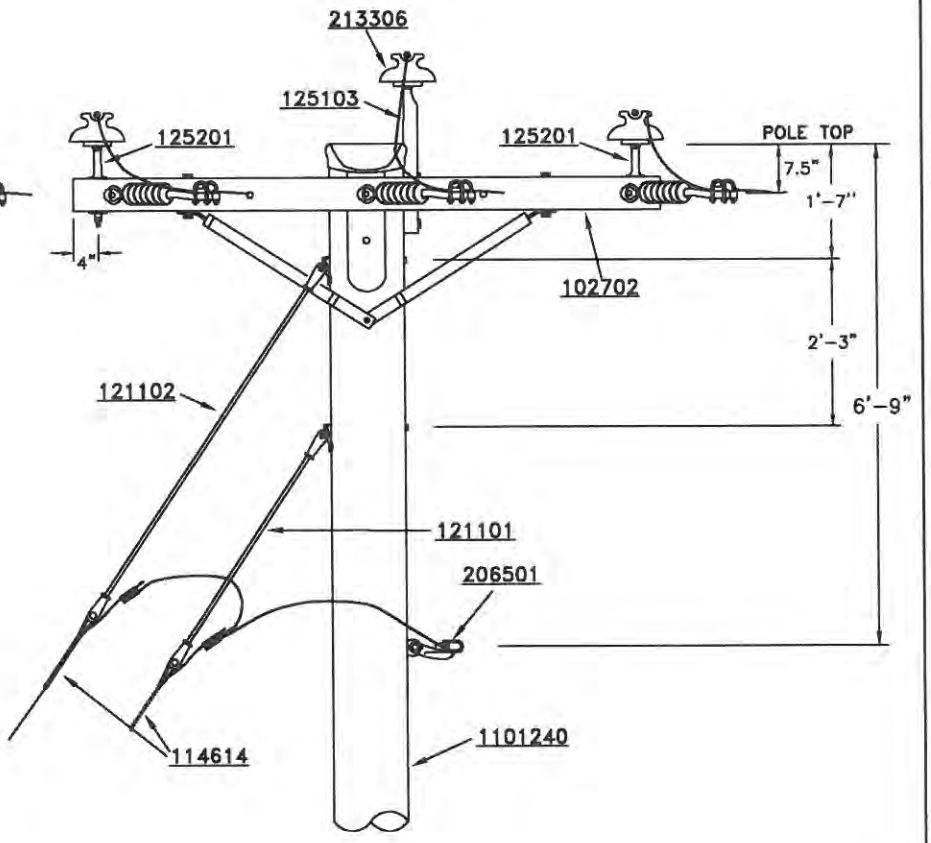
DISTRIBUTION CONSTRUCTION STANDARDS

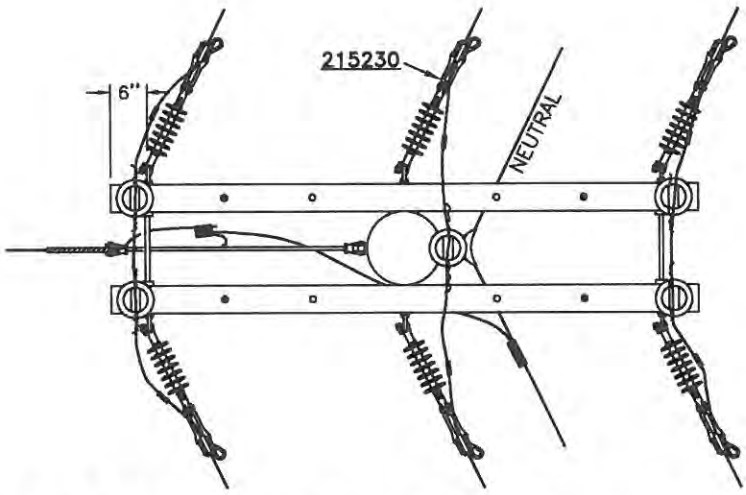
MATERIALS & ASSEMBLIES

DRAWING
1004

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. TOP GUY–MINIMUM 25' GUY LEAD @ 60° w/ 14M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 60° w/ 14M GUY WIRE AND 14" ANCHOR.
FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 2 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-18
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
36–60 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
1005

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101240	1		**40/2 POLE**	
		1	Pole SPP 40' CLASS 2	1101240
		1	POLE TOPPER	1115306
213306	5		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125103	1		**24" POLE TOP PIN**	
		2	BOLTS MACH. 12" X 5/8"	1106512
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	24" POLE TOP PIN	1125103
		1	DBL COIL SPRING WASHER, 5/8"	1138602
125201	4		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215230	6		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
102702	1		**D-96" ARM W/ HVY DUTY BRACE**	
		2	96" 6 PIN ARM	1102693
		10	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		3	20" X 5/8" DA BOLTS	1106820
		4	HVY DUTY CROSSAM BRACE	1103330
		4	6" X 5/8" MACH BOLT	1106506
		1	BOLTS MACH, 14" X 5/8"	1106514
		6	4" X 3/16" SQUARE WASHER	1138107
		3	DBL COIL SPRING WASHER, 5/8"	1138602
		4	5/8" LOCK WASHER	1138402
206501	1		**NEUTRAL C CORNER**	
		1	14" X 5/8" EYE BOLT	1107514
		1	ANGLE SUSP CLAMP	1206401
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
121101	1		**3' FG STRAIN ROD**	
		1	3' FG STRAIN ROD	1121101
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-3-10	GAN

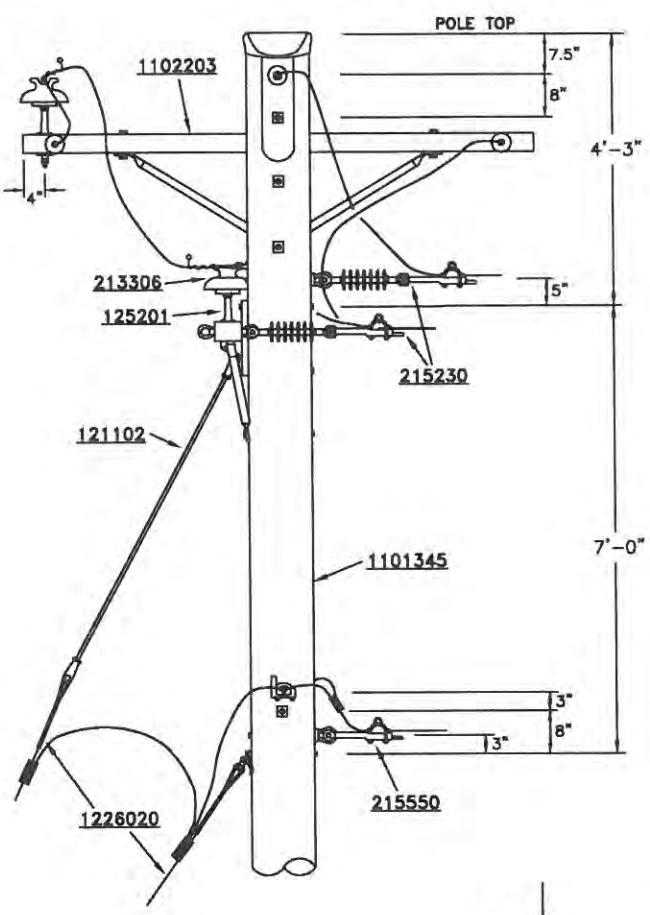
35KV – THREE PHASE
36–60 DEGREES
3000# TENSION
336 CONDUCTOR

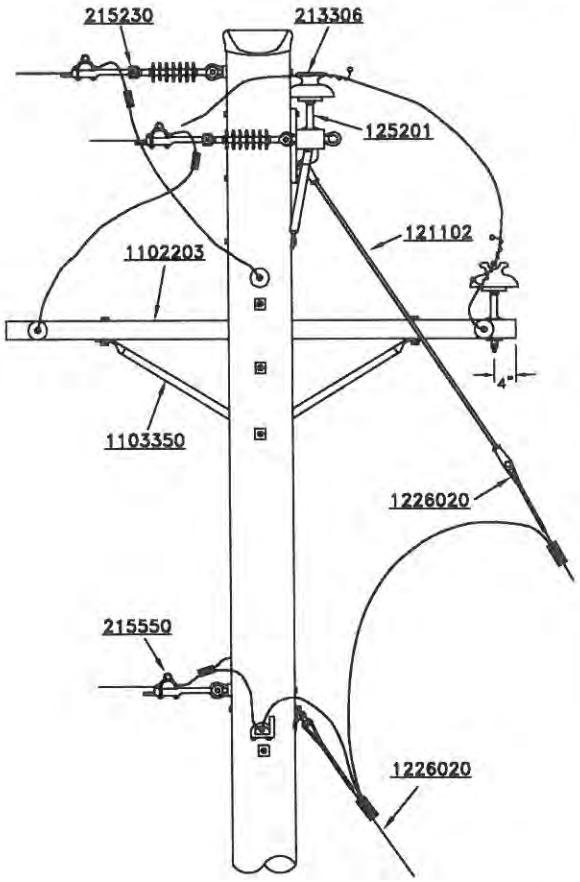
DISTRIBUTION CONSTRUCTION STANDARDS

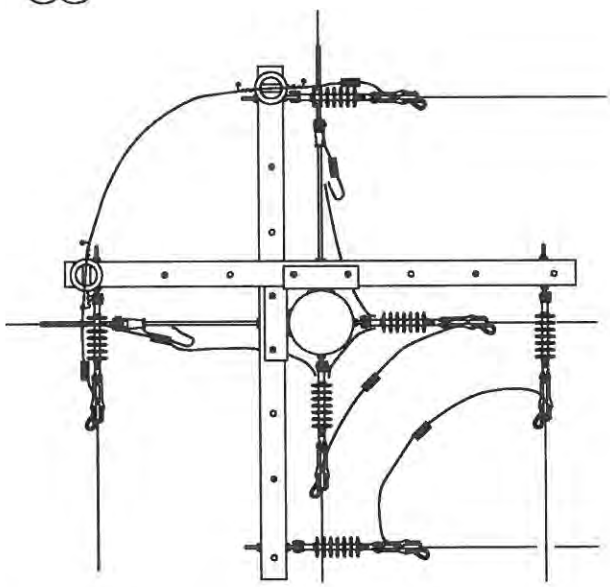
MATERIALS & ASSEMBLIES

DRAWING
1005

BANGOR HYDRO ELECTRIC Co.







NOTES:

1. TOP GUY–MINIMUM 25' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 3 POLE REQUIRED. SPACING SHOWN IS FOR FULL EXCESS HEIGHT.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
61–90 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
1006

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101345
		1	POLE TOPPER	1115306
213306	2		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125201	2		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
215230	6		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
1102203	2		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	2		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215550	2		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1226020	4		**20M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	SHACKLE	1141205
		1	CLEVIS	1208272
		2	20M GUY GRIPS	1210120
		75	20M GUY WIRE	1226020
		1	COMP TAP	4871018
121102	2		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108
108115	4		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-810	GAN

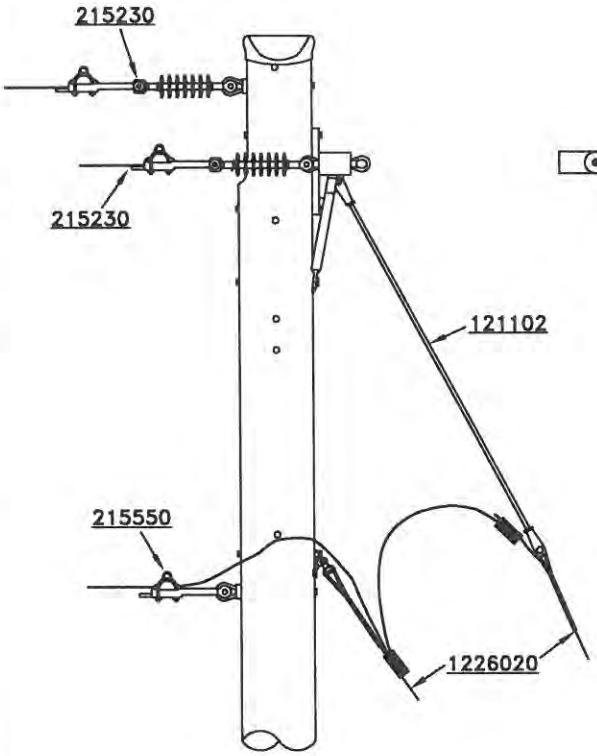
35KV – THREE PHASE
61–90 DEGREES
3000# TENSION
336 CONDUCTOR

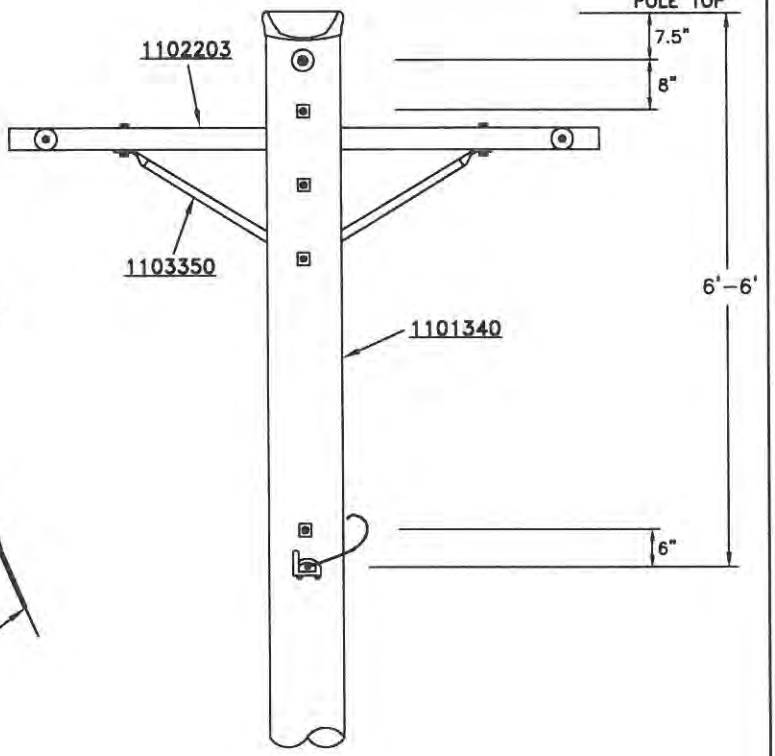
DISTRIBUTION CONSTRUCTION STANDARDS

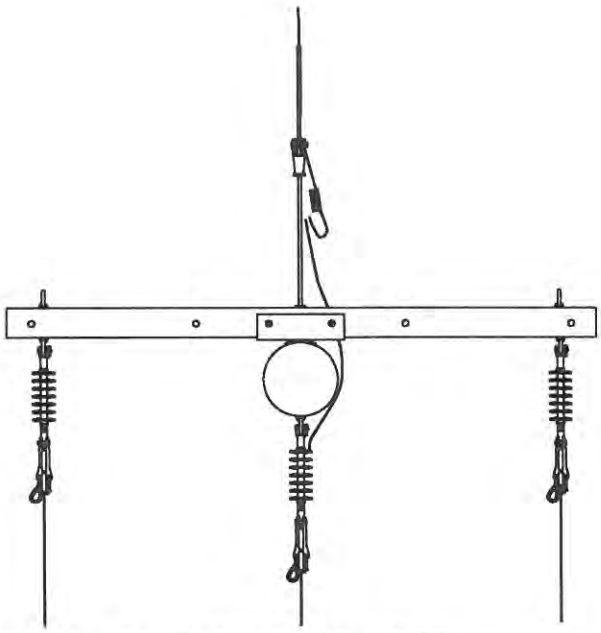
MATERIALS & ASSEMBLIES

DRAWING
1006

BANGOR HYDRO ELECTRIC Co.







NOTES:

1. TOP GUY–MINIMUM 25' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   BOTTOM GUY–MINIMUM 20' GUY LEAD @ 90° w/ 20M GUY WIRE AND 14" ANCHOR.
   FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR ALLOWED ON TOP GUY.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
DEADEND
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
1007

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
215230	3		**35 KV DEADEND LG**	
		1	35 KV DEADEND INSULATOR	1213434
		1	5/8" EYE NUT	1124102
		1	DEADEND CLAMP	1206202
1102203	1		**HD DEADEND ARM**	
		1	FIBERGLASS HD DEADEND ARM	1102203
		2	BOLTS MACH, 12" X 3/4"	1106312
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/4" LOCK WASHER	1138504
1103350	1		**HD FG BRACE**	
		2	HD FG BRACE	1103350
		1	14" X 5/8" MACH BOLT	1106514
		6	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	6" X 5/8" MACH BOLT	1106506
		3	5/8" LOCK WASHER	1138402
215550	1		**NEUTRAL DEADEND LG**	
		1	14" X 5/8" EYE BOLT	1107514
		1	DEADEND CLAMP	1206202
		2	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1226020	2		**20M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	SHACKLE	1141205
		1	CLEVIS	1208272
		2	20M GUY GRIPS	1210120
		75	20M GUY WIRE	1226020
		1	COMP TAP	4871018
108115	2		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

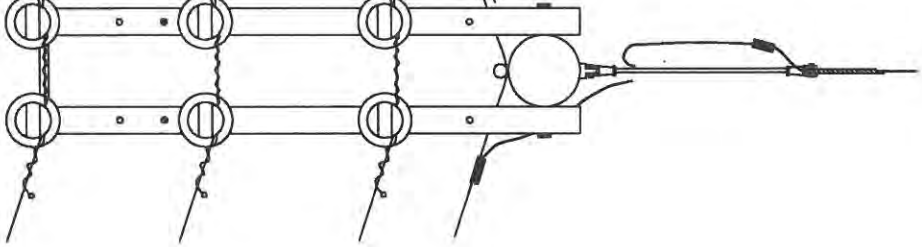
35KV – THREE PHASE
DEADEND
3000# TENSION
336 CONDUCTOR

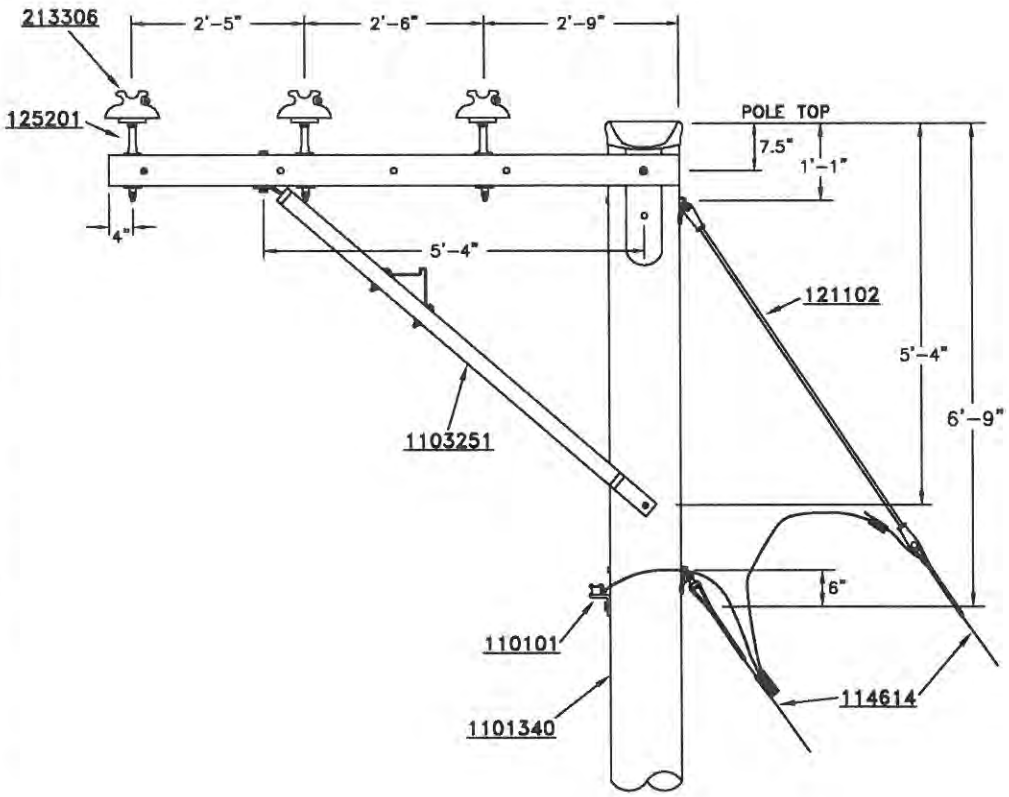
DISTRIBUTION
CONSTRUCTION
STANDARDS

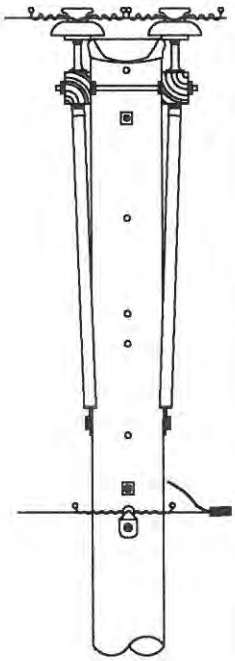
MATERIALS &
ASSEMBLIES

DRAWING
1007

BANGOR HYDRO ELECTRIC Co.







NOTE:
1. MINIMUM 15' GUY LEAD @ 20° w/ TWO 14M GUY WIRES AND 14" ANCHOR. FOR ANY OTHER CONFIGURATION, REFER TO SECTION 1300.
2. NO JOINT ANCHOR. COMMUNICATIONS MUST INSTALL SEPARATE ANCHOR.
3. MINIMUM CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE
OUTRIGGED ARM 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

BANGOR HYDRO ELECTRIC Co.

DRAWING
1008

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101340	1		**40/3 POLE**	
		1	Pole SPP 40' CLASS 3	1101340
		1	POLE TOPPER	1115306
213306	3		**27 KV INSULATOR**	
		1	INSULATOR PIN TYPE, 27 KV J-NECK	1213306
125201	3		**7" STEEL PIN**	
		1	7" STEEL PIN	1125201
		1	DBL COIL SPRING WASHER, 3/4"	1138604
1103251	1		**DBL 7' ALLEY ARM**	
		2	96" 6 PIN ARM	1102693
		2	ALLEY ARM BRACE, WOOD	1103250
		2	4 1/2" X 3/8" CARRAIGE BOLT	1107904
		14	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		2	3/8" LOCK WASHER	1138400
		1	BOLTS MACH, 14" X 5/8"	1106514
		3	20" X 5/8" DA BOLTS	1106820
		1	DBL COIL SPRING WASHER, 5/8"	1138602
110101	1		**NEUTRAL BRACKET**	
		1	BOLTS MACH, 14" X 5/8"	1106514
		1	BRACKET NEUT. WIRE	1110101
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		1	DBL COIL SPRING WASHER, 5/8"	1138602
114614	2		**14M GUY**	
		1	GROUND CLAMP	1206305
		1	GUY GUARD, YELLOW	1115101
		1	CONNECTOR	1207211
		1	CLEVIS PIN	1208171
		2	14M GUY GRIPS	1210108
		45	14M GUY WIRE	1226014
108115	1		**14" SCREW ANCHOR**	
		1	14" SCREW ANCHOR	1108615
		1	7' X 1" ANCHOR ROD	1127205
121102	1		**5' FG STRAIN ROD**	
		1	5' FG STRAIN ROD	1121102
		2	14M GUY GRIPS	1210108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN

35KV – THREE PHASE
OUTRIGGED ARM 0–20 DEGREES
3000# TENSION
336 CONDUCTOR

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
1008

BANGOR HYDRO ELECTRIC Co.

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1102	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240V TRIPLEX	12-4-2009
1103	SECONDARY 3% VOLTAGE DROP THREE PHASE 120/208V QUADRUPLEX	12-4-2009
1104	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240V ALUMINUM DUCT SYSTEM	12-4-2009
1105	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240V COPPER DUCT SYSTEM	12-4-2009

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

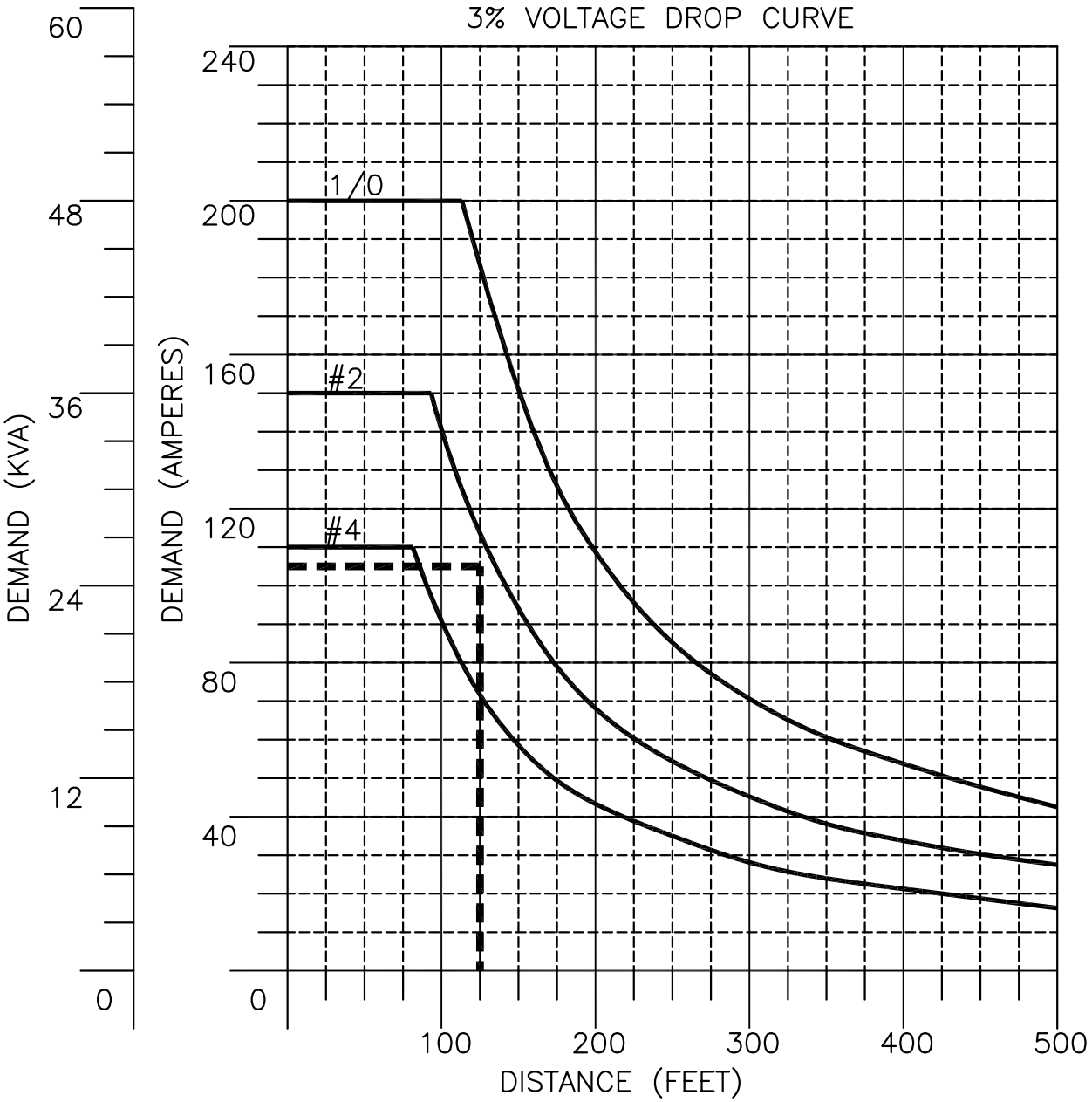
– INDEX –
SECONDARY VOLTAGE DROP

LAST REVISED
03-18-2021

DRAWING
1100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-4-09	GAN



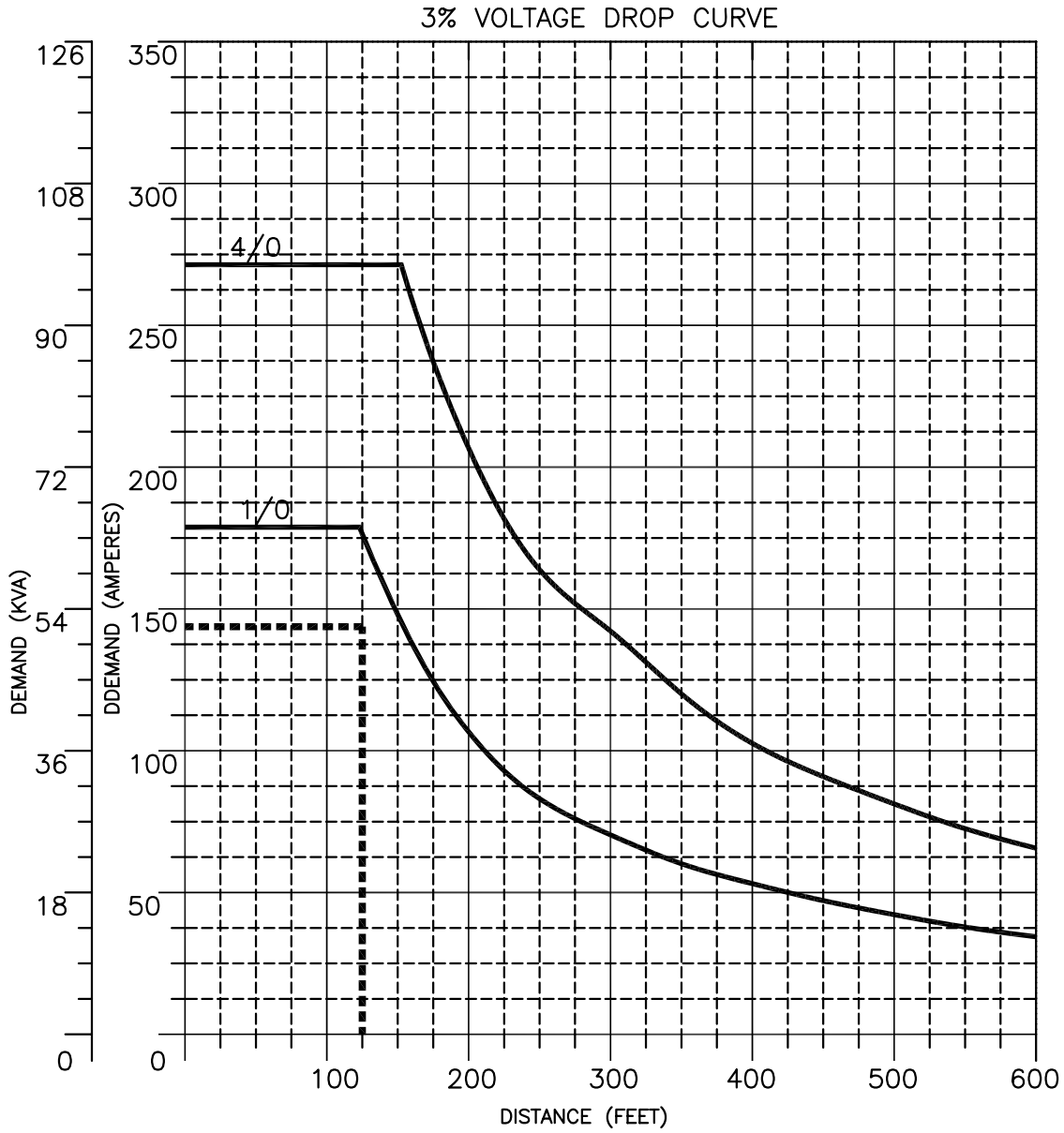
EXAMPLE:
FOR 25KVA DEMAND (105 AMPERES) AND A DISTANCE OF 125 FEET, FOLLOW THE DASHED LINES UNTIL THEY MEET. FOR THIS EXAMPLE USE #2 TRIPLEX.

NOTE:
1. REFER TO STANDARD 301 FOR SERVICE CABLE AMPACITY.

	DISTRIBUTION CONSTRUCTION STANDARDS	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240 VOLTS TRIPLEX
	BANGOR HYDRO ELECTRIC Co.	DRAWING 1102

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-4-09	GAN



EXAMPLE:
FOR 50KVA DEMAND (140 AMPERES) AND A DISTANCE OF 125 FEET, FOLLOW THE DASHED LINES UNTIL THEY MEET. FOR THIS EXAMPLE USE 1/0 QUADRUPLEX.

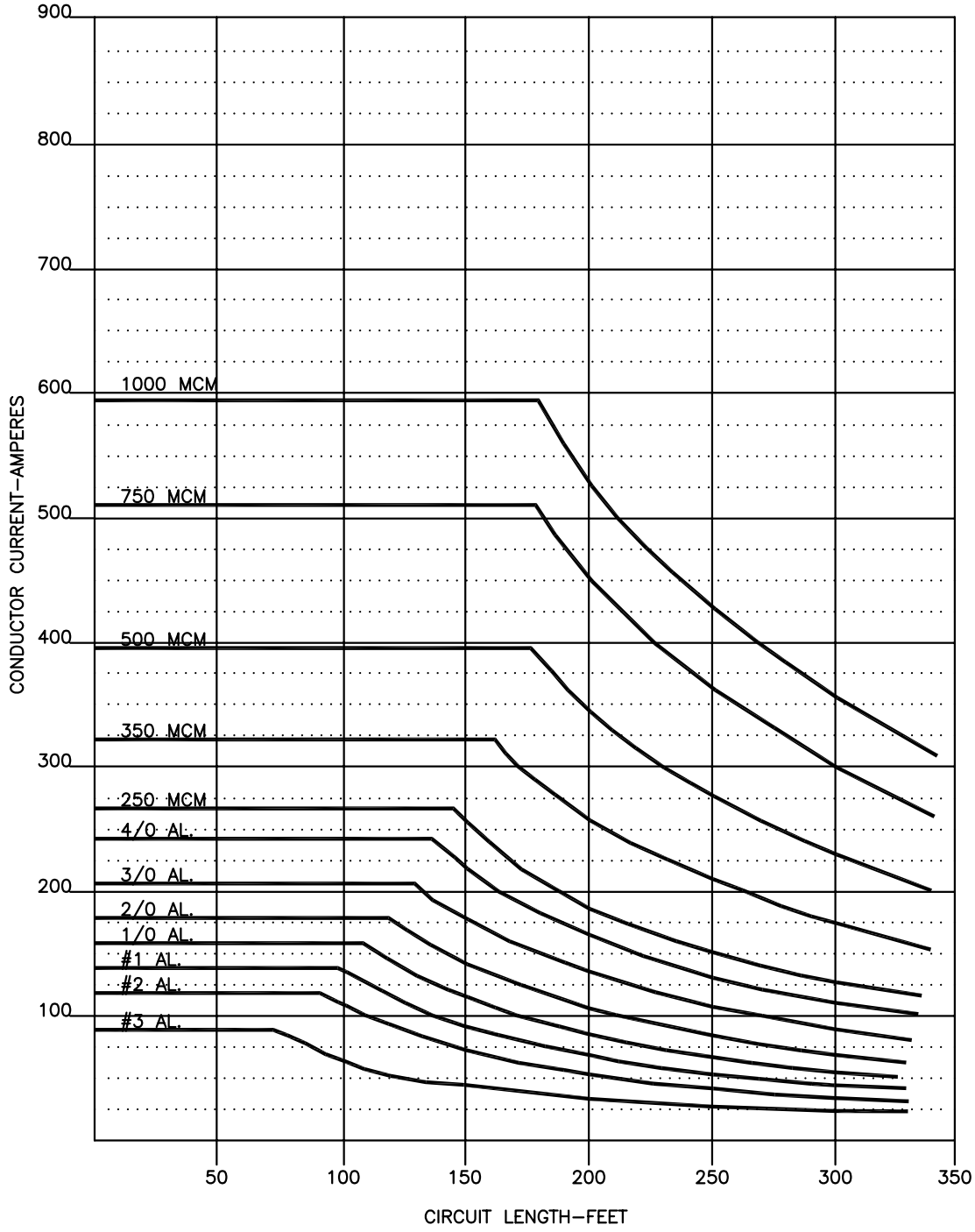
NOTE:
1. REFER TO STANDARD 301 FOR SERVICE CABLE AMPACITY.

	DISTRIBUTION CONSTRUCTION STANDARDS	SECONDARY 3% VOLTAGE DROP 3 PHASE 120/208 VOLTS QUADRUPLEX
	BANGOR HYDRO ELECTRIC Co.	DRAWING 1103

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-4-09	GAN

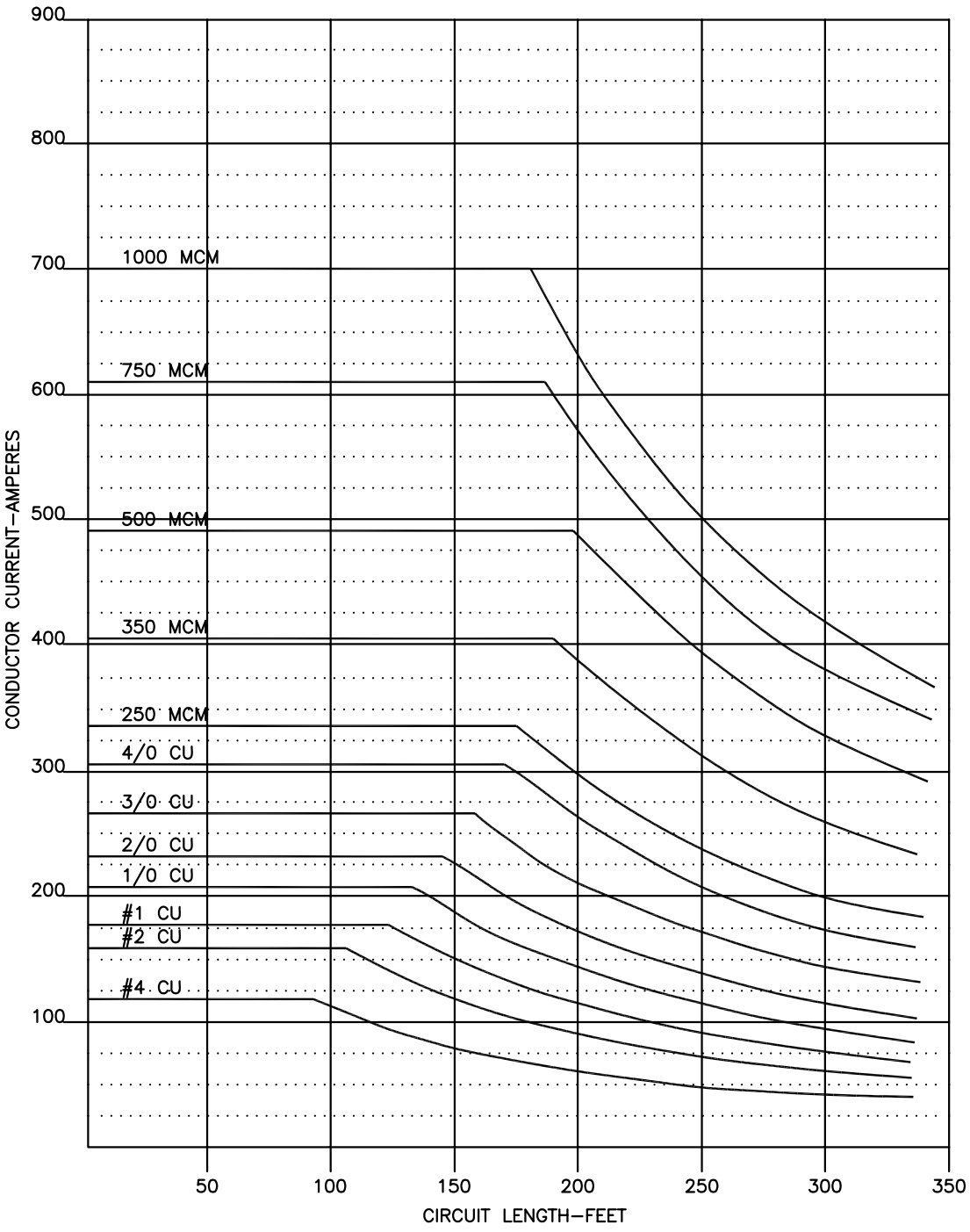
VOLTAGE DROP CURVES*
SINGLE PHASE 120/240V 3% VOLTAGE DROP
TWO PHASE CONDUCTORS PLUS NEUTRAL TRIPLEXED
AL.–DUCT SYSTEM–90°C CONDUCTOR
1.0 POWER FACTOR



NOTE:
1. REFER TO N.E.C. TABLE B310.7 FOR SERVICE CABLE AMPACITY.

	DISTRIBUTION CONSTRUCTION STANDARDS	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240 VOLTS ALUMINUM DUCT SYSTEM 90°C CONDUCTOR
	BANGOR HYDRO ELECTRIC Co.	DRAWING 1104

VOLTAGE DROP CURVES*
1 PHASE 120/240V 3% VOLTAGE DROP
TWO PHASE CONDUCTORS PLUS NEUTRAL TRIPLEXED
COPPER–DUCT SYSTEM–90°C CONDUCTOR
1.0 POWER FACTOR



NOTE:
1. REFER TO N.E.C. TABLE B310.7 FOR SERVICE CABLE AMPACITY.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-4-09	GAN

	DISTRIBUTION CONSTRUCTION STANDARDS	SECONDARY 3% VOLTAGE DROP SINGLE PHASE 120/240 VOLTS COPPER DUCT SYSTEM 90°C CONDUCTOR
	BANGOR HYDRO ELECTRIC Co.	DRAWING 1105

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1201	SINGLE PHASE DISTRIBUTION CAPACITOR FUSING SCHEDULE	12–3–2009
1202	THREE PHASE DISTRIBUTION CAPACITOR FUSING SCHEDULE	12–3–2009

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
CAPACITORS

LAST REVISED
03–18–2021

DRAWING
1200

Suggested Primary Fusing for Distribution Capacitors
Fuse Rating Based on Use of EEI–NEMA Type "T" Fuse Links

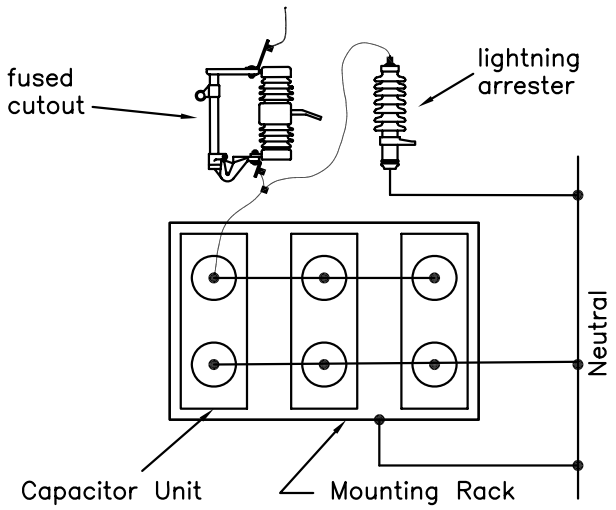
SINGLE PHASE KVAR	2400/4160 WYE		4800/8320 WYE		7200/12470 WYE	
	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating
25	10.4	10T	5.2	6T		
50	20.8	25T	10.4	10T	6.9	10T
100	41.6	40T	20.8	25T	13.9	15T
150					20.8	25T
200						
300						
400						

SINGLE PHASE KVAR	7620/13200 WYE		19900/34500 WYE			
	Rated Amps	Link Rating	Rated Amps	Link Rating		
25						
50	6.6	6T				
100	13.1	15T	5.0	6T		
150	19.7	25T	7.5	10T		
200						
300						
400						

No fuse larger than those recommended in the above table should be used without specific recommendations from T&D Engineering.

Single Phase KVAR is obtained by adding the individual KVAR of each capacitor unit in the rack.

Example: 3–50 KVAR units Phase A Single Phase KVAR = 150



CAUTION: After opening supply line to capacitors, consider them alive until they are properly discharged.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-3-09	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

SINGLE PHASE DISTRIBUTION CAPACITOR FUSING SCHEDULE

BANGOR HYDRO ELECTRIC Co.

DRAWING 1201

Suggested Primary Fusing for Distribution Capacitors
Fuse Rating Based on Use of EEI–NEMA Type "T" Fuse Links

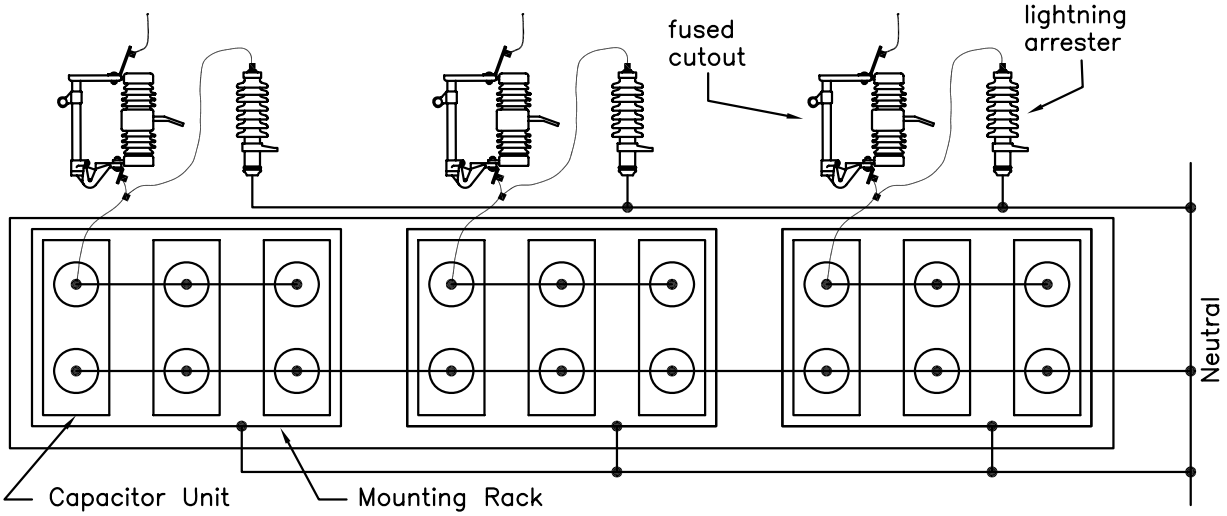
THREE PHASE KVAR	2400/4160 WYE		4800/8320 WYE		7200/12470 WYE	
	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating
75	10.4	10T	5.2	6T		
150	20.8	25T	10.4	10T	6.9	10T
300	41.6	40T	20.8	25T	13.9	15T
450					20.8	25T
600			41.6	40T	27.8	25T
900					41.7	40T
1200					55.6	65T

THREE PHASE KVAR	7620/13200 WYE		19900/34500 WYE			
	Rated Amps	Link Rating	Rated Amps	Link Rating		
75						
150	6.6	6T				
300	13.1	15T	5.0	6T		
450	19.7	25T	7.5	10T		
600	26.2	25T	10.0	10T		
900	39.4	40T	15.1	15T		
1200	52.5	65T	20.1	25T		

No fuse larger than those recommended in the above table should be used without specific recommendations from T&D Engineering.

Three Phase KVAR is obtained by adding the individual KVAR of each capacitor unit in the entire bank.

Example: 3–100 KVAR units on Phase A, 3–100 KVAR units on Phase B, 3–100 KVAR units on Phase C Three Phase KVAR = 900



CAUTION: After opening supply line to capacitors, consider them alive until they are properly discharged.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-3-09	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE DISTRIBUTION CAPACITOR FUSING SCHEDULE

BANGOR HYDRO ELECTRIC Co.

DRAWING 1202

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1302	PULL FINDER INSTRUCTIONS	2-22-2021
1303	PULL TO ANGLE CONVERSION	2-22-2021
1304	GUY REQUIREMENT CHARTS	2-09-2021
1306	GUY REQUIREMENT CHARTS	2-17-2021
1308	GUYING EXAMPLE	2-22-2021
1309	PUSH BRACE	7-13-2020
1310	GUYING COMPONENTS HOLDING STRENGTH	10-4-2010

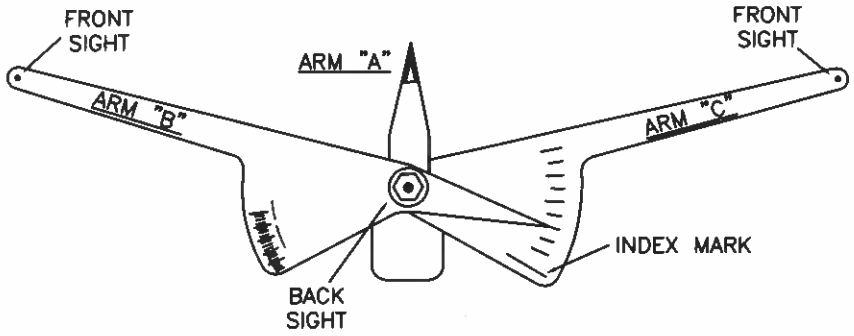
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

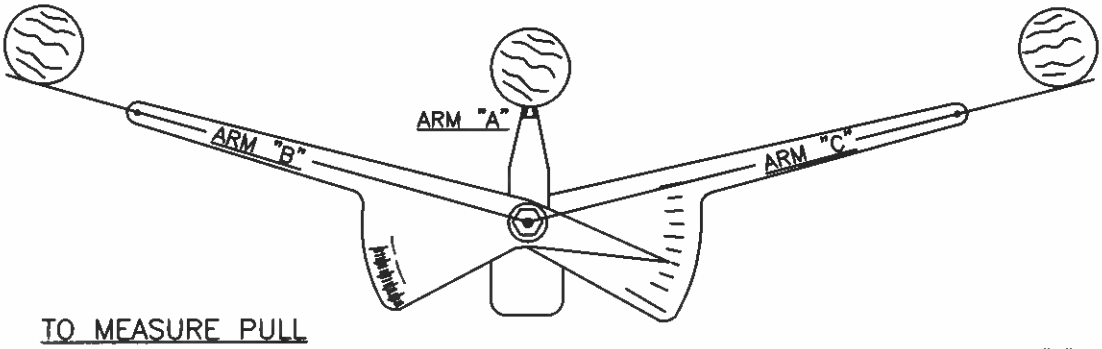
- INDEX -
GUYING

LAST REVISED
02/03/2021

DRAWING
1300

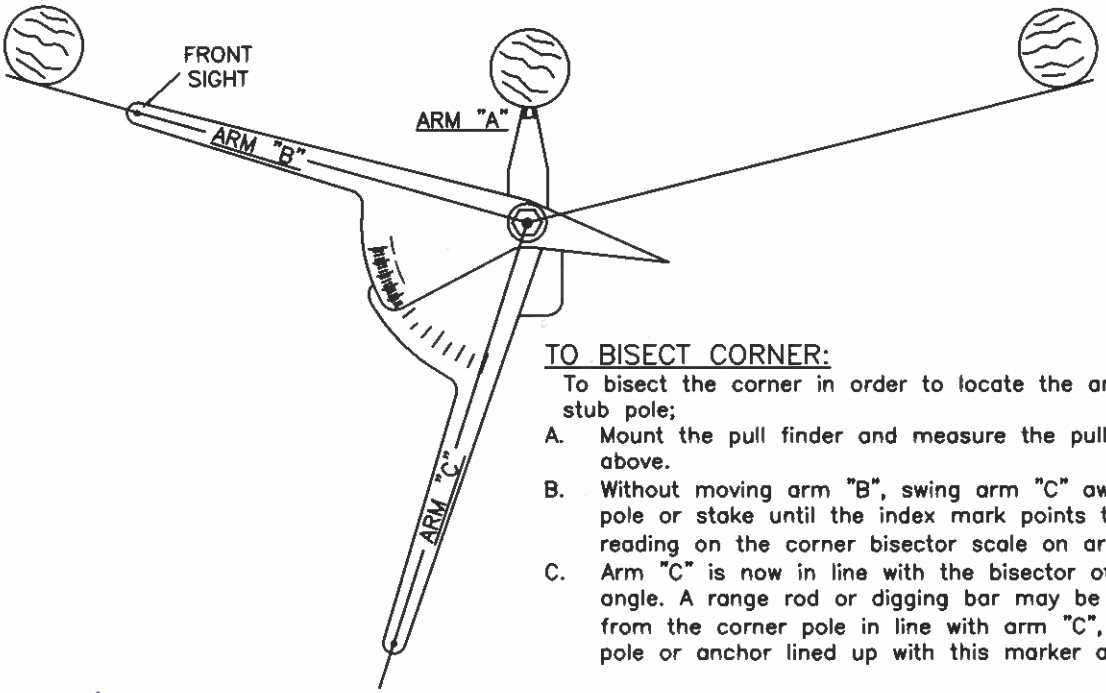


PULL FINDER



TO MEASURE PULL

To determine the pull at a corner by use of the pull finder, screw the short arm "A" into side of pole to be anchored or into a grade stake as shown. Adjust arm "C" so that it is lined up with the back sight and the next pole. In the same way, line up arm "B". Check arm "C" to be sure it has not moved. The pointer on arm "B" now indicates on the scale on arm "C" the pull in feet on the corner.



TO BISECT CORNER:

To bisect the corner in order to locate the anchor or guy stub pole;

A. Mount the pull finder and measure the pull in feet as above.

B. Without moving arm "B", swing arm "C" away from the pole or stake until the index mark points to the pull reading on the corner bisector scale on arm "B".

C. Arm "C" is now in line with the bisector of the corner angle. A range rod or digging bar may be set a few feet from the corner pole in line with arm "C", and the stub pole or anchor lined up with this marker and corner pole.

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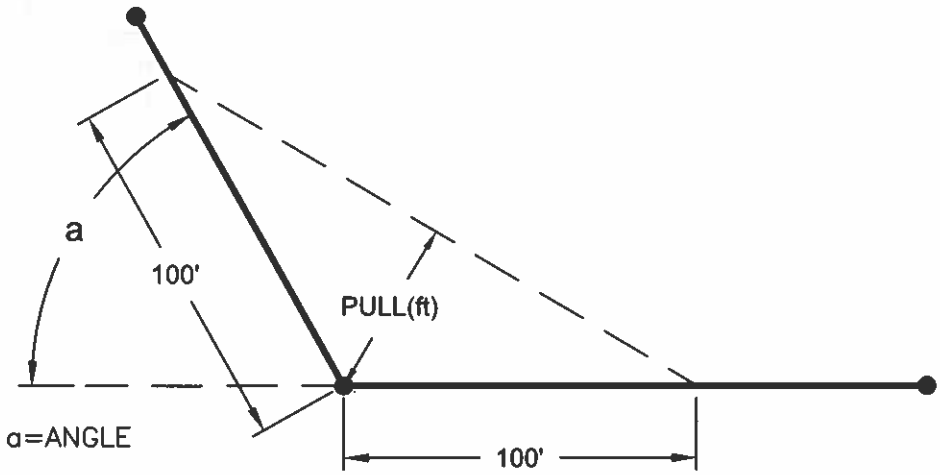
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

PULL FINDER INSTRUCTIONS

LAST REVISED	DRAWING
02/03/2021	1302



METHODS OF DETERMINING PULL BY TAPE:

Relationship between pull in feet and angle "a": the angle the line deviates from being straight.

PULL DISTANCE	ANGLE "a" (APPROX)
5'	5°
10'	11°
15'	17°
20'	23°
25'	29°
30'	35°
35'	41°
40'	47°
45'	53°
50'	60°

(FOR USE WHEN INSTRUMENT IS USED)

NOTE:

To determine line angle from pull, take the first number in the pull, multiply it by two and add it to the pull. This will give an approximate line angle.

Example: 27' pull => 2x2=4 => 4+27=31° angle

It should be noted that for pulls of smaller than 10', the angle is equal to the pull.

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DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

PULL TO ANGLE CONVERSION

LAST REVISED	DRAWING
02/03/2021	1303

1 PHASE 1/0 AAAC or 336 AAC PRIM & NEUTRAL WIRE 2000 LB. TENSION	
Line Angle	**Horizontal Tension Component**
5°	780
10°	1195
15°	1607
20°	2017
25°	2421
30°	2822
35°	3217
40°	3606
45°	3988
50°	4363
55°	4729
60°	5087
DEADEND	5087

TABLE 1A

3 PHASE 1/0 AAAC or 336 AAC PRIM & NEUTRAL WIRE 2000 LB. TENSION	
Line Angle	**Horizontal Tension Component**
5°	1776
10°	2677
15°	3569
20°	4458
25°	5335
30°	6204
35°	7060
40°	7905
45°	8733
50°	9546
55°	10339
60°	11112
DEADEND	11112

TABLE 1B

3 PHASE 1/0 AAAC or 336 AAC PRIM & NEUTRAL WIRE 3000 LB. TENSION	
Line Angle	**Horizontal Tension Component**
5°	2185
10°	3491
15°	4792
20°	6085
25°	7367
30°	8633
35°	9880
40°	11111
45°	12322
50°	13510
55°	14671
60°	15801
DEADEND	15801

TABLE 1C

NOTES:
1. TABLES 1A, 1B, & 1C LIST THE HORIZONTAL FORCE ON A POLE DUE CONDUCTOR LOADING FOR A SPECIFIC LINE ANGLE.
2. THESE VALUES SHOULD BE REFERENCED FOR USE WITH TABLES ON DWG 1306 TO SELECT GUYING EQUIPMENT.

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DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

GUY REQUIREMENT CHARTS

LAST REVISED	DRAWING
02-24-2021	1304

GUY TENSION MULTIPLIER															
Height from ground to point of guy attachment, ft.	Guy Lead - From Center of Pole to Anchor Rod, (Feet)														
	8	10	12	14	15	16	18	20	22	24	26	28	30	40	45
20	2.69	2.24	1.94	1.74	1.67	1.60	1.49	1.41	1.35	1.30	1.26	1.23	1.20	1.12	1.09
22	2.93	2.42	2.09	1.86	1.78	1.70	1.58	1.49	1.41	1.36	1.31	1.27	1.24	1.14	1.11
24	3.16	2.60	2.24	1.98	1.89	1.80	1.67	1.56	1.48	1.41	1.36	1.32	1.28	1.17	1.13
26	3.40	2.79	2.39	2.11	2.00	1.91	1.76	1.64	1.55	1.47	1.41	1.36	1.32	1.19	1.15
28	3.64	2.97	2.54	2.24	2.12	2.02	1.85	1.72	1.62	1.54	1.47	1.41	1.37	1.22	1.18
30	3.88	3.16	2.69	2.36	2.24	2.13	1.94	1.80	1.69	1.60	1.53	1.47	1.41	1.25	1.20
32	4.12	3.35	2.85	2.49	2.36	2.24	2.04	1.89	1.77	1.67	1.59	1.52	1.46	1.28	1.23
34	4.37	3.54	3.00	2.63	2.48	2.35	2.14	1.97	1.84	1.73	1.65	1.57	1.51	1.31	1.25
36	4.61	3.74	3.16	2.76	2.60	2.46	2.24	2.06	1.92	1.80	1.71	1.63	1.56	1.35	1.28
38	4.85	3.93	3.32	2.89	2.72	2.58	2.34	2.15	2.00	1.87	1.77	1.69	1.61	1.38	1.31
40	5.10	4.12	3.48	3.03	2.85	2.69	2.44	2.24	2.08	1.94	1.83	1.74	1.67	1.41	1.34
42	5.34	4.32	3.64	3.16	2.97	2.81	2.54	2.33	2.16	2.02	1.90	1.80	1.72	1.45	1.37
44	5.59	4.51	3.80	3.30	3.10	2.93	2.64	2.42	2.24	2.09	1.97	1.86	1.78	1.49	1.40
46	5.84	4.71	3.96	3.43	3.23	3.04	2.74	2.51	2.32	2.16	2.03	1.92	1.83	1.52	1.43
48	6.08	4.90	4.12	3.57	3.35	3.16	2.85	2.60	2.40	2.24	2.10	1.98	1.89	1.56	1.46
50	6.33	5.10	4.28	3.71	3.48	3.28	2.95	2.69	2.48	2.31	2.17	2.05	1.94	1.60	1.49

TABLE 2

	9000	11000	12000	13000	15000	17000	19000	20000	22000	24000	25000	26000	27000	28000
ANCHOR	10" HELIX						14" HELIX				10" DBL-HELIX			
1-PH GUYWIRE	2 - 5/16" EHS GUYS							2 - 14M GUYS			2 - 20M GUYS			
3-PH GUYWIRE	2 - 14M GUYS										2 - 20M GUYS			

TABLE 3

NOTES:
1. FIND THE HORIZONTAL FORCE ON THE POLE FOR THE APPROPRIATE CONSTRUCTION TYPE USING TABLES 1A, 1B, AND 1C ON DWG 1304.
2. DETERMINE GUY ATTACHMENT HEIGHT AND LEAD LENGTH FROM TABLE 2 THIS PAGE.
3. MULTIPLY VALUE IN APPLICABLE CELL IN TABLE 2 BY THE HORIZONTAL FORCE FROM 1304 TO DETERMINE GUY TENSION.
4. CROSS REFERENCE GUY TENSION TO VALUES IN TABLE 3 TO DETERMINE APPROPRIATE ANCHORING ASSEMBLY.
5. SEE EXAMPLE ON DWG'S 1307 & 1308 FOR FURTHER REFERENCE.
6. SINGLE GUY ASSY'S SHOWN IN TABLE 3 FOR REFERENCE ONLY. ALL PRIMARY AND NEUTRAL ATTACHMENTS MUST BE GUYED.

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DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

GUY REQUIREMENT CHARTS (cont.)

LAST REVISED
04-02-2021

DRAWING
1306

GUYING EXAMPLE CONTINUED:

USE THIS EXAMPLE TO UNDERSTAND THE USE OF THE GUYING REQUIREMENT CHARTS.

1. DETERMINE THE HEIGHT OF THE GUY ATTACHMENT AND THE GUY LEAD AVAILABLE AT THE POLE LOCATION. FOR THIS EXAMPLE, ASSUME THE GUY ATTACHMENT ON A 45' POLE WITH A 15' LINE ANGLE IS AT 36'. A 15' GUY LEAD IS POSSIBLE.
2. TAKE THE HORIZONTAL FORCE DETERMINED ON DWG. 1304, TABLE 1B AND MULTIPLY BY THE APPROPRIATE VALUE IN TABLE 2. 3569 X 2.6 = 9280 LBS.
3. USE TABLE 3 TO DETERMINE THE NECESSARY EQUIPMENT.

GUY TENSION MULTIPLIER

Height from ground to point of guy attachment, ft.	Guy Lead - From Center of Pole to Anchor Rod, (Feet)														
	8	10	12	14	15	16	18	20	22	24	26	28	30	40	45
20	2.69	2.24	1.94	1.74	1.67	1.60	1.49	1.41	1.35	1.30	1.26	1.23	1.20	1.12	1.09
22	2.93	2.42	2.09	1.86	1.78	1.70	1.58	1.49	1.41	1.36	1.31	1.27	1.24	1.14	1.11
24	3.16	2.60	2.24	1.98	1.89	1.80	1.67	1.56	1.48	1.41	1.36	1.32	1.28	1.17	1.13
26	3.40	2.79	2.39	2.11	2.00	1.91	1.76	1.64	1.55	1.47	1.41	1.36	1.32	1.19	1.15
28	3.64	2.97	2.54	2.24	2.12	2.02	1.85	1.72	1.62	1.54	1.47	1.41	1.37	1.22	1.18
30	3.88	3.16	2.69	2.36	2.24	2.13	1.94	1.80	1.69	1.60	1.53	1.47	1.41	1.25	1.20
32	4.12	3.35	2.85	2.49	2.36	2.24	2.04	1.89	1.77	1.67	1.59	1.52	1.46	1.28	1.23
34	4.37	3.54	3.00	2.63	2.48	2.35	2.14	1.97	1.84	1.73	1.65	1.57	1.51	1.31	1.25
36	4.61	3.74	3.16	2.76	2.60	2.46	2.24	2.06	1.92	1.80	1.71	1.63	1.56	1.35	1.28
38	4.85	3.93	3.32	2.89	2.72	2.58	2.34	2.15	2.00	1.87	1.77	1.69	1.61	1.38	1.31
40	5.10	4.12	3.48	3.03	2.85	2.69	2.44	2.24	2.08	1.94	1.83	1.74	1.67	1.41	1.34
42	5.34	4.32	3.64	3.16	2.97	2.81	2.54	2.33	2.16	2.02	1.90	1.80	1.72	1.45	1.37
44	5.59	4.51	3.80	3.30	3.10	2.93	2.64	2.42	2.24	2.09	1.97	1.86	1.78	1.49	1.40
46	5.84	4.71	3.96	3.43	3.23	3.04	2.74	2.51	2.32	2.16	2.03	1.92	1.83	1.52	1.43
48	6.08	4.90	4.12	3.57	3.35	3.16	2.85	2.60	2.40	2.24	2.10	1.98	1.89	1.56	1.46
50	6.33	5.10	4.28	3.71	3.48	3.28	2.95	2.69	2.48	2.31	2.17	2.05	1.94	1.60	1.49

TABLE 2

	9000	11000	12000	13000	15000	17000	19000	20000	22000	24000	25000	26000	27000	28000
ANCHOR	10" HELIX						14" HELIX				10" DBL-HELIX			
1-PH GUYWIRE	2 - 5/16" EHS GUYS							2 - 14M GUYS			2 - 20M GUYS			
3-PH GUYWIRE	2 - 14M GUYS										2 - 20M GUYS			
POLE CLASS	CLASS 4						CLASS 3			CLASS 2			CLASS 1	

TABLE 3

FROM TABLE 3 IT IS APPARENT THAT THE EQUIPMENT NEEDED IS AS FOLLOWS:

10" ANCHOR
TWO 14M GUY WIRES (UPDATED STANDARDS REQUIRE BOTH PRIMARY AND NEUTRAL TO BE GUYED)
CLASS 4 POLE MINIMUM

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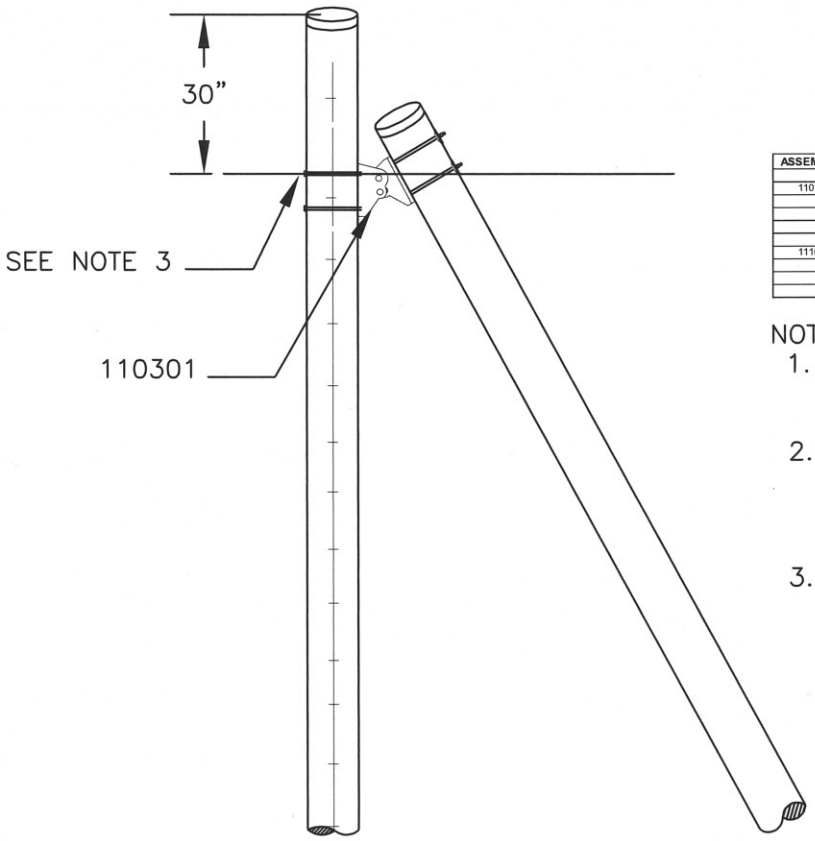
DISTRIBUTION CONSTRUCTION STANDARDS

GUYING EXAMPLE (cont.)

VERSANT POWER

LAST REVISED
04-02-2021

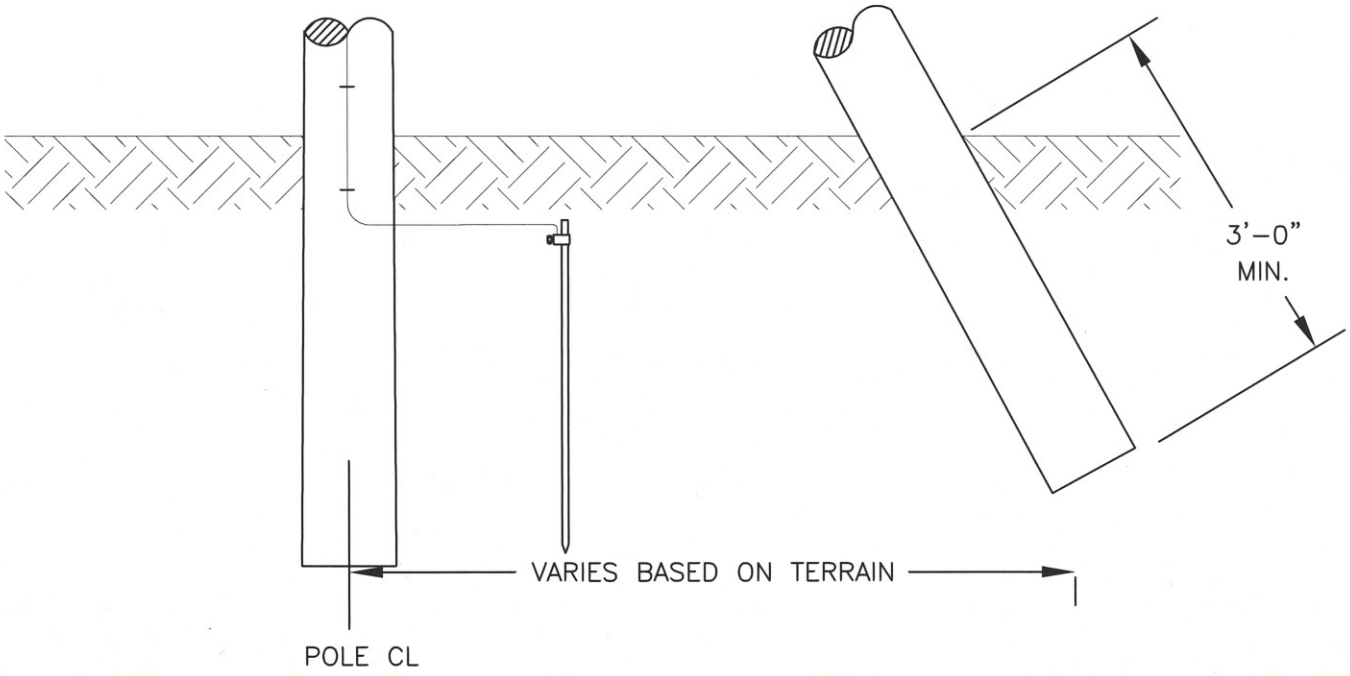
DRAWING
1308



ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
1110301	1		**PUSH BRACE BRACKET**	
		4	BOLTS MACH, 14" X 5/8"	1106514
		4	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		4	DBL COIL SPRING WASHER, 5/8"	1138602

NOTES:

1. LENGTH AND CLASS OF PUSH BRACE SHALL BE THE SAME AS MAINLINE POLE.
2. FOR VARIANCES IN BRACE LENGTH/CLASS, EMBEDMENT, OR ATTACHMENT HEIGHT, CONTACT T&D ENGINEERING.
3. FIELD DRILL HOLES TO $\frac{11}{16}$" DIA.



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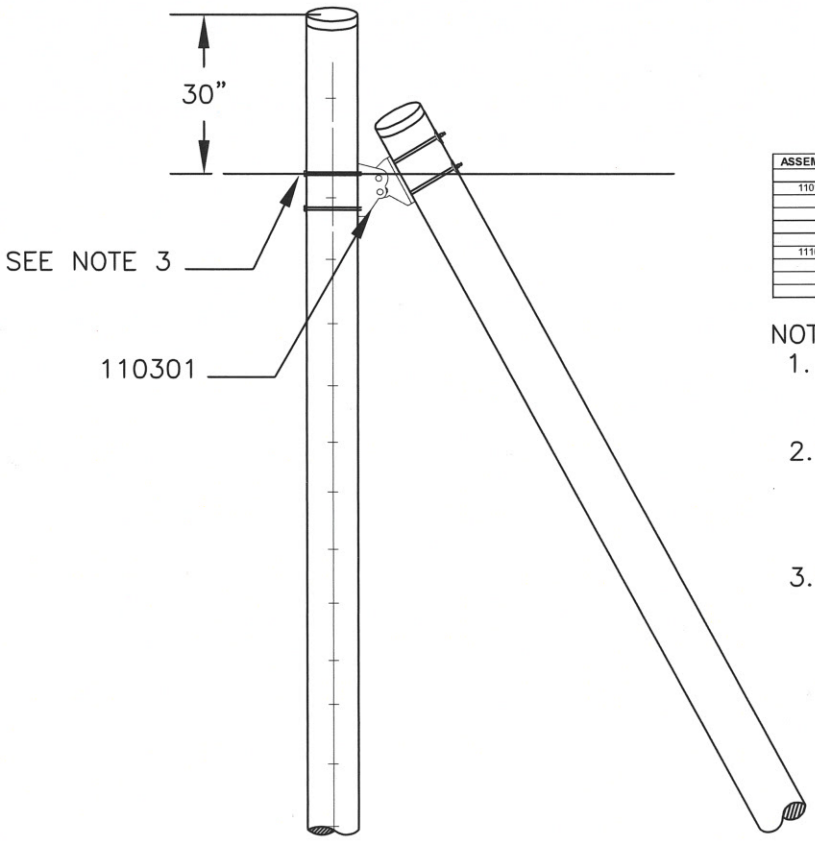
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

PUSH BRACE

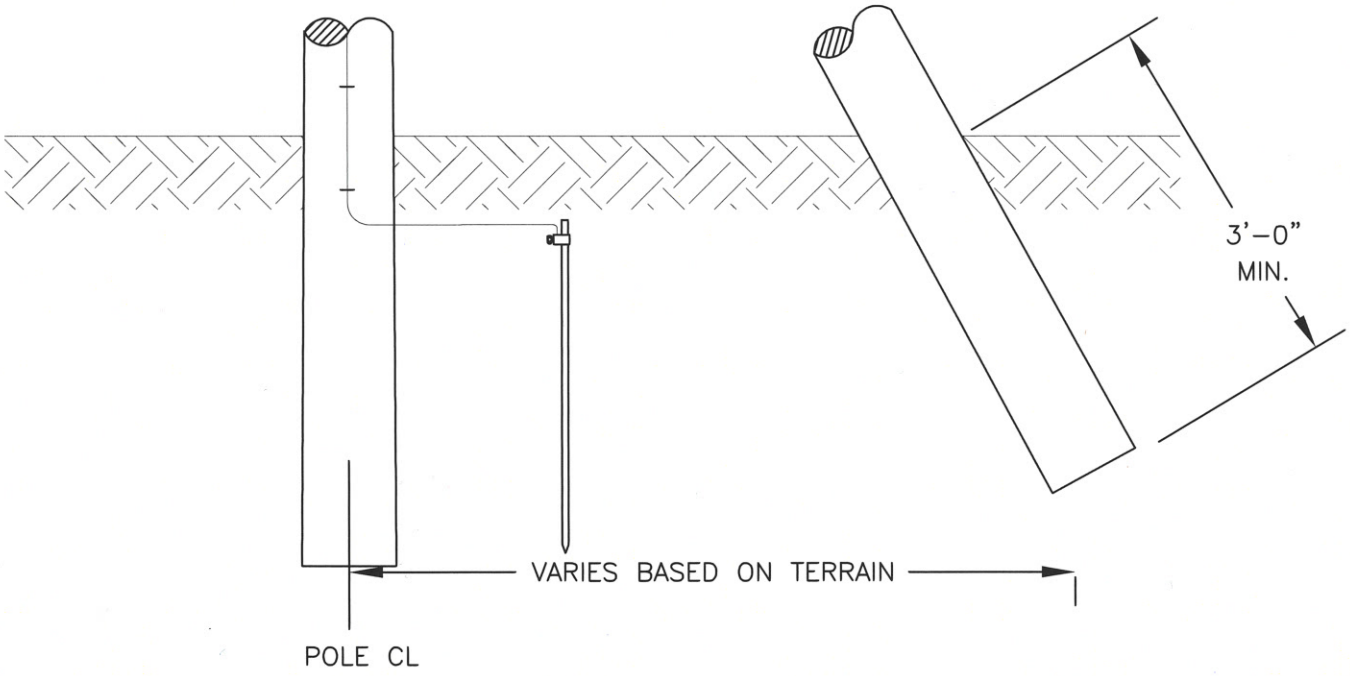
LAST REVISED	DRAWING
07–13–2020	1309



ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
1110301	1		**PUSH BRACE BRACKET**	
		4	BOLTS MACH, 14" X 5/8"	1106514
		4	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
		4	DBL COIL SPRING WASHER, 5/8"	1138602

NOTES:

1. LENGTH AND CLASS OF PUSH BRACE SHALL BE THE SAME AS MAINLINE POLE.
2. FOR VARIANCES IN BRACE LENGTH/CLASS, EMBEDMENT, OR ATTACHMENT HEIGHT, CONTACT T&D ENGINEERING.
3. FIELD DRILL HOLES TO $\frac{11}{16}$" DIA.



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DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

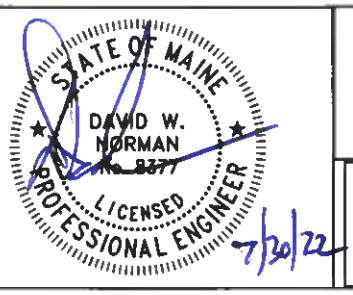
PUSH BRACE

LAST REVISED	DRAWING
07–13–2020	1309

ANCHORS	HOLDING STRENGTH (LBS)	
10" HELIX SQ.1 SCREW	21,000	(CLASS 4 SOIL*)
14" HELIX SQ.1 SCREW	28,000	(CLASS 4 SOIL*)
10" HELIX DBL SCREW	32,000	(CLASS 4 SOIL*)
30" ROCK ANC (3/4" ROD)	20,000	
53" ROCK ANC	20,000	
72" ROCK ANC (1" ROD)	36,000	
96" ROCK ANC	36,000	
10" HELIX 8 WAY EXP	26,500	(CLASS 4 SOIL*)
12" HELIX 8 WAY EXP	34,000	(CLASS 4 SOIL*)
8' LOG ANCHOR	28,000	
GUY WIRE		
5/16" EHS (7 STRAND)	11,200	
14M ALUMOWELD	14,000	
20M ALUMOWELD	20,000	
ANCHOR RODS		
7' X 1" W/DBL EYE (FOR SCREW ANC)	36,000	
8' X 1" W/TRIPLE EYE (FOR EXPANSION ANC)	36,000	
10' X 1-1/4" W/TRIPEYE (FOR 12" EXP ANC)	58,000	
7' X 1" W/TWIN EYENUT	36,000	
8' X 1" W/TRIPLE EYENUT	36,000	
FIBERGLASS STRAIN RODS		
3' ROD	21,000	
5' ROD	30,000	
10' ROD	36,000	

NOTES:

1. CLASS 4 SOIL DESCRIPTION: COMPACTED SAND, CLAYPAN, COMPACTED GRAVEL. PROBE VALUE: 400–500 inches.
2. NO ADDITIONAL LOAD SHALL BE PUT ON AN ANCHOR ROD THAT DOESN'T MEET CURRENT STANDARDS.
3. GUY WIRE AND HARDWARE VALUES SHOWN ARE ULTIMATE STRENGTH VALUES.



DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

GUYING COMPONENTS HOLDING STRENGTH

LAST REVISED	DRAWING
04–02–2021	1310

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1401	15 kV REGULATOR – POLE MOUNTED	8–4–2010
1402	15 kV REGULATORS – THREE PHASE PLATFORM MOUNTED	8–4–2010
1403	35 kV REGULATOR – POLE MOUNTED	8–4–2010
1404	35 kV REGULATORS – THREE PHASE PLATFORM MOUNTED	12–31–2009
1405	ALUMINUM PLATFORM	12–7–2009

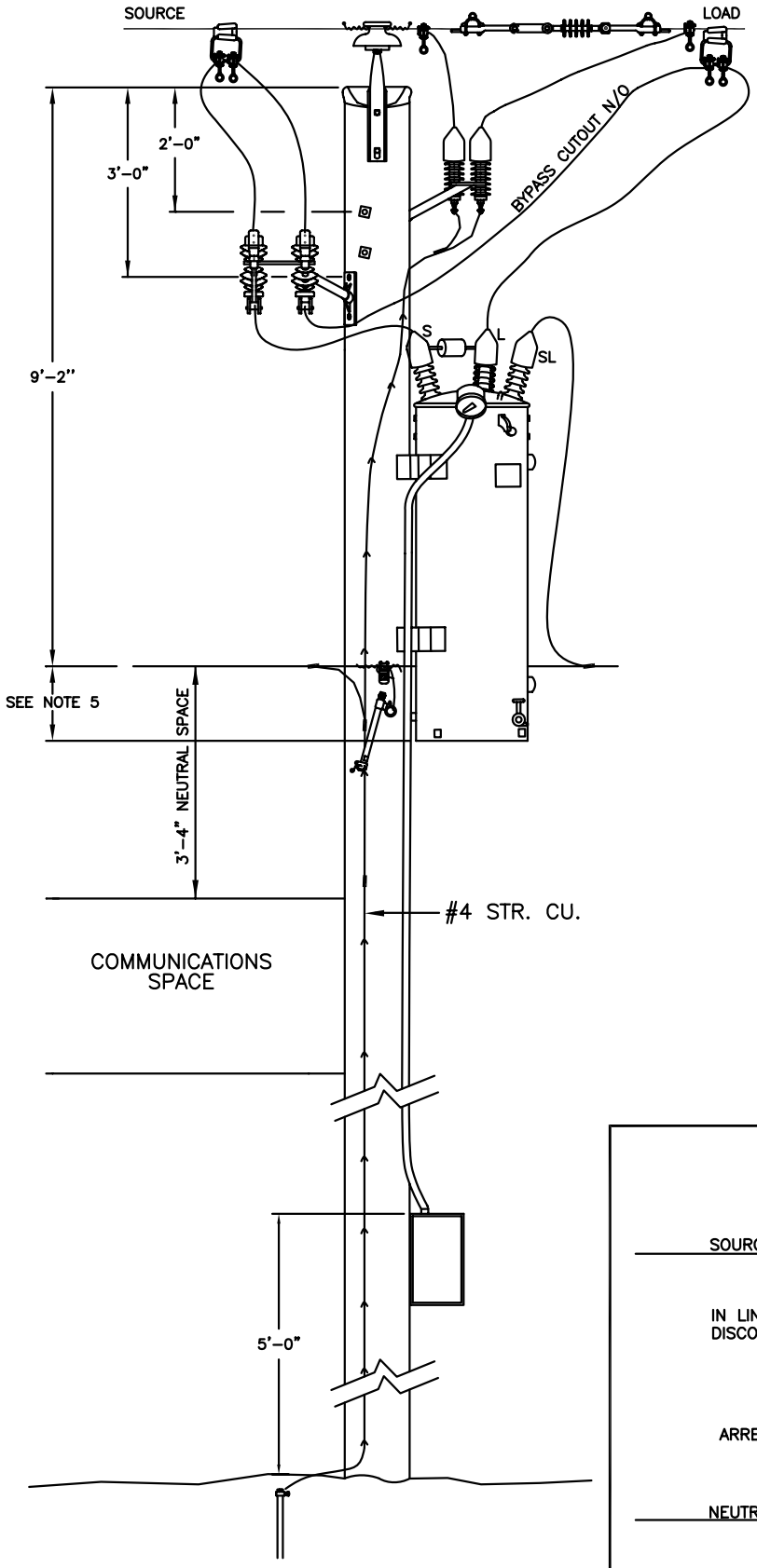
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
REGULATORS

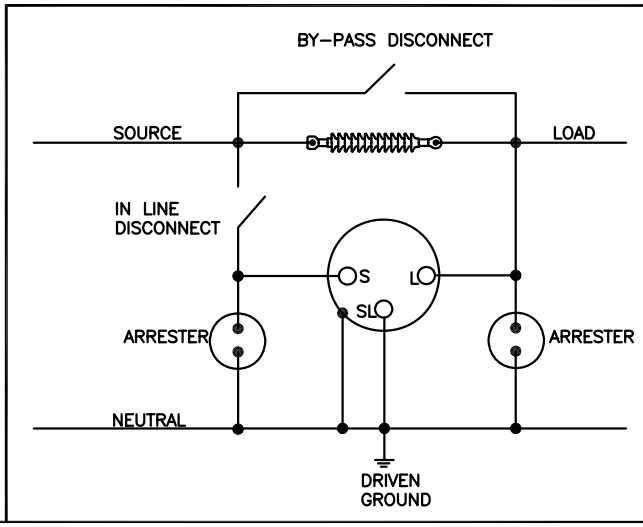
LAST REVISED
03–18–2021

DRAWING
1400



NOTES:

1. THIS CONSTRUCTION IS DESIGNED FOR JOINT UNGUYED POLES, 45' CLASS 3.
2. REGULATOR AND SWITCH TO BE QUARTERED ON POLE FOR OPTIMUM OPERATING POSITION.
3. THE TOP OF THE CONTROL CABINET SHALL BE MOUNTED AT APPROX. 5' FROM GROUND.
4. REGULATOR TAPS SHALL BE #2 COPPER (MIN.). REGULATORS LARGER THAN 150 AMPS SHALL HAVE 1/0 COPPER TAPS (MIN>. BY–PASS WIRE SIZE SHALL MATCH MAINLINE CONDUCTOR AMPACITY.
5. THIS DIMENSION WILL VARY WITH PARTICULAR REGULATOR, BUT SHALL NOT EXCEED 10".
6. FOR THREE PHASE CROSSARM CON–STRUCTION, MOUNT ARRESTORS ON CROSSARM.
7. DOUBLE DEADEND CONSTRUCTION IS PREFERRED. HOWEVER, IN LINE DEADEND AS SHOWN IS ACCEPTABLE.
8. DO NOT CLOSE BYPASS CUTOUT PRIOR TO PLACING THE REGULATOR IN THE NEUTRAL POSITION.
9. HANG BYPASS CUTOUT DOOR ON NEUTRAL BRACKET WHEN NOT IN USE. BYPASS CUTOUT SHOULD BE A SOLID BLADE.



NO.	REVISION	DATE	CK

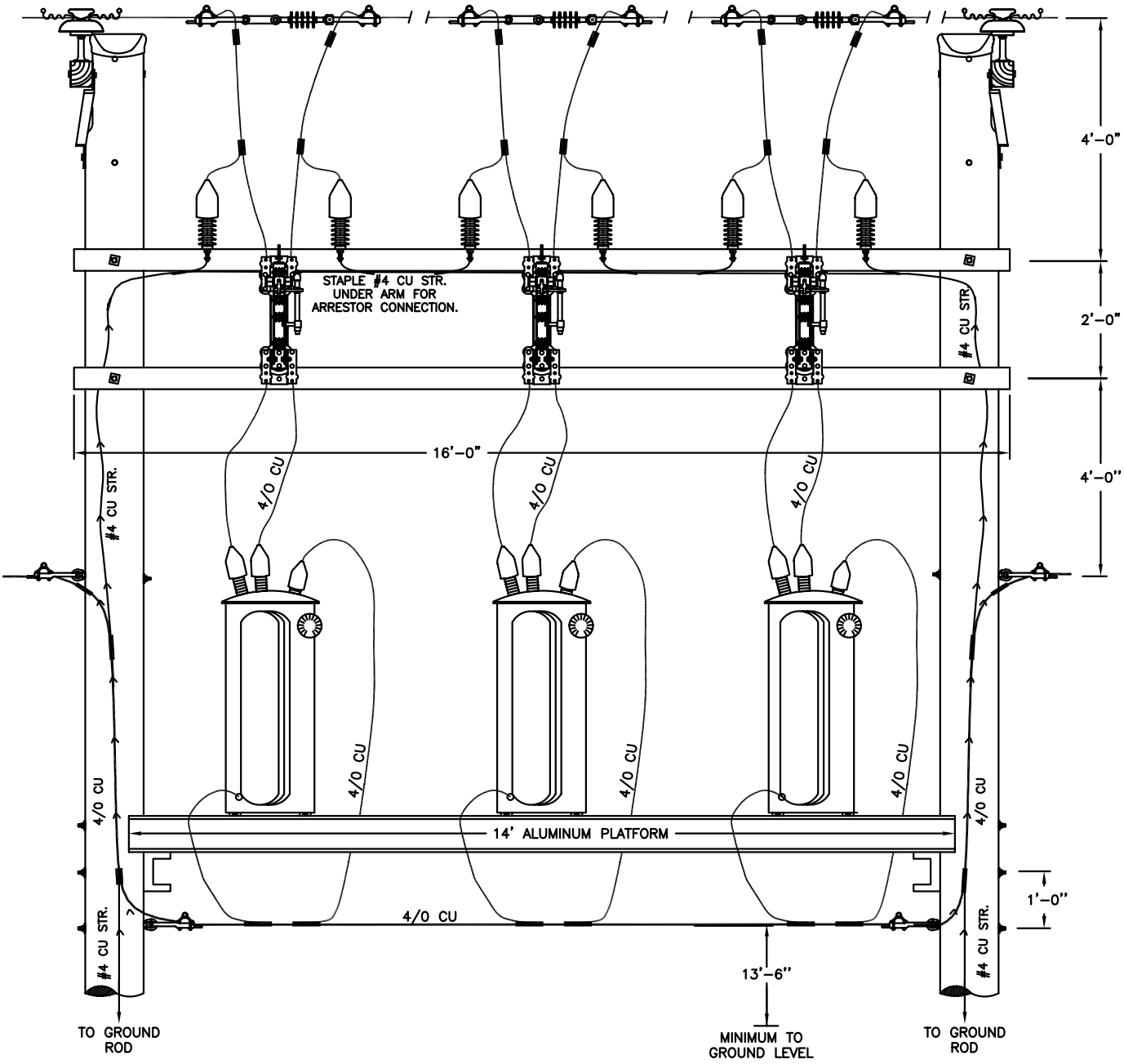
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–4–10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

15KV REGULATOR POLE MOUNTED

BANGOR HYDRO ELECTRIC Co.

DRAWING 1401



NOTES:

1. REGULATOR HEIGHTS VARY. CONTACT T&D ENGINEERING PRIOR TO CONSTRUCTION.
2. SEE STANDARD #1405 FOR PLATFORM DETAIL.
3. FOR JOINT POLE CONSTRUCTION, NEUTRAL MUST BE 23' MINIMUM ABOVE GROUND LEVEL.

NO.	REVISION	DATE	CK

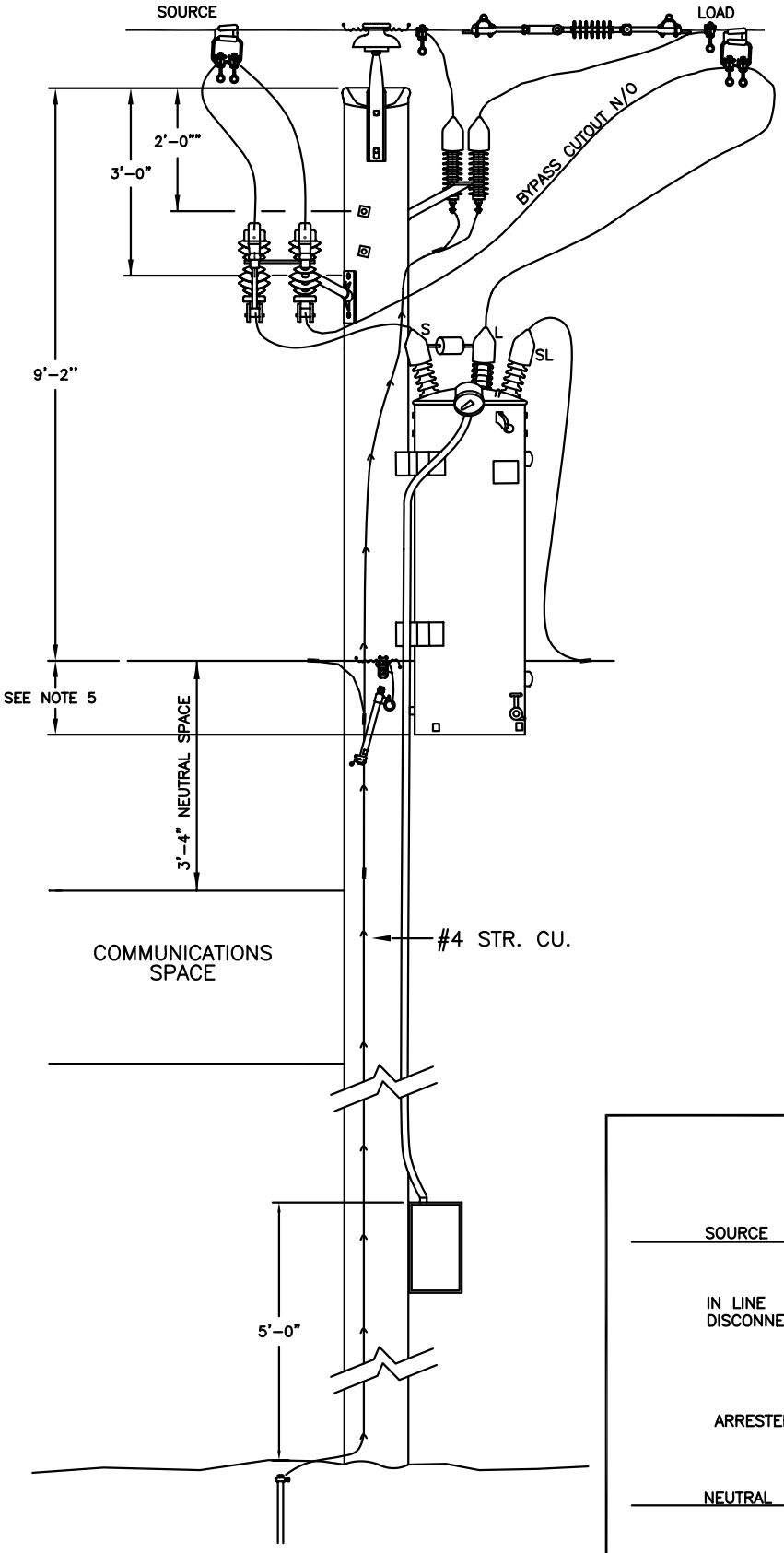
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-4-10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

15KV REGULATORS THREE PHASE PLATFORM MOUNTED

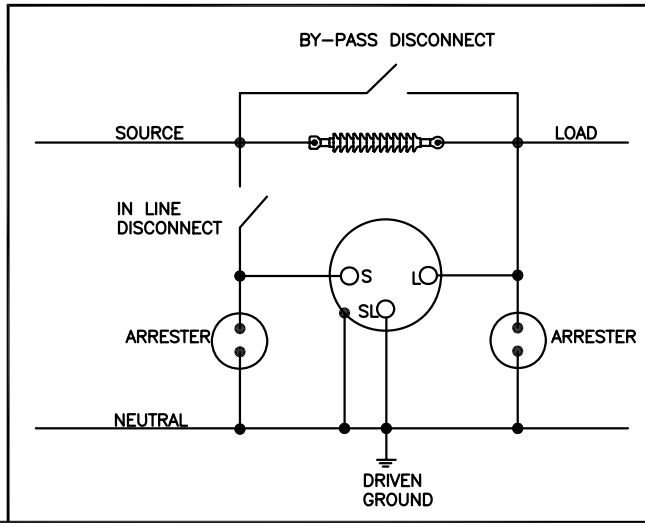
BANGOR HYDRO ELECTRIC Co.

DRAWING 1402



NOTES:

1. THIS CONSTRUCTION IS DESIGNED FOR JOINT UNGUYED POLES, 45' CLASS 3.
2. REGULATOR AND SWITCH TO BE QUARTERED ON POLE FOR OPTIMUM OPERATING POSITION.
3. THE TOP OF THE CONTROL CABINET SHALL BE MOUNTED AT APPROX. 5' FROM GROUND.
4. REGULATOR TAPS SHALL BE #2 COPPER (MIN.). REGULATORS LARGER THAN 150 AMPS SHALL HAVE 1/0 COPPER TAPS (MIN>. BY-PASS WIRE SIZE SHALL MATCH MAINLINE CONDUCTOR AMPACITY.
5. THIS DIMENSION WILL VARY WITH PARTICULAR REGULATOR, BUT SHALL NOT EXCEED 10".
6. FOR THREE PHASE CROSSARM CONSTRUCTION, MOUNT ARRESTORS ON CROSSARM.
7. DOUBLE DEADEND CONSTRUCTION IS PREFERRED. HOWEVER, IN LINE DEADEND AS SHOWN IS ACCEPTABLE.
8. DO NOT CLOSE BYPASS CUTOUT PRIOR TO PLACING THE REGULATOR IN THE NEUTRAL POSITION.
9. HANG BYPASS CUTOUT DOOR ON NEUTRAL BRACKET WHEN NOT IN USE. BYPASS CUTOUT SHOULD BE A SOLID BLADE.



NO.	REVISION	DATE	CK

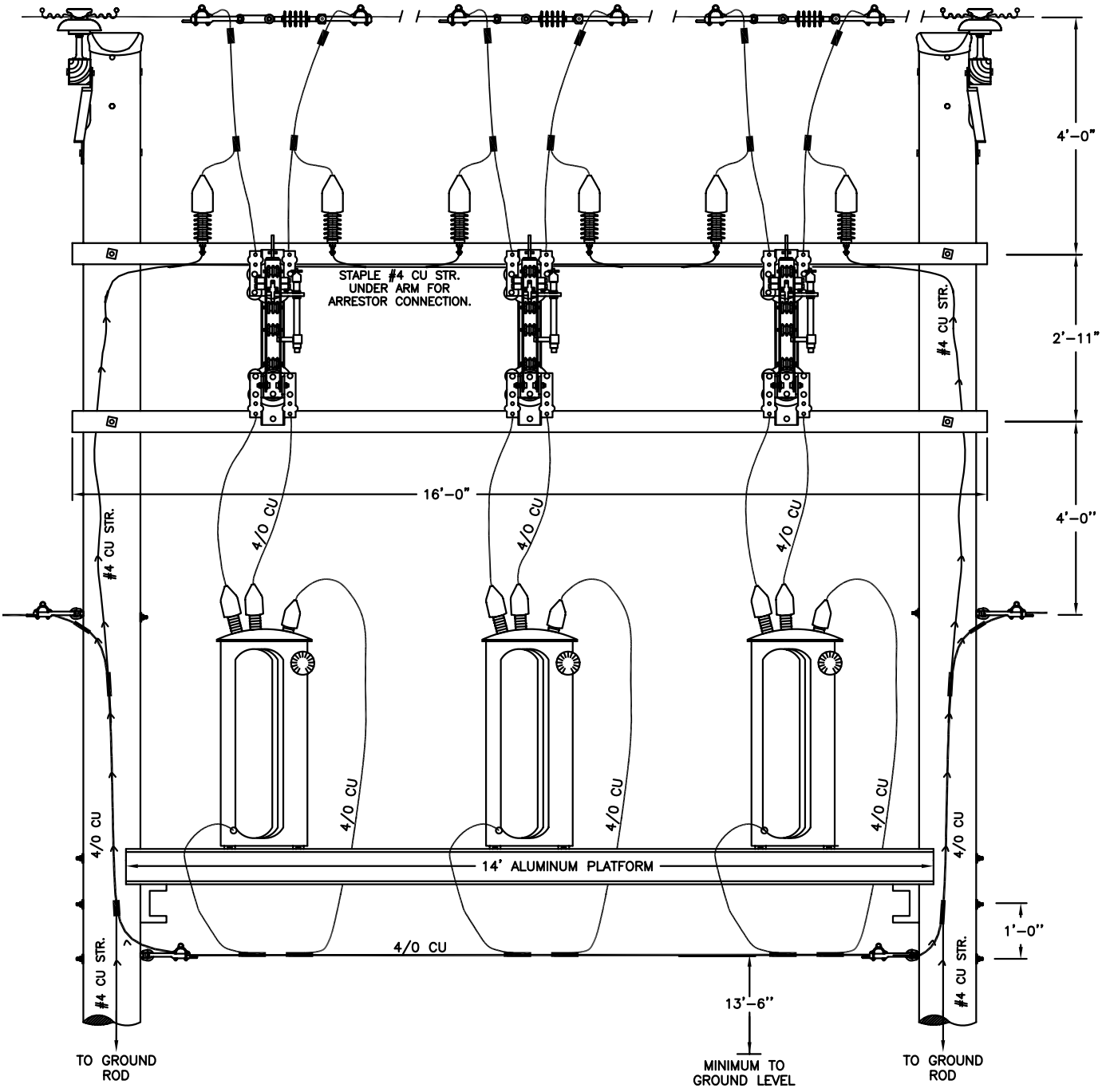
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-4-10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

35KV REGULATOR POLE MOUNTED

BANGOR HYDRO ELECTRIC Co.

DRAWING 1403



NOTES:

1. REGULATOR HEIGHTS VARY. CONTACT T&D ENGINEERING PRIOR TO CONSTRUCTION.
2. SEE STANDARD #1405 FOR PLATFORM DETAIL.
3. FOR JOINT POLE CONSTRUCTION, NEUTRAL MUST BE 23' MINIMUM ABOVE GROUND LEVEL.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12–31–09	GAN

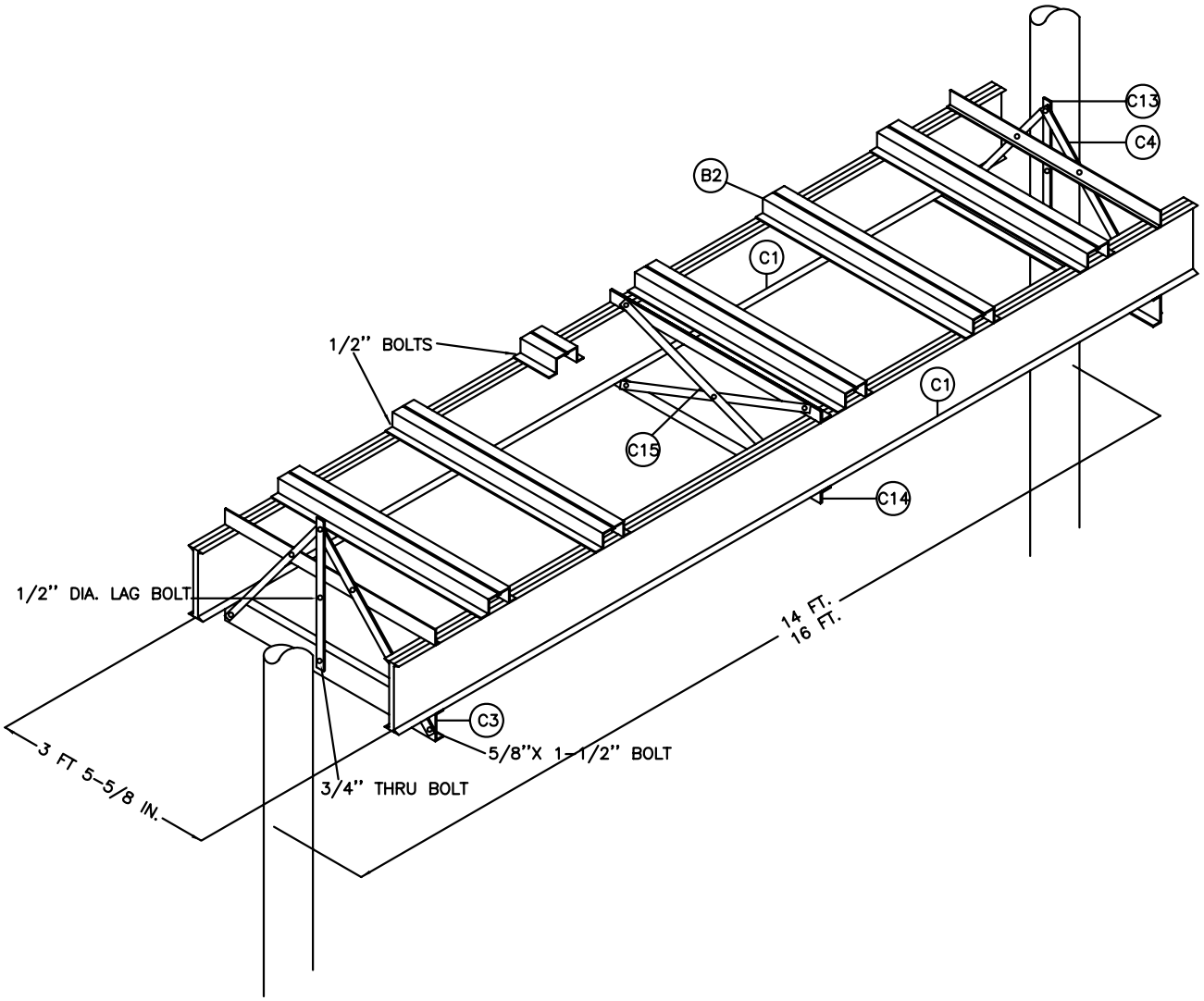
DISTRIBUTION CONSTRUCTION STANDARDS

35KV REGULATORS THREE PHASE PLATFORM MOUNTED

BANGOR HYDRO ELECTRIC Co.

DRAWING 1404

ITEM	QTY	MATERIAL
C1	2	11–1/2"X 14' BEAM
B2	6	AL. CHANNEL 41–1/8"
C3	2	5" AL. CHANNEL 3' 5–5/8"
C4	4	5/16"X 2–3/4" BRACE
C13	2	5/16"X 2–3/4" AL. TEMPLATE BRACE, 22–7/16"
C14	4	AL. ANGLES (STABALIZER)
C15	2	3/16"X 1–1/2" AL. CROSS BRACE
	43	1/2"X 1–1/4" GAL. MACHINE BOLTS W/HEX NUTS
	2	1/2"X 2" GAL. MACHINE BOLTS W/HEX NUTS
	45	1/2" GAL. PALNUTS
	8	5/8"X 1–1/2" GAL. MACHINE BOLTS W/HEX NUTS
	8	5/8" GAL. MF LOCKNUTS



NOTE: 3/4" BOLTS ARE RECOMMENDED FOR ATTACHING TO POLE WITH WASHERS USED AT CONTACT POINTS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12–7–09	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

ALUMINUM PLATFORM

14' ALUMAFORM #HD2PAL
16' HUGHES BROS. #B–763

BANGOR HYDRO ELECTRIC Co.

DRAWING
1405

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1501	SINGLE PHASE 7.2/12.5 kV OR 19.9 kV/34.5 kV RECLOSER INSTALLATION	12-20-2019
1502	THREE PHASE 7.2/12.5 kV OR 19.9 kV/34.5 kV RECLOSER INSTALLATION	12-20-2019
1505	THREE PHASE 7.2/12.5 kV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL	8-30-2010
1506	THREE PHASE 19.9/34.5 kV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL	8-30-2010
1507	TWO PHASE 7.2/12.5 kV RECLOSER INSTALLATION ON CLUSTER MOUNT BRACKET	8-20-2010
1508	TWO PHASE 19.9/34.5 kV RECLOSER INSTALLATION ON CLUSTER MOUNT BRACKET	8-10-2010
1509	15 kV SINGLE PHASE RESETTABLE SECTIONALIZER "CRS" STRUCTURE	8-10-2010
1510	FUSING SCHEDULE OVERCURRENT PROTECTION	12-9-2009
1511	SINGLE PHASE 15 kV HYDRAULIC RECLOSERS COORDINATING/NON-COORDINATING FUSES	12-9-2009
1512	THREE PHASE 15 kV HYDRAULIC RECLOSERS COORDINATING/NON-COORDINATING FUSES	12-9-2009
1513	THREE PHASE 34.5 kV HYDRAULIC RECLOSERS COORDINATING/NON-COORDINATING FUSES	12-11-2009
1514	SINGLE PHASE 19.9 kV HYDRAULIC RECLOSERS COORDINATING/NON-COORDINATING FUSES	12-11-2009

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

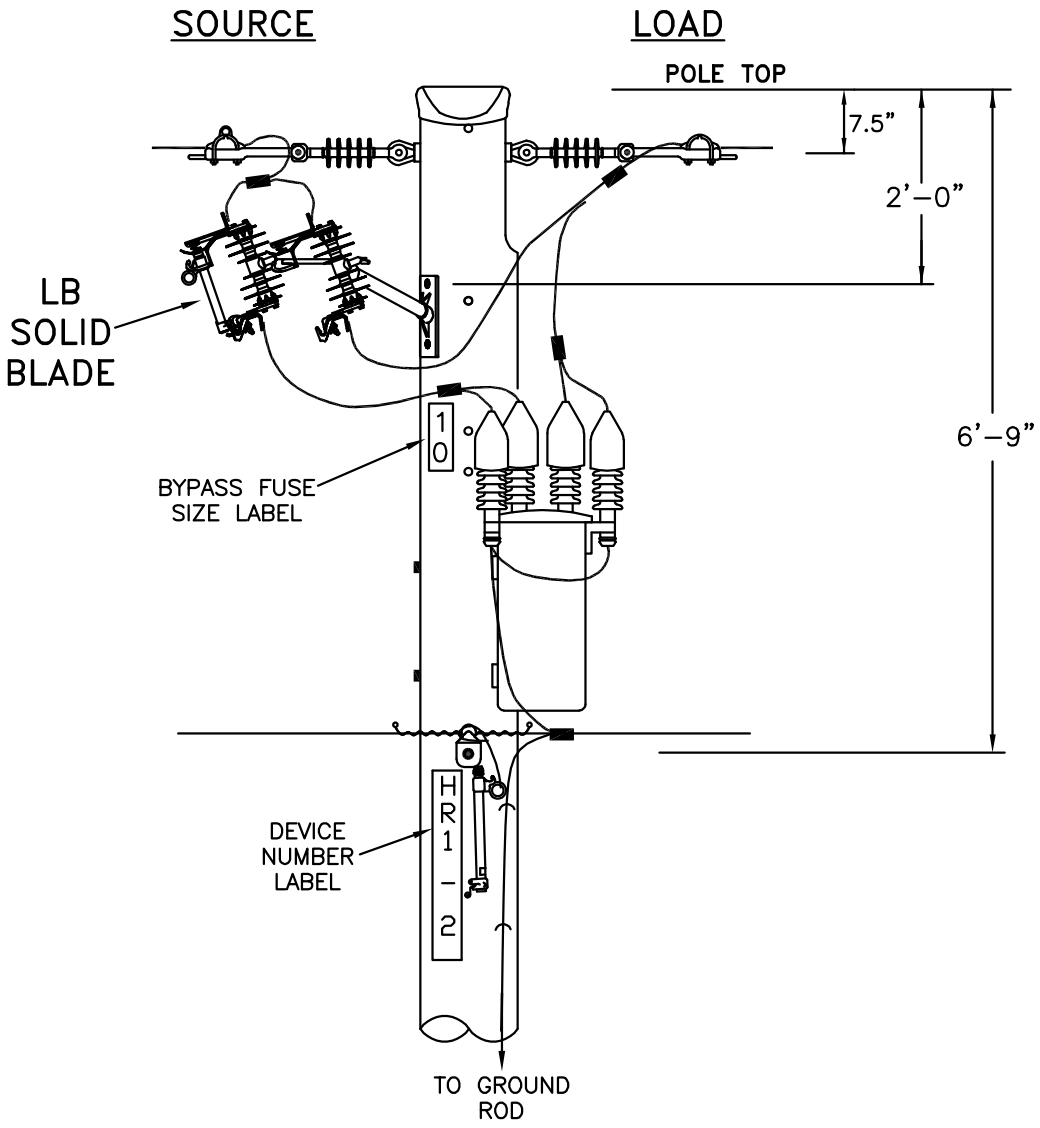
- INDEX -
RECLOSERS

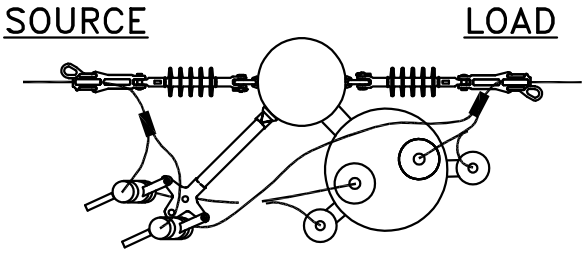
LAST REVISED
03-18-2021

DRAWING
1500

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-8-10	GAN
2	2019 FOR REVIEW	12-20-19	MHK





NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOOR ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS

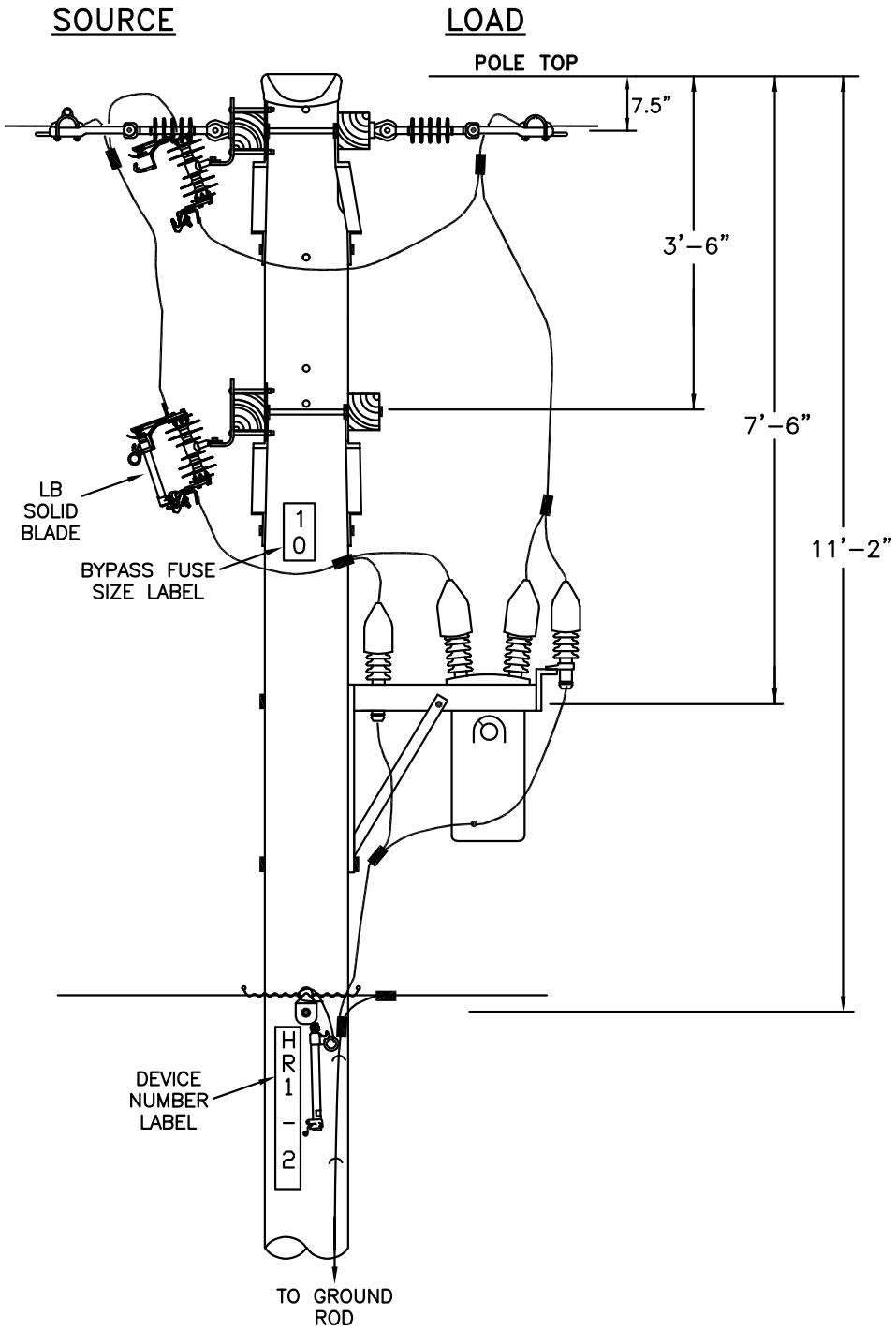
DISTRIBUTION CONSTRUCTION STANDARDS

SINGLE PHASE 7.2/12.5KV OR 19.9/34.5KV RECLOSER INSTALLATION 40' POLE

Emera Maine

DRAWING

1501



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 4/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS.
6. THIS DESIGN UTILIZES A 45' POLE, 5' EXCESS SPACE
7. ALT, FRAMING : DE ARM AT TOP AND FG EQUIPMENT BRACKETS FOR INLINE DISCONNECTS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–4–10	GAN
2	2019 REVISIONS FOR REVIEW	3–11–19	GAN
3	2019 FOR REVIEW	12–20–19	MHK

DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 7.2/12.5KV or 19.9/34.5KV RECLOSER INSTALLATION FUSED OR SOLID BLADE BY PASS

Emera Maine

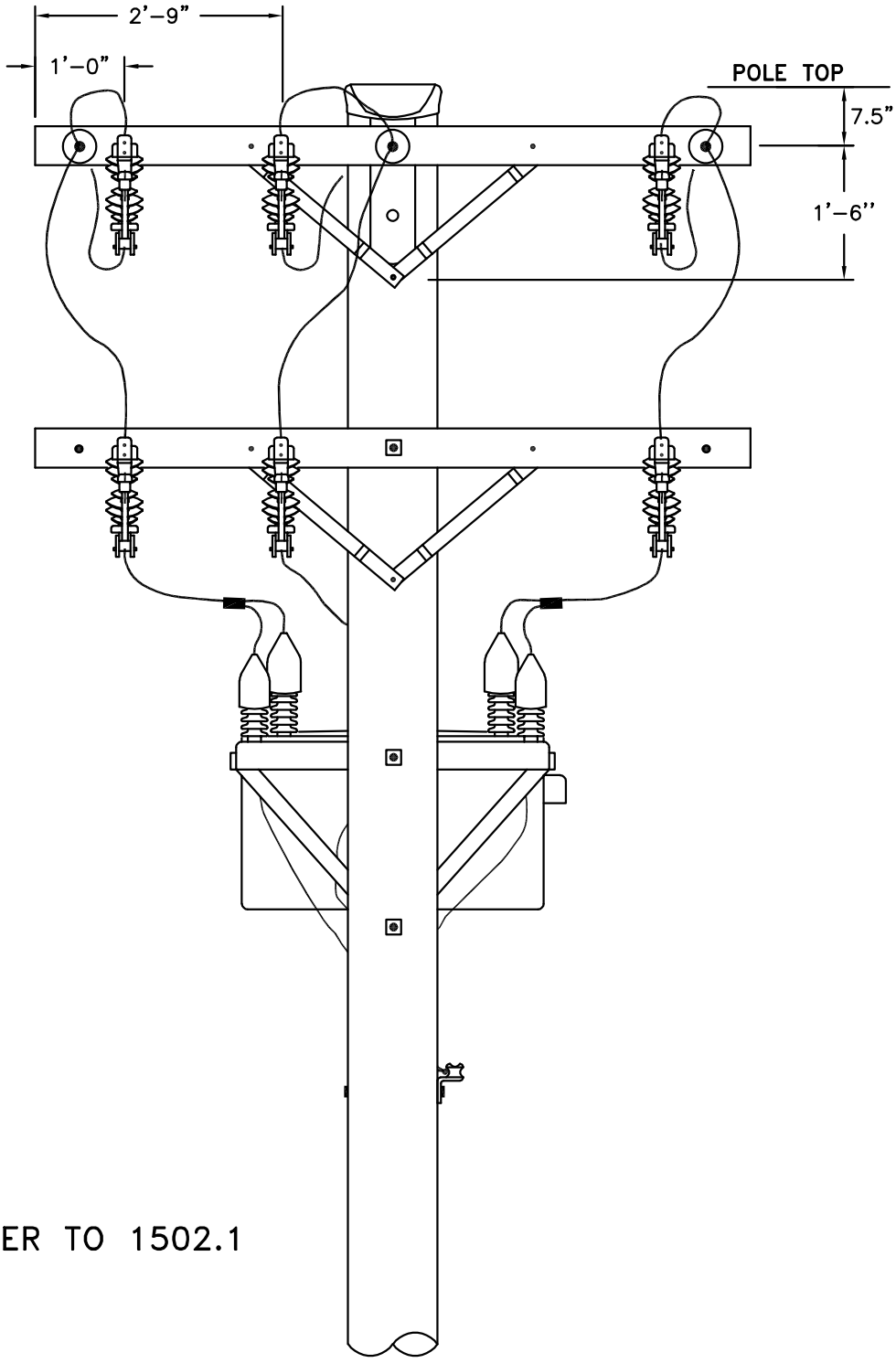
DRAWING

1502.1

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-4-10	GAN
2	2019 REVISIONS FOR REVIEW	3-11-19	GAN
3	2019 FOR REVIEW	12-20-19	MHK

SOURCE SIDE



NOTES:

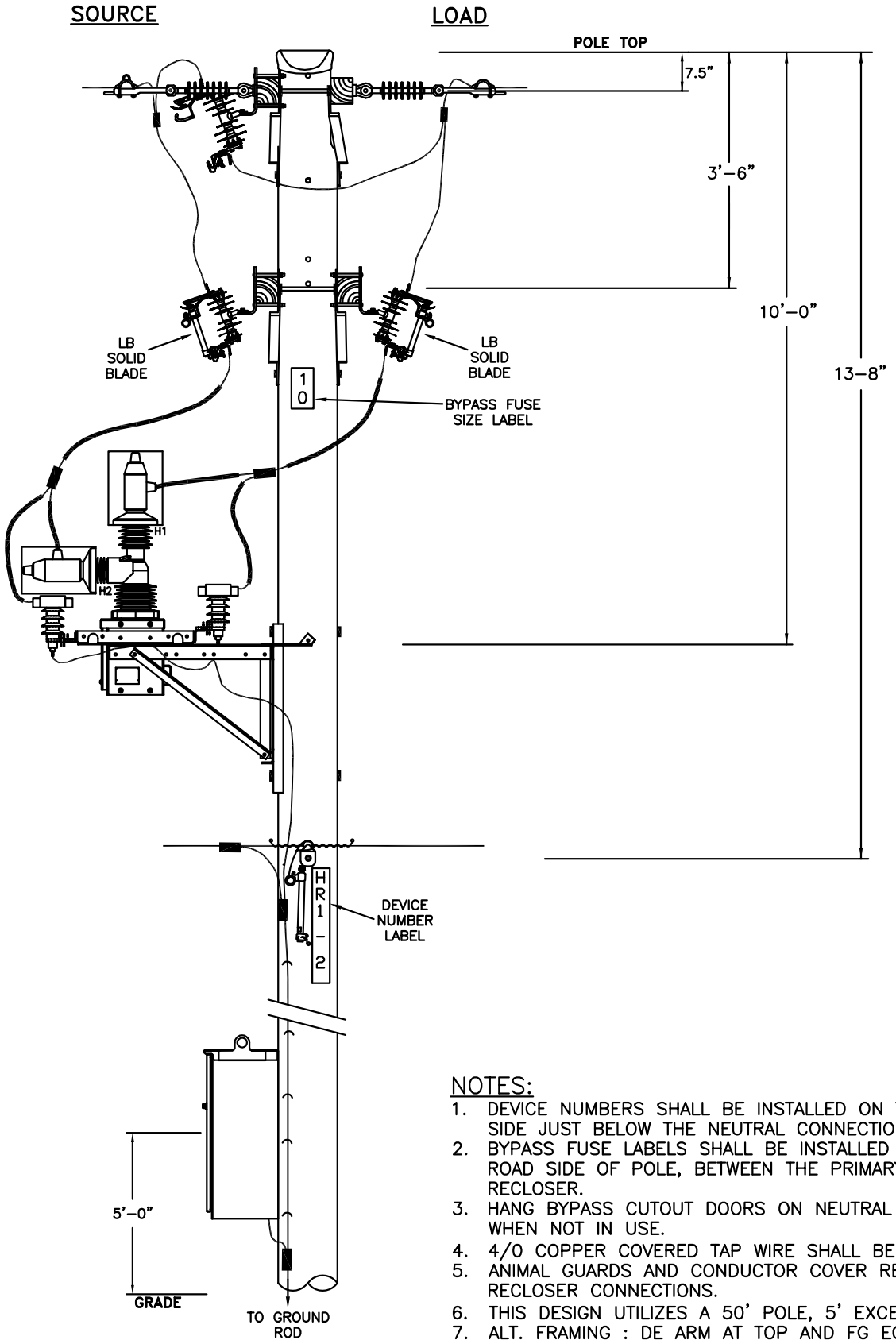
1. REFER TO 1502.1

DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE
7.2/12.5KV or 19.9/34.5KV
RECLOSER INSTALLATION

Emera Maine

DRAWING
1502.2



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 4/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS.
6. THIS DESIGN UTILIZES A 50' POLE, 5' EXCESS SPACE.
7. ALT. FRAMING : DE ARM AT TOP AND FG EQUIPMENT BRACKETS FOR INLINE DISCONNECTS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–30–10	GAN
2	2019 REVISIONS FOR REVIEW	3–11–19	GAN
3	2019 FOR REVIEW	12–20–19	MHK

DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 7.2/12.5KV or 19.9/34.5KV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL FUSED or SOLID BLADE BYPASS

Emera Maine

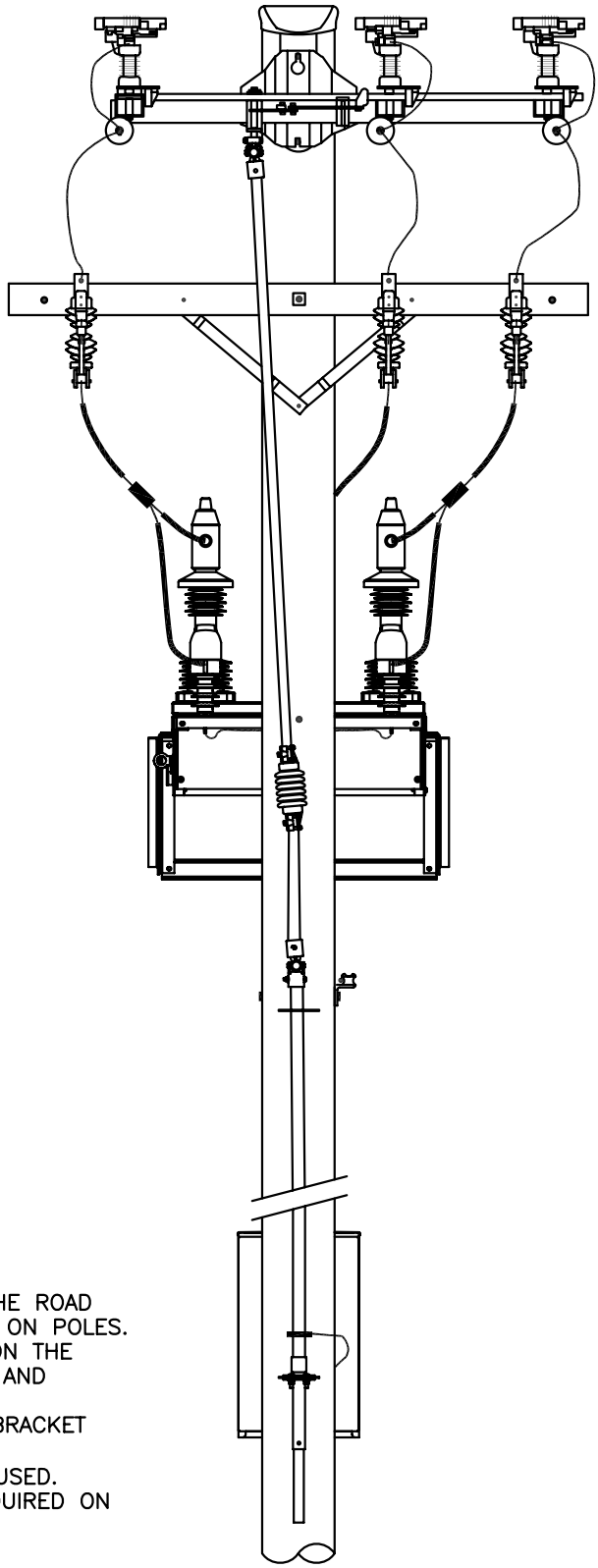
DRAWING

1505.1

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

LOAD SIDE



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS.
6. THIS DESIGN UTILIZES A 50' POLE.
7. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

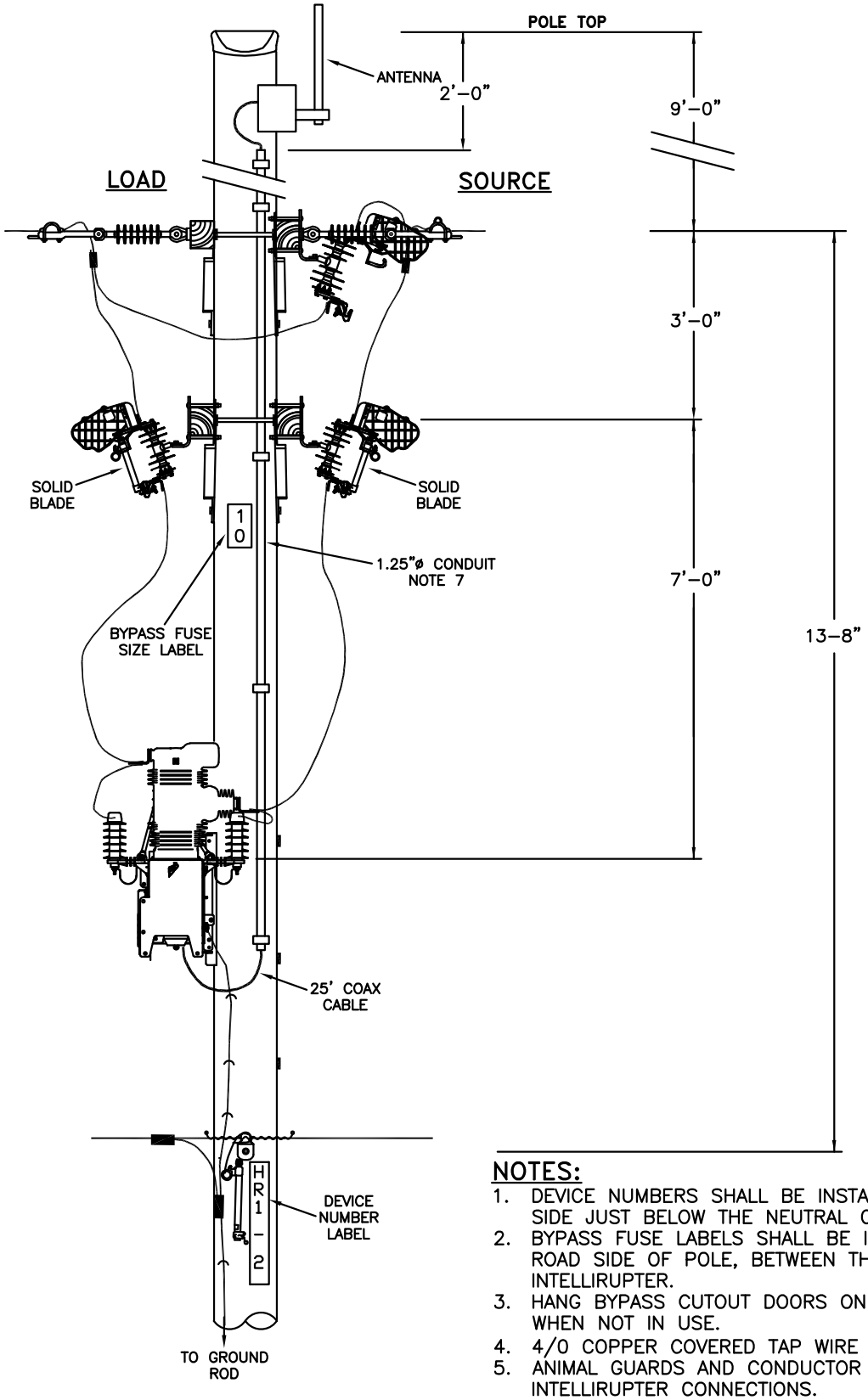
DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 7.2/12.5KV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL

BANGOR HYDRO ELECTRIC Co.

DRAWING

1505.2



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND INTELLIRUPTER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 4/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON INTELLIRUPTER CONNECTIONS.
6. THIS DESIGN UTILIZES A 60' POLE, 15' EXCESS SPACE.
7. 1.25"ø PVC CONDUIT (20'), 2' FROM TOP OF POLE, 2 HOLE STRAPS EVERY 4'.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	ISSUED AS NEW STANDARD	12–26–19	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

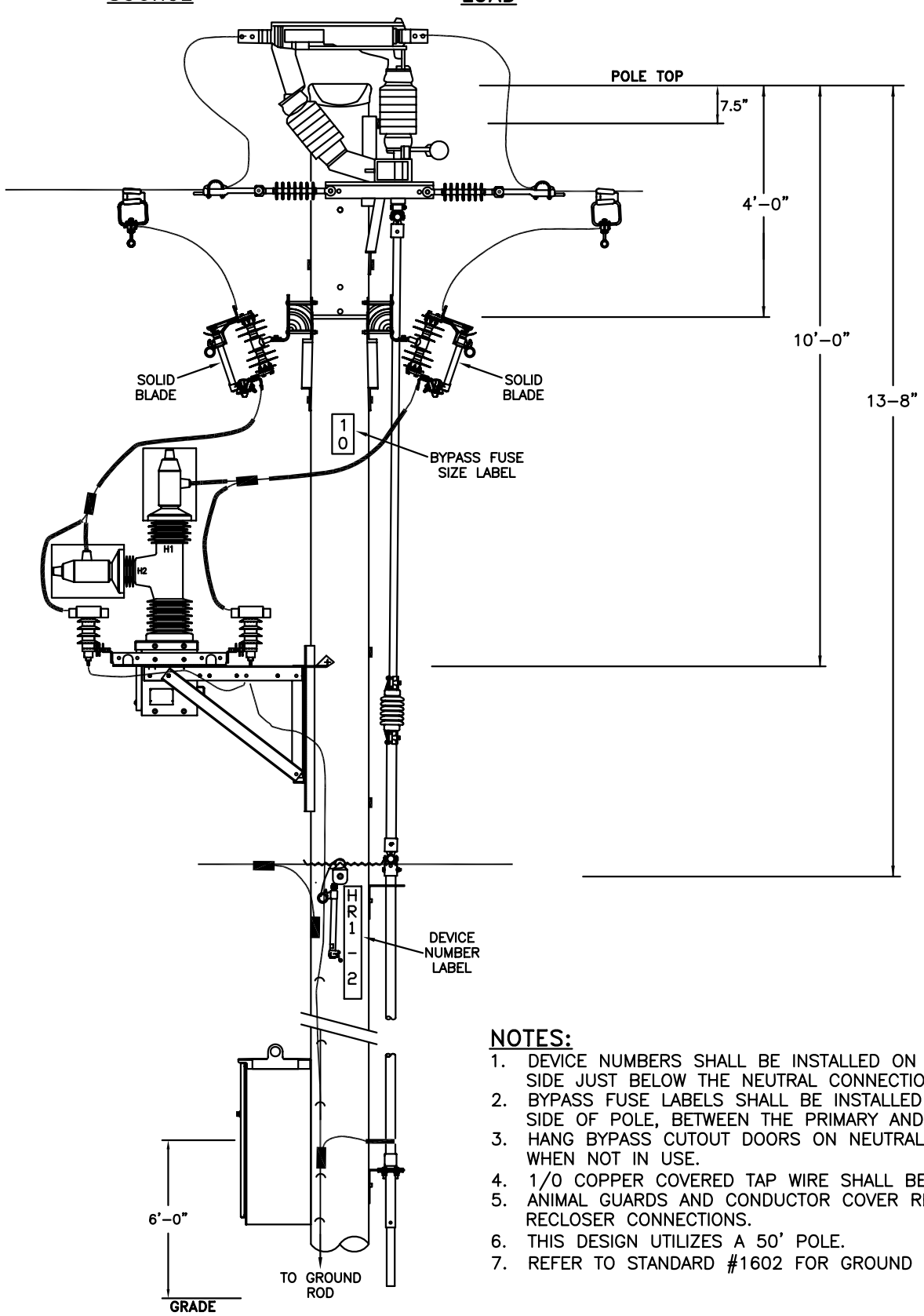
THREE PHASE 7.2/12.5KV or 19.9/34.5KV INTELLIRUPTER INSTALLATION

FUSED or SOLID BLADE BYPASS

Emera Maine

DRAWING

1505.3



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS.
6. THIS DESIGN UTILIZES A 50' POLE.
7. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–30–10	GAN

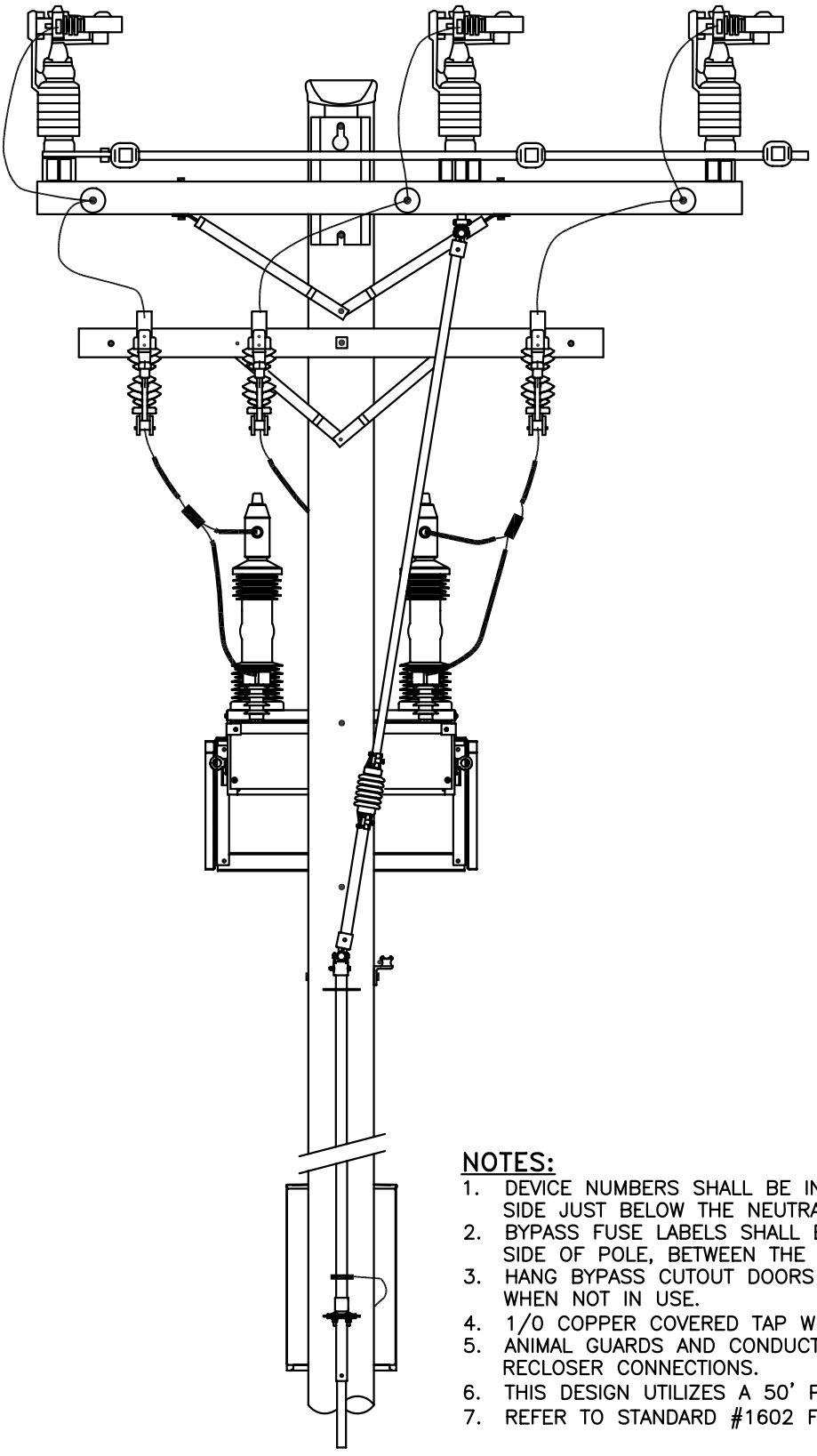
DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 19.9/34.5KV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL

BANGOR HYDRO ELECTRIC Co.

DRAWING
1506.1

LOAD SIDE



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. ANIMAL GUARDS AND CONDUCTOR COVER REQUIRED ON RECLOSER CONNECTIONS.
6. THIS DESIGN UTILIZES A 50' POLE.
7. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

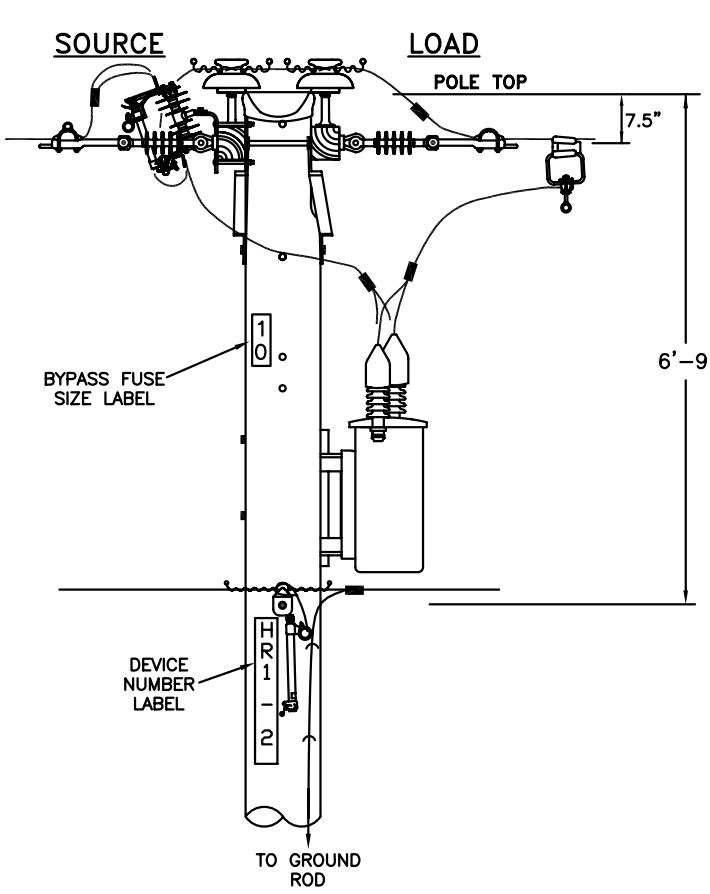
DISTRIBUTION CONSTRUCTION STANDARDS

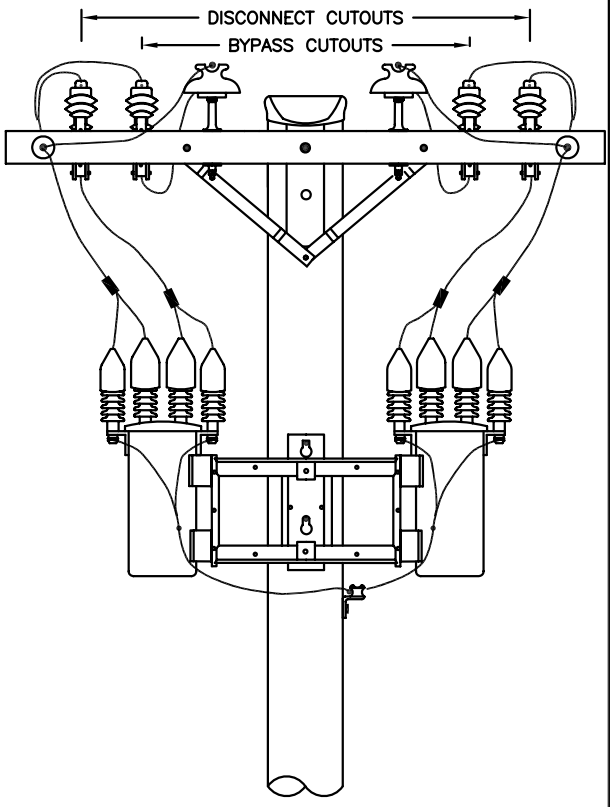
THREE PHASE 19.9/34.5KV RECLOSER INSTALLATION w/ ELECTRONIC CONTROL

BANGOR HYDRO ELECTRIC Co.

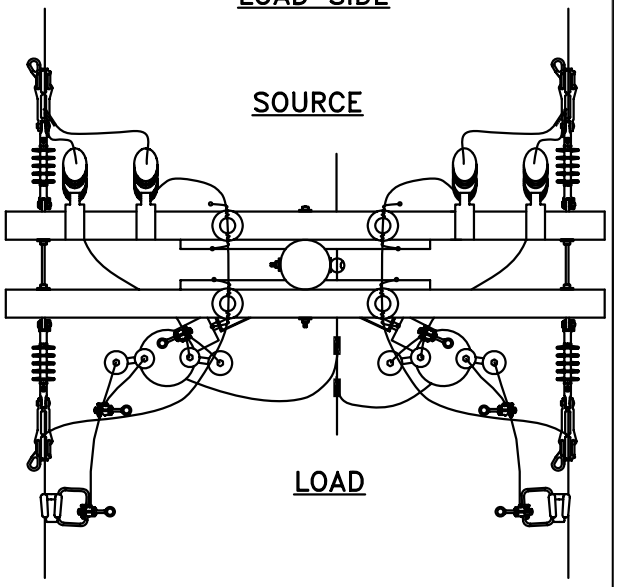
DRAWING

1506.2





LOAD SIDE



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. SOURCE SIDE LIGHTNING ARRESTERS MAY BE INSTALLED ON ARM NEXT TO CUTOUT IF RECLOSER ARRESTER IS NOT AVAILABLE.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–20–10	GAN

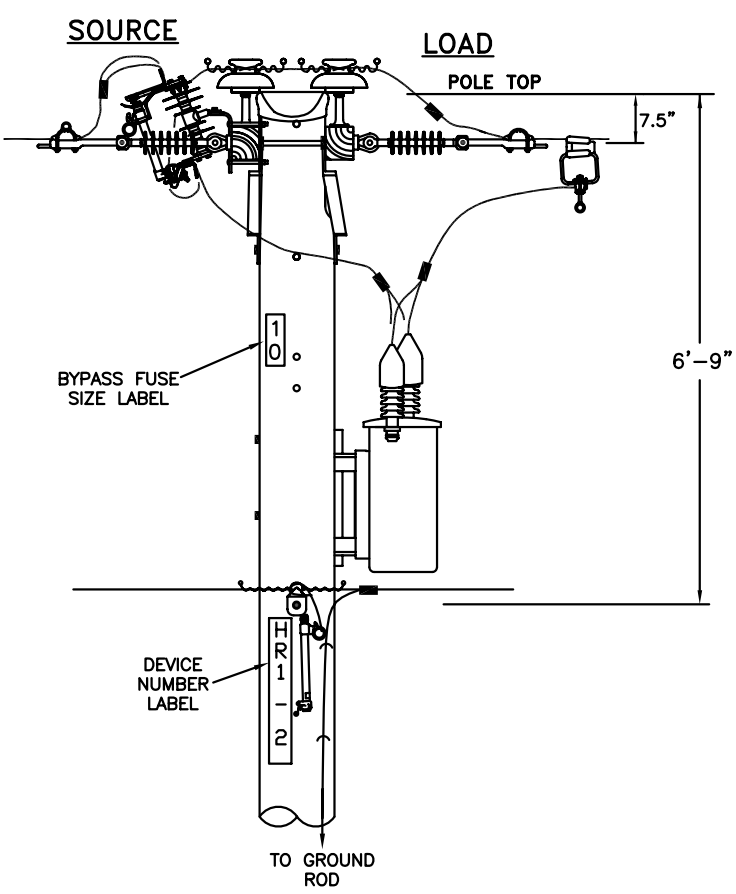
NO.	REVISION	DATE	CK

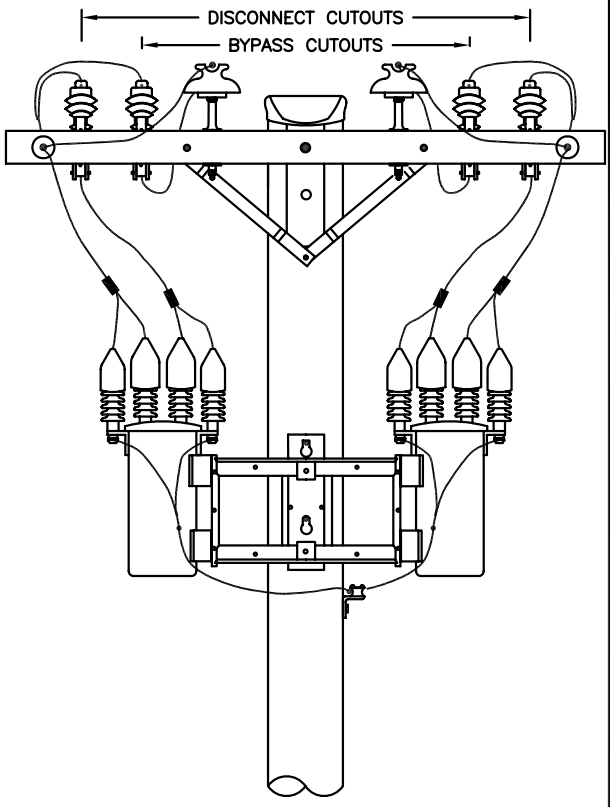
DISTRIBUTION CONSTRUCTION STANDARDS

TWO PHASE 7.2/12.5KV RECLOSER INSTALLATION ON SMALL CLUSTER MOUNT BRACKET

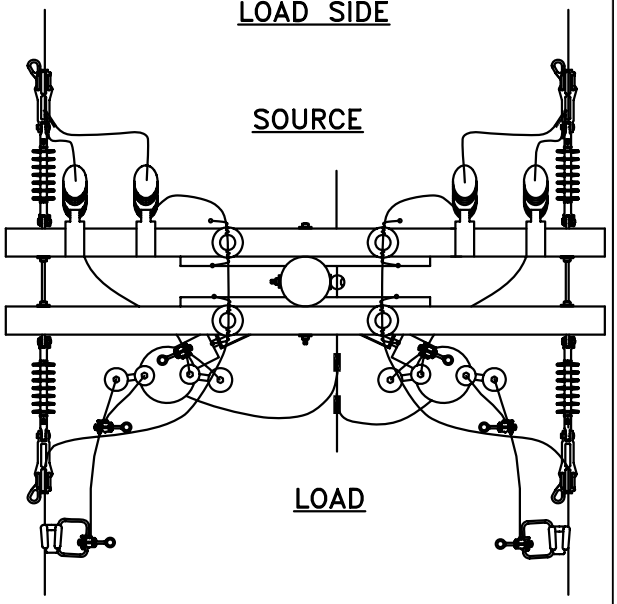
BANGOR HYDRO ELECTRIC Co.

DRAWING 1507





LOAD SIDE



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. BYPASS FUSE LABELS SHALL BE INSTALLED ON THE ROAD SIDE OF POLE, BETWEEN THE PRIMARY AND RECLOSER.
3. HANG BYPASS CUTOUT DOORS ON NEUTRAL BRACKET WHEN NOT IN USE.
4. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.
5. SOURCE SIDE LIGHTNING ARRESTERS MAY BE INSTALLED ON ARM NEXT TO CUTOUT IF RECLOSER ARRESTER IS NOT AVAILABLE.

NO.	REVISION	DATE	CK

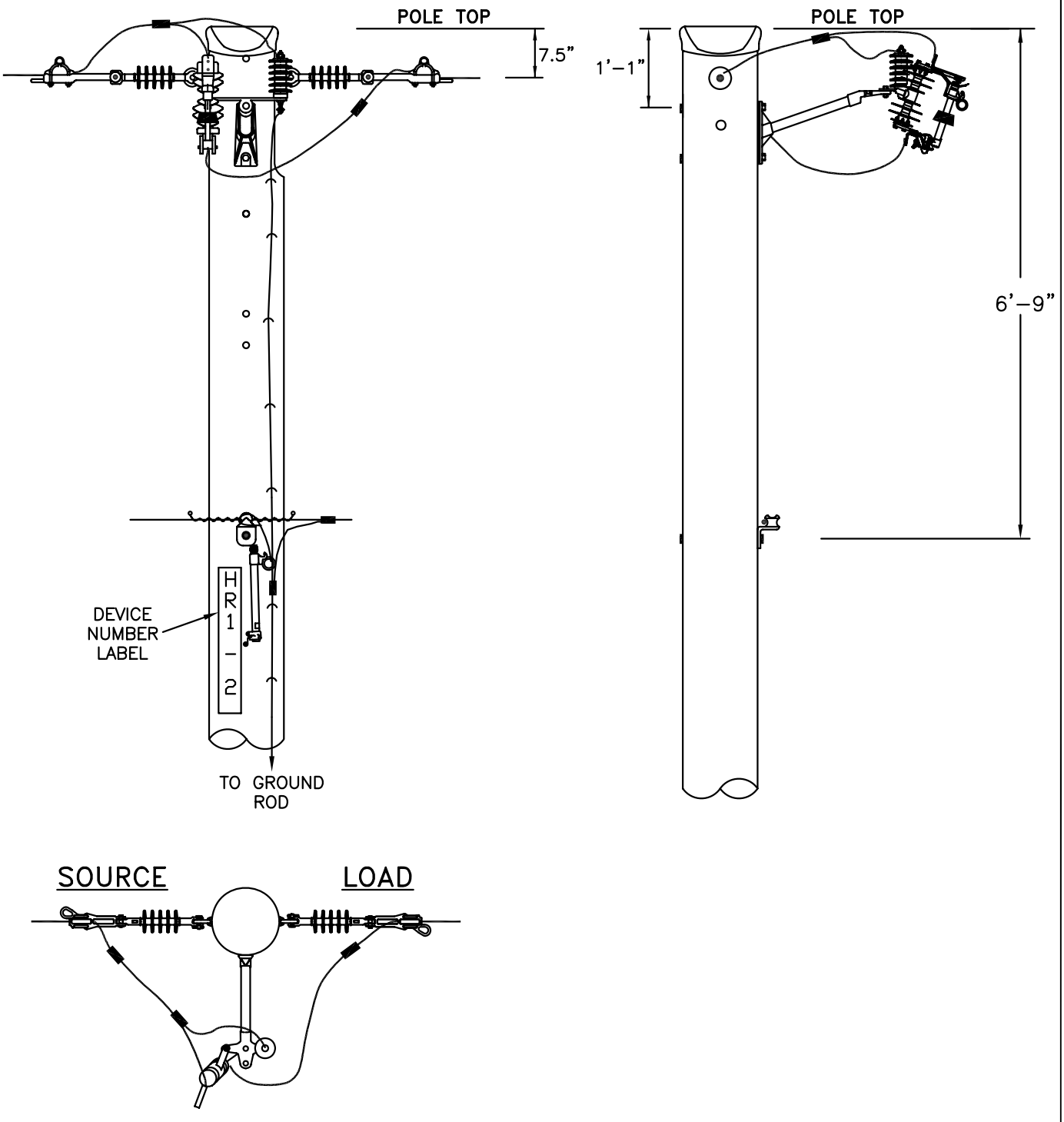
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–10–10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

TWO PHASE 19.9/34.5KV RECLOSER INSTALLATION ON SMALL CLUSTER MOUNT BRACKET

BANGOR HYDRO ELECTRIC Co.

DRAWING 1508



NOTES:

1. DEVICE NUMBER LABEL SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLE.
2. HANG SOLID BLADE ON NEUTRAL BRACKET FOR SECTIONALIZER BYPASS.
3. 1/0 COPPER COVERED TAP WIRE SHALL BE USED.

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DISTRIBUTION CONSTRUCTION STANDARDS

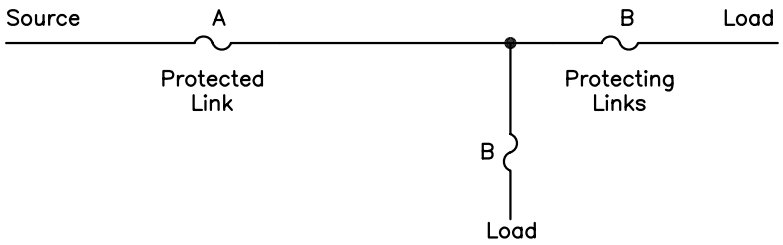
15KV – SINGLE PHASE RESETTABLE SECTIONALIZER "CRS" STRUCTURE

BANGOR HYDRO ELECTRIC Co.

DRAWING 1509

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-9-09	GAN



Coordination Between EEI–NEMA Type T Fuse Links

Protecting Fuse Link Rating (amperes) (B on drawing above)	Protected Link Rating (A on drawing above)												
	10T	12T	15T	20T	25T	30T	40T	50T	65T	80T	100T	140T	200T
	Maximum Fault Current At Which B Will Protect A (amperes)												
6T	350	680	920	1200	1500	2000	2540	3200	4100	5000	6100	9700	15200
8T		375	800	1200	1500	2000	2540	3200	4100	5000	6100	9700	15200
10T			530	1100	1500	2000	2540	3200	4100	5000	6100	9700	15200
12T				680	1280	2000	2540	3200	4100	5000	6100	9700	15200
15T					730	1700	2500	3200	4100	5000	6100	9700	15200
20T						990	2100	3200	4100	5000	6100	9700	15200
25T							1400	2600	4100	5000	6100	9700	15200
30T								1500	3100	5000	6100	9700	15200
40T									1700	3800	6100	9700	15200
50T										1750	4400	9700	15200
65T											2200	9700	15200
80T												7200	15200
100T												4000	13800
140T													7500

This table shows maximum values of fault currents at which EEI–NEMA type T fuse links will coordinate with each other.

The table is based on the maximum–clearing time curves for protecting links and 75 percent of minimum–melting time curves for protected links.

Note: Bangor Hydro–Electric Company presently stocks the following list of T link fuses...
15KV class: 6T, 10T, 15T, 25T, 40T, 65T, 80T, 100T, 140T, 200T
19.9/34.5KV class: 6T, 10T, 15T, 25T, 40T

This information is referenced from publication R240–30–2 from Cooper Power Systems.

DISTRIBUTION CONSTRUCTION STANDARDS

FUSING SCHEDULE
OVERCURRENT PROTECTION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1510

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-9-09	GAN

M–E Type	Amp	Sequence	Coordinating T Link Fuses	Noncoordinating T Link Fuses
H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
V4H, 4H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	70	A – B	25T, 15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	100	A – B	25T	15T, 10T, 6T
		A – C	40T, 25T	15T, 10T, 6T
DV, D	100	A – B	40T, 25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	40T, 25T, 15T	10T, 6T
		A – E	40T, 25T, 15T	10T, 6T

This information is typical and will work in most circumstances. Consult T&D Engineering for specific coordination information.

Note: For proper coordination, there should be at least two delayed curves (B,C,D,E) to ensure that the coordinating fuse link clears before recloser lockout.

DISTRIBUTION CONSTRUCTION STANDARDS

SINGLE PHASE 15KV HYDRAULIC RECLOSERS COORDINATING/NON–COORDINATING FUSES NO GROUND SENSING

BANGOR HYDRO ELECTRIC Co.

DRAWING 1511

M–E Type	Amp	Sequence	Coordinating T Link Fuses	Noncoordinating T Link Fuses
3H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
V6H, 6H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	70	A – B	25T, 15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	100	A – B	25T	15T, 10T, 6T
		A – C	40T, 25T	15T, 10T, 6T
V6H	140	A – B	40T, 25T	15T, 10T, 6T
		A – C	65T, 40T, 25T	15T, 10T, 6T
R, RX	50	A – B	15T, 10T	6T
		A – C	25T, 15T, 10T	6T
		A – D	15T, 10T	6T
		A – E	25T, 15T, 10T	6T
	70	A – B	25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	25T, 15T	10T, 6T
		A – E	25T, 15T	10T, 6T
	100	A – B	40T, 25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	25T, 15T	10T, 6T
		A – E	40T, 25T, 15T	10T, 6T
	140	A – B	40T, 25T	15T, 10T, 6T
		A – C	65T, 40T, 25T	15T, 10T, 6T
		A – D	40T, 25T	15T, 10T, 6T
		A – E	40T, 25T	15T, 10T, 6T
W, VW	50	A – B	25T, 15T, 10T	6T
		A – C	25T, 15T, 10T	6T
		A – D	15T, 10T	6T
		A – E	25T, 15T, 10T	6T
	70	A – B	25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	25T, 15T	10T, 6T
		A – E	40T, 25T, 15T	10T, 6T
	100	A – B	40T, 25T, 15T	10T, 6T
		A – C	65T, 40T, 25T, 15T	10T, 6T
		A – D	40T, 25T, 15T	10T, 6T
		A – E	65T, 40T, 25T, 15T	10T, 6T
	140	A – B	65T, 40T, 25T	15T, 10T, 6T
		A – C	65T, 40T, 25T	15T, 10T, 6T
		A – D	65T, 40T, 25T	15T, 10T, 6T
		A – E	65T, 40T, 25T	15T, 10T, 6T

This information is typical and will work in most circumstances. Consult T&D Engineering for specific coordination information.

Note: For proper coordination, there should be at least two delayed curves (B,C,D,E) to ensure that the coordinating fuse link clears before recloser lockout.

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DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 15KV HYDRAULIC RECLOSERS COORDINATING/NON-COORDINATING FUSES NO GROUND SENSING

BANGOR HYDRO ELECTRIC Co.

DRAWING 1512

M–E Type	Amp	Sequence	Coordinating T Link Fuses	Noncoordinating T Link Fuses
H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
V4H, 4H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	70	A – B	25T, 15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	100	A – B	25T	15T, 10T, 6T
		A – C	40T, 25T	15T, 10T, 6T
DV, D	100	A – B	40T, 25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	40T, 25T, 15T	10T, 6T
		A – E	40T, 25T, 15T	10T, 6T

This information is typical and will work in most circumstances. Consult T&D Engineering for specific coordination information.

Note: For proper coordination, there should be at least two delayed curves (B,C,D,E) to ensure that the coordinating fuse link clears before recloser lockout.

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NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12–11–09	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

THREE PHASE 34.5KV HYDRAULIC RECLOSERS COORDINATING/NON–COORDINATING FUSES NO GROUND SENSING

BANGOR HYDRO ELECTRIC Co.

DRAWING 1513

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-11-09	GAN

M–E Type	Amp	Sequence	Coordinating T Link Fuses	Noncoordinating T Link Fuses
H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
V4H, 4H	35	A – B	10T	6T
		A – C	15T, 10T	6T
	50	A – B	15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	70	A – B	25T, 15T	10T, 6T
		A – C	25T, 15T	10T, 6T
	100	A – B	25T	15T, 10T, 6T
		A – C	40T, 25T	15T, 10T, 6T
DV, D	100	A – B	40T, 25T, 15T	10T, 6T
		A – C	40T, 25T, 15T	10T, 6T
		A – D	40T, 25T, 15T	10T, 6T
		A – E	40T, 25T, 15T	10T, 6T

This information is typical and will work in most circumstances. Consult T&D Engineering for specific coordination information.

Note: For proper coordination, there should be at least two delayed curves (B,C,D,E) to ensure that the coordinating fuse link clears before recloser lockout.

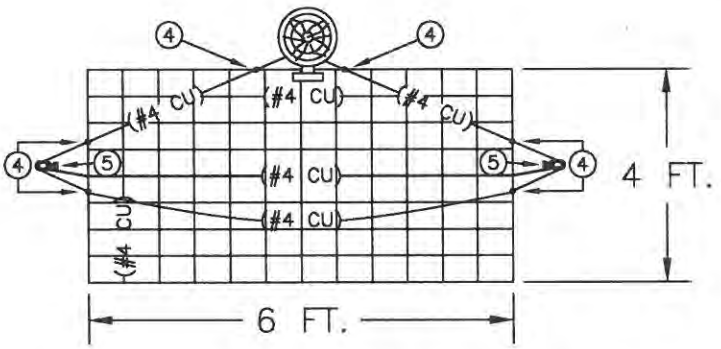
DISTRIBUTION CONSTRUCTION STANDARDS

SINGLE PHASE 19.9KV HYDRAULIC RECLOSERS COORDINATING/NON–COORDINATING FUSES NO GROUND SENSING

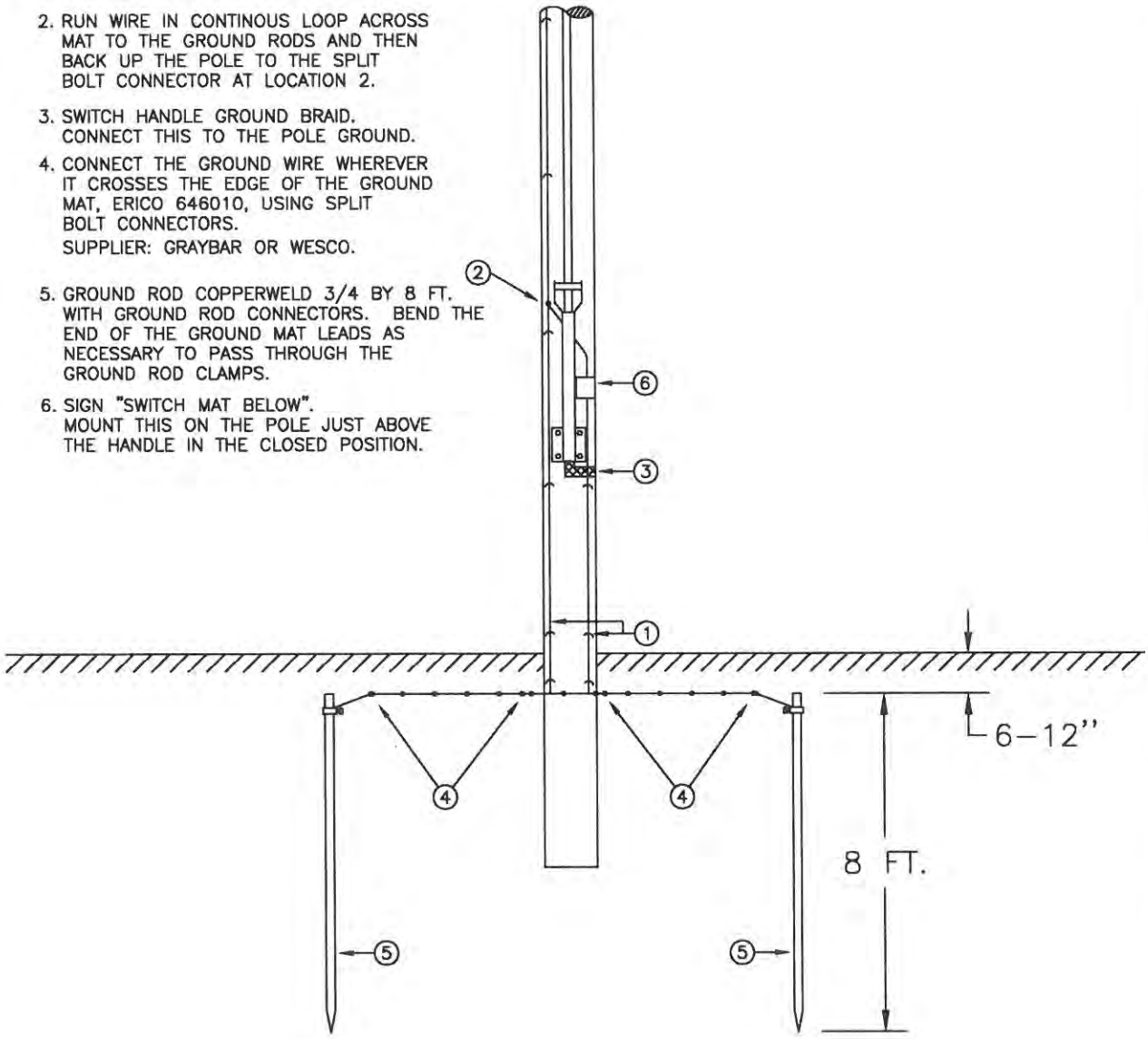
BANGOR HYDRO ELECTRIC Co.

DRAWING 1514

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1602	MANUAL AIRBREAK SWITCHES GROUND MAT INSTALLATION	12–11–2009
1603	15 kV VERTICAL AIRBREAK SWITCH TYPICAL INSTALLATION	8–10–2010
1604	15 kV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION	8–10–2010
1605	15 kV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION, DEAD–END ON SWITCH	8–10–2010
1606	35 kV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION	8–10–2010
1607	35 kV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION, DEAD–END ON SWITCH	8–10–2010
1608	35 kV VERTICAL AIRBREAK SWITCH TYPICAL INSTALLATION	8–10–2010



1. POLE GROUND. CONNECT TO NEUTRAL.
2. RUN WIRE IN CONTINOUS LOOP ACROSS MAT TO THE GROUND RODS AND THEN BACK UP THE POLE TO THE SPLIT BOLT CONNECTOR AT LOCATION 2.
3. SWITCH HANDLE GROUND BRAID. CONNECT THIS TO THE POLE GROUND.
4. CONNECT THE GROUND WIRE WHEREVER IT CROSSES THE EDGE OF THE GROUND MAT, ERICO 646010, USING SPLIT BOLT CONNECTORS.
   SUPPLIER: GRAYBAR OR WESCO.
5. GROUND ROD COPPERWELD 3/4 BY 8 FT. WITH GROUND ROD CONNECTORS. BEND THE END OF THE GROUND MAT LEADS AS NECESSARY TO PASS THROUGH THE GROUND ROD CLAMPS.
6. SIGN "SWITCH MAT BELOW". MOUNT THIS ON THE POLE JUST ABOVE THE HANDLE IN THE CLOSED POSITION.



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STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

MANUAL AIR-BREAK SWITCHES
GROUNDING MAT INSTALLATION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1602

NO.	REVISION	DATE	CK

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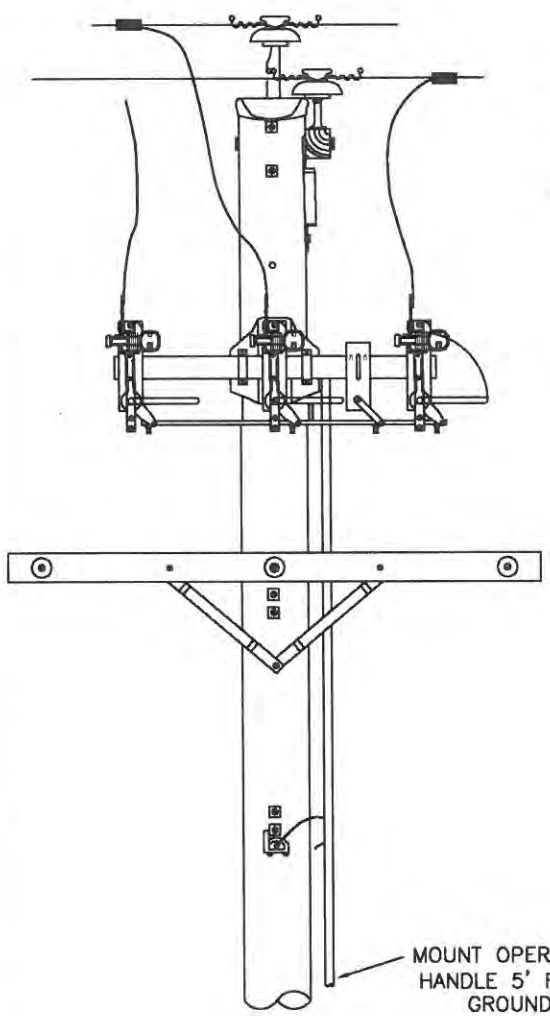

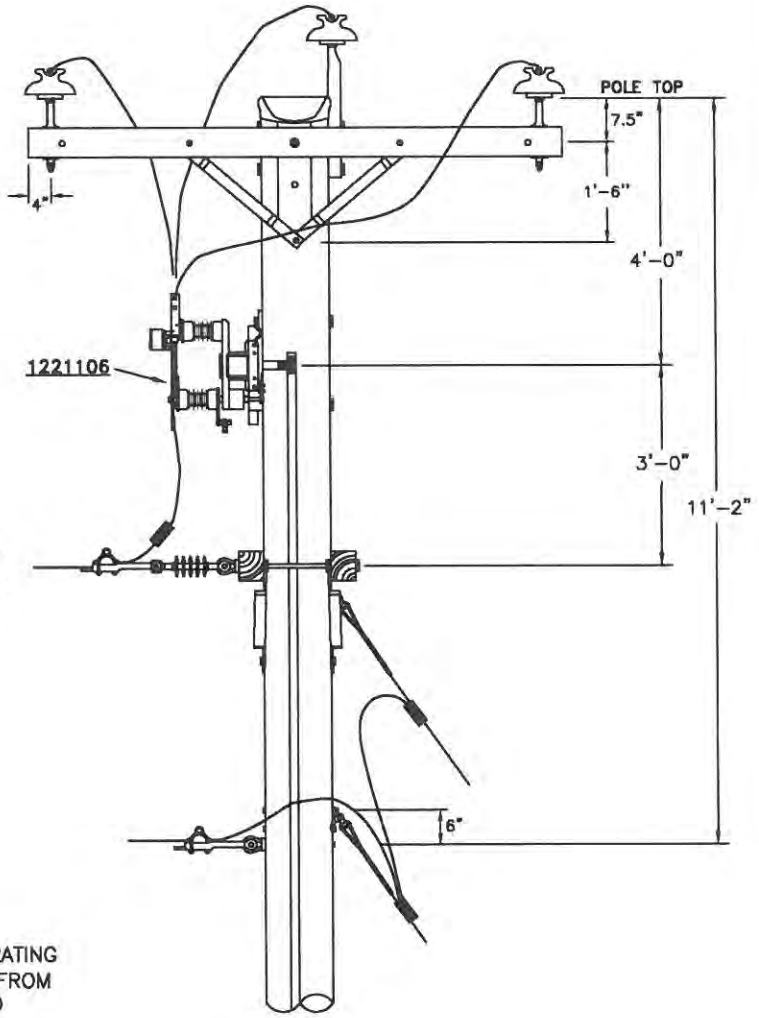

NOTES:

1. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
2. THIS DESIGN UTILIZES A 45' POLE

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15KV VERTICAL AIRBREAK SWITCH TYPICAL INSTALLATION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1603

NO.	REVISION	DATE	CK

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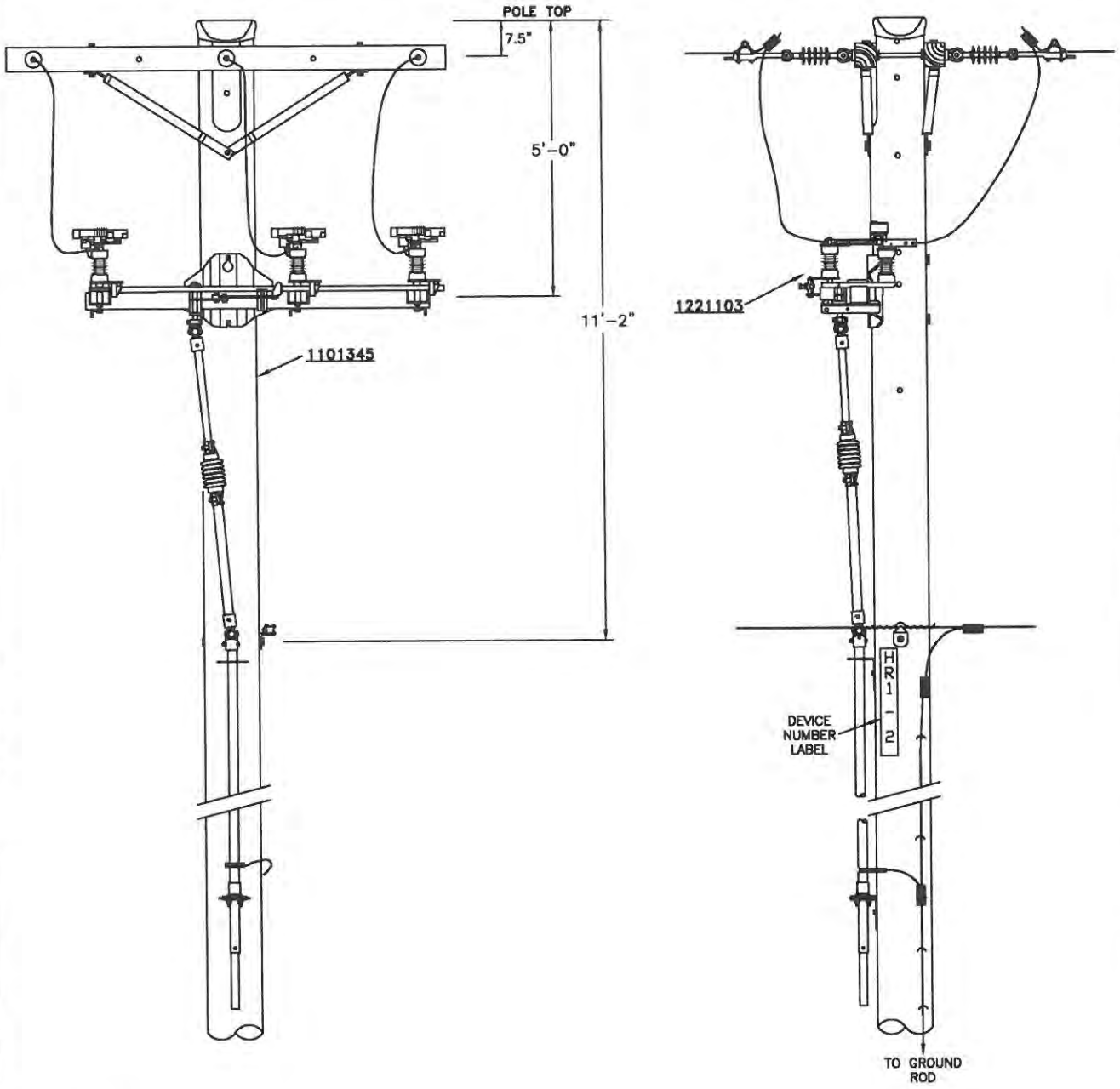
1	2009 REVISIONS & REFORMAT	8-10-10	GAN



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
3. THIS DESIGN UTILIZES A 45' MEH POLE.
4. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

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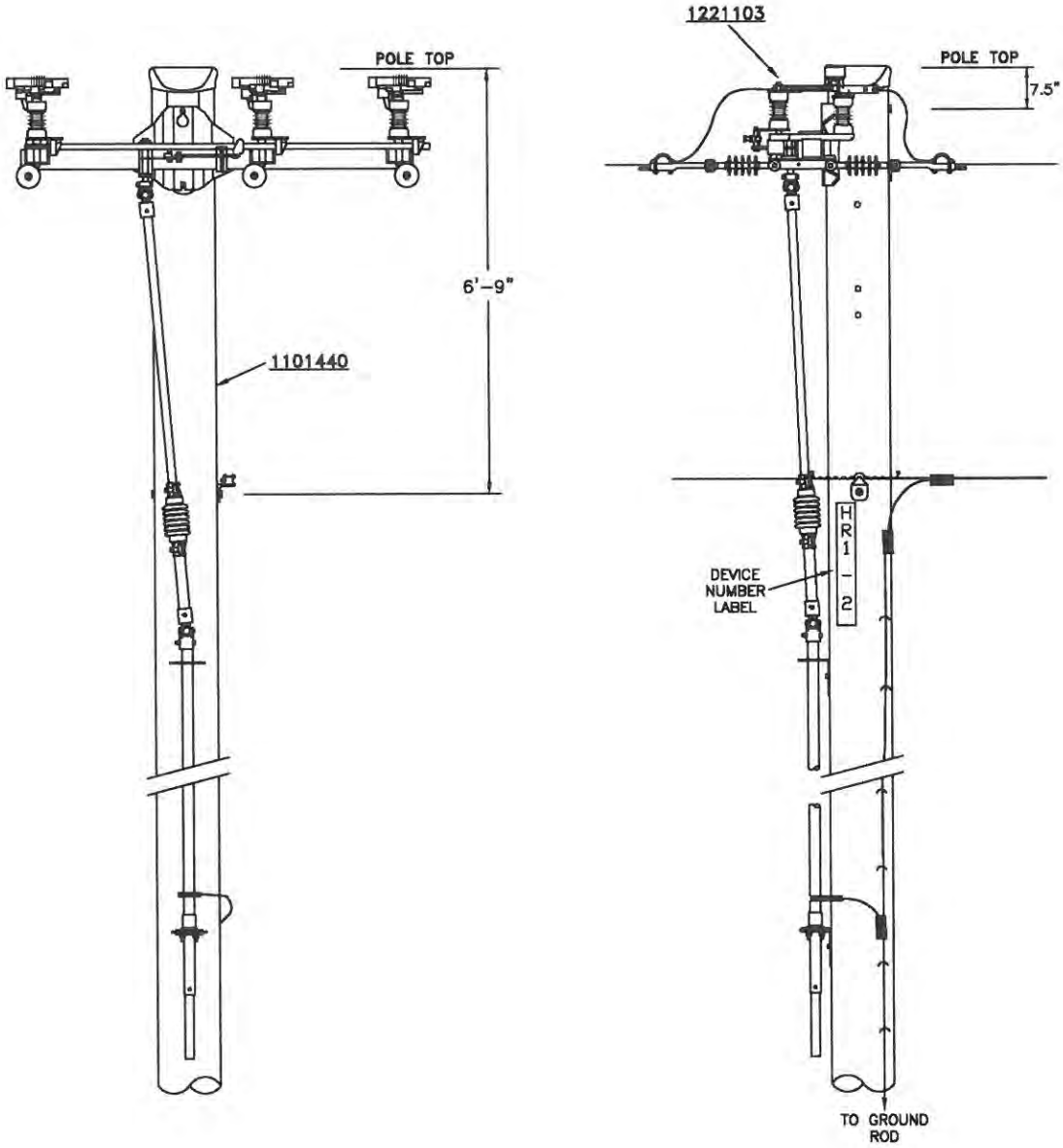
15KV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1604



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
3. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.
4. THE PREFERRED CONSTRUCTION FOR 15KV HORIZONTAL AIRBREAK SWITCH INSTALLATIONS IS SHOWN ON STANDARD #1604. T&D ENGINEERING APPROVAL IS REQUIRED.

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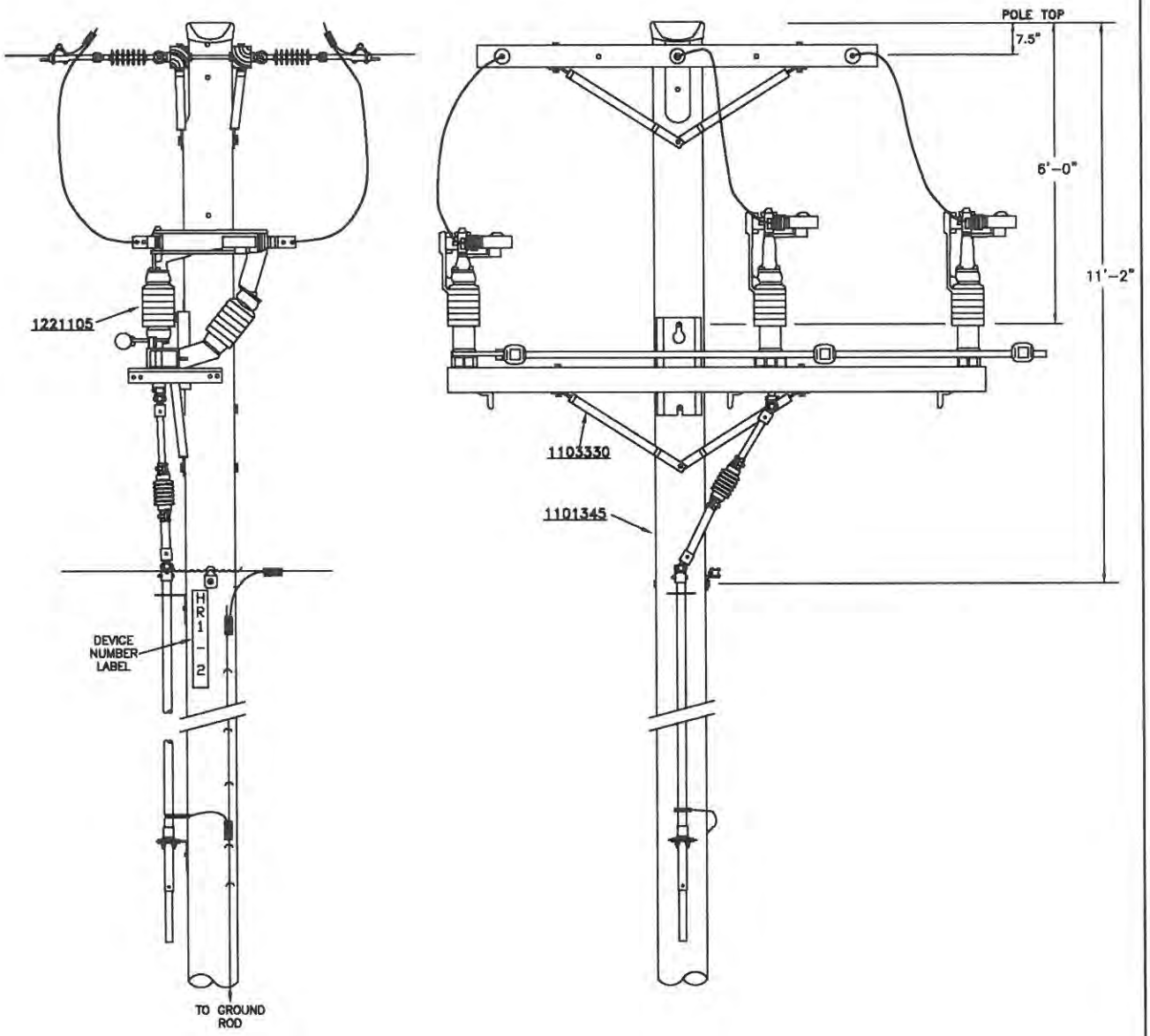
DISTRIBUTION CONSTRUCTION STANDARDS

15KV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION DEAD-END ON SWITCH

BANGOR HYDRO ELECTRIC Co.

DRAWING
1605



NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
3. THIS DESIGN UTILIZES A 45' POLE.
4. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

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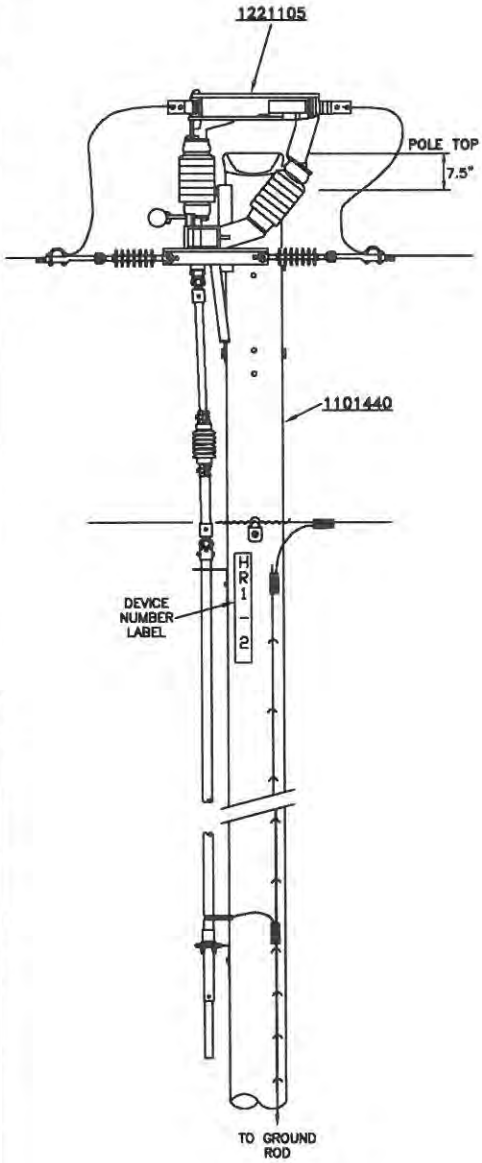
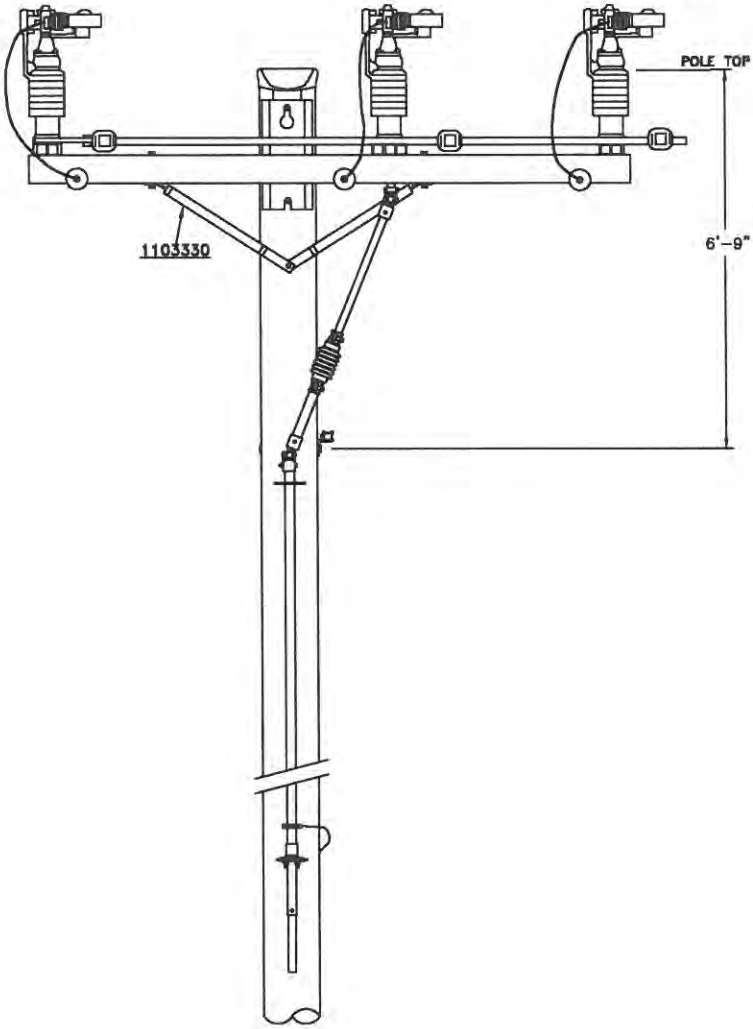
DISTRIBUTION CONSTRUCTION STANDARDS

35KV HORIZONTAL AIRBREAK SWITCH TYPICAL INSTALLATION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1606





NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
3. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.
4. THE PREFERRED CONSTRUCTION FOR 35KV HORIZONTAL AIRBREAK SWITCH INSTALLATIONS IS SHOWN ON STANDARD #1606. T&D ENGINEERING APPROVAL IS REQUIRED.

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DISTRIBUTION CONSTRUCTION STANDARDS

35KV HORIZONTAL AIRBREAK SWITCH
TYPICAL INSTALLATION
DEAD-END ON SWITCH

BANGOR HYDRO ELECTRIC Co.

DRAWING
1607

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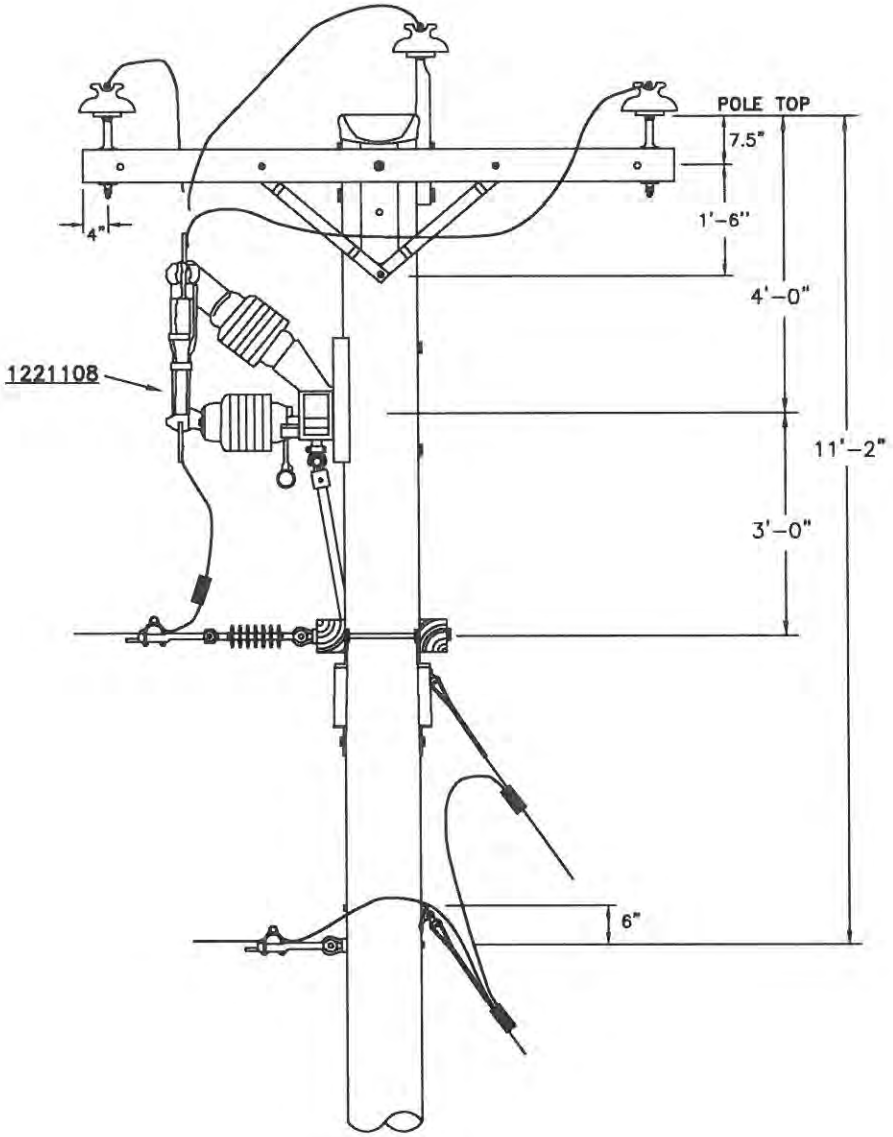

NOTES:

1. DEVICE NUMBERS SHALL BE INSTALLED ON THE ROAD SIDE JUST BELOW THE NEUTRAL CONNECTION ON POLES.
2. INSTALL ARRESTERS ON ALL NORMALLY OPEN SWITCHES.
3. THIS DESIGN UTILIZES A 45' POLE.
4. REFER TO STANDARD #1602 FOR GROUND MAT DETAILS.

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DISTRIBUTION CONSTRUCTION STANDARDS	35KV VERTICAL AIRBREAK SWITCH TYPICAL INSTALLATION	
BANGOR HYDRO ELECTRIC Co.		DRAWING 1608.1

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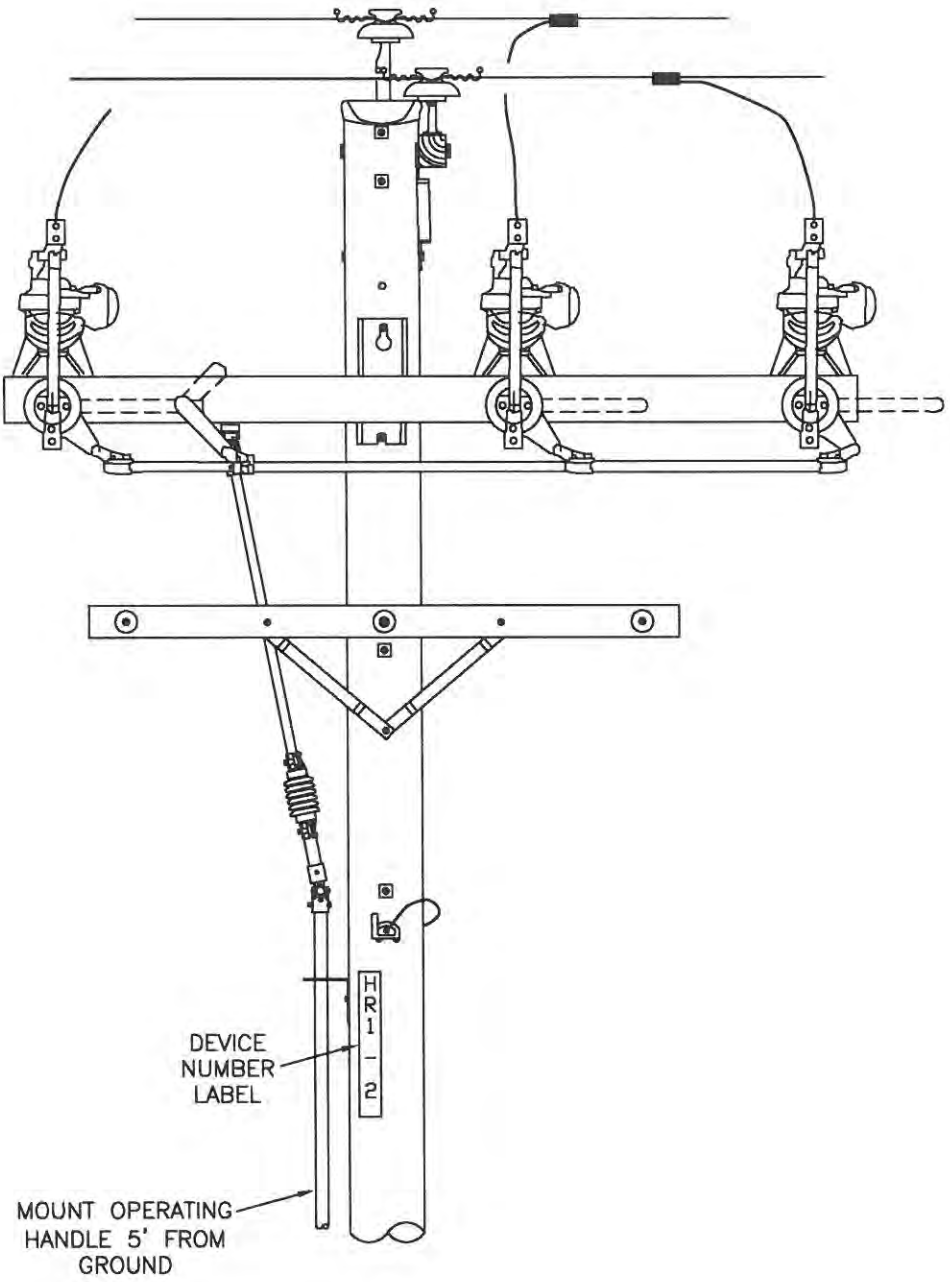

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LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV VERTICAL AIRBREAK SWITCH TYPICAL INSTALLATION

BANGOR HYDRO ELECTRIC Co.

DRAWING
1608.2

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1702	1/0 AAAC – 2000# TENSION 175' RULING SPAN	8–10–2010
1703	1/0 AAAC – 2000# TENSION 225' RULING SPAN	8–30–2010
1704	336.4 AAC – 2000# TENSION 175' RULING SPAN	8–30–2010
1705	336.4 AAC – 3000# TENSION 225' RULING SPAN	8–30–2010

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-10-10	GAN

Stringing Sag - inches

Span Length - ft

		125	150	175	200	225
Ambient	-20	2	3	4	5	7
Temp (F)	0	3	4	5	6	8
	30	3	5	6	8	10
	60	4	6	8	10	13
	90	6	9	11	15	19

Final Sag - inches

Span Length - ft

		125	150	175	200	225
Conductor	-20	3	3	4	6	7
Temp (F)	0	3	4	5	7	8
	30	4	5	7	9	12
	60	6	9	11	15	19
	90	10	15	20	25	32
	120	15	22	29	38	48
	167	22	31	43	56	70

CONDUCTOR: AZUZA
AREA = .0968 SQ. IN.
DATA FROM CHART #1-1068
123.3 KCMIL
7 STRANDS

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

ALCOA HEAVY LOADING
SAG CHART
1/0 AAAC – 2000# TENSION
175' RULING SPAN

BANGOR HYDRO ELECTRIC Co.

DRAWING
1702

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	8-30-10	GAN

Stringing Sag - inches

Span Length - ft

		175	200	225	250	275
Ambient	-20	4	5	7	8	10
Temp (F)	0	5	6	8	9	11
	30	6	8	9	11	14
	60	8	10	12	15	18
	90	11	14	17	21	26

Final Sag - inches

Span Length - ft

		175	200	225	250	275
Conductor	-20	4	6	7	9	10
Temp (F)	0	5	7	8	10	12
	30	7	9	12	14	17
	60	11	14	18	22	26
	90	17	22	28	34	42
	120	24	31	39	49	59
	167	34	44	56	69	83

CONDUCTOR: AZUZA
AREA = .0968 SQ. IN.
DATA FROM CHART #1-1068
123.3 KCMIL
7 STRANDS

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

ALCOA HEAVY LOADING
SAG CHART
1/0 AAAC – 2000# TENSION
225' RULING SPAN

BANGOR HYDRO ELECTRIC Co.

DRAWING
1703

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

Stringing Sag - inches

Span Length - ft

		125	150	175	200	225
Ambient	-20	6	8	11	14	17
Temp (F)	0	8	11	14	17	23
	30	12	17	22	29	37
	60	16	23	31	41	52
	90	20	29	39	51	65

Final Sag - inches

Span Length - ft

		125	150	175	200	225
Conductor	-20	7	9	12	16	20
Temp (F)	0	9	13	18	23	29
	30	14	20	27	36	45
	60	19	27	36	47	59
	90	22	32	44	57	72
	120	26	37	50	65	82
	167	31	44	60	78	98

CONDUCTOR: TULIP
AREA = .2644 SQ. IN.
DATA FROM CHART #1-945
336.4 KCMIL
19 STRANDS

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	ALCOA HEAVY LOADING SAG CHART 336.4 AAC – 2000# TENSION 175' RULING SPAN	
BANGOR HYDRO ELECTRIC Co.		DRAWING 1704

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

Stringing Sag - inches

Span Length - ft

		175	200	225	250	275
Ambient	-20	7	8	10	13	15
Temp (F)	0	8	10	12	15	18
	30	10	14	17	21	25
	60	15	20	25	31	37
	90	22	28	35	44	53

Final Sag - inches

Span Length - ft

		175	200	225	250	275
Conductor	-20	8	10	12	15	18
Temp (F)	0	10	14	16	20	24
	30	16	20	25	31	38
	60	23	29	37	45	55
	90	29	38	47	58	71
	120	34	45	57	70	84
	167	42	55	70	86	104

CONDUCTOR: TULIP
AREA = .2644 SQ. IN.
DATA FROM CHART #1-945
336.4 KCMIL
19 STRANDS

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	ALCOA HEAVY LOADING SAG CHART 336.4 AAC – 3000# TENSION 225' RULING SPAN	
BANGOR HYDRO ELECTRIC Co.		DRAWING 1705

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1801	STREET LIGHTS	12–11–2009
1802	MUNICIPAL OWNED LIGHTING	4–11–2018

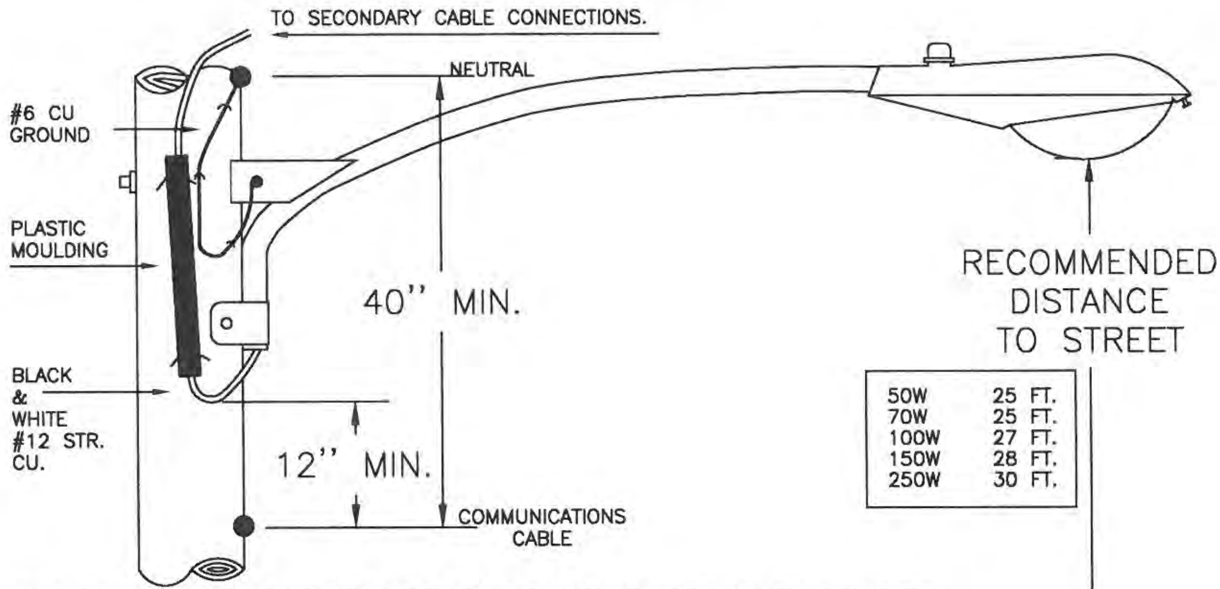
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
STREET LIGHTS

LAST REVISED
03–18–2021

DRAWING
1800



AN EFFECTIVELY GROUNDED STREET LIGHT BRACKET SHALL BE GROUNDED SUCH THAT THE CONDUCTOR DRIP LOOP IS LOCATED NO CLOSER THAN 12" FROM ANY COMMUNICATION CABLES.

MANUFACTURER	BHE STOCK #	G.E. #		
HIGH PRESS. SODIUM FIX. 50W	1316050			
70W	1318070	M2RR-70SIN2AMS2		
100W	1318100	M2RR-10SIN2AMS2		
150W	1318150	M2RR-15SIN2AMS2		
250W	1318250	M4RR-25SIN2GMS2		
MANUFACTURER		G.E. #	SYLVANIA #	PHILLIPS #
HIGH PRESS. SODIUM LAMP 50W	1308201	LU50	LU50	C50S62
70W	1308202	LU70	LU70	C70S62
100W	1308203	LU100	LU100	CU100S62
150W	1308204	LU150	LU150	CU150S62
250W	1308205	LU250	LU250	CU250S62
MANUFACTURER		HAPCO #		
BRACKETS 6' 50W-150W	1313101	81-004		
8' BRACED 50W-250W	1313108	82-004		
10' TRUSS 50W-250W	1313110	85-004		
		QTY. REQUIRED		
TOE BOLTS	J8732	2	JOSLYN J8732	
CONNECTOR (GROUNDING)		1	BLACKBURN TAA59	
CONNECTOR	1207120	3	FARGO GA9003L GA9020L	
GROUND WIRE	1226201	AS REQ'D	#6 CU SOFT DRAWN	
LIGHTING WIRE	1226101	AS REQ'D	#12 STR WHITE XHHW	
LIGHTING WIRE	1226101	AS REQ'D	#12 STR BLACK XHHW	
THRU BOLT		1	10" J8810 & WASHER J1076	
PHOTO CONTROL	1303100	1	LAMPAS (6120)	
STAPLES		AS REQ'D		
MOULDING		AS REQ'D		

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-11-09	GAN

NO.	REVISION	DATE	CK

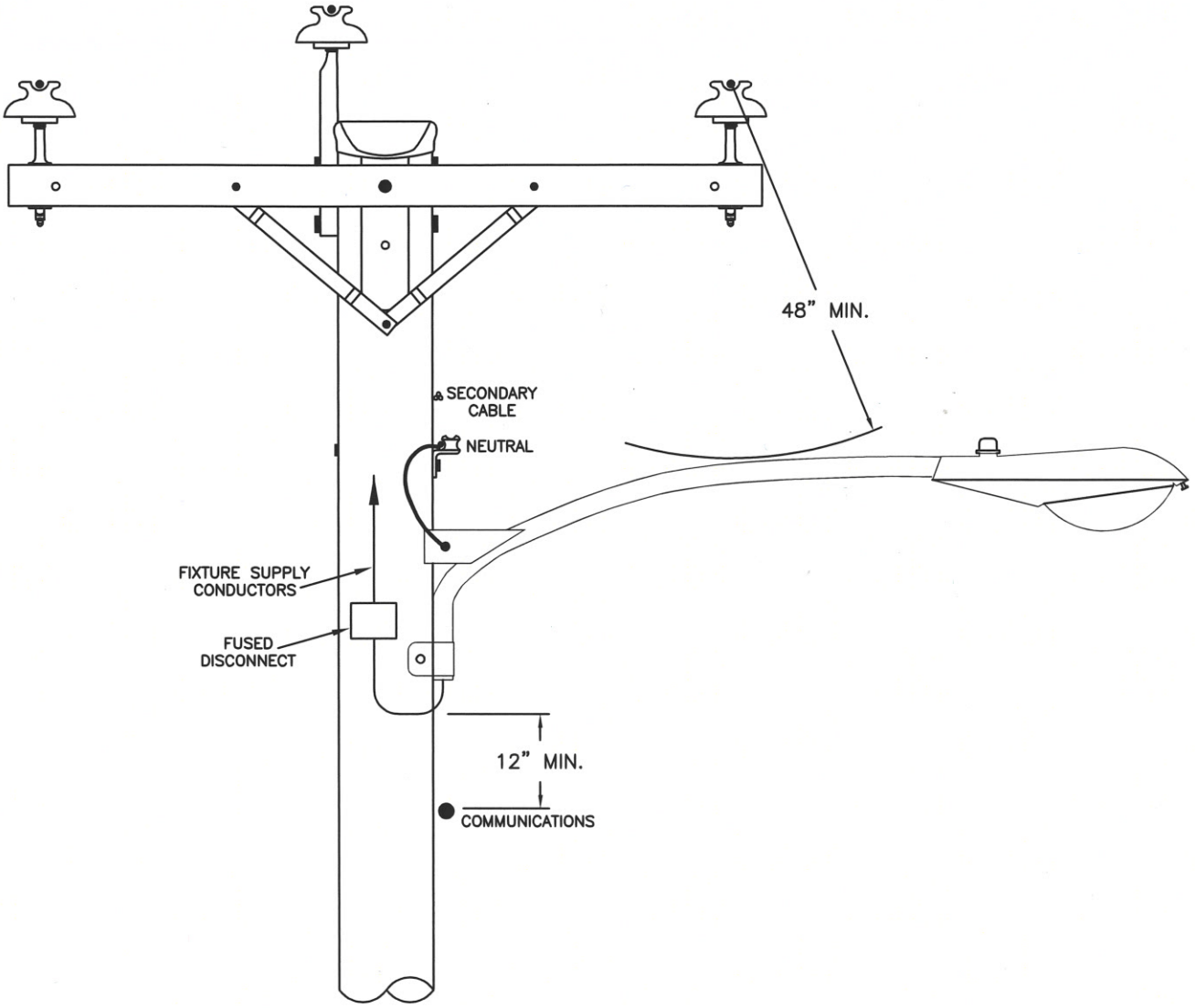
STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED
PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

STREET LIGHTS

BANGOR HYDRO ELECTRIC Co.

DRAWING 1801



NOTES:

1. PRIMARY CONDUCTORS – MAINTAIN MINIMUM 48" CLEARANCE FROM ANY PRIMARY CONDUCTOR OR CABLE TO NEAREST POINT OF GROUNDED FIXTURE OR BRACKET.
2. LOCATION ON POLE – INSTALL THE OUTDOOR LIGHT BELOW THE SECONDARY CONDUCTORS. THIS APPLIES TO NEW INSTALLATIONS AND ANY TIME AN EXISTING OUTDOOR LIGHT IS RELOCATED OR TRANSFERRED TO A NEW POLE.
3. SPECIAL CARE SHALL BE TAKEN WHEN MANEUVERING STREET LIGHTING EQUIPMENT WHILE IN THE VICINITY OF ENERGIZED PRIMARY VOLTAGE CONDUCTORS.
4. REFER TO N.E.S.C. SECTIONS 238 AND 239 REGARDING CLEARANCES OF STREET LIGHTING EQUIPMENT FROM OTHER ELECTRICAL AND COMMUNICATION EQUIPMENT.

STATE OF MAINE
DAVID W NORMAN
No. 8377
12/3/20
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

MUNICIPAL OWNED LIGHTING

LAST REVISED	DRAWING
07-14-2020	1802

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
1901	CATV POWER SUPPLY INSTALLATION 40' MINIMUM POLE HEIGHT	12–31–2009

DISTRIBUTION CONSTRUCTION STANDARDS

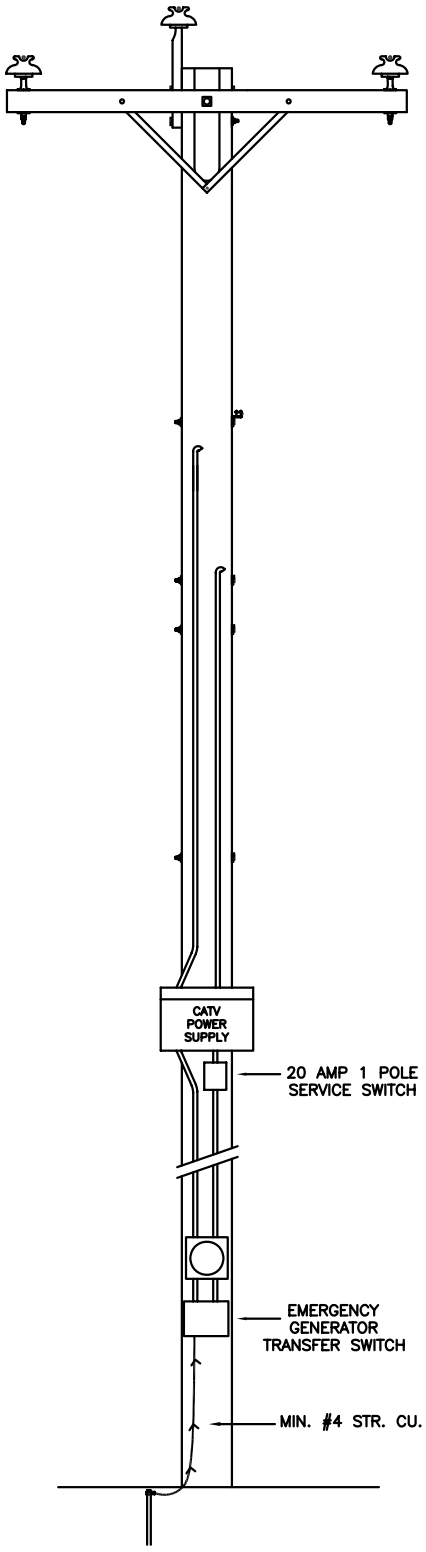
– INDEX –
CATV

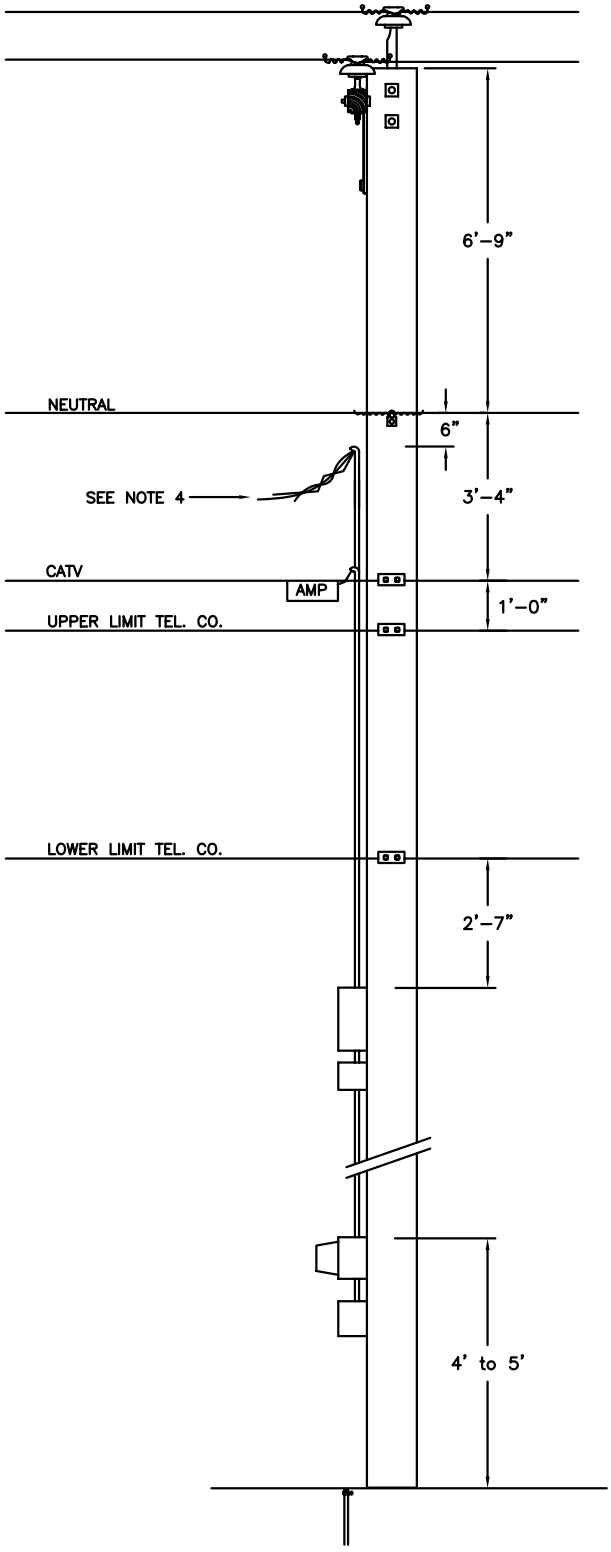
VERSANT POWER

LAST REVISED
03–18–2021

DRAWING
1900

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-31-09	GAN





NOTES:

1. MINIMUM POLE SIZE 40' CLASS 4.
2. RIGID GALVANIZED STEEL 3/4'' CONDUIT.
3. CABLE TV MAY SHARE B.H.E. Co. GROUND ROD.
4. MINIMUM SIZE FEEDER CONDUCTOR SHALL BE #6 STR. COPPER.

DISTRIBUTION CONSTRUCTION STANDARDS

CATV POWER SUPPLY INSTALLATION 40' MINIMUM POLE HEIGHT

BANGOR HYDRO ELECTRIC Co.

DRAWING
1901

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2101	15KV SINGLE PHASE U.R.D.	9–9–2010
2102	15KV SINGLE PHASE LOOP U.R.D.	9–9–2010
2103	19.9KV SINGLE PHASE U.R.D.	9–9–2010
2104	19.9KV SINGLE PHASE LOOP U.R.D.	9–9–2010
2105	15KV THREE PHASE 3 WIRE U.R.D. 750 KVA TRANSFORMER AND BELOW	9–9–2010
2106	35KV THREE PHASE 3 WIRE U.R.D. 750 KVA TRANSFORMER AND BELOW	9–9–2010
2107	15KV THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000 KVA TRANSFORMER AND ABOVE	9–9–2010
2108	35KV THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000 KVA TRANSFORMER AND ABOVE	8–16–2010

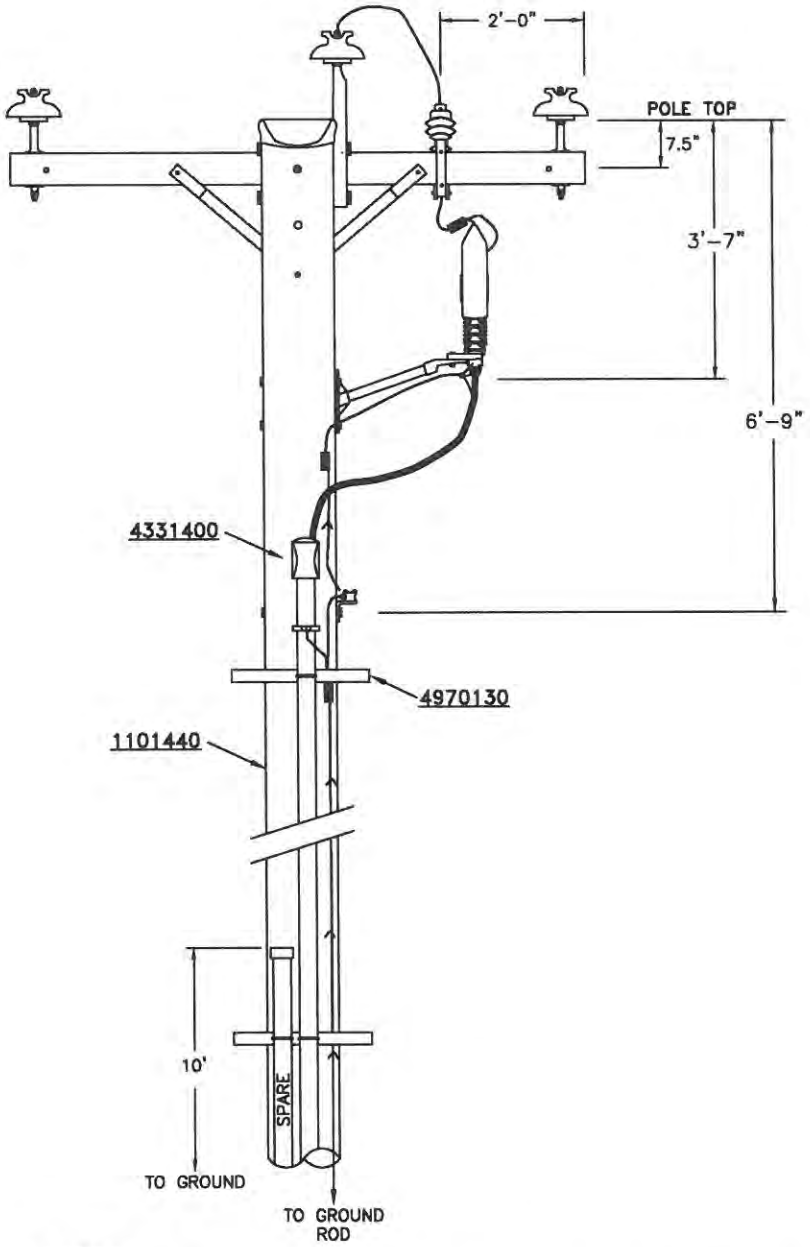
DISTRIBUTION CONSTRUCTION STANDARDS

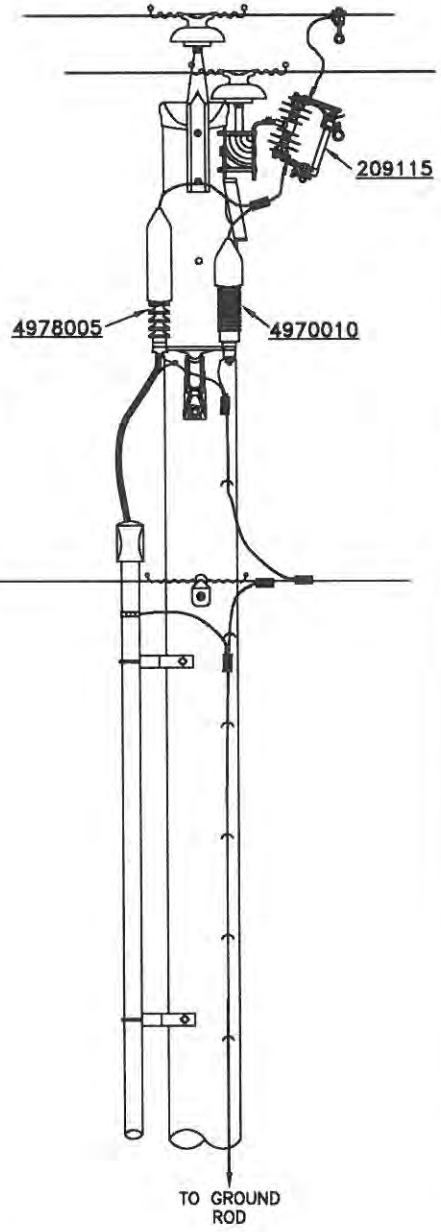
VERSANT POWER

CABLE RISERS

LAST REVISED
03–19–2021

DRAWING
2100





NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – SINGLE PHASE U.R.D.

BANGOR HYDRO ELECTRIC Co.

DRAWING
2101

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
4978005	1		**#2 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	#2 AL TERMINATOR KIT	4978006
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4970010	1		**10 KV URD ARRESTER**	
		1	URD ARESTER 10 KV	4970010
4331400	1		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	5		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
209115	1		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**4/0 AL**	**15 KV**	**CONDUCTOR**	
4978006	1		**4/0 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	4/0 AL TERMINATOR KIT	4978010
		2	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

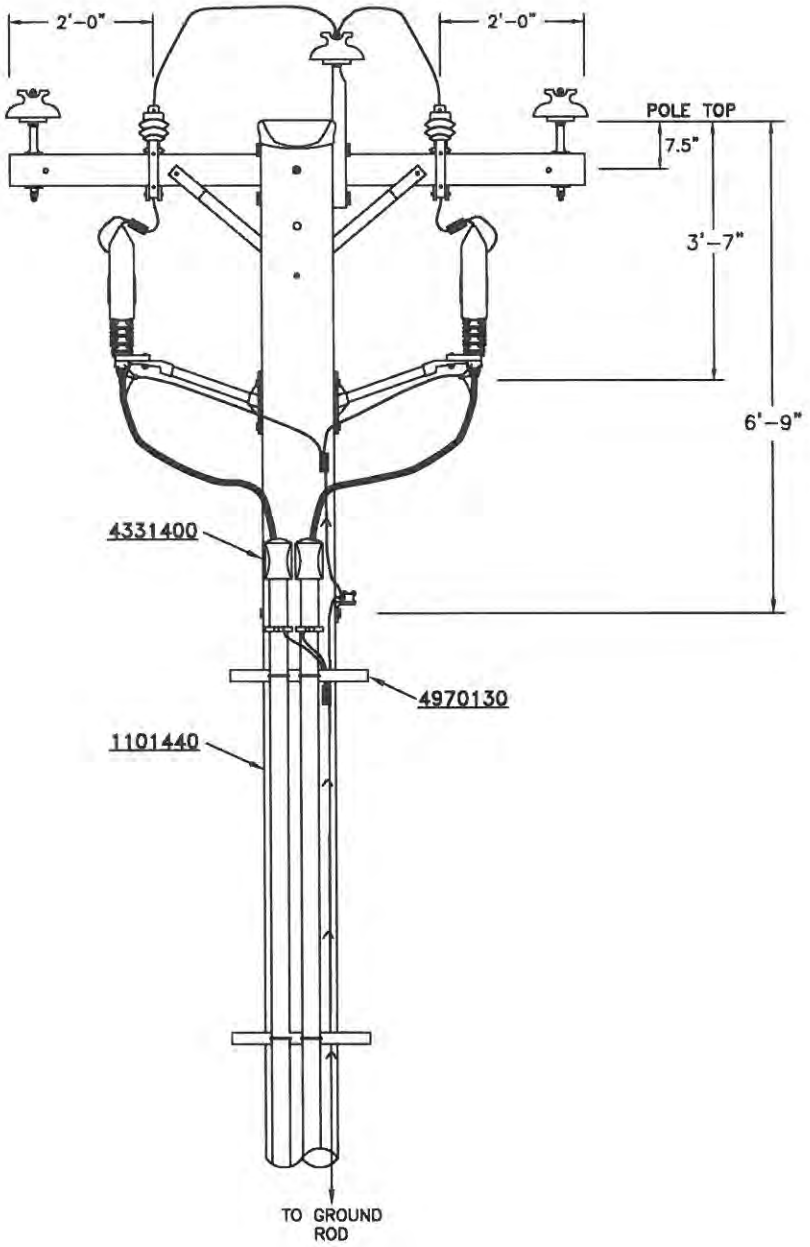
15KV – SINGLE PHASE U.R.D.

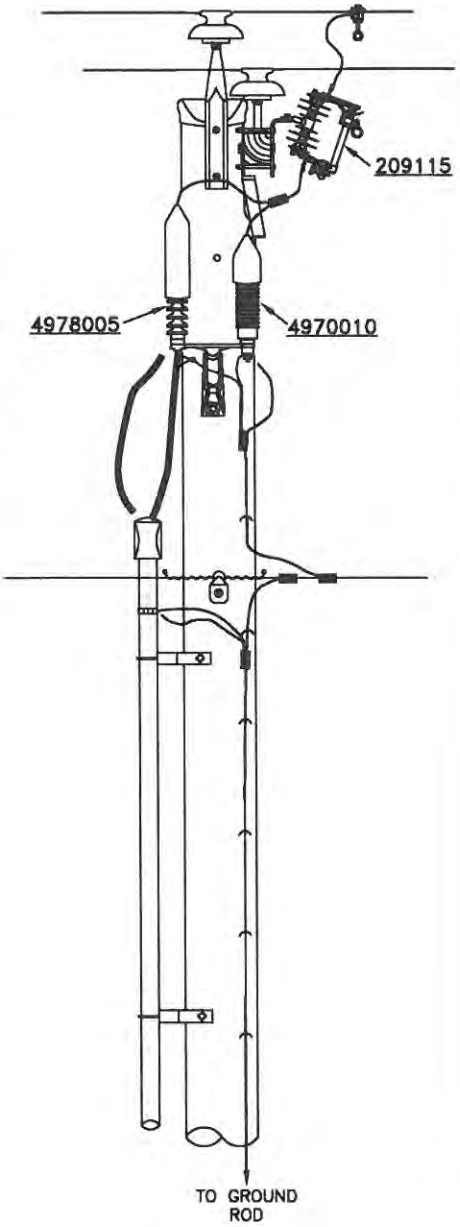
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2101

BANGOR HYDRO ELECTRIC Co.





NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – SINGLE PHASE LOOP U.R.D.

BANGOR HYDRO ELECTRIC Co.

DRAWING
2102

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
4978005	2		**#2 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	#2 AL TERMINATOR KIT	4978006
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4970010	2		**10 KV URD ARRESTER**	
		1	URD ARESTER 10 KV	4970010
4331400	2		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
209115	1		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**4/0 AL**	**15 KV**	**CONDUCTOR**	
4978006	2		**4/0 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	4/0 AL TERMINATOR KIT	4978010
		2	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

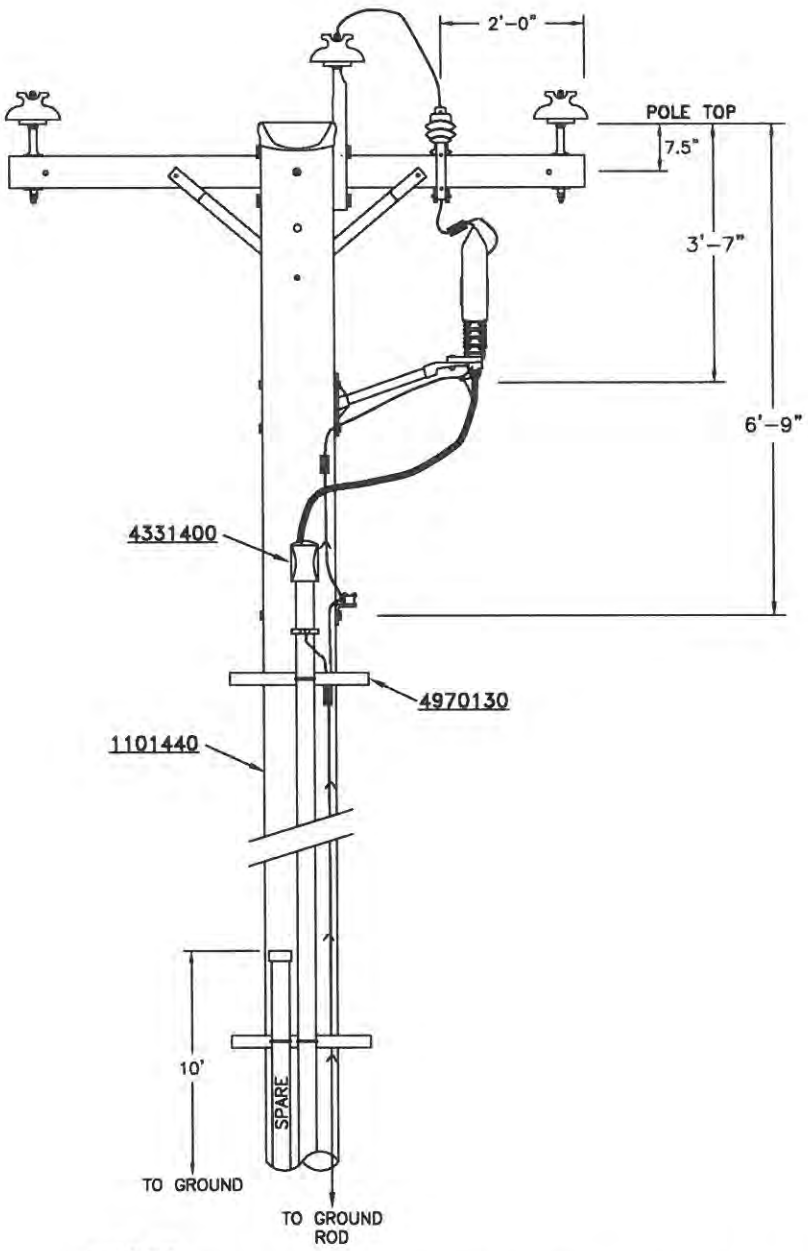
15KV – SINGLE PHASE LOOP U.R.D.

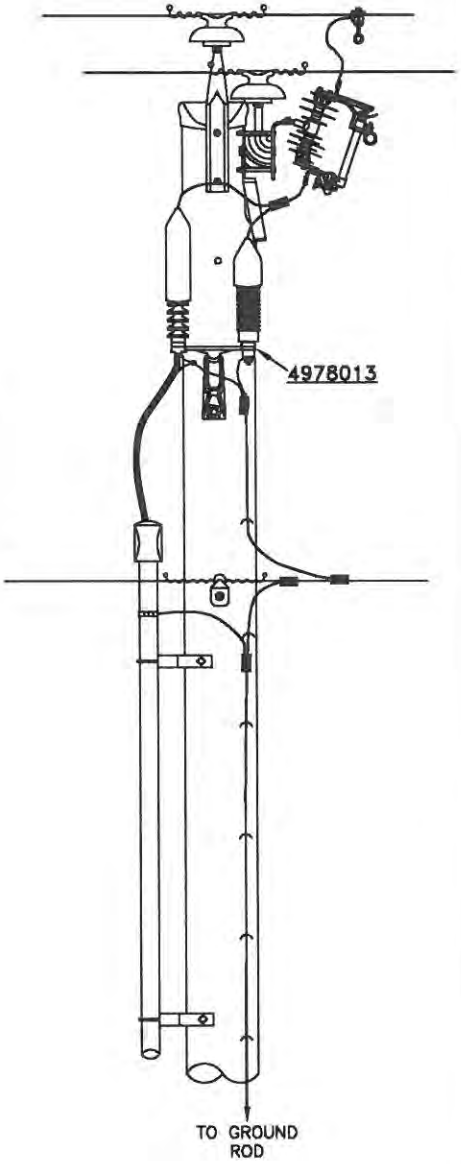
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2102

BANGOR HYDRO ELECTRIC Co.





NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

19.9KV – SINGLE PHASE U.R.D.

BANGOR HYDRO ELECTRIC Co.

DRAWING
2103

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
4978013	1		**1/0 AL 35 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	35 KV D/E RECEPTACLE	4975550
		1	1/0 AL 35 KV TERMINATOR KIT	4978013
		1	27 KV OPEN CUTOUT	1209310
		1	27 KV URD ARRESTER	4970027
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4331400	1		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	5		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

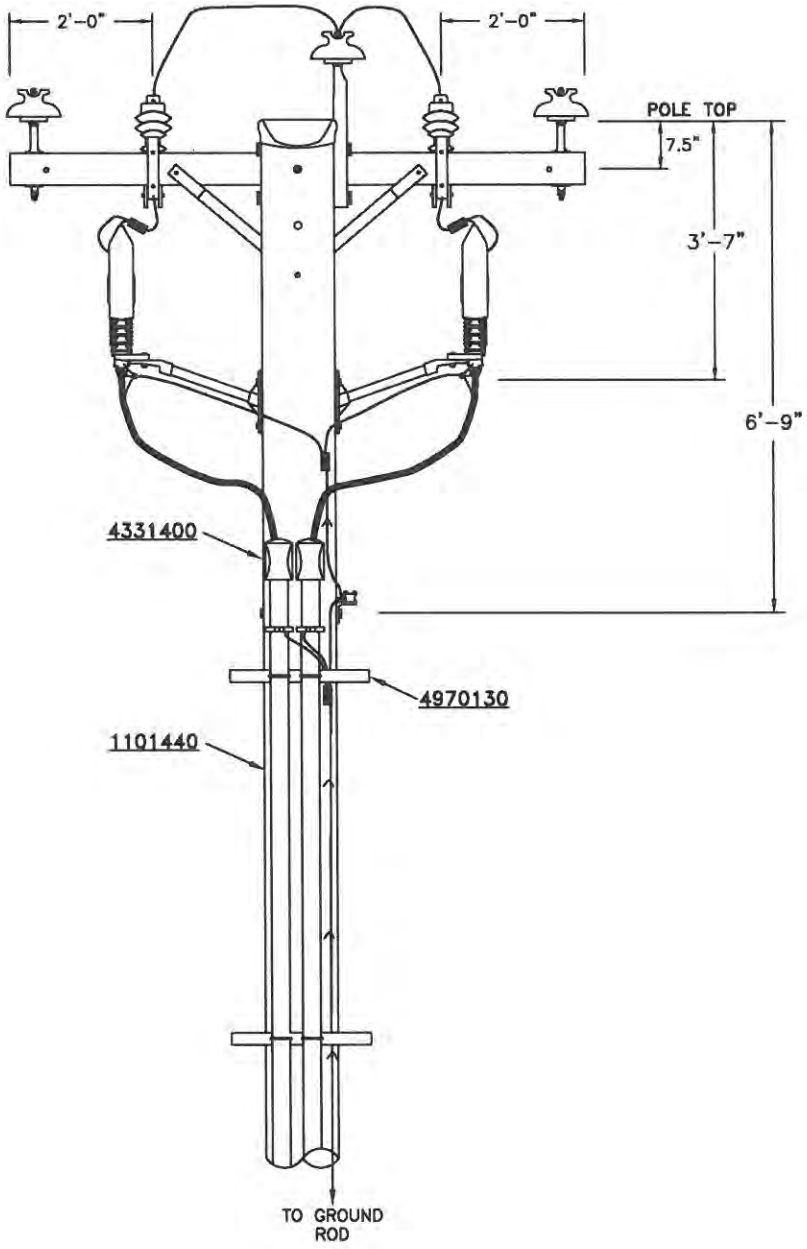
19.9KV – SINGLE PHASE U.R.D.

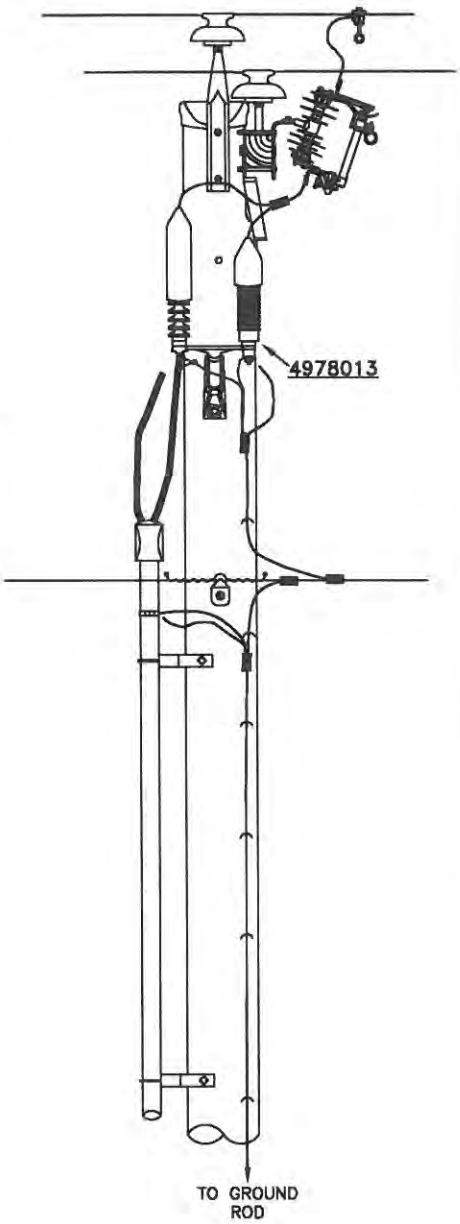
DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2103

BANGOR HYDRO ELECTRIC Co.





NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

19.9KV – SINGLE PHASE LOOP U.R.D.

BANGOR HYDRO ELECTRIC Co.

DRAWING
2104

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101440	1		**40/4 POLE**	
		1	Pole SPP 40' CLASS 4	1101440
		1	POLE TOPPER	1115306
4978013	2		**1/0 AL 35 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	35 KV D/E RECEPTACLE	4975550
		1	1/0 AL 35 KV TERMINATOR KIT	4978013
		1	27 KV OPEN CUTOUT	1209310
		1	27 KV URD ARRESTER	4970027
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4331400	2		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

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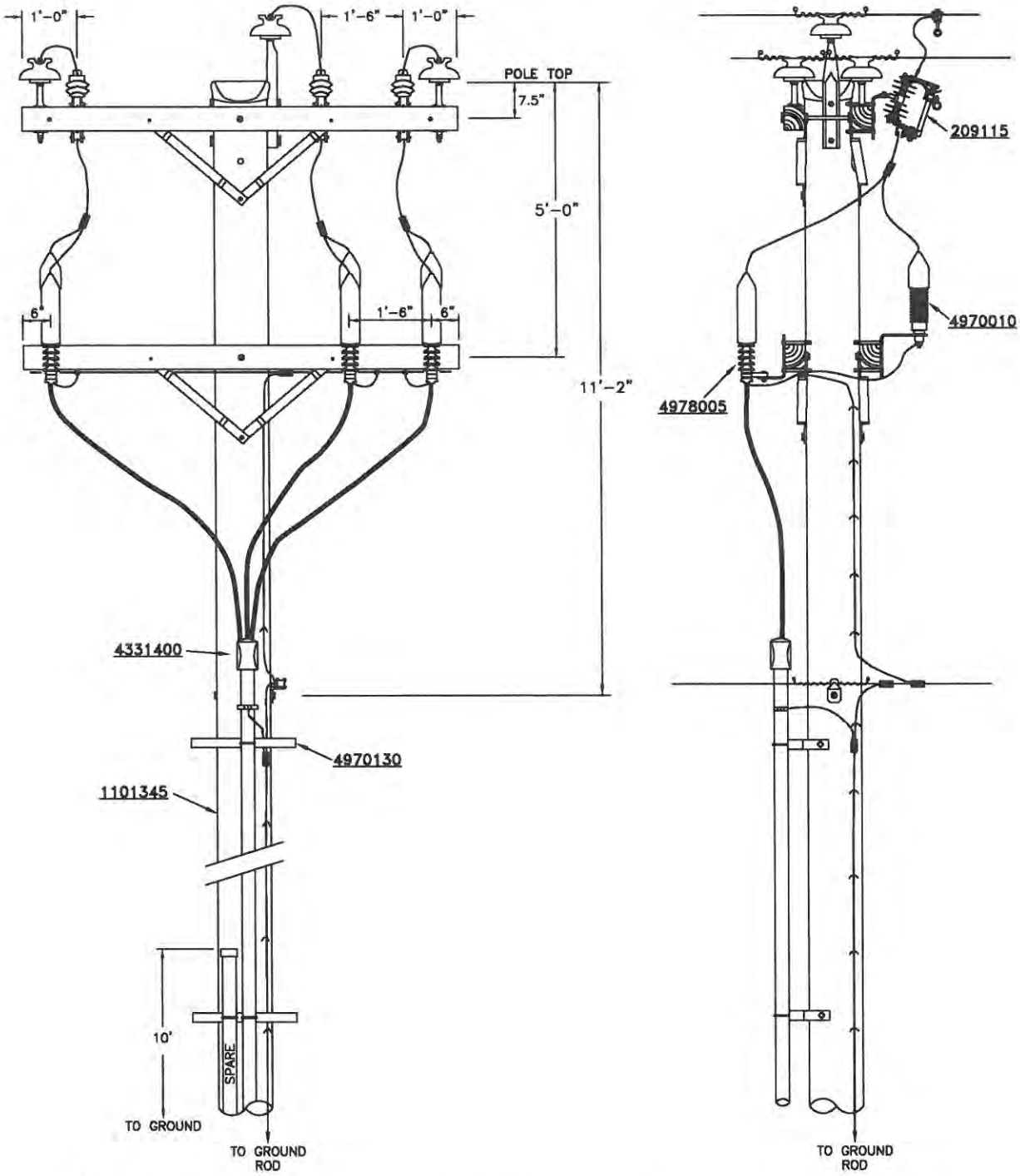
19.9KV – SINGLE PHASE LOOP U.R.D.

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2104

BANGOR HYDRO ELECTRIC Co.



NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.
5. MINIMUM 45' POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE 3 WIRE U.R.D. 750 KVA TRANSFORMER AND BELOW

BANGOR HYDRO ELECTRIC Co.

DRAWING
2105

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 45' CLASS 3	1101345
		1	POLE TOPPER	1115306
4978005	3		**#2 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	#2 AL TERMINATOR KIT	4978006
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4970010	3		**10 KV URD ARRESTER**	
		1	URD ARESTER 10 KV	4970010
4331400	1		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
209115	3		**15 KV OPEN CUTOUT SM**	
		1	15 KV OPEN CUTOUT SM	1209115
		1	LIVE LINE CLAMP	1206102
		1	CONNECTOR	1207203
FOR	**4/0 AL**	**15 KV**	**CONDUCTOR**	
4978006	3		**4/0 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	4/0 AL TERMINATOR KIT	4978010
		2	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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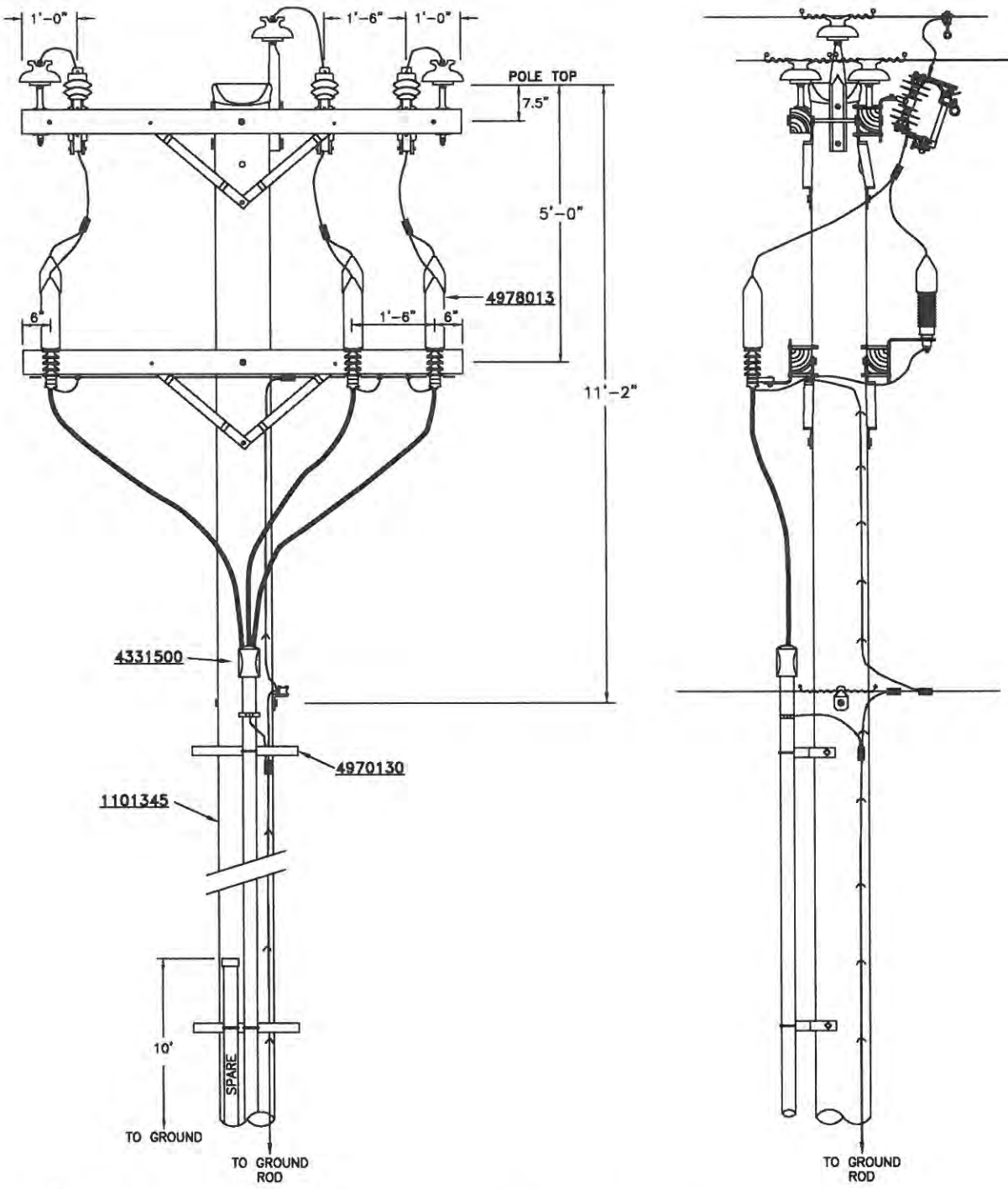
15KV – THREE PHASE 3 WIRE U.R.D.
750 KVA TRANSFORMER AND BELOW

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2105

BANGOR HYDRO ELECTRIC Co.



NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.
5. MINIMUM 45' POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE 3 WIRE U.R.D.
750 KVA TRANSFORMER AND BELOW

BANGOR HYDRO ELECTRIC Co.

DRAWING
2106

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 45' CLASS 3	1101345
		1	POLE TOPPER	1115306
4978013	3		**1/0 AL 35 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	35 KV D/E RECEPTACLE	4975550
		1	1/0 AL 35 KV TERMINATOR KIT	4978013
		1	27 KV OPEN CUTOUT	1209310
		1	27 KV URD ARRESTER	4970027
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4331500	1		**5" CONDULATOR KIT**	
		1	5" CONDULATOR KIT	4331500
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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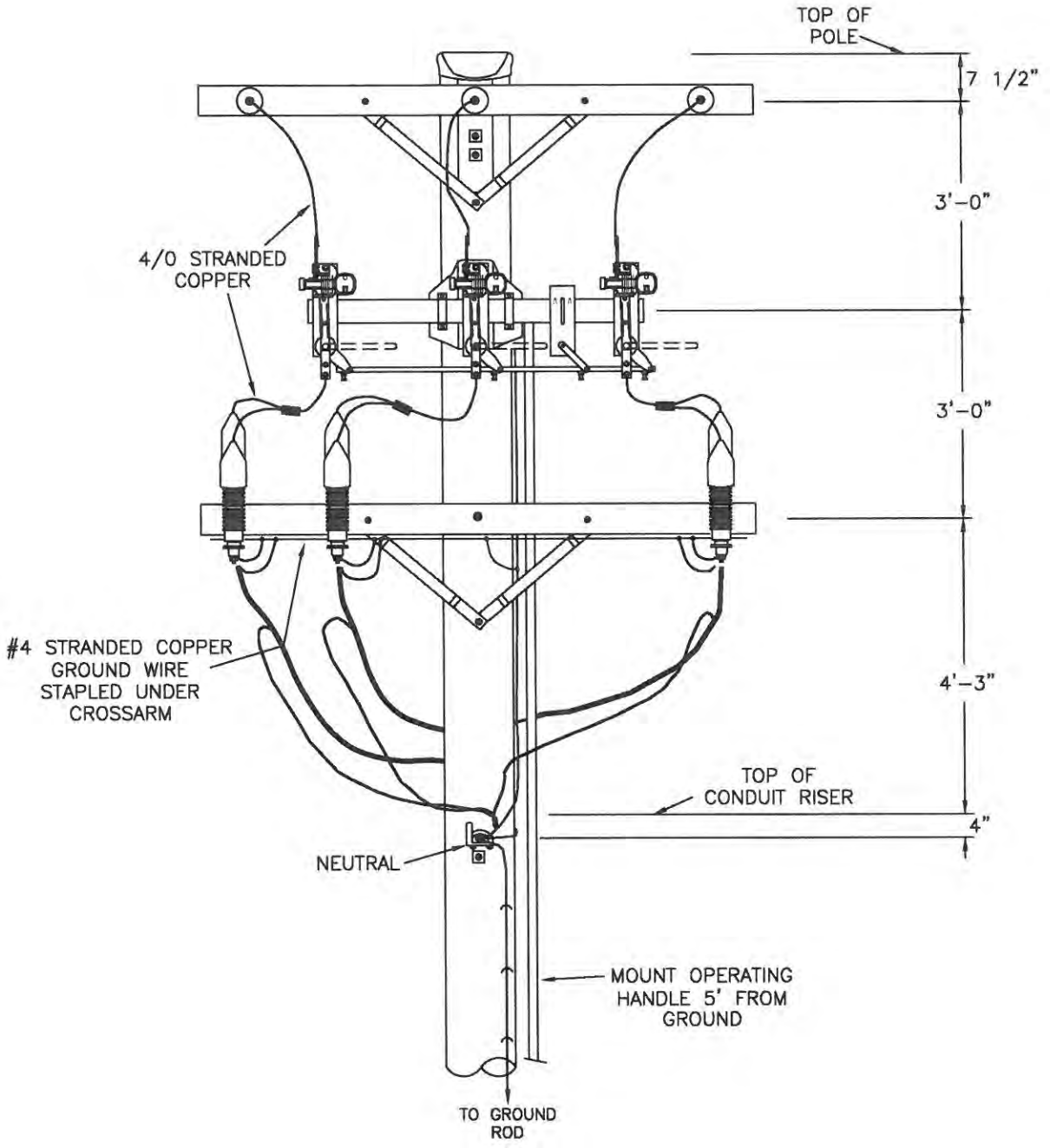
35KV – THREE PHASE 3 WIRE U.R.D.
750 KVA TRANSFORMER AND BELOW

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2106

BANGOR HYDRO ELECTRIC Co.



NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.
5. MINIMUM 45' CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	9-9-10	GAN

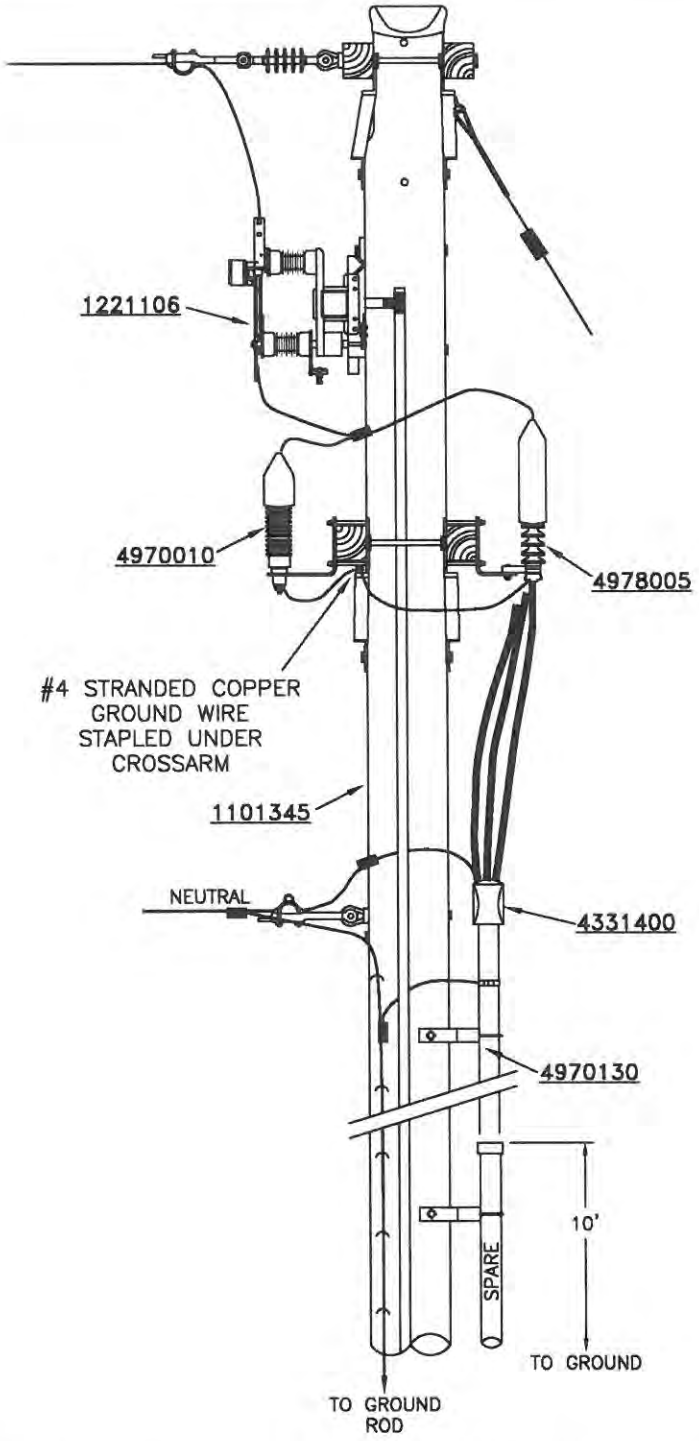
STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000 KVA TRANSFORMER AND ABOVE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2107.1



NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES FROM TERMINATION TO NEUTRAL.
4. SEE STANDARD #2217 & 2218 FOR CONDUIT DETAILS.
5. MINIMUM 45' CLASS 3 POLE REQUIRED.

NO.	REVISION	DATE	CK
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NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

15KV – THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000 KVA TRANSFORMER AND ABOVE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2107.2

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101345	1		**45/3 POLE**	
		1	Pole SPP 45' CLASS 3	1101345
		1	POLE TOPPER	1115306
4978005	3		**#2 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	#2 AL TERMINATOR KIT	4978006
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4970010	3		**10 KV URD ARRESTER**	
		1	URD ARESTER 10 KV	4970010
4331400	1		**4" CONDULATOR KIT**	
		1	4" CONDULATOR KIT	4331400
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1221106	1		**15 KV VERTICAL A/B SWITCH**	
		1	15 KV VERTICAL A/B SWITCH	1221106
FOR	**4/0 AL**	**15 KV**	**CONDUCTOR**	
4978006	3		**4/0 AL 15 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	D/E RECEPTACLE	4975500
		1	4/0 AL TERMINATOR KIT	4978010
		2	DBL COIL SPRING WASHER, 5/8"	1138602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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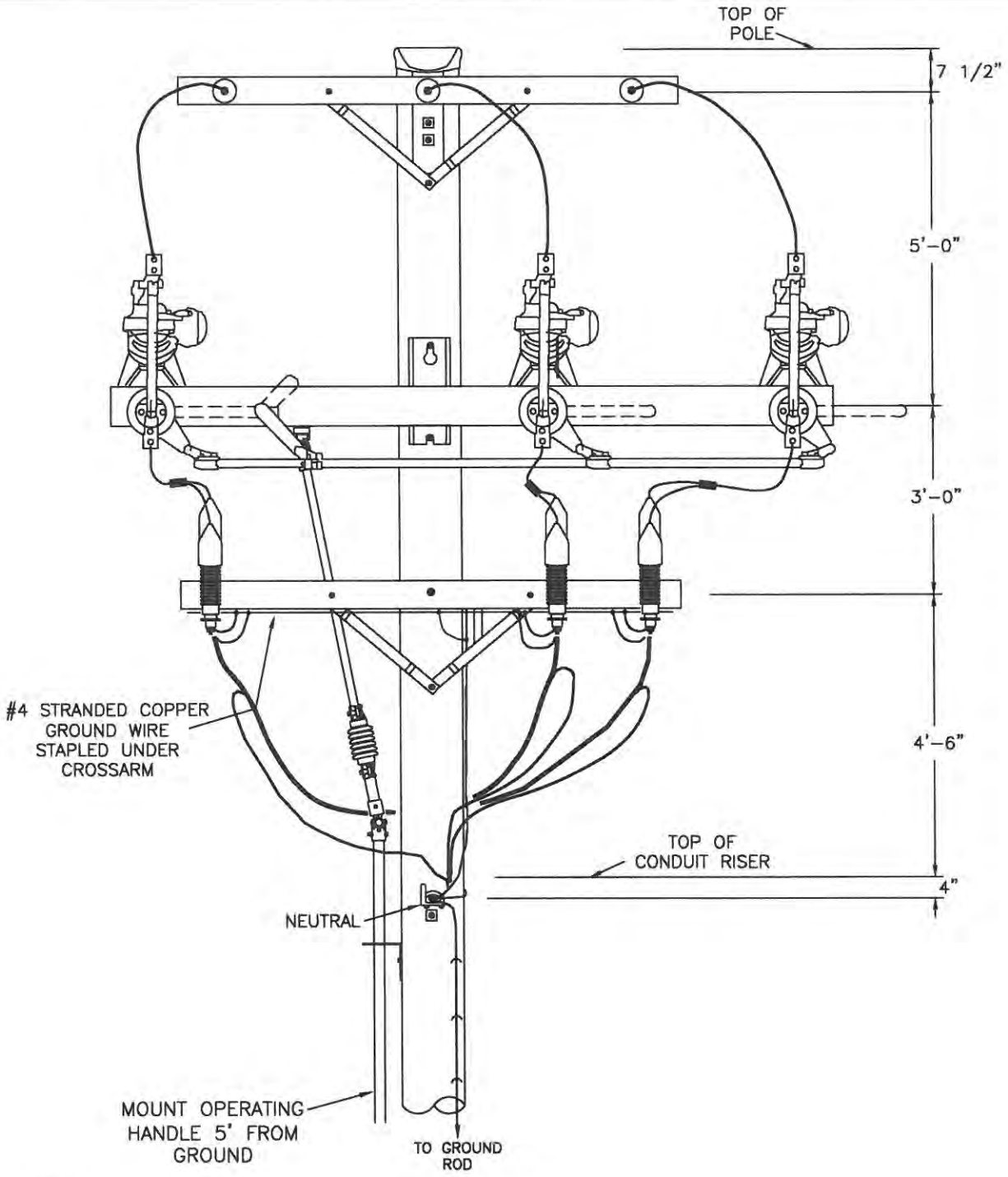
15KV – THREE PHASE 3 WIRE RISER
w/ AIRBREAK SWITCH
FOR 1000 KVA TRANSFORMER AND ABOVE

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING
2107

BANGOR HYDRO ELECTRIC Co.



NOTES:

1. ARRESTER LEAD MUST BE AS SHORT AS POSSIBLE TO BE EFFECTIVE.
2. USE #4 STR. COPPER GROUND FOR #2 & 1/0 ALUMINUM UNDERGROUND CABLES, FROM TERMINATION TO NEUTRAL.
3. USE 1/0 STR. COPPER GROUND FOR 1/0 COPPER & 4/0 ALUMINUM UNDERGROUND CABLES, FROM TERMINATION TO NEUTRAL.
4. SEE STANDARDS #2217 & 2218 FOR CONDUIT DETAIL.
5. MINIMUM 50' CLASS 3 POLE REQUIRED. INSTALL SWITCH ON PRECEDING POLE IF POSSIBLE.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-16-10	GAN

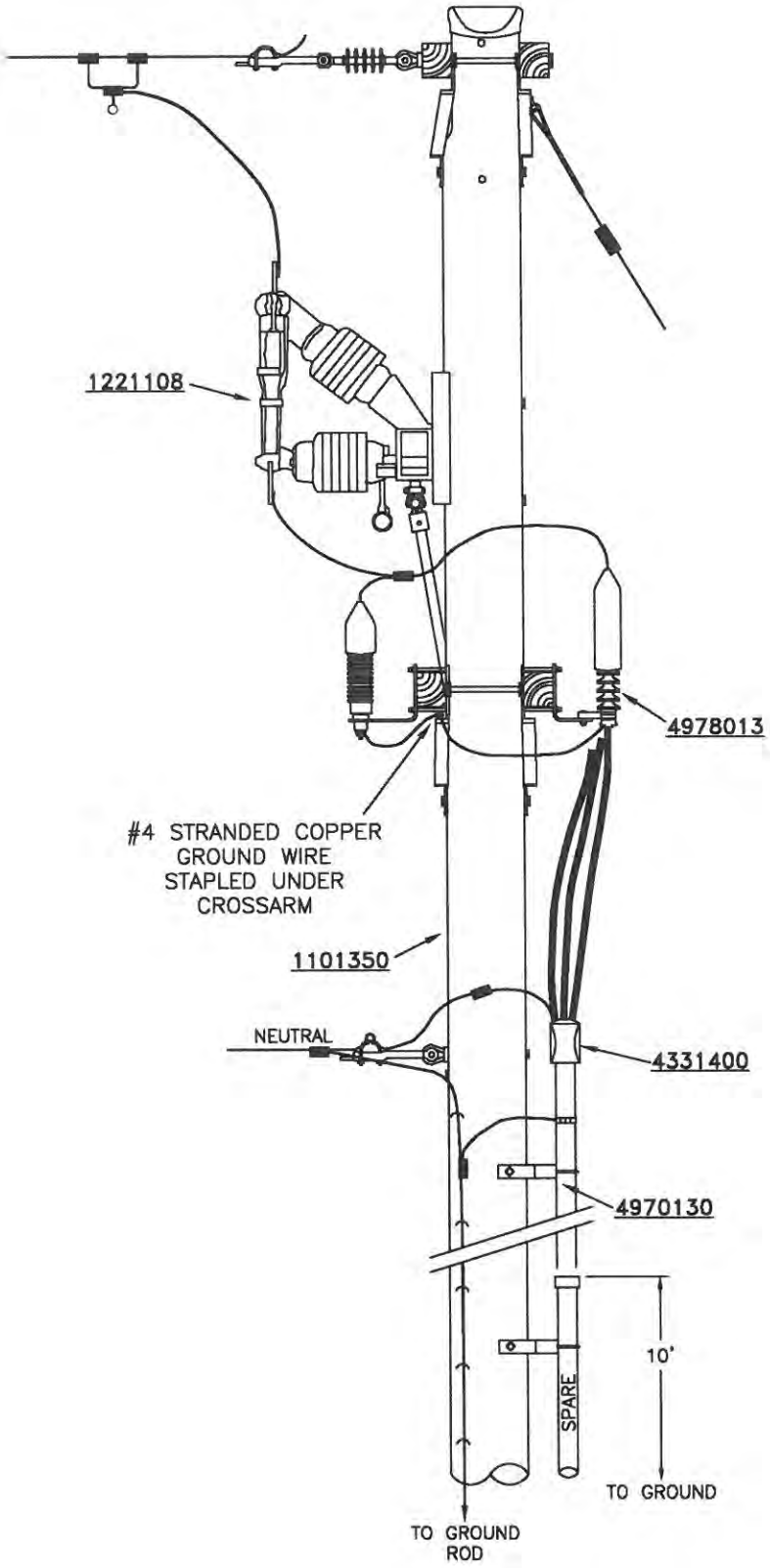
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000KVA TRANSFORMER ABOVE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2108.1



NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

35KV – THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH FOR 1000KVA TRANSFORMER ABOVE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2108.2

ASSEMBLY #	ASSEMBLY QTY.	MATERIAL QTY	DESCRIPTION	STOCK CODE
1101350	1		**50/3 POLE**	
		1	Pole SPP 40' CLASS 4	1101350
		1	POLE TOPPER	1115306
4978013	3		**1/0 AL 35 KV TERMINATOR KIT**	
		1	18" FG APPARATUS BRACKET	1110513
		1	GROUND CLAMP	4252200
		2	CABLE CLEANING COMPOUND	4292010
		5	TAP LUG	4531025
		1	GROUND LUG	4532041
		1	CABLE POSITIONING BRACKET	4970121
		1	35 KV D/E RECEPTACLE	4975550
		1	1/0 AL 35 KV TERMINATOR KIT	4978013
		1	27 KV OPEN CUTOUT	1209310
		1	27 KV URD ARRESTER	4970027
		2	DBL COIL SPRING WASHER, 5/8"	1138602
4331500	1		**5" CONDULATOR KIT**	
		1	5" CONDULATOR KIT	4331500
4970130	10		**24" STANDOFF BRACKET**	
		1	24" STANDOFF BRACKET	4970130
		1	EYE BOLT 14" X 5/8"	1107514
		1	2 1/4" X 3/16" SQUARE FLAT WASHER	1138100
1221108	1		**35 KV VERTICAL A/B SWITCH**	
			35 KV VERTICAL A/B SWITCH	1221108

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-16-10	GAN

35KV – THREE PHASE 3 WIRE RISER w/ AIRBREAK SWITCH

DISTRIBUTION CONSTRUCTION STANDARDS

MATERIALS & ASSEMBLIES

DRAWING 2108

BANGOR HYDRO ELECTRIC Co.

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2201	FIBERGLASS SINGLE PHASE PADMOUNT TRANSFORMER FOUNDATION 25 TO 50 KVA	9–8–2010
2202	PRECAST SINGLE PHASE PADMOUNT TRANSFORMER FOUNDATION 25 THRU 167 KVA	7–9–2020
2203	PRECAST THREE PHASE PADMOUNT TRANSFORMER FOUNDATION 75 THRU 750 KVA	8–30–2010
2204	PRECAST THREE PHASE PADMOUNT TRANSFORMER FOUNDATION 1000 KVA & LARGER	8–30–2010
2205	PRECAST SMALL PULL HOLE SINGLE PHASE INSTALLATIONS ONLY	8–30–2010
2206	PRECAST LARGE PULL HOLE	8–30–2010
2207	8'x8' PULL HOLE w/ 4'x4' MANHOLE	8–30–2010
2208	10'x12' MANHOLE FOUNDATION w/ EQUIPMENT BONDOUT	8–30–2010
2209	10'x12' MANHOLE FOUNDATION w/ PRECAST RISER (SUB–SURFACE VAULT)	8–30–2010
2210	8'x8' MANHOLE FOUNDATION w/ PRECAST RISER (SUB–SURFACE VAULT)	8–30–2010
2211	SECONDARY PEDESTAL, SINGLE PHASE ONLY 240/120V OR 208Y/120V	12–31–2009
2213	PADMOUNT TRANSFORMER CONNECTORS	12–23–2009
2214	CABLE SUPPORT FOR PADMOUNT TRANSFORMERS	12–23–2009
2215	U.R.D. PLANT IDENTIFICATION & CABLE LABELING SYSTEM	4–23–2015

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

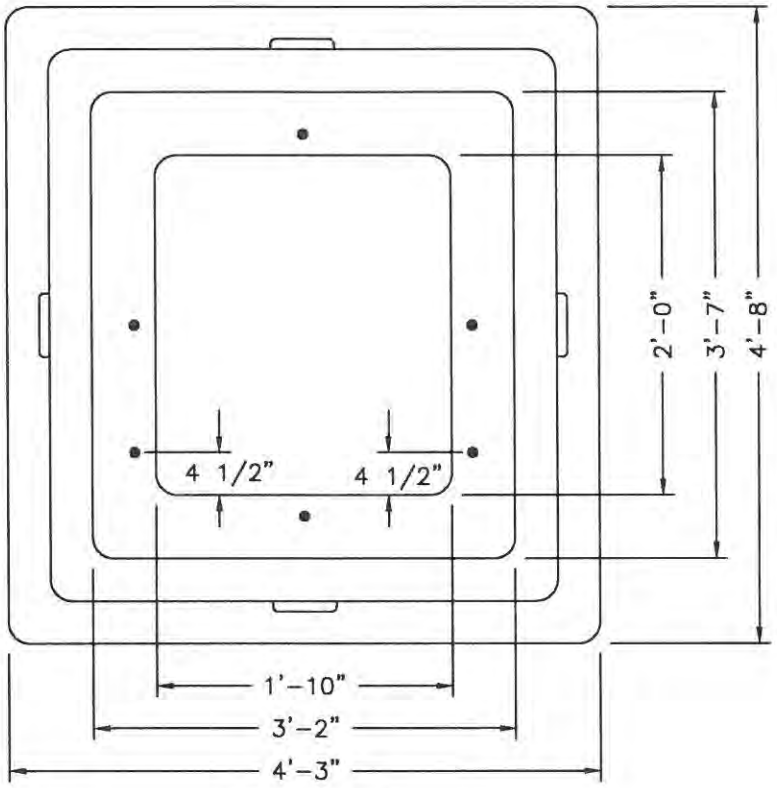
– INDEX –
UNDERGROUND INSTALLATIONS

LAST REVISED
03–19–2021

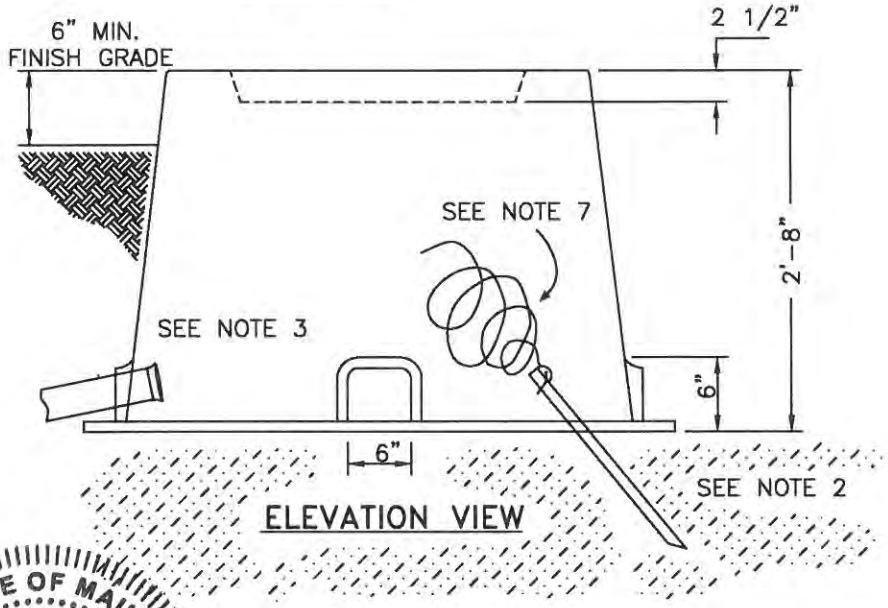
DRAWING
2200.1

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2216	STANDARD UNDERGROUND CABLE TERMINATIONS & SPLICES	8–30–2010
2217	TRENCH & CONDUIT DEPTH FOR PRIMARY UNDERGROUND INSTALLATIONS	8–30–2010
2218	MULTI–CONDUIT RISERS ON B.H.E. Co. OWNED POLES	8–30–2010
2219	TERMINAL POLE EXCEPT PUBLIC WAY, 600V OR LESS SERVICE, SINGLE OR THREE PHASE	8–30–2010
2220	TERMINAL POLE IN PUBLIC WAY, 600V OR LESS SERVICE, SINGLE OR THREE PHASE	7–6–2020
2221	TERMINAL POLE EXCEPT PUBLIC WAY, 600V OR LESS SERVICE, SINGLE OR THREE PHASE "MC" CABLE	8–30–2010
2222	TERMINAL POLE IN PUBLIC WAY, 600V OR LESS SERVICE, SINGLE OR THREE PHASE "MC" CABLE	7–9–2020
2223	TERMINAL POLE EXCEPT PUBLIC WAY SINGLE PHASE 15KV & 35KV	8–30–2010
2224	TERMINAL POLE IN PUBLIC WAY SINGLE PHASE 15KV & 35KV	7–9–2020
2225	TERMINAL POLE EXCEPT PUBLIC WAY THREE PHASE 15KV & 35KV	8–30–2010
2226	TERMINAL POLE IN PUBLIC WAY THREE PHASE 15KV & 35KV	9–3–2020
2227.1	PADMOUNT TRANSFORMERS, LOCATIONS NEAR STRUCTURES & ROADWAYS	8–30–2010
2227.2	TRANSFORMER & PRIMARY EQUIPMENT CLEARANCES	8–30–2010

FOR PRIVATELY OWNED FACILITIES ONLY



PLAN VIEW



ELEVATION VIEW

NOTES

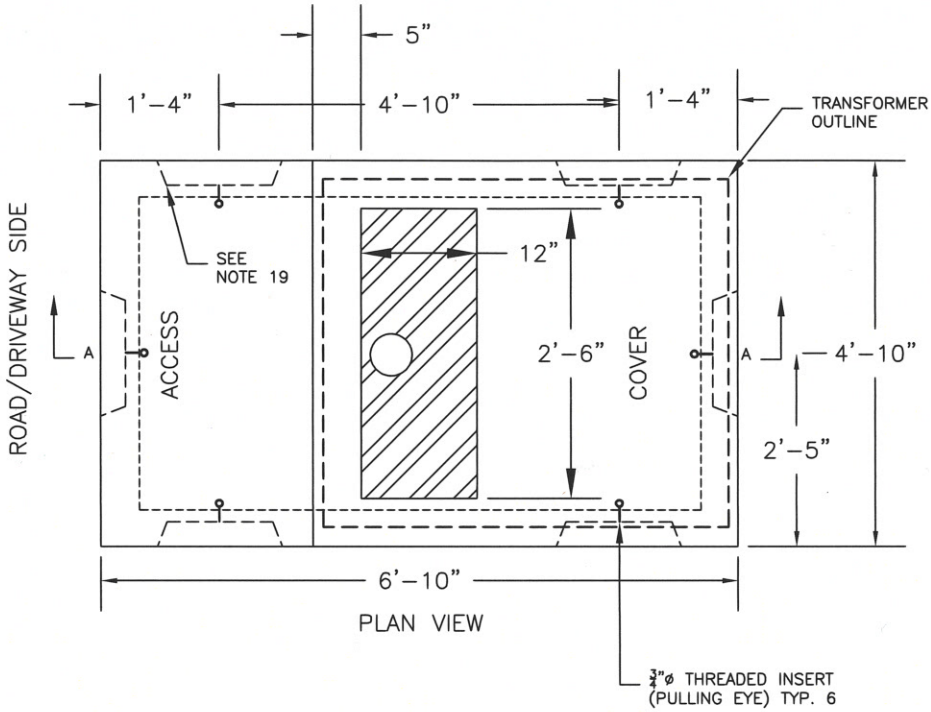
1. THE FIBERGLASS 43"x38"x32" TRANSFORMER PAD IS SUITABLE FOR BOTH 7200/12470V AND 20/34.5KV SINGLE PHASE INSTALLATIONS.
2. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
3. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
4. TRANSFORMER MUST BE ACCESSIBLE BY TRUCK AND LOCATED ACCORDING TO STANDARD #2227.
5. PROVIDE FINISH GRADING AROUND FOUNDATION.
6. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
7. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ AN 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
8. PROVIDE CONDUIT REQUIRED FOR METERING AS REQUIRED BY B.H.E. Co. METER DEPT.
9. NO METERING PEDESTALS MAY BE ATTACHED TO TRANSFORMER FOUNDATIONS.
10. B.H.E. Co. WILL NEVER ASSUME OWNERSHIP OF FACILITIES BUILT TO THIS STANDARD.

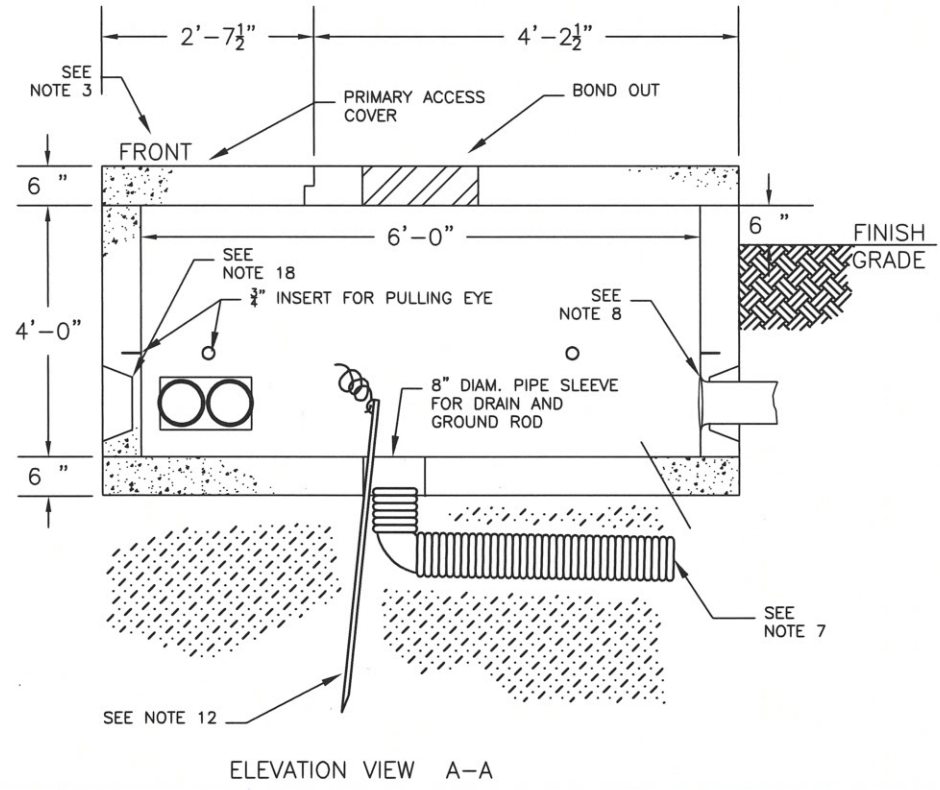
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	9-8-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	FIBERGLASS SINGLE PHASE PADMOUNT TRANSFORMER FOUNDATION 25KVA TO 50KVA FOR PRIVATE FACILITIES ONLY	
BANGOR HYDRO ELECTRIC Co.		DRAWING 2201





ELEVATION VIEW A-A

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY VERSANT POWER "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED.
3. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
4. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
5. REINFORCEMENT SHALL BE 4"x12" REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE & #9 HORIZONTAL WIRE.
6. 3/4" ANCHORS FOR 3/4" EYE BOLTS(4) AT 90° ANGLES FOR CABLE PULLING.
7. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
8. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION AND BE GROUTED IN.
9. TRANSFORMER MUST BE ACCESSIBLE BY TRUCK AND LOCATED ACCORDING TO STANDARD #2227.
10. PROVIDE PULL ROPE FOR VERSANT POWER OWNED INSTALLATIONS.
11. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
12. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ A 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
13. 4" MINIMUM CONDUIT SIZE FOR SINGLE OR THREE PHASE FACILITY.
14. PROVIDE 1-½" RMC OR IMC CONDUIT REQUIRED FOR METERING.
15. NO METERING PEDESTALS MAY BE ATTACHED TO TRANSFORMER FOUNDATION.
16. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
17. VERSANT POWER RESERVES THE RIGHT TO REQUIRE A LARGER FOUNDATION FOR THIS RANGE OF TRANSFORMER SIZES.
18. BOND-OUTS UNDER PRIMARY ACCESS COVER FOR PRIMARY CONDUCTORS ONLY. SECONDARY CABLES TO BE INSTALLED IN REAR 2/3.
19. CONTRACTOR TO INSTALL METERING PER DWG'S 2714,2715, 2718, CONDUIT TO BE NO LONGER THAN 40'

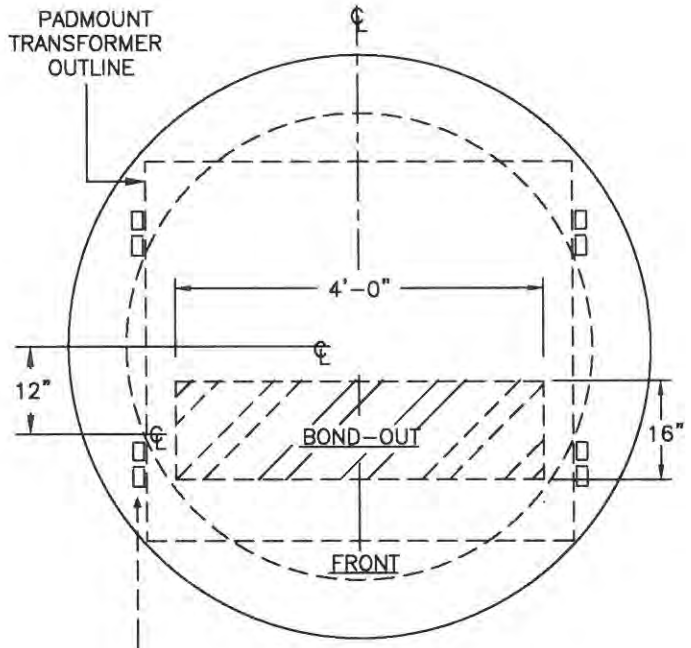
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
2/11/20

DISTRIBUTION CONSTRUCTION STANDARDS

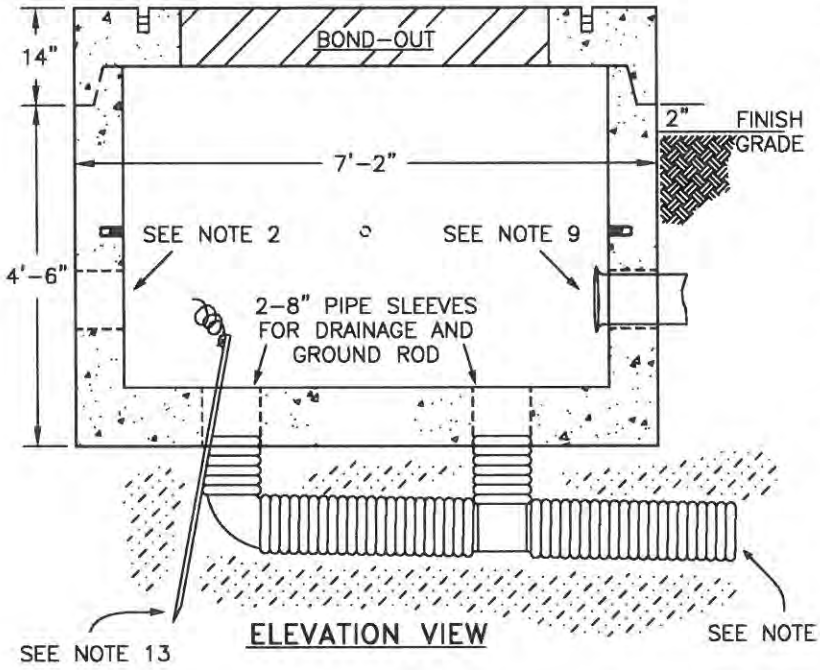
VERSANT POWER

PRECAST SINGLE PHASE PADMOUNT TRANSFORMER FOUNDATION 25 KVA THROUGH 167 KVA

LAST REVISED	DRAWING
07-09-2020	2202



PLAN VIEW



ELEVATION VIEW

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY B.H.E. Co.
3. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED.
4. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
5. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
6. REINFORCEMENT SHALL BE 4"x12" REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE & #9 HORIZONTAL WIRE.
7. 3/4" ANCHORS FOR 3/4" EYE BOLTS(4) AT 90° ANGLES FOR CABLE PULLING.
8. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
9. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
10. TRANSFORMER MUST BE ACCESSIBLE BY TRUCK AND LOCATED ACCORDING TO STANDARD #2227.
11. PROVIDE PULL ROPE FOR B.H.E Co. OWNED INSTALLATIONS.
12. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
13. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ A 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
14. 4" MINIMUM CONDUIT SIZE FOR THREE PHASE FACILITY.
15. PROVIDE CONDUIT REQUIRED FOR METERING AS REQUIRED BY B.H.E. Co. METER DEPT.
16. NO METERING PEDESTALS MAY BE ATTACHED TO TRANSFORMER FOUNDATION.
17. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
18. B.H.E. Co. RESERVES THE RIGHT TO REQUIRE A LARGER FOUNDATION FOR THIS RANGE OF TRANSFORMER SIZES.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
11	2009 REVISIONS & REFORMAT	8-30-10	GAN

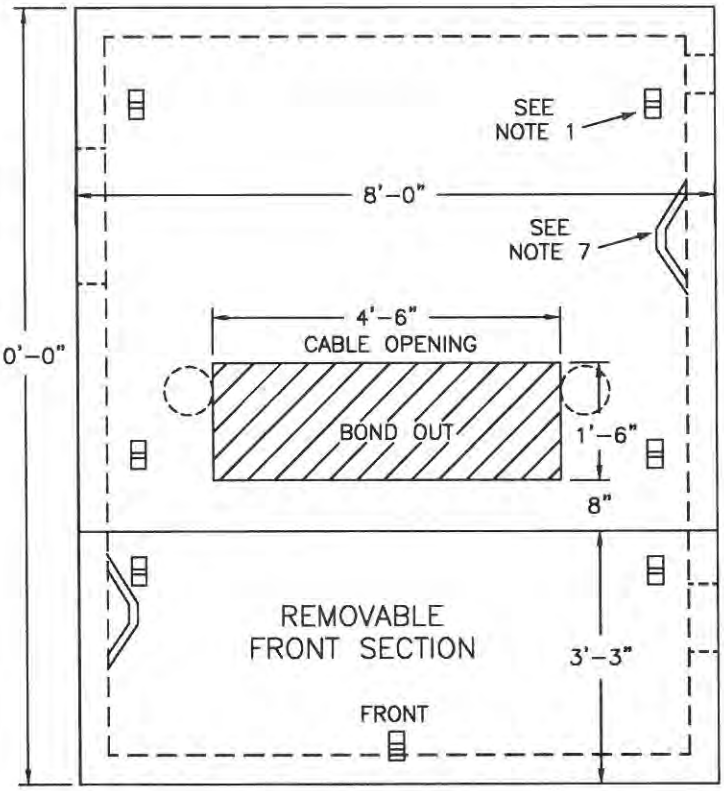
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

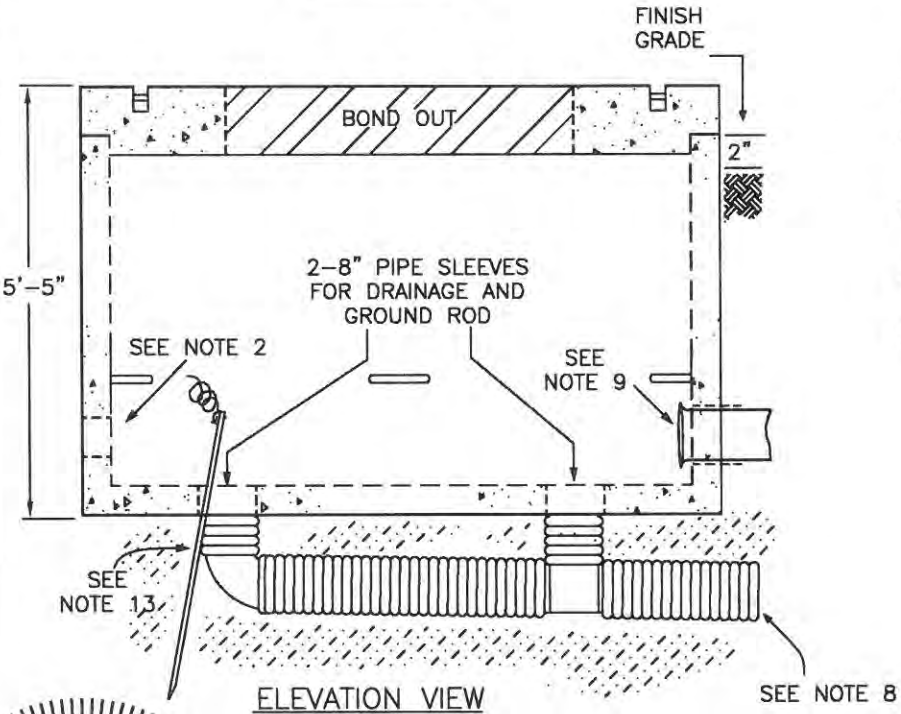
PRECAST THREE PHASE PADMOUNT TRANSFORMER FOUNDATION 75KVA THRU 750KVA

BANGOR HYDRO ELECTRIC Co.

DRAWING 2203



PLAN VIEW



ELEVATION VIEW

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY B.H.E. Co.
3. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED.
4. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
5. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
6. REINFORCEMENT SHALL BE 6"x6" #10 REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE.
7. PULLING EYES MADE w/ REINFORCING STEEL.
8. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
9. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
10. TRANSFORMER MUST BE ACCESSIBLE BY TRUCK AND LOCATED ACCORDING TO STANDARD #2227.
11. PROVIDE PULL ROPE FOR B.H.E Co. OWNED INSTALLATIONS.
12. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
13. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ A 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
14. 4" MINIMUM CONDUIT SIZE FOR THREE PHASE FACILITY.
15. PROVIDE CONDUIT REQUIRED FOR METERING AS REQUIRED BY B.H.E. Co. METER DEPT.
16. NO METERING PEDESTAL MAY BE ATTACHED TO TRANSFORMER FOUNDATION.
17. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
18. WALL THICKNESS 4". BASE THICKNESS 5".

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
	2009 REVISIONS & REFORMAT	8-30-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

PRECAST THREE PHASE PADMOUNT TRANSFORMER FOUNDATION 1000KVA AND LARGER

BANGOR HYDRO ELECTRIC Co.

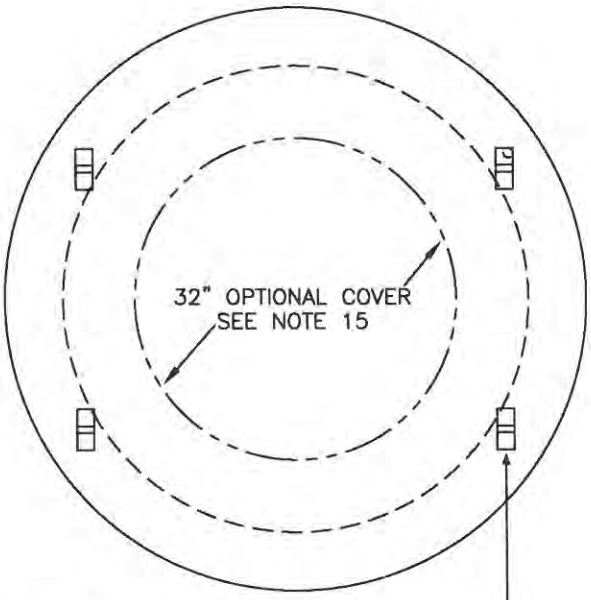
DRAWING
2204

NO.	REVISION	DATE	CK

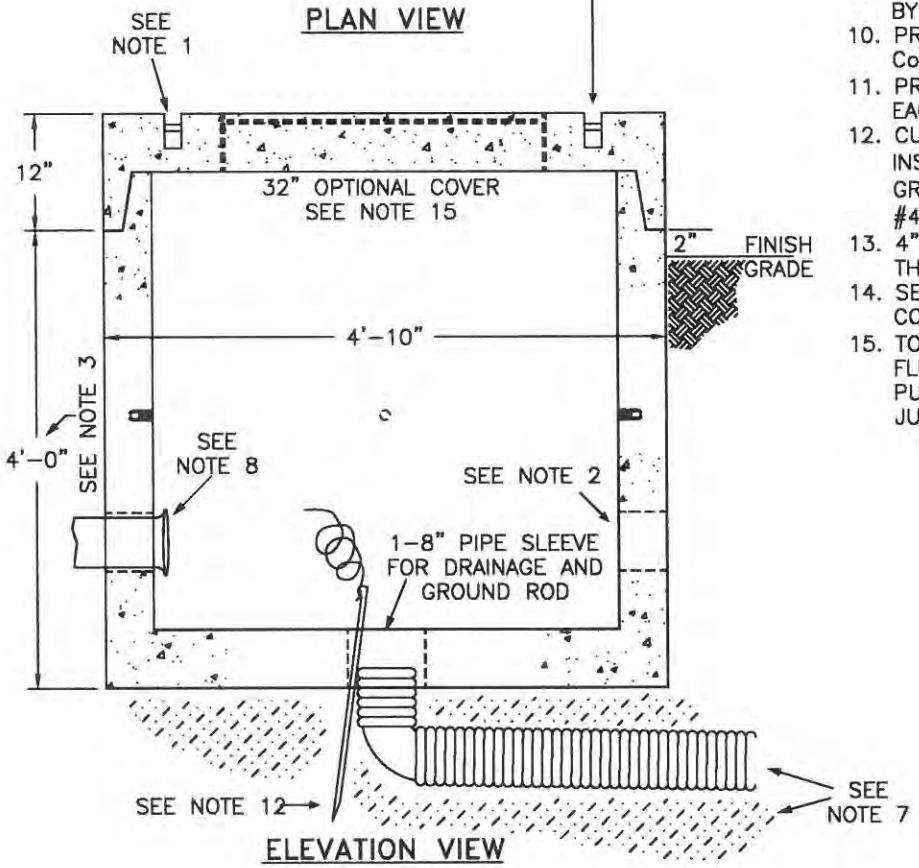
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY B.H.E. Co.
3. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
4. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
5. REINFORCEMENT SHALL BE 4"x12" REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE & #9 HORIZONTAL WIRE.
6. 3/4" ANCHORS FOR 3/4" EYE BOLTS(4) AT 90° ANGLES FOR CABLE PULLING.
7. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
8. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
9. PULL HOLE MUST BE ACCESSIBLE BY TRUCK.
10. PROVIDE PULL ROPE FOR B.H.E Co. OWNED INSTALLATIONS.
11. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
12. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ AN 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
13. 4" MINIMUM CONDUIT SIZE FOR THREE PHASE FACILITY.
14. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
15. TOP w/ 32" ROUND COVER, FLUSH WITH TOP, REQUIRED IF PULLHOLE IS UTILIZED AS A JUNCTION BOX.



PLAN VIEW



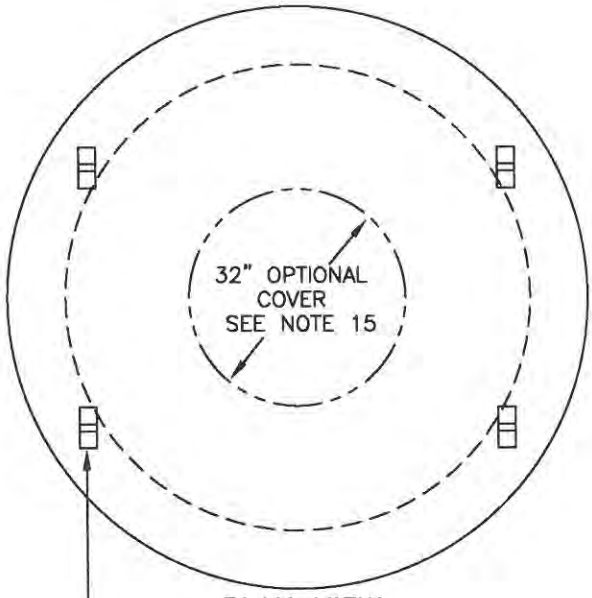
ELEVATION VIEW

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

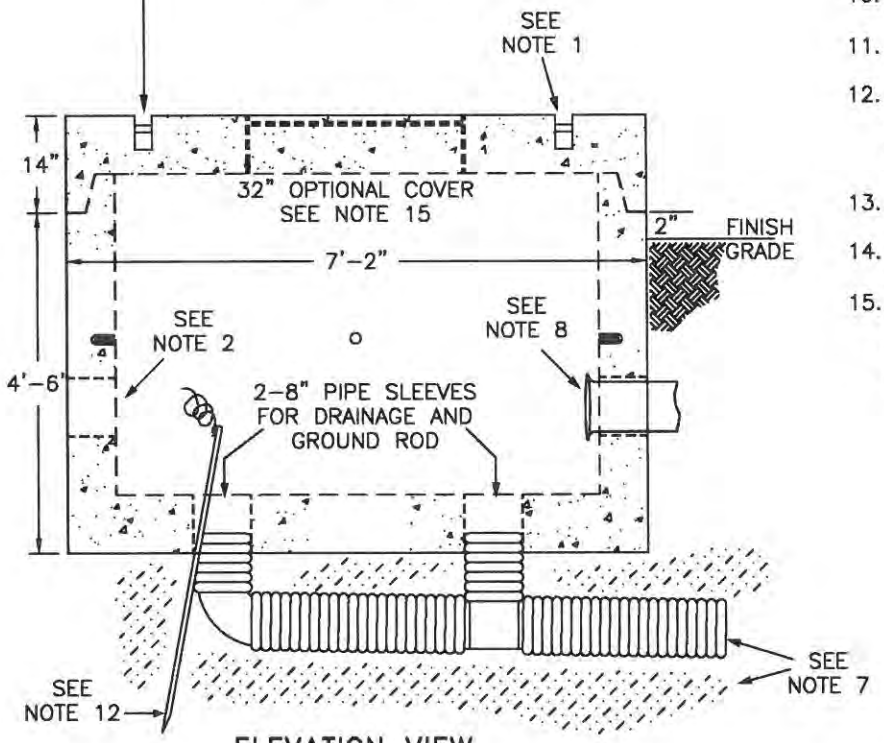
DISTRIBUTION CONSTRUCTION STANDARDS	PRECAST SMALL PULL HOLE SINGLE PHASE INSTALLATIONS ONLY
BANGOR HYDRO ELECTRIC Co.	DRAWING 2205

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN



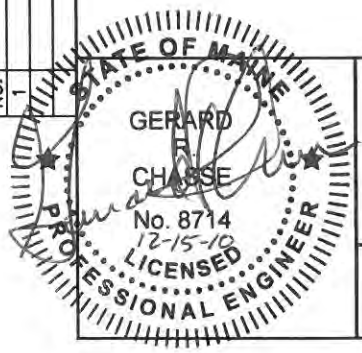
PLAN VIEW



ELEVATION VIEW

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY B.H.E. Co.
3. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
4. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
5. REINFORCEMENT SHALL BE 4"x12" REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE & #9 HORIZONTAL WIRE.
6. 3/4" ANCHORS FOR 3/4" EYE BOLTS(4) AT 90° ANGLES FOR CABLE PULLING.
7. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
8. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
9. PULL HOLE MUST BE ACCESSIBLE BY TRUCK.
10. PROVIDE PULL ROPE FOR B.H.E Co. OWNED INSTALLATIONS.
11. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
12. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ AN 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
13. 4" MINIMUM CONDUIT SIZE FOR THREE PHASE FACILITY.
14. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
15. TOP w/ 32" ROUND COVER, FLUSH WITH TOP, REQUIRED IF PULLHOLE IS UTILIZED AS A JUNCTION BOX.

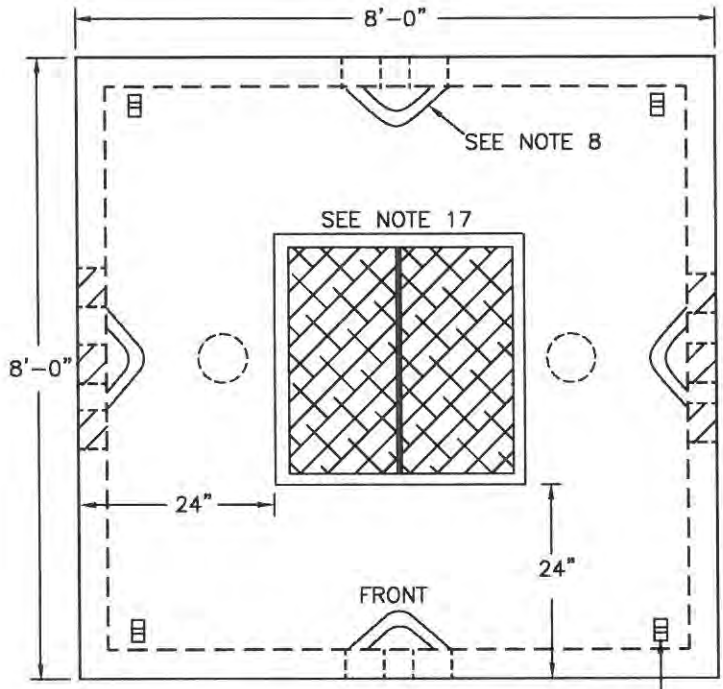


DISTRIBUTION CONSTRUCTION STANDARDS

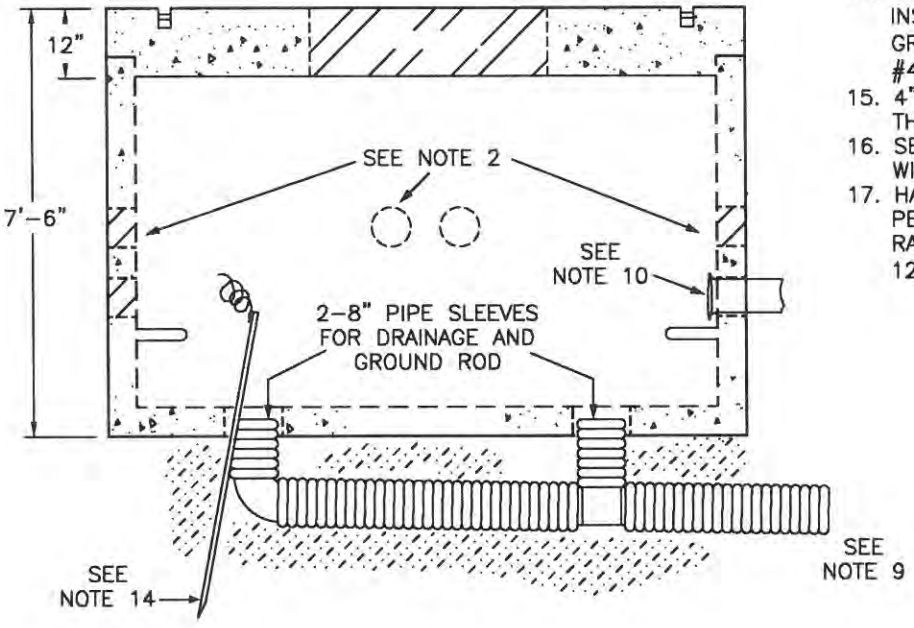
PRECAST LARGE PULL HOLE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2206



PLAN VIEW



ELEVATION VIEW

NOTES

1. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
2. CABLE BONDOUTS AS REQUIRED BY B.H.E. Co.
3. "FRONT" DENOTES THE SIDE ON WHICH THE ACCESS DOORS ARE LOCATED.
4. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
5. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
6. REINFORCEMENT SHALL BE 6"x6" #10 REINFORCEMENT WIRE MESH w/ #4 VERTICAL WIRE.
7. WALL THICKNESS 4". FLOOR THICKNESS 5"
8. PULLING EYES(4) AT 90° ANGLES MADE FROM REINFORCING STEEL.
9. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
10. CONDUITS MUST HAVE END BELLS USED AT TERMINATION IN FOUNDATION.
11. PULL HOLE MUST BE ACCESSIBLE BY TRUCK.
12. PROVIDE PULL ROPE FOR B.H.E Co. OWNED INSTALLATIONS.
13. PROVIDE 15' MINIMUM SLACK FOR EACH CABLE IN WELL.
14. CUSTOMER SHALL FURNISH AND INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ AN 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
15. 4" MINIMUM CONDUIT SIZE FOR THREE PHASE FACILITY.
16. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.
17. HATCH SHALL BE EITHER H20 OR PEDESTRIAN RATED. IF PEDESTRIAN RATED,MANHOLE TOP MUST SIT 12" ABOVE GROUND.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

STATE OF MAINE
GERARD E. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

8'X8' PULL HOLE WITH 4'x4' MANHOLE

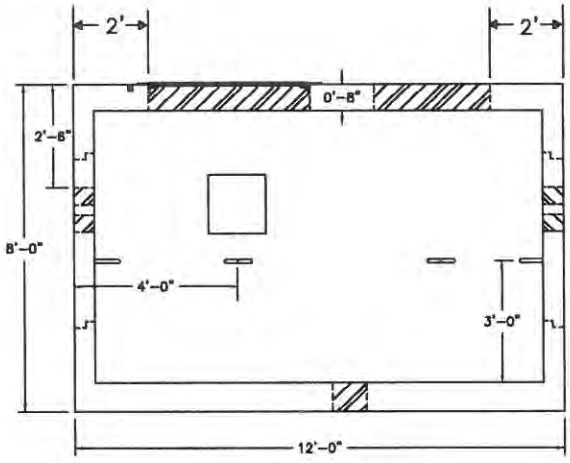
BANGOR HYDRO ELECTRIC Co.

DRAWING
2207

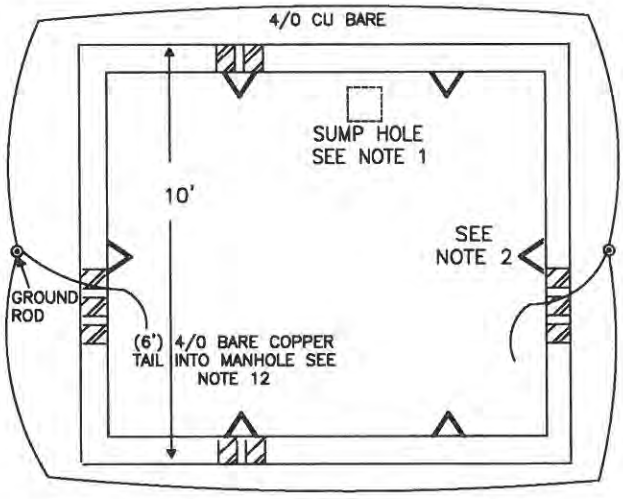
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	B-30-10	GAN

NOTES

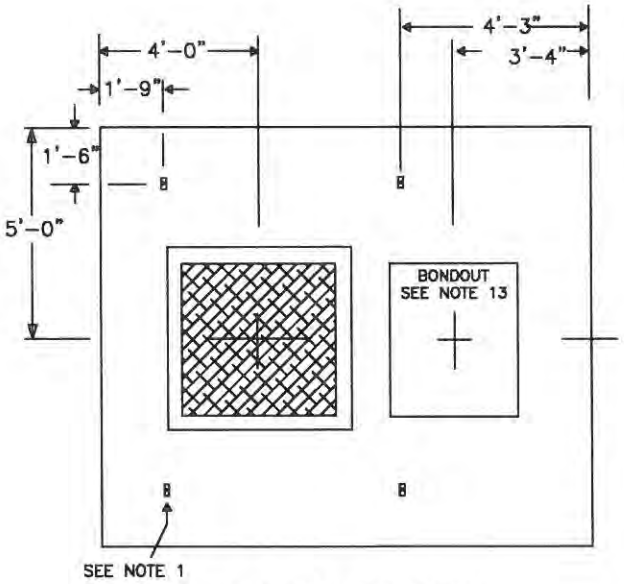
1. SUMP HOLE APPROXIMATE LOCATION. DRAINAGE FROM FOUNDATION REQUIRED.
2. PULLING EYE LOCATIONS, TYPICAL.
3. CONDUIT LOCATIONS TO BE SPECIFIED BY T&D ENGINEERING.
4. NOT FOR SIDEWALK OR ROADWAY INSTALLATIONS.
5. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
6. REINFORCEMENT MUST MEET ROADWAY REQUIREMENTS.
7. 7" MINIMUM WALL THICKNESS.
8. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
9. BELLENDS FLUSH w/ SIDEWALL AND GROUTED IN.
10. FINISH GRADE TO BE 8" FROM TOP OF COVER. BACKFILL TO FOUNDATION MUST BE COMPLETED BEFORE CABLE INSTALLATION.
11. 1/4" PULL ROPE MUST BE PROVIDED BY CUSTOMER BEFORE CABLE INSTALLATION.
12. 4/0 BARE COPPER GROUND RING w/ TWO 8' COPPER CLAD GROUND RODS REQUIRED. INSTALL 6' GROUNDING TAIL INSIDE MANHOLE.
13. EQUIPMENT BONDOUT & HATCH TO BE SPECIFIED BY T&D ENGINEERING.



SIDE VIEW



TOP VIEW



PLAN VIEW FOR COVER

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

10'x12' MANHOLE FOUNDATION WITH EQUIPMENT BONDOUT

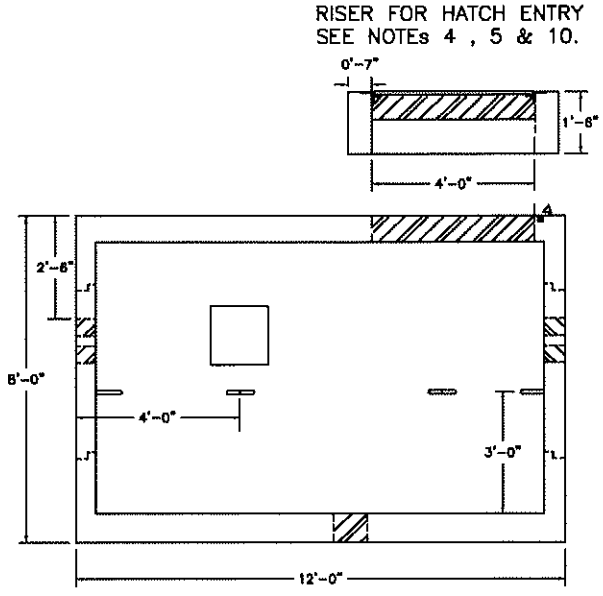
BANGOR HYDRO ELECTRIC Co.

DRAWING
2208

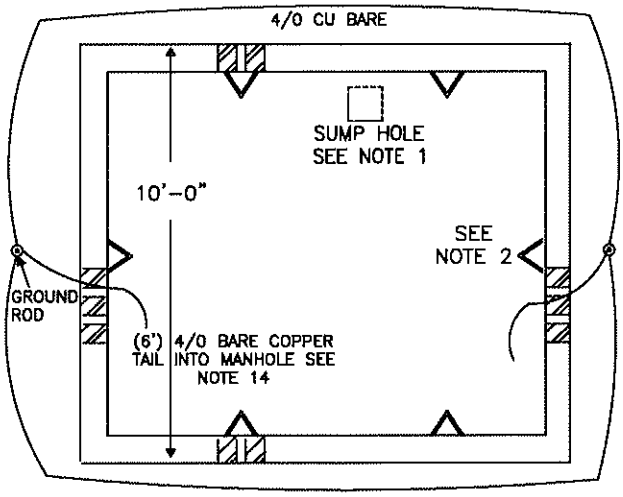
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

NOTES

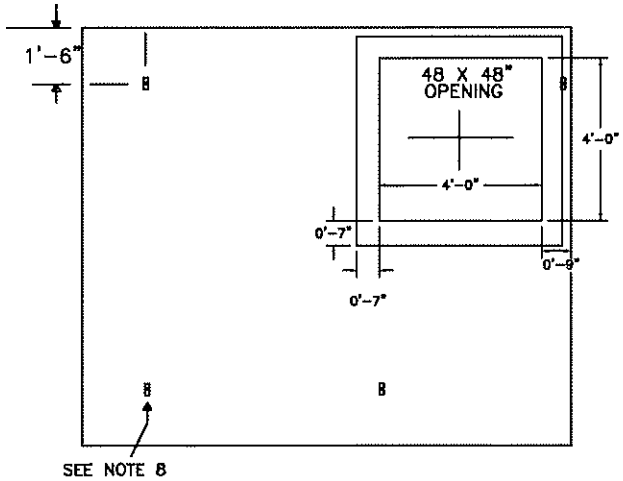
1. SUMP HOLE APPROXIMATE LOCATION. DRAINAGE FROM FOUNDATION REQUIRED.
2. PULLING EYE LOCATIONS, TYPICAL.
3. CONDUIT LOCATIONS TO BE SPECIFIED BY T&D ENGINEERING.
4. FINISH GRADE TO BE 18" ABOVE TOP OF STRUCTURE COVER.
5. 4'x4' DOUBLE DOOR: HINGED HATCHWAY, ALUMINUM w/ STAINLESS STEEL HARDWARE WITH LOCKING SYSTEM. H20 ROAD RATED.
6. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
7. REINFORCEMENT MUST MEET ROADWAY REQUIREMENTS.
8. 7" MINIMUM WALL THICKNESS OR ON APPROVAL OF B.H.E. Co.
9. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
10. PRECAST RISER TO HATCH HEIGHT TO BE FIELD SET OR MINIMUM 18" FOR SIDEWALK APPLICATIONS.
11. ANY ABNORMAL LOADING WILL BE REVIEWED AND APPROVED BY A CIVIL ENGINEER.
12. BONDOUTS & RISER LOCATIONS TO BE APPROVED BY B.H.E. Co.
13. BELLENDS FLUSH w/ SIDEWALL AND GROUTED IN.
14. 4/0 BARE COPPER GROND RING w/ TWO 8' COPPER CLAD GROUND RODS REQUIRED. INSTALL 6' GROUNDING TAIL INSIDE MANHOLE.



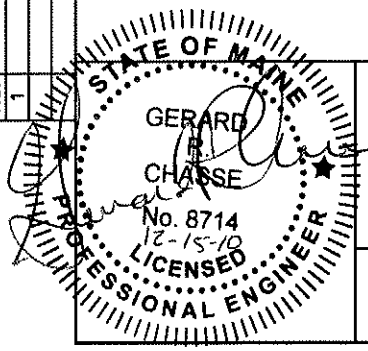
SIDE VIEW



TOP VIEW



PLAN VIEW FOR COVER



DISTRIBUTION CONSTRUCTION STANDARDS

10'X12' MANHOLE FOUNDATION WITH PRECAST RISER (SUB-SUFACE VAULT APPLICATIONS)

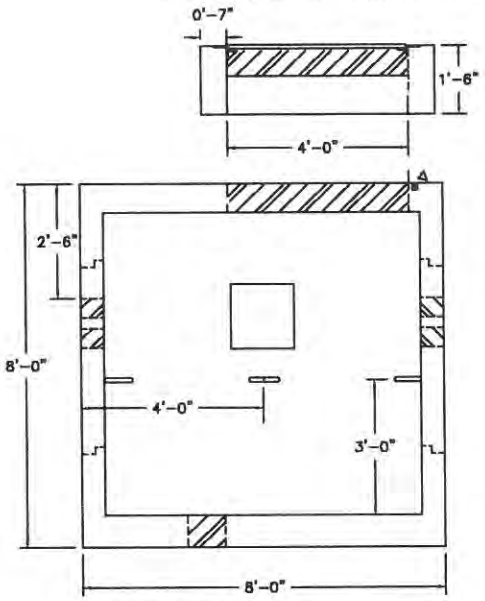
BANGOR HYDRO ELECTRIC Co.

DRAWING
2209

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

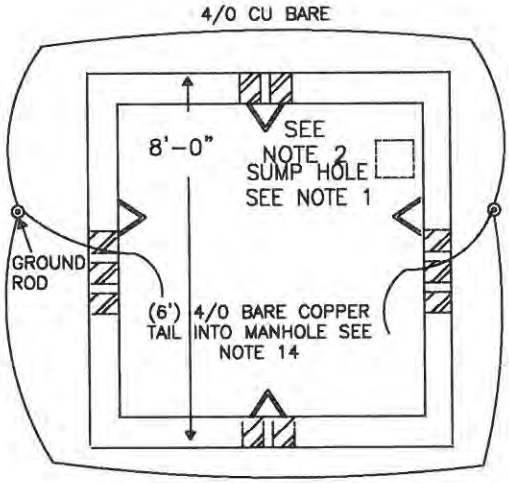
RISER FOR HATCH ENTRY
SEE NOTEs 4 , 5 & 10.



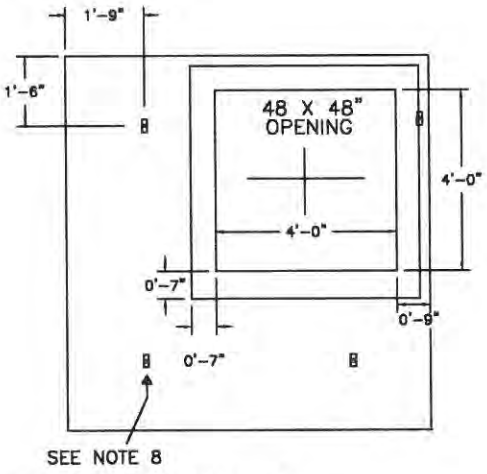
SIDE VIEW

NOTES

1. SUMP HOLE APPROXIMATE LOCATION. DRAINAGE FROM FOUNDATION REQUIRED.
2. PULLING EYE LOCATIONS, TYPICAL.
3. CONDUIT LOCATIONS TO BE SPECIFIED BY T&D ENGINEERING.
4. FINISH GRADE TO BE 18" ABOVE TOP OF STRUCTURE COVER.
5. 4'x4' DOUBLE DOOR: HINGED HATCHWAY, ALUMINUM w/ STAINLESS STEEL HARDWARE WITH LOCKING SYSTEM. H20 ROAD RATED.
6. CONCRETE TO BE 4000 P.S.I. FOR 28 DAY TEST w/ MAXIMUM 3/4" BROKEN STONE.
7. REINFORCEMENT MUST MEET ROADWAY REQUIREMENTS.
8. 7" MINIMUM WALL THICKNESS OR ON APPROVAL OF B.H.E. Co.
9. RECESSED LIFTING SLOTS(4) w/ STEEL BARS FOR LIFTING COVER.
10. PRECAST RISER TO HATCH HEIGHT TO BE FIELD SET OR MINIMUM 18" FOR SIDEWALK APPLICATIONS.
11. ANY ABNORMAL LOADING WILL BE REVIEWED AND APPROVED BY A CIVIL ENGINEER.
12. BONDOUTS & RISER LOCATIONS TO BE APPROVED BY B.H.E. Co.
13. BELLENDS FLUSH w/ SIDEWALL AND GROUTED IN.
14. 4/0 BARE COPPER GROND RING w/ TWO 8' COPPER CLAD GROUND RODS REQUIRED. INSTALL 6' GROUNDING TAIL INSIDE MANHOLE.



TOP VIEW



PLAN VIEW FOR COVER

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

8'x8' MANHOLE FOUNDATION WITH PRECAST RISER (SUB-SUFACE VAULT APPLICATIONS)

BANGOR HYDRO ELECTRIC Co.

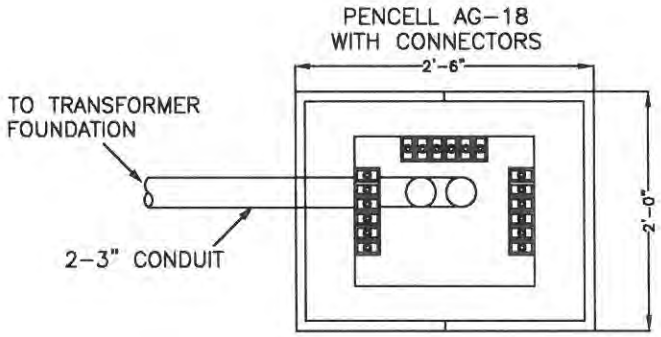
DRAWING
2210

NO.	REVISION	DATE	CK

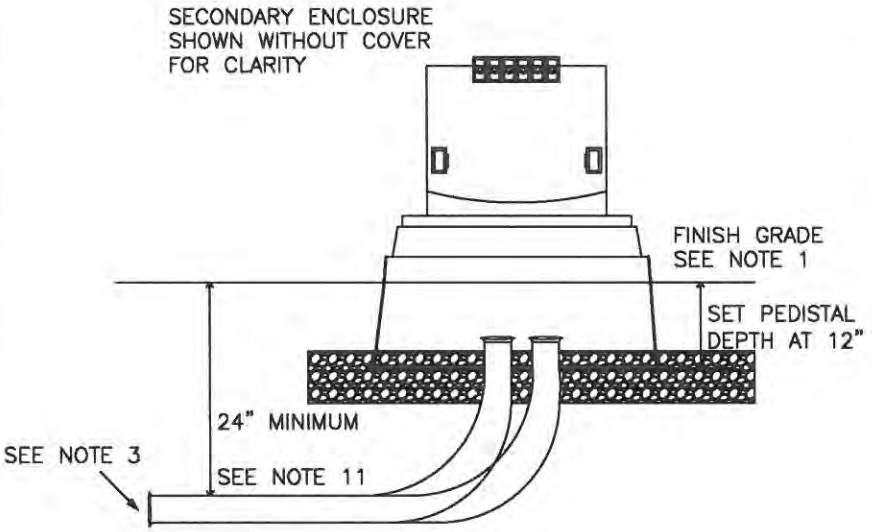
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-31-09	GAN

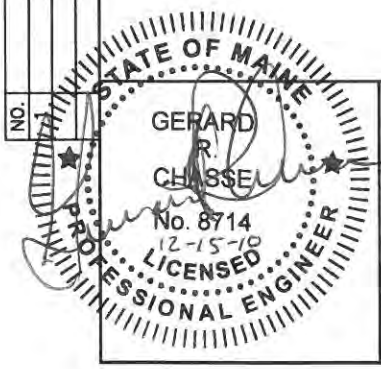
NOTES

1. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
2. LOCATION MUST BE ACCESSIBLE BY TRUCK AND PROTECTED FROM TRAFFIC DAMAGE.
3. PROVIDE PULL ROPE FOR EACH UNUSED CONDUIT.
4. SECONDARY ENCLOSURE MUST BE LOCATED AT LEAST 6' FROM ALL BUILDING WALLS & 10' FROM ALL BUILDING OPENINGS.
5. SECONDARY ENCLOSURE MUST BE PROTECTED FROM PHYSICAL DAMAGE.
6. NO METERING PEDESTAL MAY BE ATTACHED TO SECONDARY PEDESTAL.
7. PROVIDE 3' MINIMUM SLACK FOR EACH CABLE IN WELL
8. ENCLOSURES FOR SINGLE PHASE 120/240V OR 120/208Y ONLY.
9. SECONDARY CABLE TO BE PROVIDED BY ELECTRICIAN.
10. 25KVA TRANSFORMER USE: ONE 350MCM COPPER, 600V XHHW FEEDER WIRE. (FIVE SERVICES MAXIMUM).
11. 50KVA TRANSFORMER USE: ONE 500MCM COPPER, 600V XHHW FEEDER WIRE. (FIVE SERVICES MAXIMUM).
12. 100KVA TRANSFORMER USE: TWO 350MCM COPPER 600V XHHW FEEDER WIRES. (FOUR SERVICES MAXIMUM).
13. CONNECTIONS MUST BE TORQUED TO MANUFACTURER'S REQUIREMENTS. B.H.E. Co. TO VERIFY TORQUE SETTINGS.
14. SECONDARY CONNECTIONS AT TRANSFORMER TO BE MADE BY B.H.E. Co. SECONDARY LUGS TO BE PROVIDED BY ELECTRICIAN.
15. USE AG-20 PEDESTAL FOR NON-STANDARD APPLICATIONS.



PLAN VIEW





DISTRIBUTION CONSTRUCTION STANDARDS

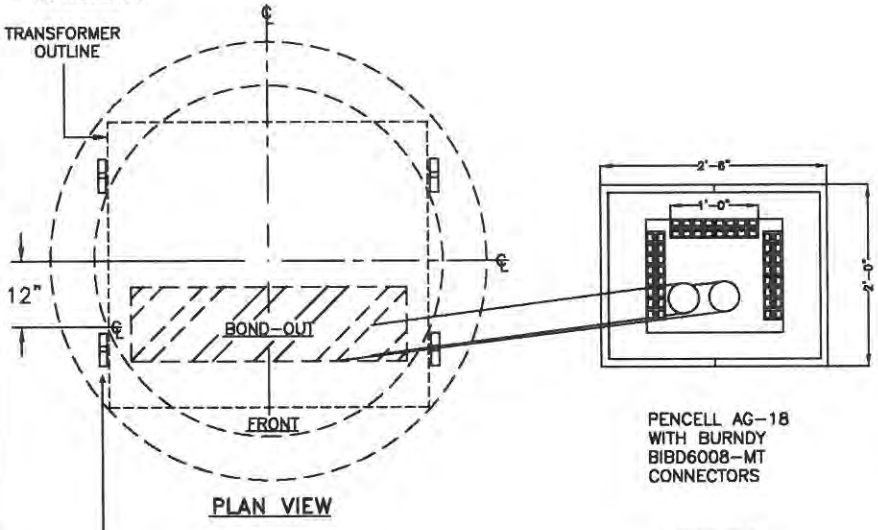
SECONDARY PEDESTAL
SINGLE PHASE ONLY
240/120V OR 208Y/120V

BANGOR HYDRO ELECTRIC Co.

DRAWING
2211.1

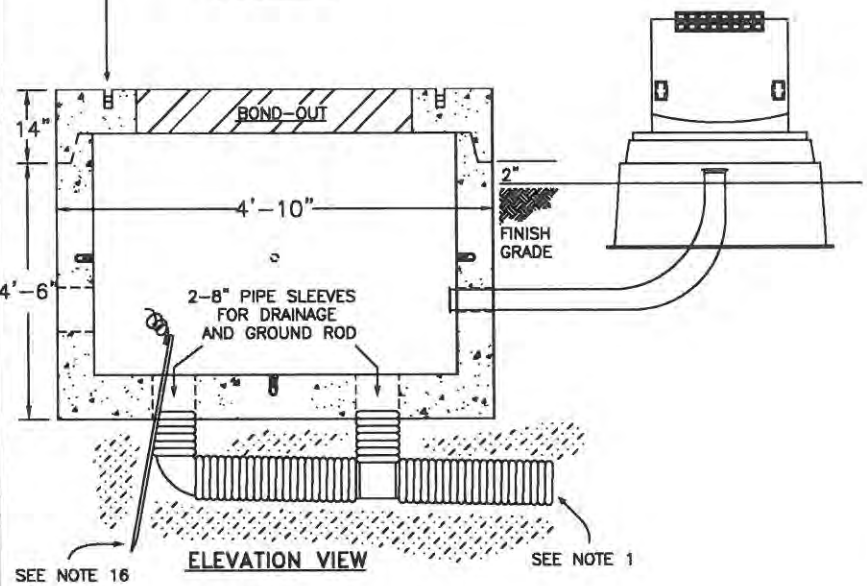
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

PADMOUNT



PLAN VIEW

PENCELL AG-18 WITH BURNDY BIBD6008-MT CONNECTORS



ELEVATION VIEW

NOTES

1. PROVIDE COMPACTED GRAVEL BASE AND BACKFILL w/ ADEQUATE DRAINAGE SYSTEM w/ POSITIVE PITCH.
2. LOCATION MUST BE ACCESSIBLE BY TRUCK AND PROTECTED FROM TRAFFIC DAMAGE.
3. PROVIDE PULL ROPE FOR EACH UNUSED CONDUIT.
4. TRANSFORMER & SECONDARY ENCLOSURE MUST BE LOCATED AT LEAST 6' FROM ALL BUILDING WALLS & 10' FROM ALL BUILDING OPENINGS.
5. SECONDARY ENCLOSURE MUST BE PROTECTED FROM PHYSICAL DAMAGE.
6. NO METERING PEDESTAL MAY BE ATTACHED TO SECONDARY PEDESTAL.
7. PROVIDE 3' MINIMUM SLACK FOR EACH CABLE IN WELL
8. ENCLOSURES FOR SINGLE PHASE 120/240V OR 120/208Y ONLY.
9. SECONDARY CABLE TO BE PROVIDED BY ELECTRICIAN.
10. 25KVA TRANSFORMER USE: ONE 350MCM COPPER, 600V XHHW FEEDER WIRE. (FIVE SERVICES MAXIMUM).
11. 50KVA TRANSFORMER USE: ONE 500MCM COPPER, 600V XHHW FEEDER WIRE. (FIVE SERVICES MAXIMUM).
12. 100KVA TRANSFORMER USE: TWO 350MCM COPPER 600V XHHW FEEDER WIRES. (FOUR SERVICES MAXIMUM).
13. CONNECTIONS MUST BE TORQUED TO MANUFACTURER'S REQUIREMENTS. B.H.E. Co. TO VERIFY TORQUE SETTINGS.
14. SECONDARY CONNECTIONS AT TRANSFORMER TO BE MADE BY B.H.E. Co. SECONDARY LUGS TO BE PROVIDED BY ELECTRICIAN.
15. USE AG-20 PEDESTAL FOR NON-STANDARD APPLICATIONS.
16. CUSTOMER SHALL FURNISH & INSTALL 5/8"x8' COPPER CLAD GROUND ROD w/ A 8' MINIMUM #4 STR. BARE COPPER PIGTAIL.
17. 4" CONDUIT MINIMUM FOR THREE PHASE FACILITY.
18. OVERALL HEIGHT MAY BE SHORTENED PER T&D ENGINEERING APPROVAL.
19. SEALANT AROUND BASE OF COVER WILL NOT BE PERMITTED.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

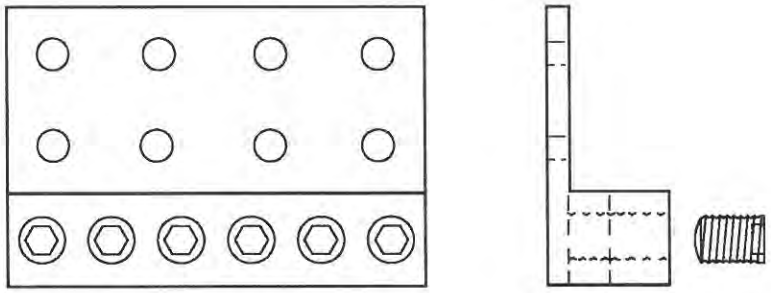
SINGLE PHASE PADMOUNT TRANSFORMER FOUNDATION WITH SECONDARY JUNCTION BOX

BANGOR HYDRO ELECTRIC Co.

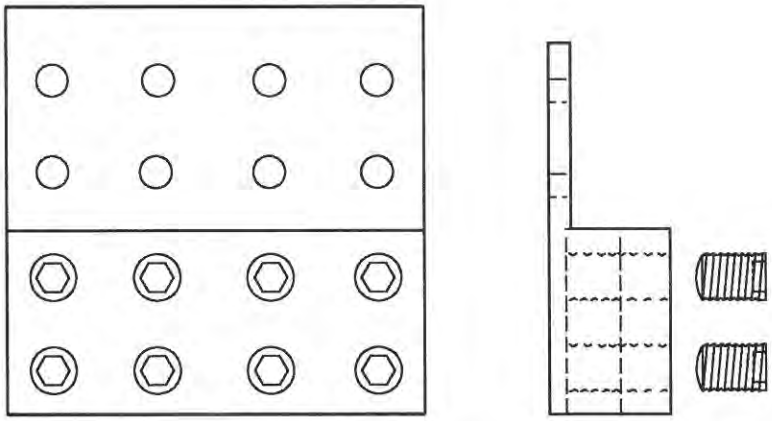
DRAWING
2211.2

TYPICAL CONNECTORS

LIGHT DUTY #6 TO250KCM



HEAVY DUTY– 350KCM TO 1000KCM



TORQUE CHART	
CONDUCTOR SIZE	TORQUE IN INCH LBS.
#4 AND UNDER	50
#3	80
#2	100
#1	120
1/0	140
2/0	180
3/0	200
4/0	250
250KCM	300
350KCM	350
500KCM	500
750KCM	600
1000KCM	700

NOTES:

1. B.H.E. Co. SUPPLIED FOR SECONDARY METERED INSTALLATIONS. B.H.E. Co. APPROVED FOR PRIMARY METERED INSTALLATIONS.
2. ALL CONNECTORS MUST HAVE OXIDE INHIBITOR IN ALL CONDUCTOR BARRELS.
3. BOLT PATTERN MUST MEET NEMA SPEC. FOR FOUR AND SIX HOLE SPADES.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-23-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

PADMOUNT TRANSFORMER CONNECTORS

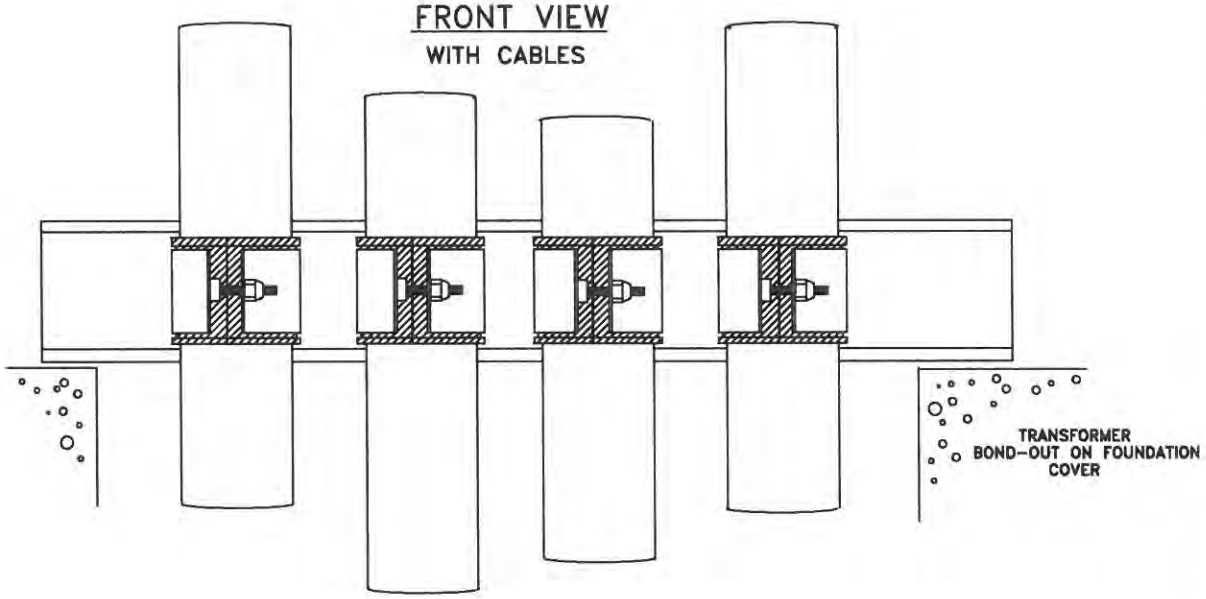
BANGOR HYDRO ELECTRIC Co.

DRAWING
2213

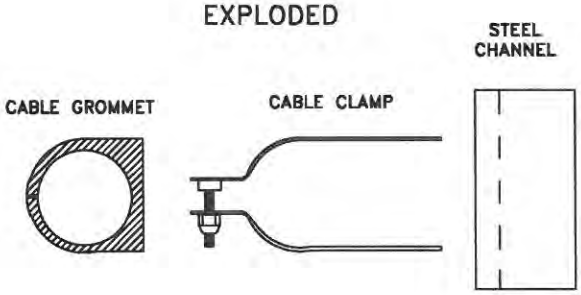
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-23-09	GAN

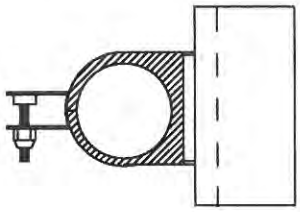
FRONT VIEW
WITH CABLES



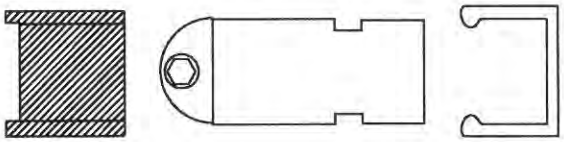
OVERHEAD VIEW EXPLODED



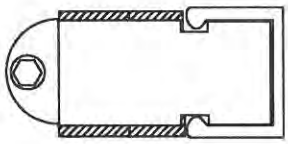
OVERHEAD VIEW



SIDE VIEW EXPLODED



SIDE VIEW



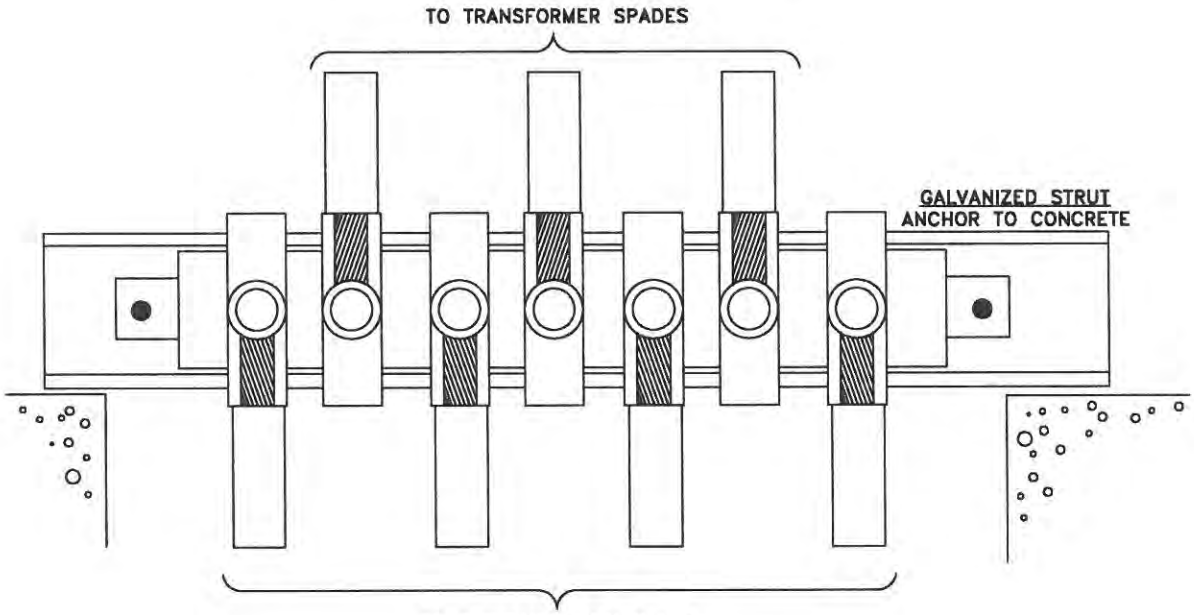
NOTES:

1. IN NO MORE THAN FOUR CONDUCTORS PER PHASE MUST BE SUPPORTED.

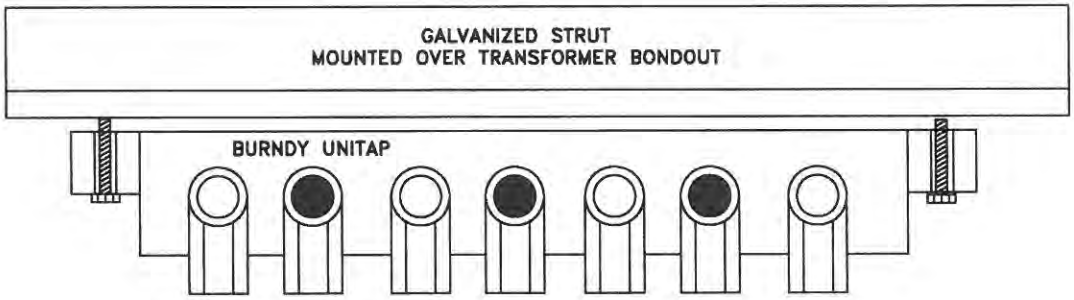
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CABLE SUPPORT CLAMP–BRACKETS FOR PADMOUNT TRANSFORMERS
BANGOR HYDRO ELECTRIC Co.	DRAWING 2214.1

CABLE SUPPORT USING BURNDY UNITAPS



FRONT VIEW



TOP VIEW

NOTE:

1. B.H.E. CO. WILL SIZE CABLES TO TRANSFORMER PER THE TRANSFORMER CAPACITY. ELECTRICIAN WILL SIZE CABLES TO MAIN PANEL PER THE N.E.C.
2. EACH PHASE & NEUTRAL MUST BE ON A SEPARATE STRUT.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	10-4-10	GAN

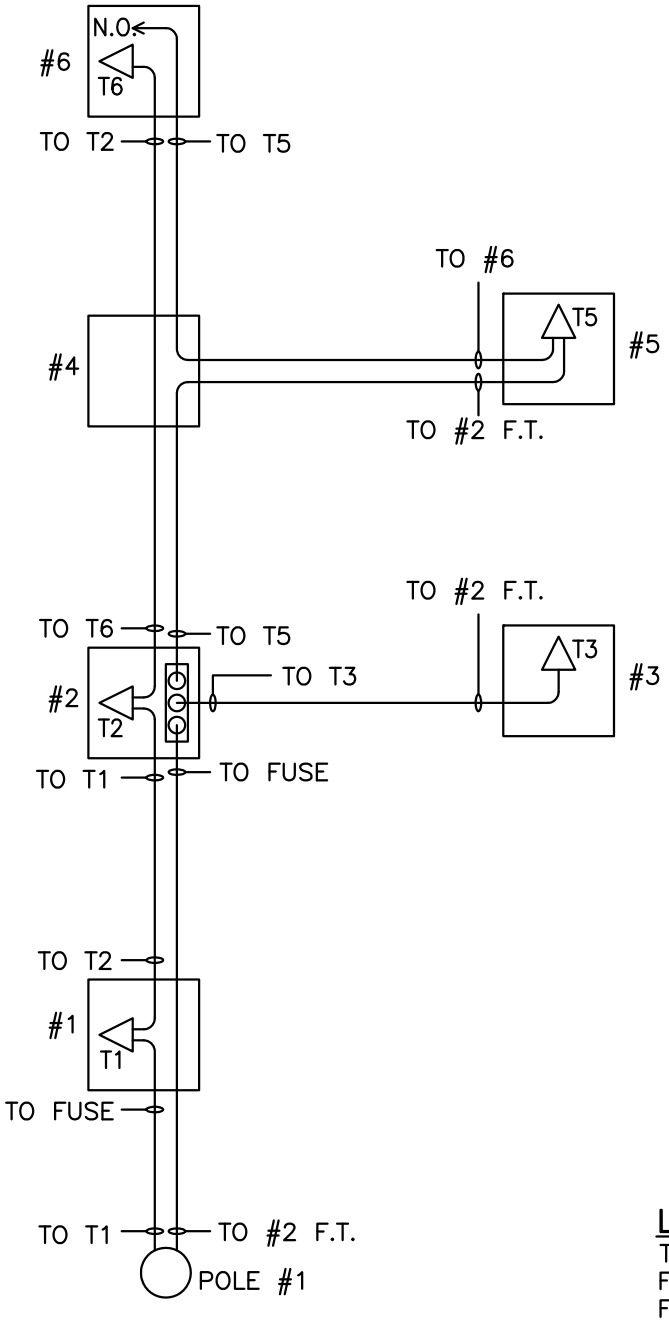
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

CABLE SUPPORT – BURNDY UNITAP FOR PADMOUNT TRANSFORMERS

BANGOR HYDRO ELECTRIC Co.

DRAWING
2214.2



LEGEND:
T = TRANSFORMER
F.T. = FEED THROUGH
F.C. = FUSE CABINET
SW = SWITCHGEAR

NOTES:

1. ALL EQUIPMENT OR CABLE ACCESS LOCATIONS SHALL BE NUMBERED & MARKED.
2. ALL CABLE TERMINATIONS SHALL BE MARKED WITH THE LOCATION OF THE OTHER END OF THE CABLE TERMINATION. FOR LOCATIONS WITH MORE THAN ONE PIECE OF EQUIPMENT (AS AT #2 ABOVE), INCOMING CABLES SHALL BE FURTHER MARKED WITH THE SPECIFIC EQUIPMENT THEY ARE TERMINATING ON.
3. ALL MULTIPLE PHASE CABLE INSTALLATIONS SHALL BE MARKED WITH BOTH A DESTINATION AND AN INDIVIDUAL PHASE COLOR CODE. ACCEPTABLE COLORS ARE BLACK, BLUE AND RED.
4. INSTALLATIONS WITH MORE THAN ONE PIECE OF EQUIPMENT SHALL HAVE A ONE LINE DIAGRAM PERMANENTLY INSTALLED AT EACH EQUIPMENT LOCATION.
5. ALL NORMALLY OPEN (N.O.) POINTS SHALL BE MARKED.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	UPDATE LABELING PROCEDURE	4-23-15	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

UNDERGROUND PLANT IDENTIFICATION & CABLE LABELING SYSTEM

Emera Maine

DRAWING
2215

PRIMARY CABLE TERMINATIONS

WIRE	VOLTAGE	INSUL.	MFR.	CAT. NO.	STOCK NO.
#2	15KV	.637–1.12	3M	5641–SC0001	4978006
#2–4/0	15KV	.64–1.08	3M	7622T–110	4978110
4/0	15KV	.84–1.38	3M	5642–SC0040	4978010
1/0	35KV	.84–1.32	3M	5646–SC0010	4978014
350–700	15KV		3M	7694–S4	4978016
500–1000	15KV		3M	7965–S4	4978018

SECONDARY SPLICES COVERS

WIRE		MFR.	CAT. NO.	STOCK NO.
#2–1/0		3M	8425–7	
2/0–250		3M	8426–11	
250–400 KCM		3M	8427–16	
500–800 KCM		3M	8428–18	

PRIMARY SPLICES

WIRE		MFR.	CAT. NO.	STOCK NO.
#2	ALUM. 15KV	3M	5411–C1–21	4976502
#2	ALUM. or COPPER 15KV	3M	5501–C1–21	4976504
350	COPPER 15KV	3M	5503–C1–350	4976514
1/0	ALUM. 35KV	3M	5432–C1–1/0A	4976510

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

STANDARD UNDERGROUND CABLE TERMINATIONS & SPLICES

BANGOR HYDRO ELECTRIC Co.

DRAWING
2216

NO.	REVISION	DATE	CK

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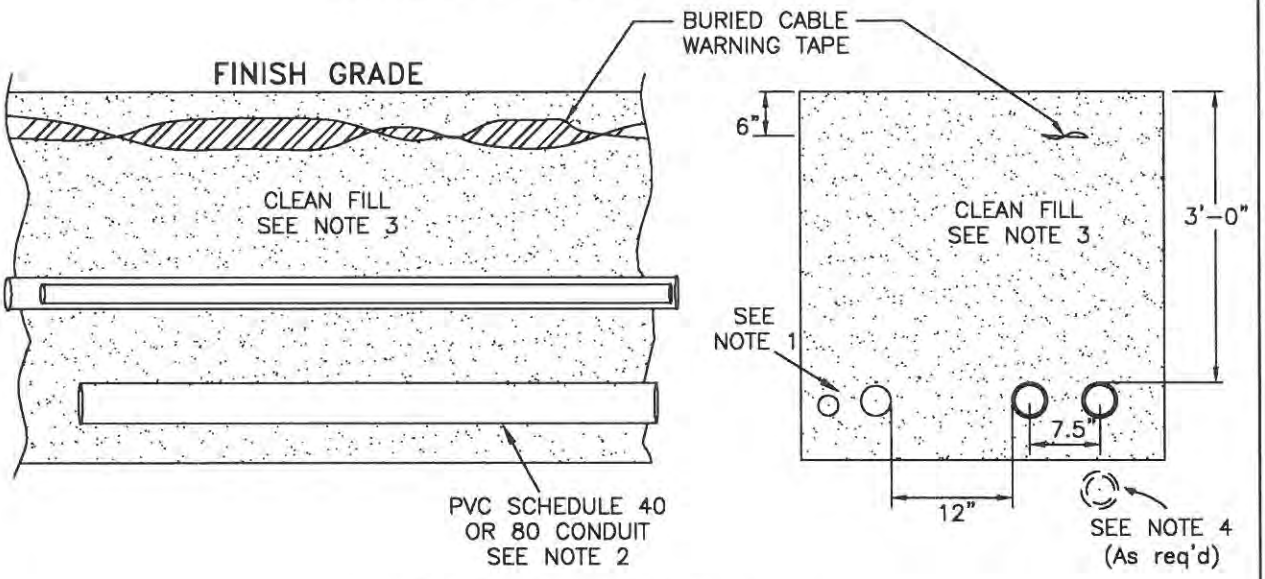
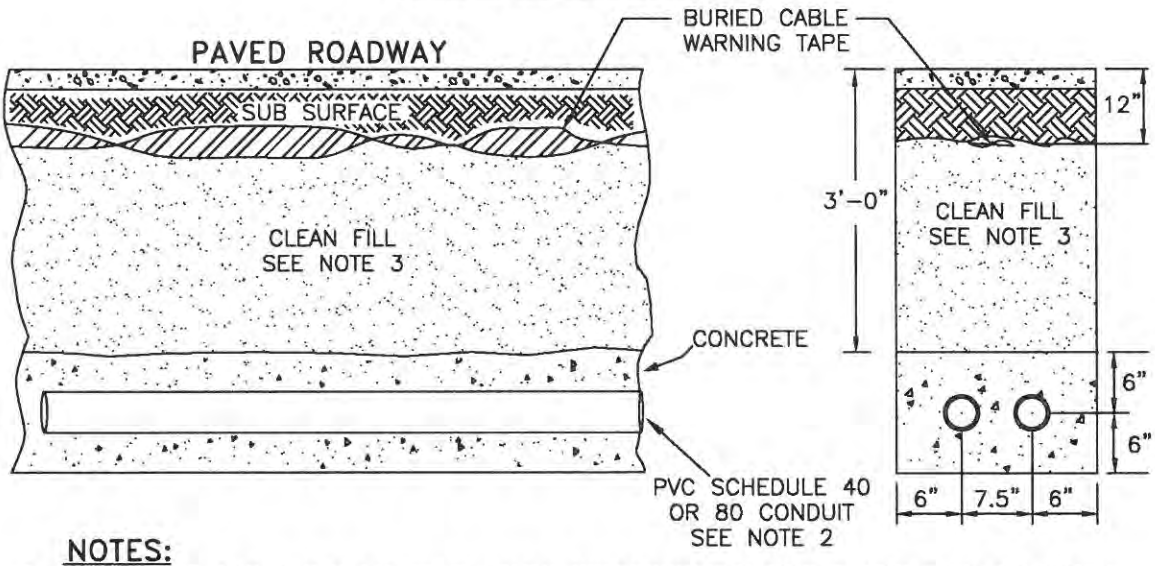
	2009 REVISIONS & REFORMAT	8-30-10	GAN

TYPICAL URD CONDUIT TRENCHES



CONCRETE ENCASEMENT



NOTES:

1. TELEPHONE AND CABLE T.V. PLUS OTHER COMMUNICATION CABLES AND DUCT NO WATER LINES, GAS LINES, OR SEWER LINES IN SAME TRENCH.
2. ONLY PVC SCH. 40 OR 80 CONDUIT UNLESS OTHERWISE APPROVED. MININUM ALLOWED CONDUIT SIZES:
   PRIVATELY OWNED–SINGLE PHASE; 2" DUCT
   THREE PHASE; 4" DUCT (5" FOR 35KV)
   B.H.E. Co. OWNED–SINGLE PHASE FACILITIES: 4" DUCT
   THREE PHASE FACILITIES: 4" DUCT(5" FOR 35KV)
3. CLEAN FILL, MUST CONTAIN NO CONSTRUCTION DEBRIS OR ROCK OVER 4" IN DIAMETER.
4. OPTIONAL TO SET BHE DUCT VERTICAL WHEN INSTALLING 2 DUCTS (MAINTAIN CLEARANCE AND DEPTH) TOP CONDUIT 3'.
5. CONCRETE ENCASED DUCTS MUST BE FORMED.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

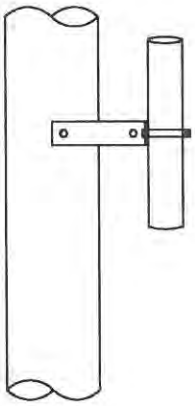
DISTRIBUTION CONSTRUCTION STANDARDS

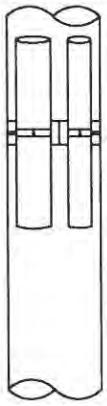
TRENCH & CONDUIT DEPTH FOR PRIMARY UNDERGROUND INSTALLATIONS

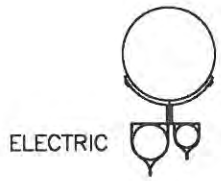
BANGOR HYDRO ELECTRIC Co.

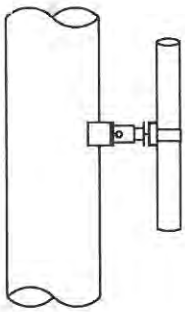
DRAWING
2217

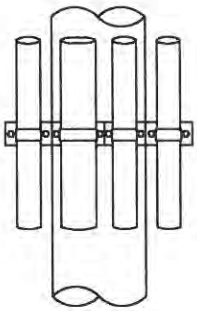
CONDUIT RISER BRACKETS
TYPICAL MULTI–CONDUIT RISERS

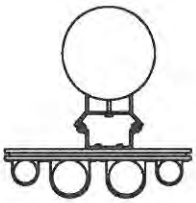












NOTES:
1. STAND–OFF BRACKETS REQUIRED.
2. ALL CONDUITS MUST HAVE 90° STEEL SWEEPS AT BASE OF POLES.
3. TWO BRACKETS REQUIRED FOR FIRST CONDUIT SECTION. BOTTOM BRACKET AS LOW AS POSSIBLE AND TOP BRACKET AT 8' MINIMUM ABOVE GROUND.
4. MAXIMUM OF TWO ELECTRICAL CONDUITS PER INSTALLATION.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–30–10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-18
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

MULTI–CONDUIT RISERS ON B.H.E. Co. OWNED POLES

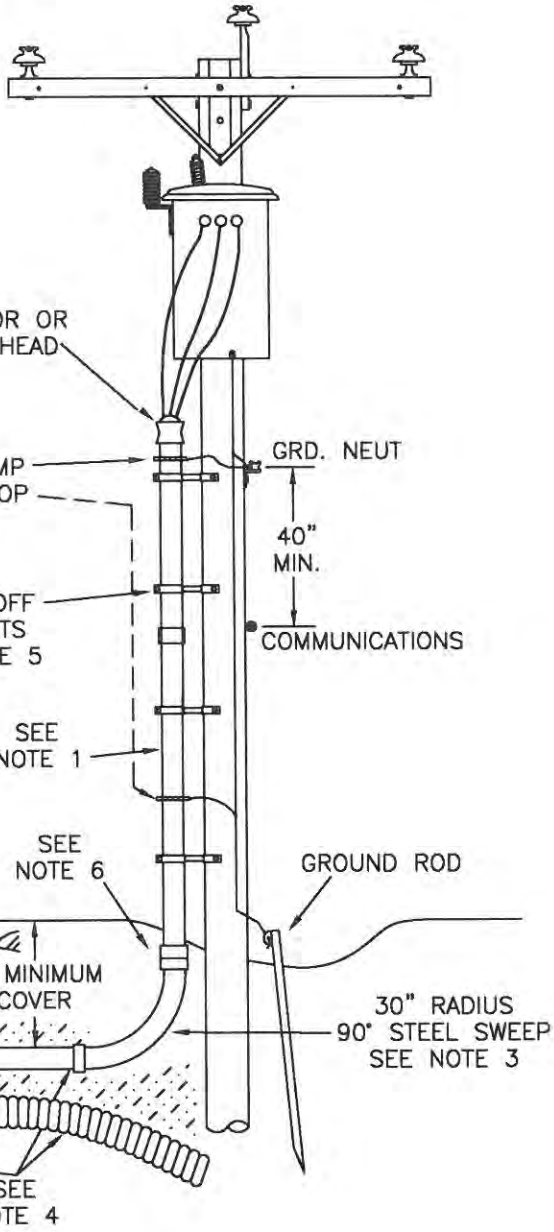
BANGOR HYDRO ELECTRIC Co.

DRAWING
2218

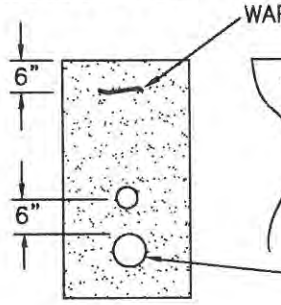
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

ELEVATION VIEW



FRONT VIEW



NOTES:

1. R.M.C.–RIGID METAL CONDUIT, GALV. –– I.M.C.–INTERMEDIATE METAL CONDUIT, GALV. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. CONDUIT NEED ONLY TO EXTEND ABOVE NEUTRAL WIRE, BUT ALWAYS MUST BE AT 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
3. STEEL SWEEP NOT NEEDED FOR DIRECT BURIED CABLE. HOWEVER A BUSHING IS REQUIRED.
4. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
5. STAND–OFF BRACKETS REQUIRED.
6. THREADLESS COUPLING MAY BE USED WITH B.H.E. Co. APPROVAL.
7. MAXIMUM OF TWO CABLES PER PHASE. 500 KCM MAXIMUM CABLE SIZE.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

TERMINAL POLE EXCEPT PUBLIC WAY
600V or LESS SERVICE
SINGLE or THREE PHASE

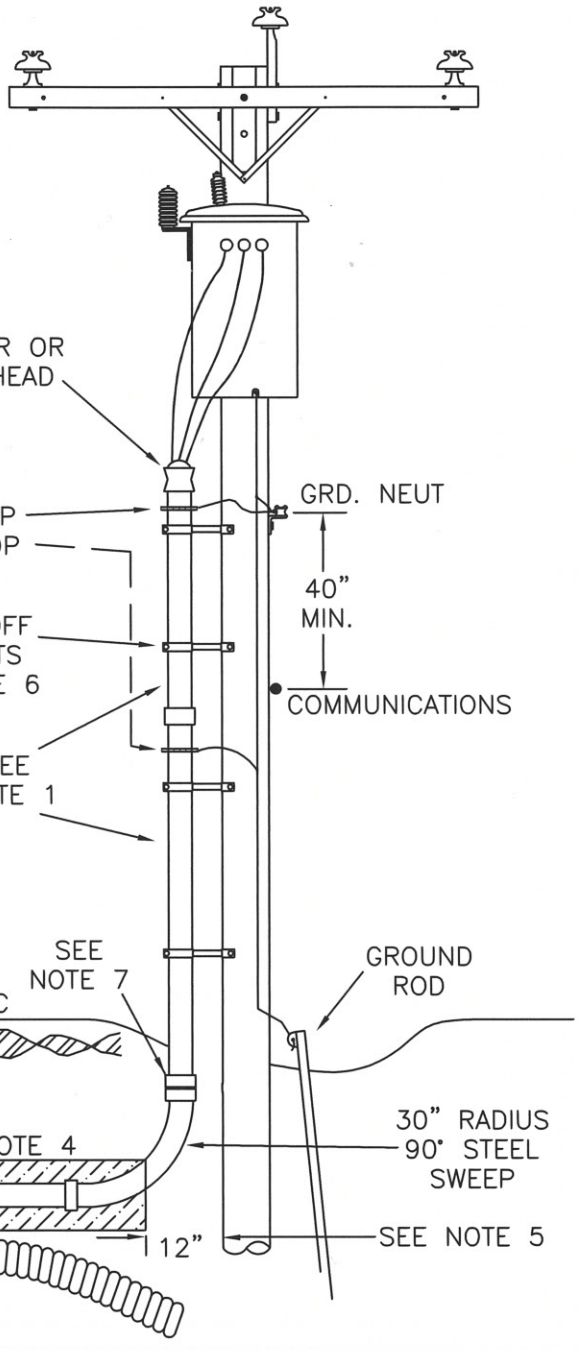
BANGOR HYDRO ELECTRIC Co.

DRAWING
2219

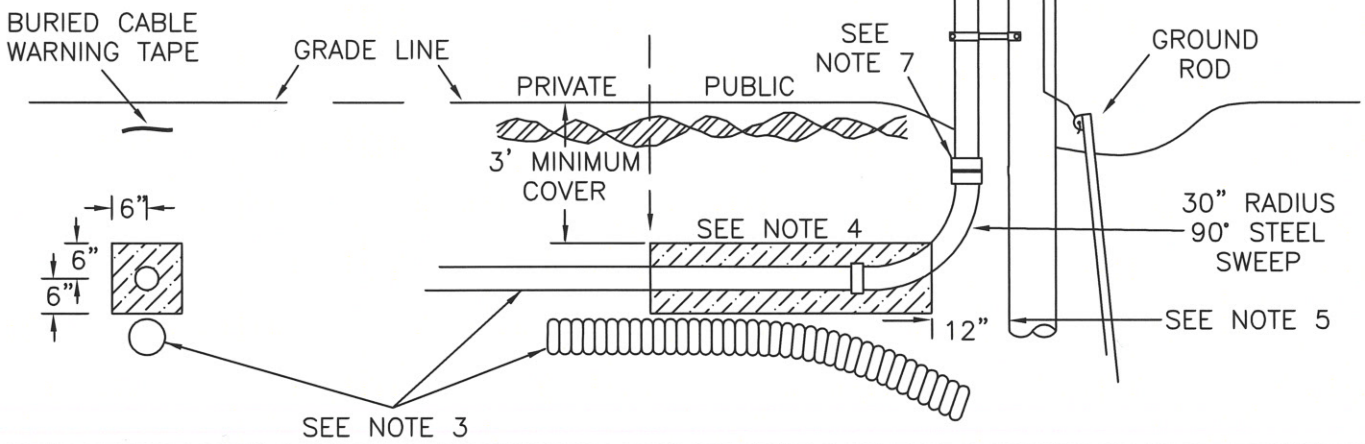
NOTES:

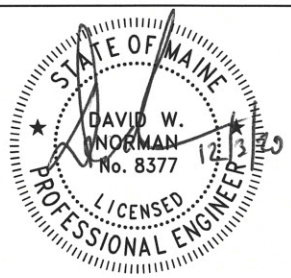
1. R.M.C.–RIGID METAL CONDUIT, GALV, SWEEP AND FIRST SECTION. SCH 80 PVC OR FG CONDUIT ABOVE FIRST SECTION. NO I.M.C. IS PERMITTED. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. CONDUIT NEED ONLY TO EXTEND 6" ABOVE NEUTRAL WIRE ATTACHMENT, BUT ALWAYS MUST BE 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
3. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
4. CONCRETE ENCASEMENT IN PUBLIC RIGHT OF WAY OR WHERE REQUIRED.
5. LEAVE 12" SPACE BETWEEN CONCRETE AND POLE.
6. STAND–OFF BRACKETS WITH 5' SPACING REQUIRED.
7. BELL END MAY BE USED WITH VERSANT POWER APPROVAL.
8. MAXIMUM OF TWO CABLES PER PHASE. 750 KCM MAXIMUM CABLE SIZE.

ELEVATION VIEW



FRONT VIEW





DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

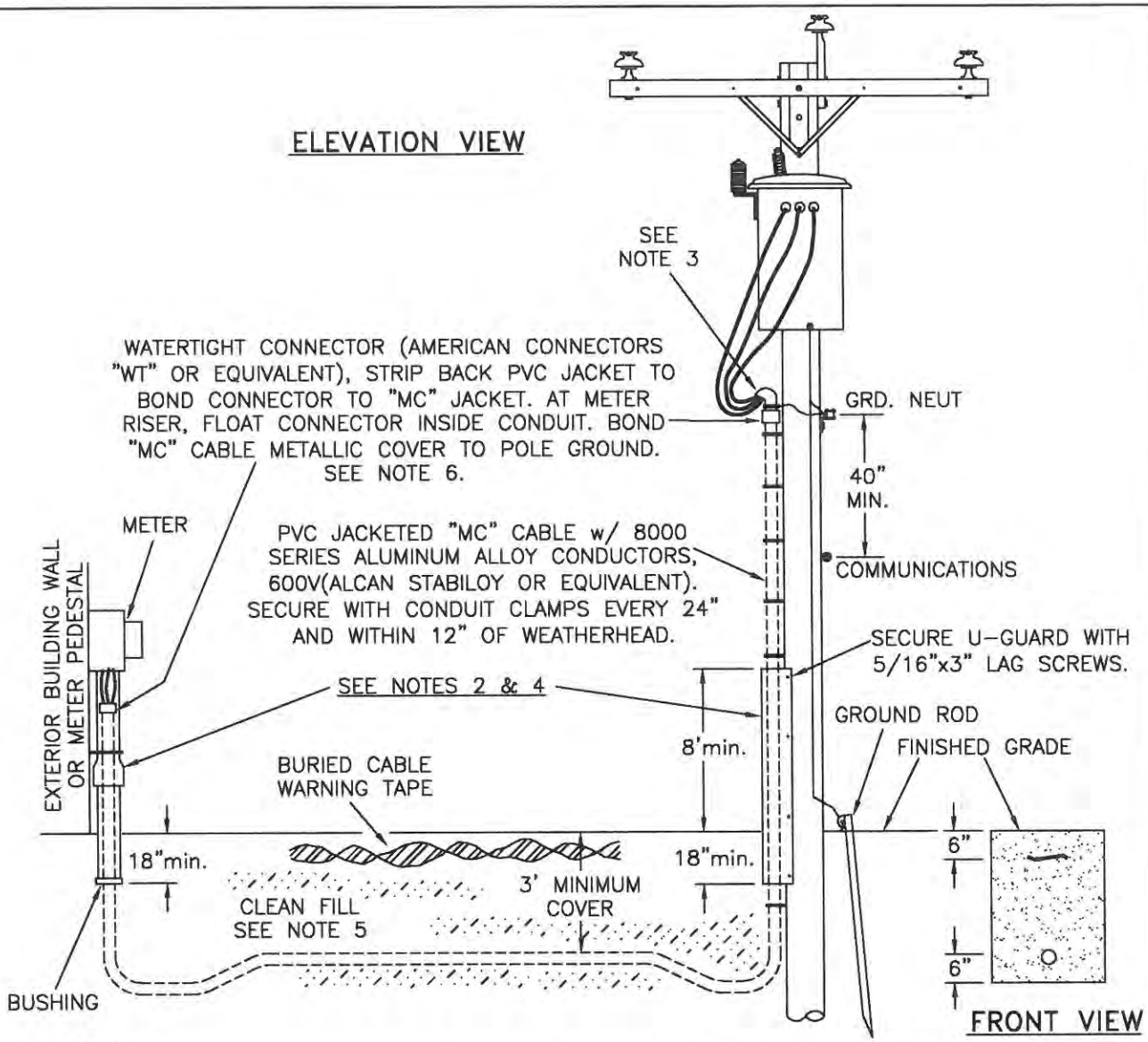
TERMINAL POLE IN A PUBLIC WAY
600V OR LESS SERVICE
SINGLE OR THREE PHASE

REVISED	DRAWING
07–06–2020	2220

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

NO.	REVISION	DATE	CK

ELEVATION VIEW



FRONT VIEW

NOTES:

1. THIS INSTALLATION STANDARD IS ONLY APPLICABLE FOR SINGLE CABLE RISERS AND WHERE ATTACHED TO B.H.E. Co. OWNED POLES LOCATED NEAR ROADS OR DRIVEWAYS WITH TRUCK ACCESS. REFER TO STANDARDS #2218 & #2219 WHEN MULTIPLE SERVICE RISERS WILL OR LIKELY BE INSTALLED ON B.H.E. Co. POLES.
2. RMC RIGID METAL CONDUIT, GALV – IMC INTERMEDIATE METAL CONDUIT, GALV. – SCHEDULE 80 PVC CONDUIT – U GUARD (EMCO PE2UG OR EQUIVALENT) FOR PHYSICAL PROTECTION. PROVIDE PROTECTION A MINIMUM HEIGHT OF 8' ABOVE FINISHED GRADE ON THE RISER POLE, TO THE BOTTOM OF THE METER TRIM, AND 18" BELOW FINISHED GRADE. SECURE AS REQUIRED AND PROVIDE EXPANSION FITTINGS TO ALLOW FOR GROUND MOVEMENT AND THERMAL EXPANSIONS.
3. WEATHER HEAD OR CONDULATOR MUST BE POSITIONED A MINIMUM 4" ABOVE THE NEUTRAL WIRE AND AT LEAST 40" ABOVE TELEPHONE CABLES. NEUTRAL AND GROUND CONDUCTORS TO BE BONDED TO TRANSFORMER OR SYSTEM NEUTRAL. LEAVE 5' OF CONDUCTOR BEYOND WEATHER HEAD FOR TRANSFORMER CONNECTIONS.
4. BUSHINGS ARE REQUIRED FOR CONDUIT. IF METAL CONDUIT IS USED FOR PROTECTION, REFER TO STANDARD #2219 FOR GROUNDING REQUIREMENTS.
5. BACKFILL SHALL BE CLEAN AND FREE OF CONSTRUCTION DEBRIS w/ NO ROCKS OVER 4" IN DIAMETER. PROVIDE CABLE SLACK BELOW RISERS.
6. CONNECTORS SHALL BE LISTED OR IDENTIFIED FOR CONNECTING AND GROUNDING TYPE "MC" CABLE. "MC" CABLE ARMOR MUST BE CONTINUOUS FOR ELECTRICAL CONTINUITY. "MC" CABLE JACKET SHALL BE LISTED OR IDENTIFIED AS SUNLIGHT RESISTANT.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

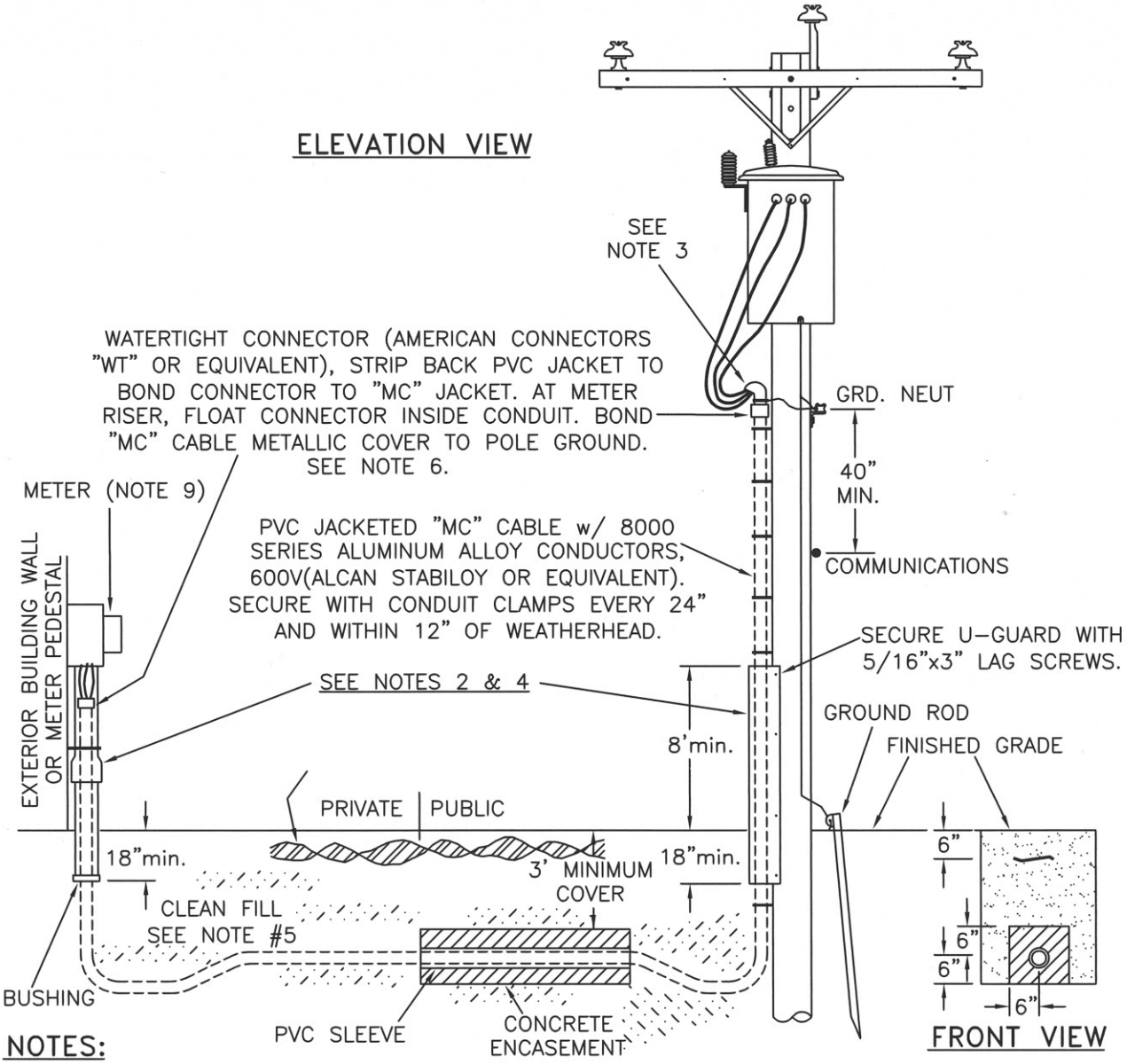
DISTRIBUTION CONSTRUCTION STANDARDS

TERMINAL POLE EXCEPT PUBLIC WAY 600V or LESS SERVICE SINGLE or THREE PHASE "MC" CABLE

BANGOR HYDRO ELECTRIC Co.

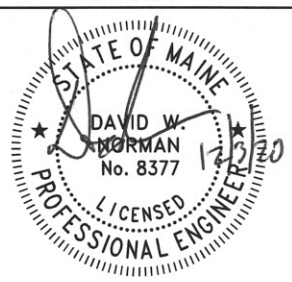
DRAWING 2221

ELEVATION VIEW



NOTES:

1. THIS INSTALLATION STANDARD IS ONLY APPLICABLE FOR SINGLE CABLE RISERS AND WHERE ATTACHED TO VERSANT POWER OWNED POLES LOCATED NEAR ROADS OR DRIVEWAYS WITH TRUCK ACCESS. REFER TO STANDARDS #2218 & #2219 WHEN MULTIPLE SERVICE RISERS WILL OR LIKELY BE INSTALLED ON VERSANT POWER POLES.
2. RMC RIGID METAL CONDUIT FOR FIRST SECTION AND SWEEP, SCHEDULE 80 PVC CONDUIT – U GUARD (EMCO PE2UG OR EQUIVALENT) FOR PHYSICAL PROTECTION. PROVIDE PROTECTION A MINIMUM HEIGHT OF 8' ABOVE FINISHED GRADE ON THE RISER POLE, TO THE BOTTOM OF THE METER TRIM, AND 18" BELOW FINISHED GRADE. SECURE AS REQUIRED AND PROVIDE EXPANSION FITTINGS TO ALLOW FOR GROUND MOVEMENT AND THERMAL EXPANSIONS.
3. WEATHERHEAD OR CONDULATOR MUST BE POSITIONED A MINIMUM 4" ABOVE THE NEUTRAL WIRE AND AT LEAST 40" ABOVE TELEPHONE CABLES. NEUTRAL AND GROUND CONDUCTORS TO BE BONDED TO TRANSFORMER OR SYSTEM NEUTRAL. LEAVE 5' OF CONDUCTOR BEYOND WEATHERHEAD FOR TRANSFORMER CONNECTIONS.
4. BUSHINGS ARE REQUIRED FOR CONDUIT. IF METAL CONDUIT IS USED FOR PROTECTION, REFER TO STANDARD #2219 FOR GROUNDING REQUIREMENTS.
5. BACKFILL SHALL BE CLEAN AND FREE OF CONSTRUCTION DEBRIS w/ NO ROCKS OVER 4" IN DIAMETER. PROVIDE CABLE SLACK BELOW RISERS.
6. CONNECTORS SHALL BE LISTED OR IDENTIFIED FOR CONNECTING AND GROUNDING TYPE "MC" CABLE.
7. "MC" CABLE ARMOR MUST BE CONTINUOUS FOR ELECTRICAL CONTINUITY. "MC" CABLE JACKET SHALL BE LISTED OR IDENTIFIED AS SUNLIGHT RESISTANT.
8. CONCRETE ENCASEMENT IN STATE RIGHT OF WAY OR WHERE REQUIRED.
9. IF 4-WIRE "MC" USED IS, UNUSED CONDUCTOR MUST BE CUT AT WEATHERHEAD END AND TERMINATED TO THE NEUTRAL AT THE METER TRIM.



DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

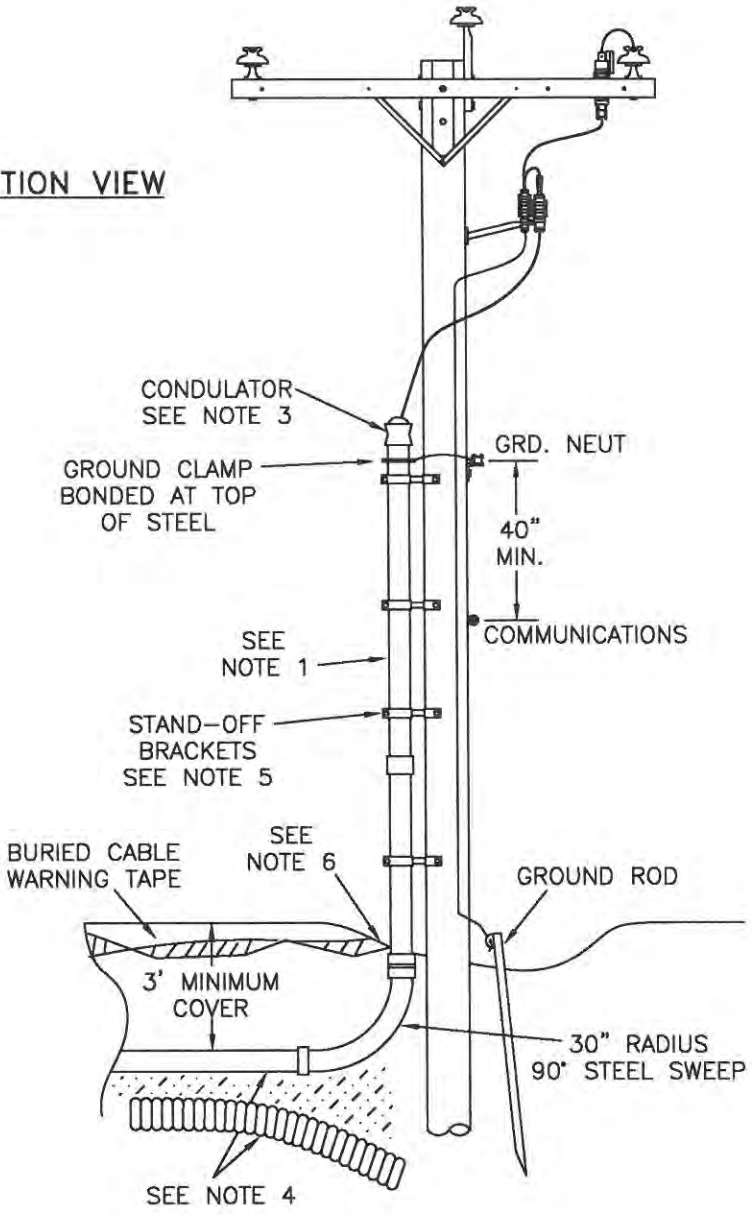
TERMINAL POLE IN PUBLIC WAY 600V OR LESS SERVICE SINGLE OR THREE PHASE "MC" CABLE

LAST REVISED	DRAWING
07-09-2020	2222

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

ELEVATION VIEW



NOTES:

1. R.M.C.–RIGID METAL CONDUIT, GALV. -- I.M.C.–INTERMEDIATE METAL CONDUIT, GALV. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. INSTALL TWO CONDUITS WITH ONE CABLE EACH IF LOOP FEED REQUIRED.
3. CONDUIT NEED ONLY TO EXTEND ABOVE NEUTRAL WIRE, BUT ALWAYS MUST BE 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
4. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
5. STAND-OFF BRACKETS REQUIRED.
6. THREADLESS COUPLING MAY BE USED WITH B.H.E. Co. APPROVAL.

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

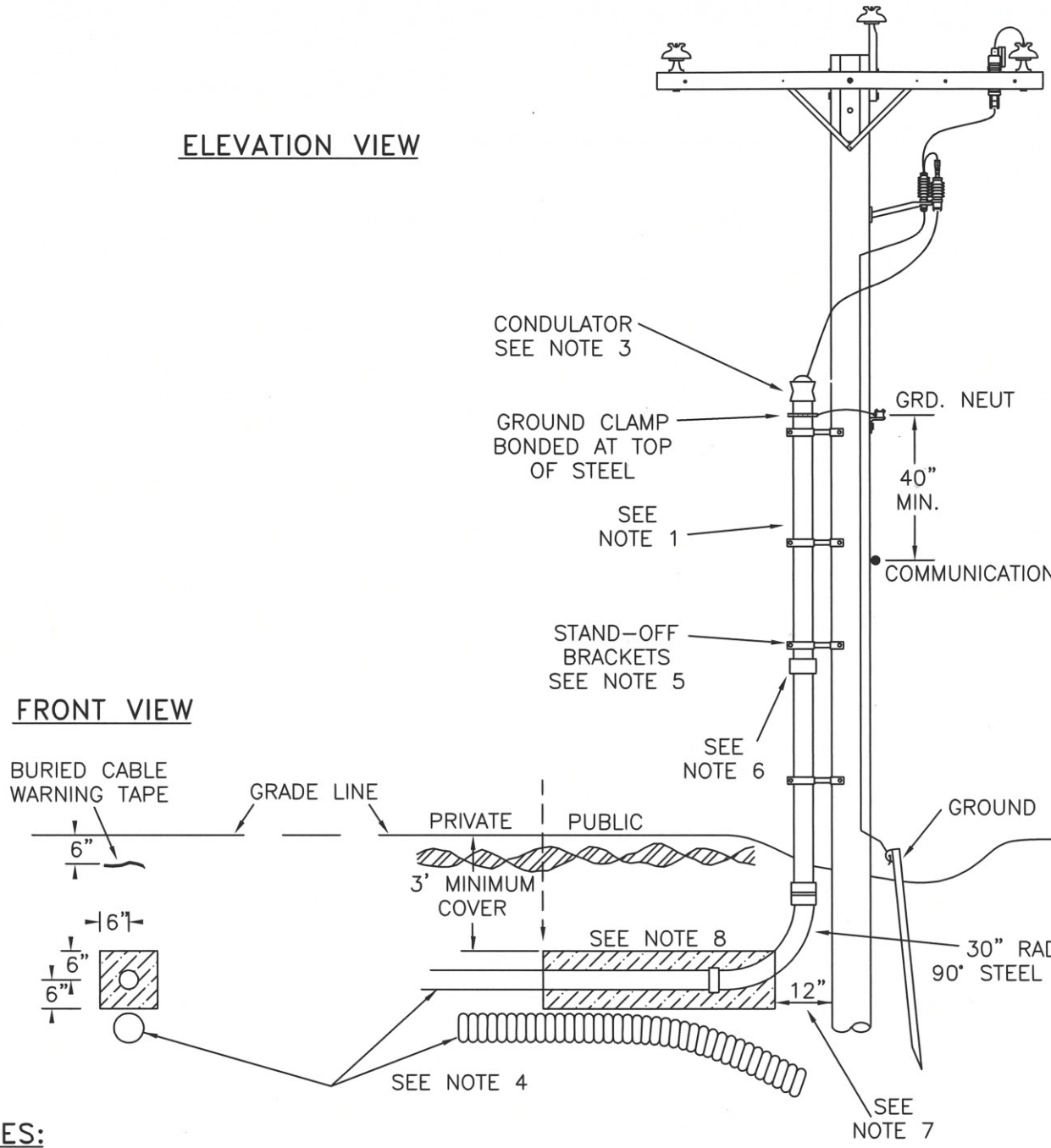
DISTRIBUTION CONSTRUCTION STANDARDS

TERMINAL POLE EXCEPT PUBLIC WAY
SINGLE PHASE 15KV & 35KV

BANGOR HYDRO ELECTRIC Co.

DRAWING
2223

ELEVATION VIEW



FRONT VIEW

NOTES:

1. R.M.C.–RIGID METAL CONDUIT, GALV SWEEP APP FIRST SECTION, RMC. SCH 80 PVC OR FG CONDUIT ABOVE FIRST SECTION. NO I.M.C. IS PERMITTED. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. INSTALL TWO CONDUITS WITH ONE CABLE EACH IF LOOP FEED REQUIRED.
3. CONDUIT NEED ONLY TO EXTEND 6" ABOVE NEUTRAL WIRE ATTACHMENT, BUT ALWAYS MUST BE 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
4. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
5. STAND–OFF BRACKETS REQUIRED EVERY 5' FOR SCH 80 PVC.
6. BELL END MAY BE INSTALLED OVER FIRST RMC SECTION.
7. LEAVE 12" SPACE BETWEEN CONCRETE AND POLE.
8. CONCRETE ENCASEMENT IN PUBLIC RIGHT OF WAY OR WHERE REQUIRED.

STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

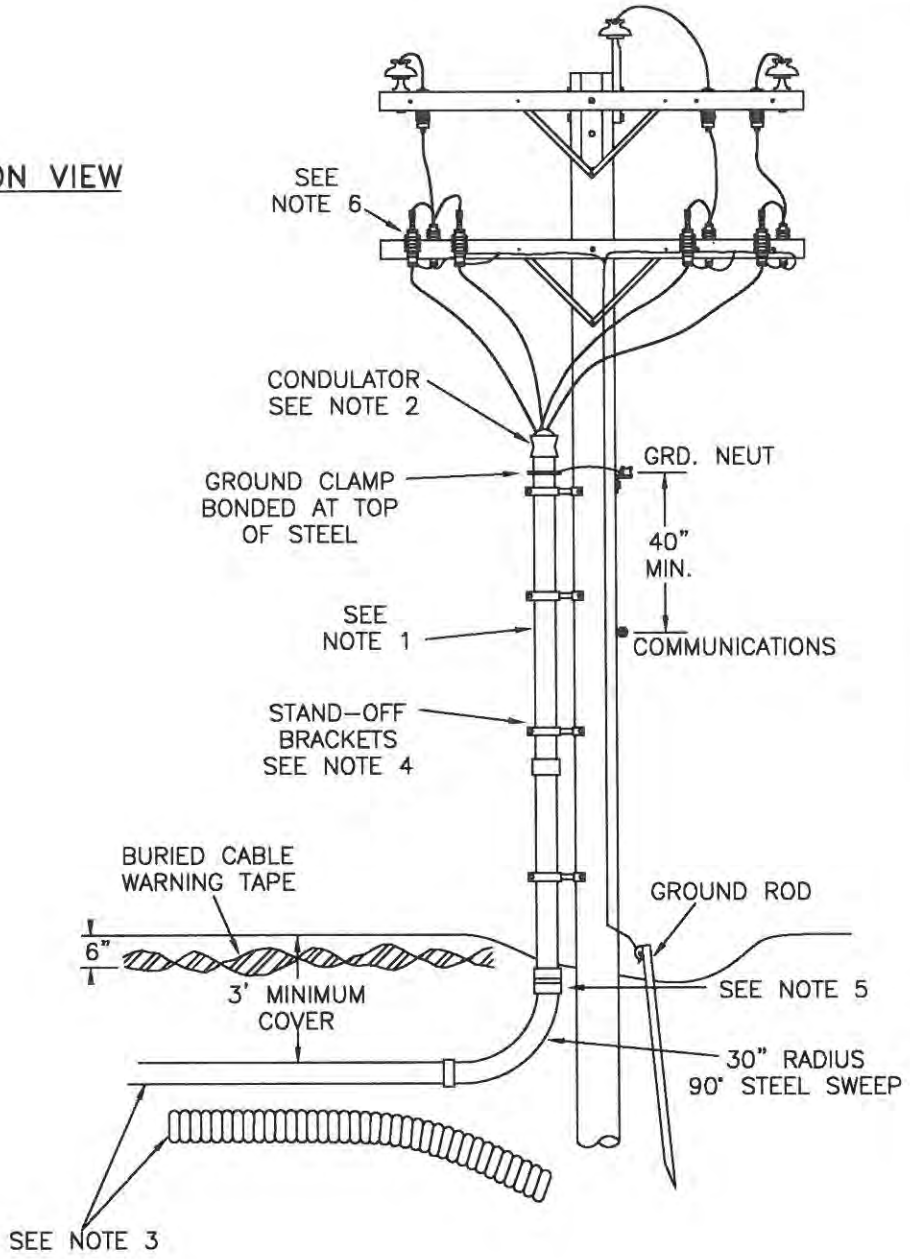
TERMINAL POLE IN PUBLIC WAY SINGLE PHASE 15 kV & 35 kV

LAST REVISED	DRAWING
07–09–2020	2224

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

ELEVATION VIEW



NOTES:

1. R.M.C.–RIGID METAL CONDUIT, GALV. –– I.M.C.–INTERMEDIATE METAL CONDUIT, GALV. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. CONDUIT NEED ONLY TO EXTEND ABOVE NEUTRAL WIRE, BUT ALWAYS MUST BE 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
3. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
4. STAND–OFF BRACKETS REQUIRED.
5. THREADLESS COUPLING MAY BE USED WITH B.H.E. Co. APPROVAL.
6. SPARE TERMINATOR IF NEEDED.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

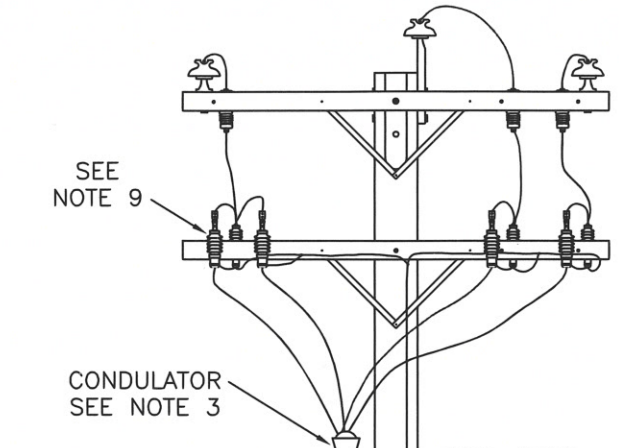
DISTRIBUTION CONSTRUCTION STANDARDS

TERMINAL POLE EXCEPT PUBLIC WAY
THREE PHASE 15KV & 35KV

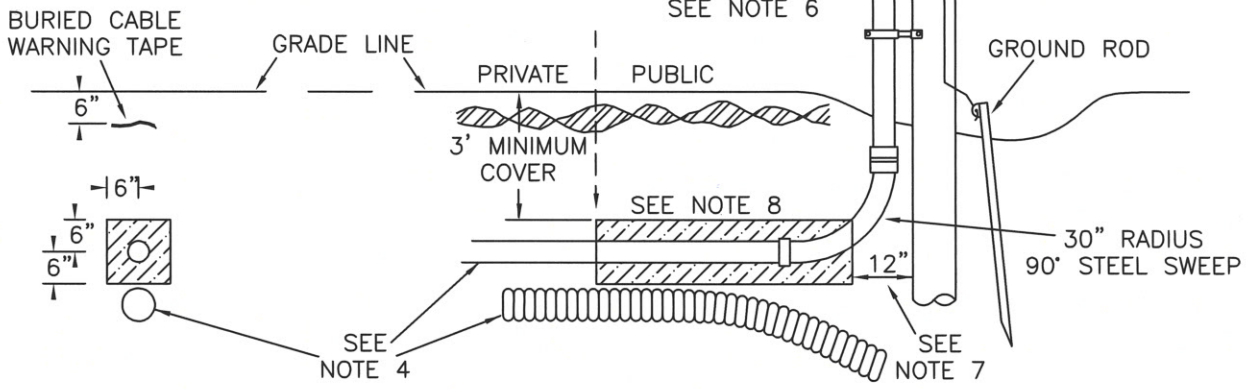
BANGOR HYDRO ELECTRIC Co.

DRAWING
2225

ELEVATION VIEW



FRONT VIEW



NOTES:

1. R.M.C.–RIGID METAL CONDUIT, GALV. –– SCH 80 PVC OR SCH 40 FG CONDOUT ABOVE FIRST SECTION. SEE STANDARD #2217 FOR CONDUIT SIZE.
2. INSTALL ADDITIONAL CONDUITS IF LOOP FEED REQUIRED.
3. CONDUIT NEED ONLY TO EXTEND ABOVE NEUTRAL WIRE, BUT ALWAYS MUST BE 3'–4" OR MORE ABOVE COMMUNICATION CABLES.
4. DRAINAGE HOLES IN DUCT LINE AND SUB DRAIN REQUIRED.
5. STAND–OFF BRACKETS REQUIRED EVERY 5' FOR SCH 80 PVC.
6. BELL END MAY BE INSTALLED OVER FIRST RMC SECTION
7. LEAVE 12" SPACE BETWEEN CONCRETE AND POLE.
8. CONCRETE ENCASEMENT IN PUBLIC RIGHT OF WAY OR WHERE REQUIRED.
9. SPARE TERMINATOR IF NEEDED.

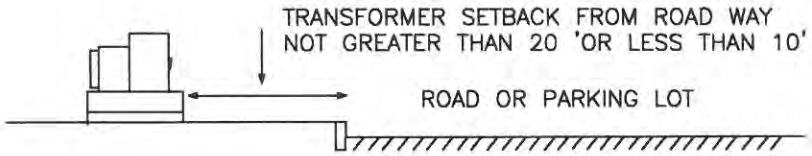
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

TERMINAL POLE IN PUBLIC WAY
THREE PHASE 15 kV & 35 kV

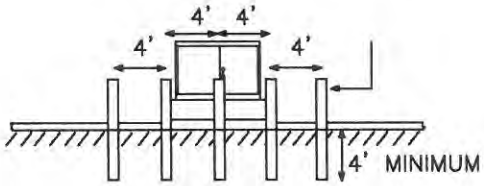
LAST REVISED	DRAWING
9/3/2020	2226

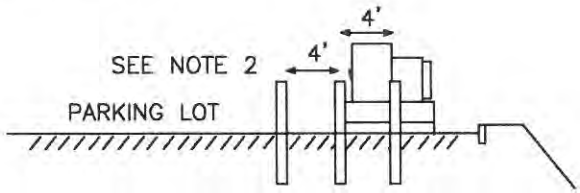
TRANSFORMERS NEAR ROADWAYS (BOLLARDS MAY BE REQUIRED)



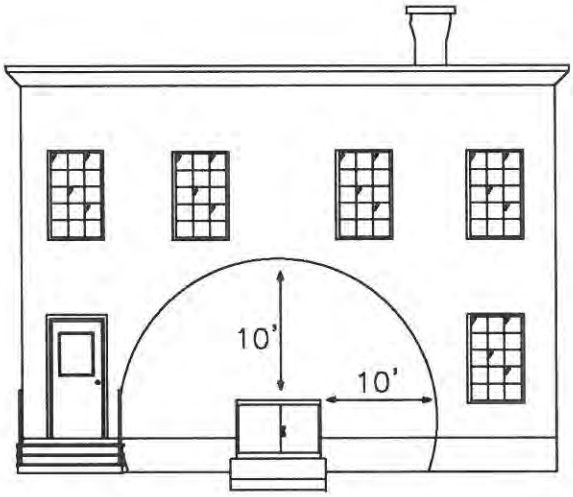
TRANSFORMERS IN PARKING LOTS (BOLLARDS REQUIRED)

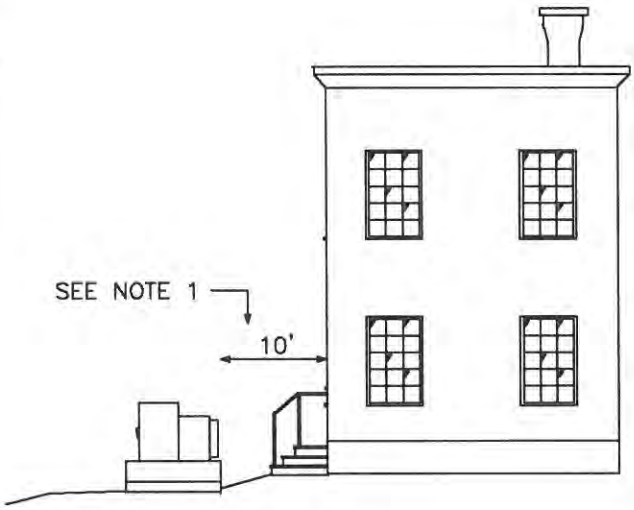
BOLLARDS – 6" STEEL PIPE CONCRETE FILLED. MINIMUM EXPOSED BALLARD 4 FEET. MINIMUM BURIAL DEPTH 4'. BOLLARDS IN FRONT OF DOORS SHALL BE PLACED 4'–5' FROM FRONT OF DOOR.





TRANSFORMERS NEAR STRUCTURES





NOTES:

1. TRANSFORMER LOCATION CAN BE REDUCED TO 3' IF A FIRE WALL EXISTS ON THE EXTERIOR OF THE STRUCTURE PROVIDING NO DOORS, WINDOWS, OR OPENINGS ARE WITHIN 10'.
2. TRANSFORMER CAN BE WITHIN A PARKING LOT PROVIDING PROTECTION FROM VEHICULAR TRAFFIC AND SNOW PLOWING CAN MAINTAINED.
3. 1500KVA AND LARGER PADMOUNT TRANSFORMERS SHALL BE 15' OR LESS FROM A ROADWAY.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

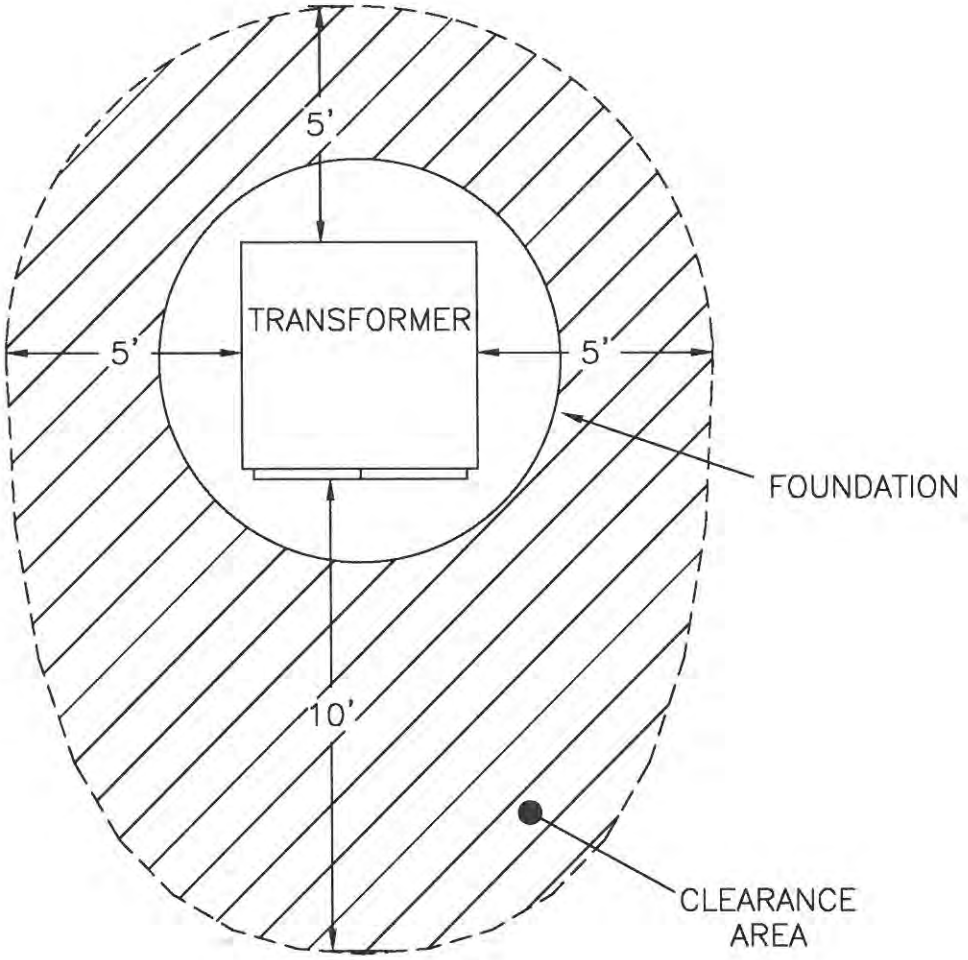
DISTRIBUTION CONSTRUCTION STANDARDS	PADMOUNT TRANSFORMERS LOCATIONS NEAR STRUCTURES & ROADWAYS
BANGOR HYDRO ELECTRIC Co.	DRAWING 2227.1

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
7	2009 REVISIONS & REFORMAT	8-30-10	GAN

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN



FRONT

NOTES:

1. NO OBSTRUCTIONS IN DESIGNATED SPACE (BOLLARDS EXCEPTED).
2. NO VERTICAL OBSTRUCTIONS.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	TRANSFORMER & PRIMARY EQUIPMENT CLEARANCES	
BANGOR HYDRO ELECTRIC Co.		DRAWING 2227.2

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2601	TRANSFORMER NOTES & CONNECT/DISCONNECT PROCEDURES	8-30-2010
2602	FUSING SCHEDULE, DISTRIBUTION TRANSFORMERS	12-11-2009
2603	120/240V THREE WIRE SERVICE CONVENTIONAL TRANSFORMER	12-11-2009
2604	120/240V THREE WIRE SERVICE C.S.P. TRANSFORMER	12-11-2009
2605	120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-GRD WYE	12-11-2009
2606	120/208V FOUR WIRE SERVICE C.S.P. TRANSFORMERS, GRD WYE-GRD WYE	12-11-2009
2607	277/480V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-GRD WYE	12-11-2009
2608	277/480V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-GRD WYE	12-11-2009
2609	277/480V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-GRD WYE, CARTE DESIGN	12-11-2009
2610	120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, DELTA-GRD WYE	12-11-2009
2611	240/480V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS, DELTA-DELTA	12-11-2009
2612	240V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-DELTA	8-30-2010
2613	240V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, DELTA-DELTA	8-30-2010
2614	240, 480 OR 600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS, WYE-DELTA	8-30-2010
2615	600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS, GRD WYE-DELTA	8-30-2010

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
OVERHEAD TRANSFORMERS

LAST REVISED
03-19-2021

DRAWING
2600.1

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2616	120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS, OPEN GRD WYE–GRD WYE	8–30–2010
2617	240, 480 OR 600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS, OPEN GRD WYE–OPEN DELTA	8–30–2010
2618	FOR REPAIR OF 240 OR 480V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS, OPEN DELTA–OPEN DELTA	12–11–2009
2621	TRANSFORMER POLE	12–14–2009
2622	TRANSFORMER POLE THREE PHASE CLUSTER MOUNT	08–18–2010
2622.1	TRANSFORMER POLE THREE PHASE CLUSTER MOUNT DEADEND POLE	02–24–2020
2623.1	OVERHEAD TYPE STEPDOWNS BUSHING LABELS & IDENTIFICATION SIMPLE H & X WINDINGS WITHOUT TAPS	10–9–2018
2623.2	OVERHEAD TYPE STEPDOWNS TRANSFORMER CONNECTIONS	08–18–2010
2623.3	THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK	07–15–2020
2623.4	THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK	08–18–2010
2623.5	THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK	07–15–2020
2624	7200/12470V SINGLE UNIT 3ϕ TRANSFORMER INSTALLATION FOR SELF–PROTECTED UNITS	12–31–2009

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

– INDEX –
OVERHEAD TRANSFORMERS

LAST REVISED	DRAWING
10–26–2022	2600.2

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

SITING DISTRIBUTION TRANSFORMERS

NOTE 1: Distribution transformers contain various quantities of mineral oil for internal insulation and to remove heat generated by electrical losses. If this mineral oil should find its way to wetlands and water sources, such as lakes, streams, wells. or reservoirs, due to a transformer tank failure, a difficult and costly cleanup would be required.

Therefore, care should be taken when siting transformers around water sources to minimize the possibility of oil migration to the water if a spill should occur. Whenever possible, transformers should be placed away from water sources, and locations where oil spills could flow to water sources. Secondary cable extensions can be used to allow moving transformers from potentially sensitive locations, as long as the level of customer load and length of the secondary run is considered to minimize the voltage drop. Transformers that are required to be installed close to a water source shall be designated "NON-PCB" and have a "NON-PCB" label on them.

LIGHTNING ARRESTOR LEADS

NOTE 2: For proper protection, lightning arrestor leads must be as short and as straight as possible. Primary taps to CSP transformers must not be coiled. Doing so presents a significantly higher surge impedance to impulse voltages such as lightning. This increases the effective primary to neutral arrestor clamping voltage.

WILDLIFE PROTECTION

NOTE 3: All high voltage bushings and arresters shall have wildlife guards installed. All transformer and arrester leads shall be covered conductor.

	DISTRIBUTION CONSTRUCTION STANDARDS	TRANSFORMER NOTES
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2601.1

PROCEDURES FOR CONNECTING AND DISCONNECTING
TRANSFORMERS FOR A VOLTAGE CUTOVER

COMPLETELY SELF PROTECTED TRANSFORMERS (CSP)

1. Install the new transformer on the same pole as the old one.
2. De–energize the circuit, tag, test and ground.
3. Remove high side tap on the old transformer.
4. Remove the secondary connections from the old transformer.
5. Open the breaker on the new transformer.
6. Install the high side tap on the new transformer.
7. Re–energize the circuit at the new system voltage.
8. Close the low side breaker.
9. Test the low side voltage on the new transformer.
10. The voltage is found to be acceptable.
11. Open the low side breaker.
12. Connect the secondary leads to the new transformer.
13. Close the low side breaker.
14. Re–test the low side voltage to insure that the breaker is operating properly.
15. Remove the old transformer.

CONVENTIONAL TRANSFORMERS (Single Units)

1. Install the new transformer on the same pole as the old transformer.
2. De–energize the circuit, tag, test and ground.
3. Open the cutouts on the old transformer.
4. Remove the primary and secondary leads from the old transformer.
5. Install the high side lead on the new transformer.
6. Install the secondary leads to the new transformer.
7. Remove the old arrestors.
8. Install new arrestors for the new circuit voltage.
9. Re–fuse the cutout for the new transformer with applicable fuse, the cutout may have to be changed.
10. Ask the customer to open their main switch.
11. Re–energize the circuit at the new system voltage.
12. Close the cutout.
13. Test secondary voltage.
14. If the voltage is acceptable ask the customer to close their main switch.
15. Remove the old transformer.

TRANSFORMER BANKS

1. Check and label phase rotation.
2. De–energize the circuit, tag, test, and ground.
3. Remove the old transformer bank.
4. Install the new transformer bank.
5. Change or re–fuse the cutouts as applicable.
6. Remove the old arrestors.
7. Install new arrestors for the new circuit voltage.
8. Install primary and secondary leads and busses.
9. Ask the customer to open their main switch.
10. Re–energize the circuit.
11. Close the cutouts.
12. Test the low side voltage.
13. If the voltage is acceptable, have the customer close their main switch.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8–30–10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

TRANSFORMER NOTES
CONNECT/DISCONNECT PROCEDURES

BANGOR HYDRO ELECTRIC Co.

DRAWING
2601.2

Suggested Primary Fusing for Distribution Transformers

Fuse Rating Based on Use of EEI–NEMA Type "T" Fuse Links

Wye–Connected Primary

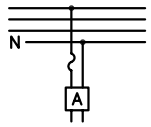


Figure A

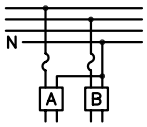


Figure B

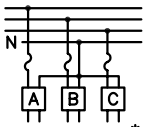


Figure C *

* For floating or grounded neutral

Delta–Connected Primary

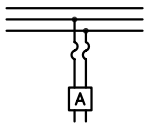


Figure D

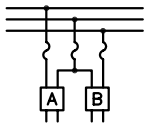


Figure E

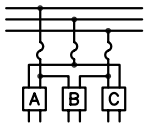


Figure F

NOTE: IF FUSE TAG IS PRESENT, ALWAYS REFUSE ACCORDING TO FUSE TAG RATING.

Transformer Size (kva)	2400/4160 WYE		4800/8320 WYE		2400 DELTA			
	Figures A, B and C		Figures A, B and C		Figures D and E		Figure F	
	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating
3	1.25	6	.625	6	1.25	6	2.16	6
5	2.08	6	1.042	6	2.08	6	3.61	6
10	4.17	6	2.083	6	4.17	6	7.22	10
15	6.25	10	3.125	6	6.25	10	10.8	15
25	10.42	15	5.21	6	10.42	15	18.05	25
37.5	15.63	25	7.81	10	15.63	25	27.05	40
50	20.8	25	10.42	15	20.8	25	36.1	65
75	31.25	40	15.63	25	31.25	40	54.2	65
100	41.67	65	20.83	25	41.67	65	72.2	100
167	69.4	100	34.7	40	69.4	100	119.0	140
250	104.2	140	52.1	65	104.2	140	180.5	200
333	138.8	140	69.4	100	138.8	140	238.0	
500	208.3	200	104.2	140	208.3	200	361.0	

Transformer Size (kva)	7200/12470 WYE		7620/13200 WYE		12000 DELTA			
	Figures A, B and C		Figures A, B and C		Figures D and E		Figure F	
	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating	Rated Amps	Link Rating
3	.416	6	.394	6	.250	6	.432	6
5	.694	6	.656	6	.417	6	.722	6
10	1.389	6	1.312	6	.833	6	1.44	6
15	2.083	6	1.97	6	1.25	6	2.16	6
25	3.47	6	3.28	6	2.083	6	3.61	6
37.5	5.21	6	4.92	6	3.125	6	5.42	6
50	6.94	10	6.56	10	4.17	6	7.22	10
75	10.42	15	9.84	15	6.25	10	10.8	15
100	13.89	15	13.12	15	8.33	10	14.44	15
167	23.2	40	21.8	25	13.87	15	23.8	40
250	34.73	40	32.8	40	20.83	25	36.1	65
333	46.3	65	43.7	65	27.75	40	47.5	65
500	69.4	100	65.6	100	41.67	65	72.2	100

Transformer Size (kva)	19900/34500 WYE				13200 DELTA			
	Figures A, B and C				Figures D and E		Figure F	
	Rated Amps	Link Rating			Rated Amps	Link Rating	Rated Amps	Link Rating
3					.277	6	.394	6
5					.379	6	.656	6
10	.50	6			.757	6	1.312	6
15	.75	6			1.14	6	1.97	6
25	1.25	6			1.89	6	3.28	6
37.5	1.875	6			2.84	6	4.92	6
50	2.50	6			3.79	6	6.56	10
75	3.75	6			5.68	6	9.84	15
100	5.00	6			7.57	10	13.12	15
167	8.35	10			12.62	15	21.8	25
250	12.5	15			18.94	25	32.8	40
333	16.65	25			25.23	40	43.7	65
500	25.00	40			37.88	65	65.6	100

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DISTRIBUTION CONSTRUCTION STANDARDS

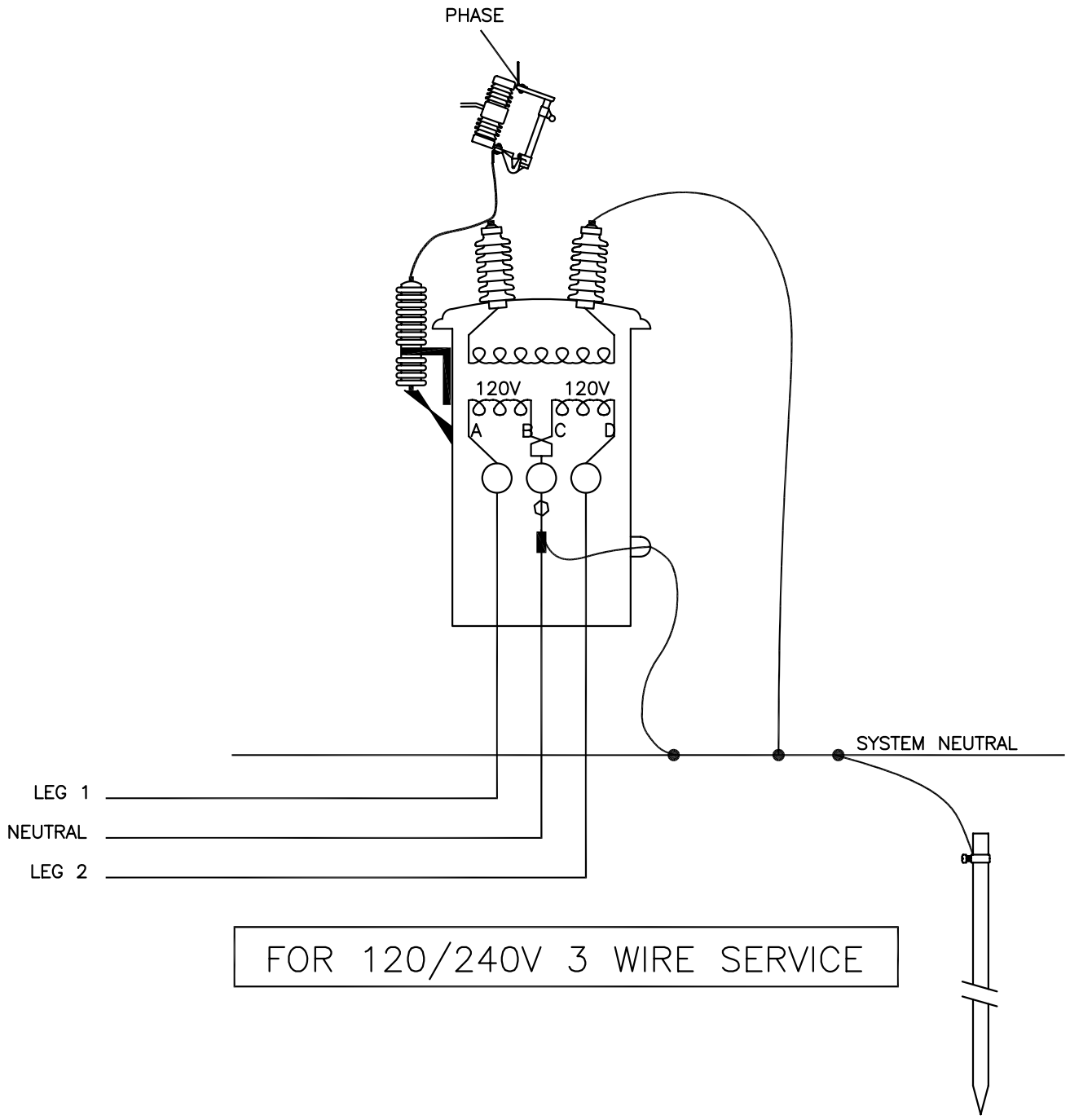
FUSING SCHEDULE
DISTRIBUTION TRANSFORMERS

BANGOR HYDRO ELECTRIC Co.

DRAWING
2602

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-11-09	GAN



FOR 120/240V 3 WIRE SERVICE

NOTES:
1. PRIMARY NEUTRAL BUSHING GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. FUSED CUTOUTS MUST BE INSTALLED ON 35KV MAIN FEEDER INSTALLATIONS.

DISTRIBUTION CONSTRUCTION STANDARDS

120/240V THREE WIRE SERVICE CONVENTIONAL TRANSFORMER

BANGOR HYDRO ELECTRIC Co.

DRAWING 2603

NO.	REVISION	DATE	CK

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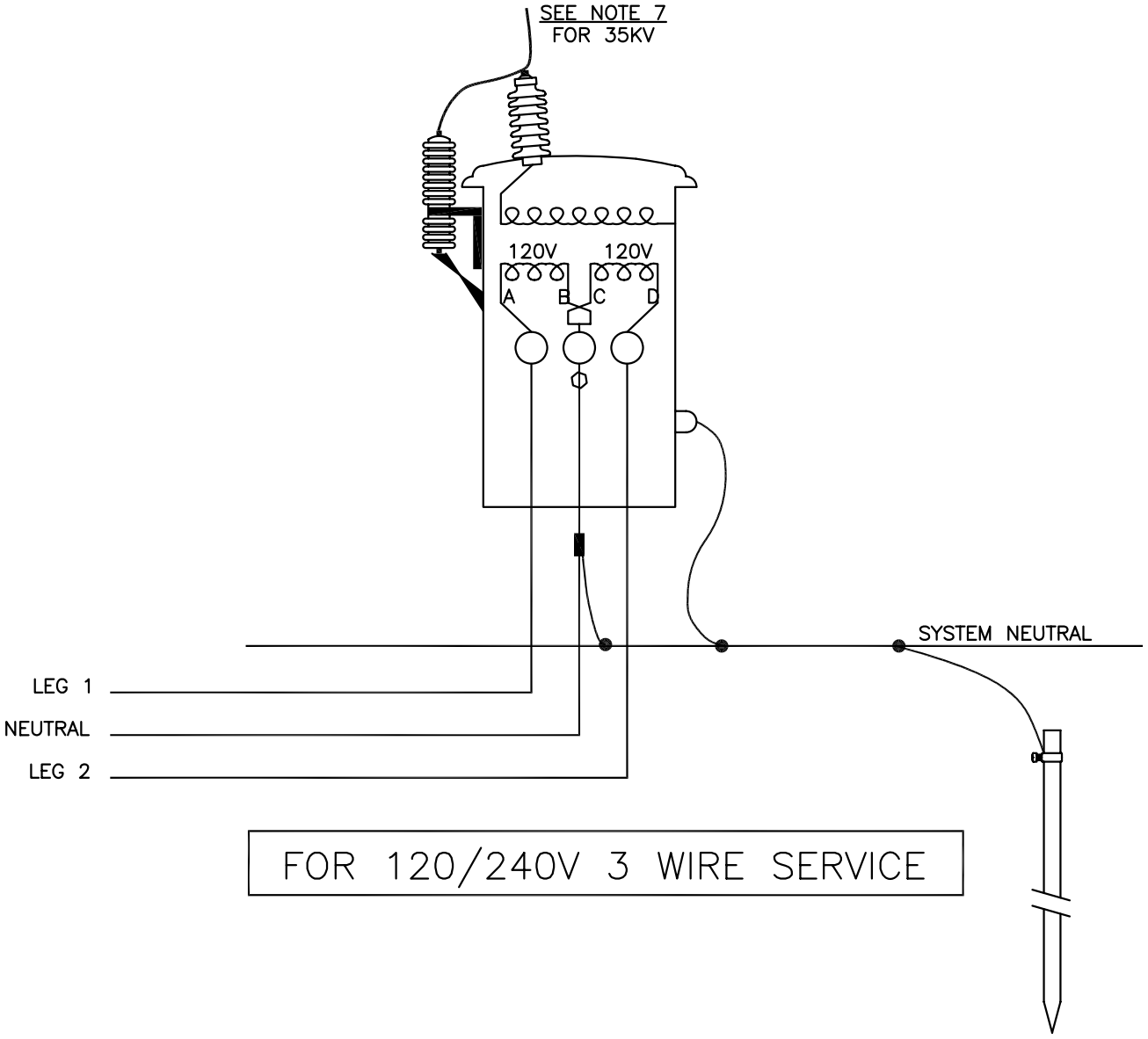

FOR 120/240V 3 WIRE SERVICE

NOTES:

1. PRIMARY NEUTRAL BUSHING GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. FUSED CUTOUTS MUST BE INSTALLED ON 35KV MAIN FEEDER INSTALLATIONS.

	DISTRIBUTION CONSTRUCTION STANDARDS	120/240V THREE WIRE SERVICE C.S.P. TRANSFORMER
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2604

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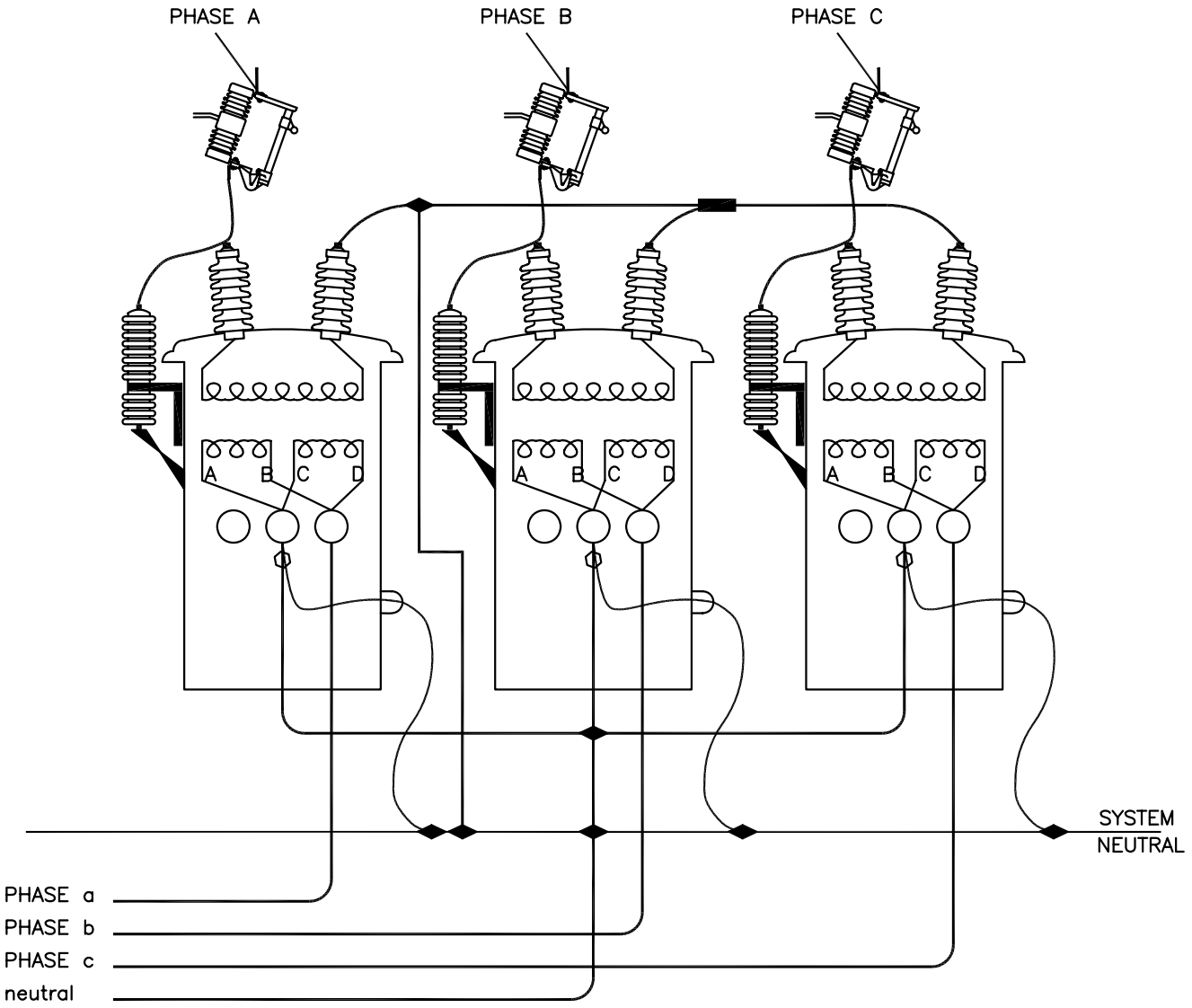
1	2009 REVISIONS & REFORMAT	12-11-09	GAN



FOR 120/208Y 4 WIRE SERVICE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. NEUTRAL BUS & CONNECTIONS SHALL BE SIZED TO MATCH THE SERVICE OR SECONDARY CONDUCTORS.

DISTRIBUTION CONSTRUCTION STANDARDS

120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMER GRD WYE – GRD WYE

BANGOR HYDRO ELECTRIC Co.

DRAWING 2605

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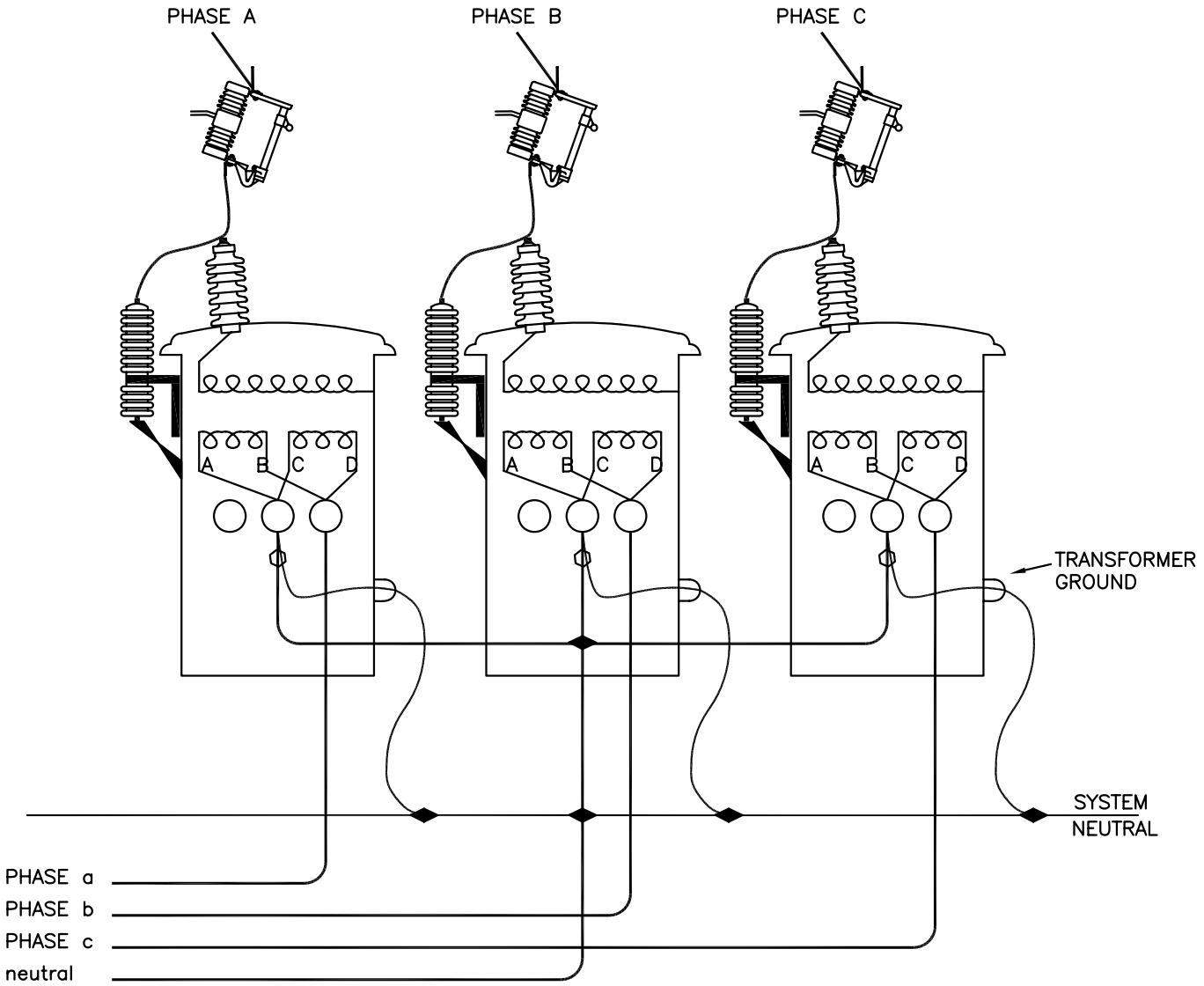
1	2009 REVISIONS & REFORMAT	12-11-09	GAN



FOR 120/208Y 4 WIRE SERVICE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. CUTOUTS MUST BE USED ON THIS BANK TO ELIMINATE CAPACITIVE COUPLING VOLTAGE WHICH IS PRESENT AT THE BUSHINGS WITH THE PRIMARY CONNECTED AND THE SECONDARY BREAKER OPEN.
7. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
8. NEUTRAL BUS & CONNECTIONS SHALL BE SIZED TO MATCH THE SERVICE OR SECONDARY CONDUCTORS.

DISTRIBUTION CONSTRUCTION STANDARDS

120/208V FOUR WIRE SERVICE C.S.P. TRANSFORMER GRD WYE – GRD WYE

BANGOR HYDRO ELECTRIC Co.

DRAWING 2606

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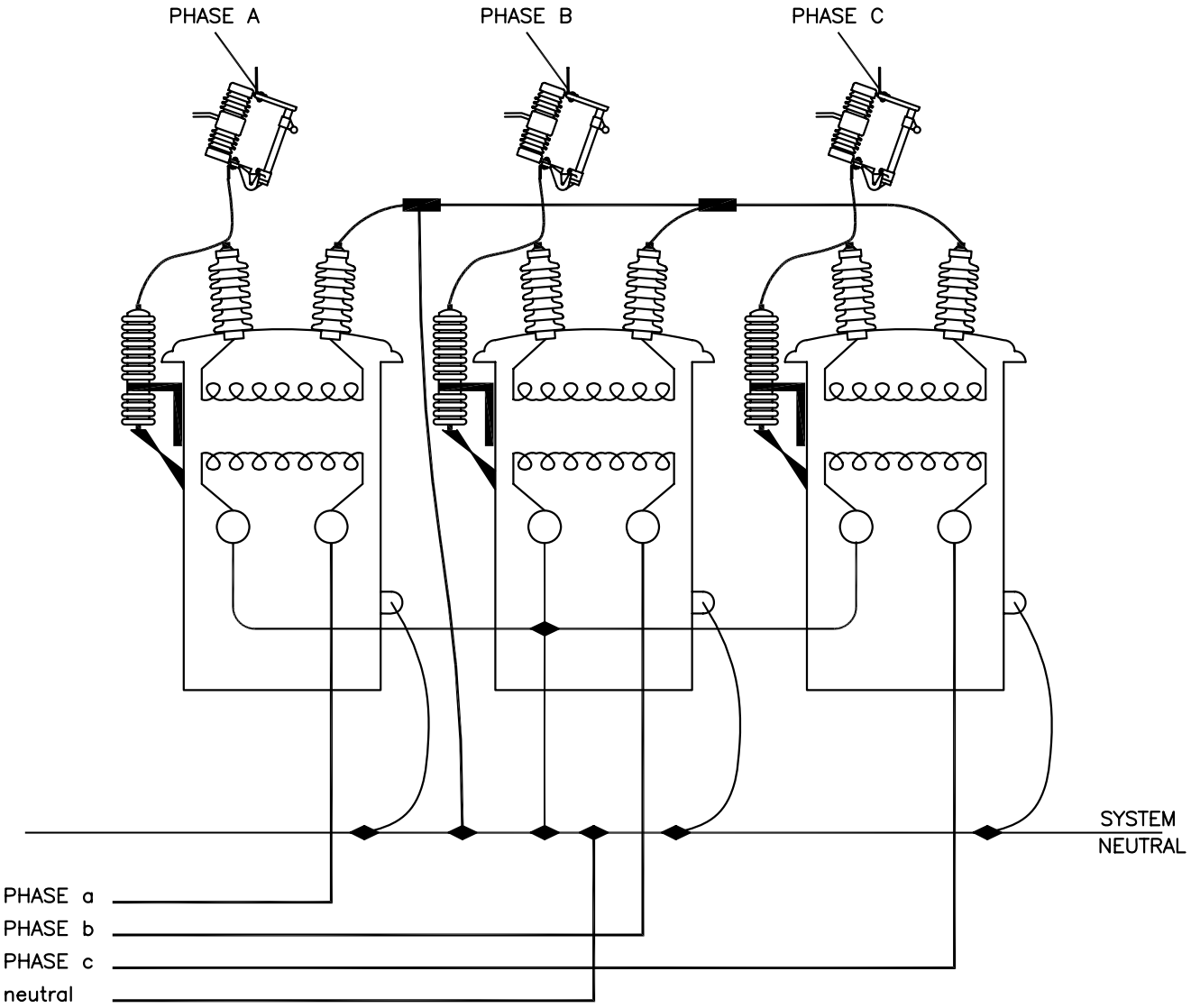
1	2009 REVISIONS & REFORMAT	12-11-09	GAN



FOR 277/480Y 4 WIRE SERVICE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. NEUTRAL BUS & CONNECTIONS SHALL BE SIZED TO MATCH THE SERVICE OR SECONDARY CONDUCTORS.

	DISTRIBUTION CONSTRUCTION STANDARDS	277/480V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMER GRD WYE – GRD WYE
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2607

NO.	REVISION	DATE	CK

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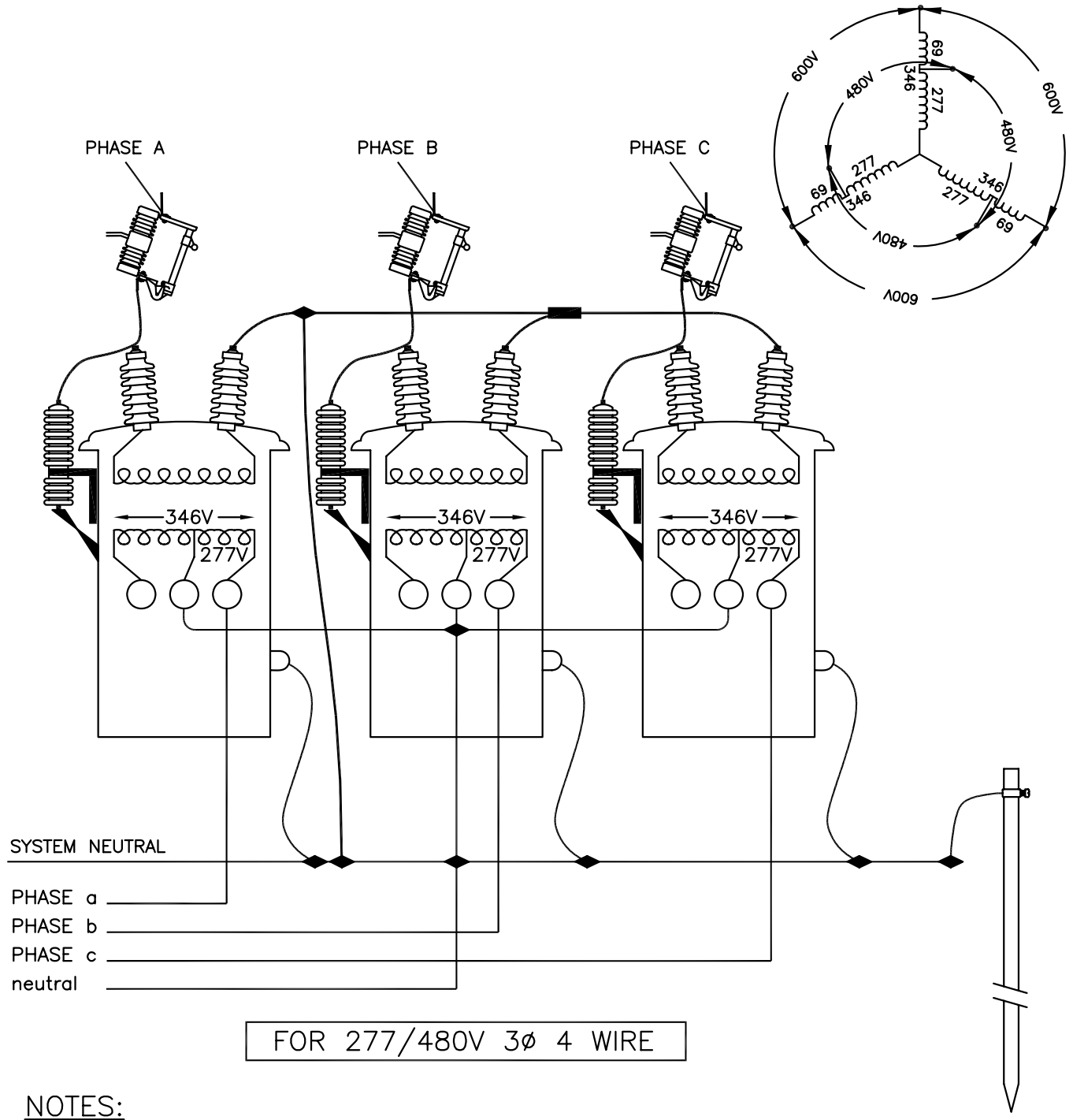
1	2009 REVISIONS & REFORMAT	12-11-09	GAN



FOR 277/480V 3ø 4 WIRE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE w/277V TAP.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. NEUTRAL BUS & CONNECTIONS SHALL BE SIZED TO MATCH THE SERVICE OR SECONDARY CONDUCTORS.

DISTRIBUTION CONSTRUCTION STANDARDS

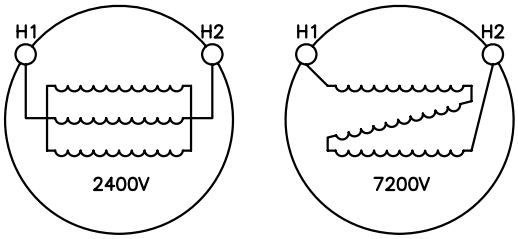
277/480V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS GRD WYE – GRD WYE

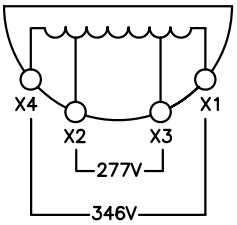
BANGOR HYDRO ELECTRIC Co.

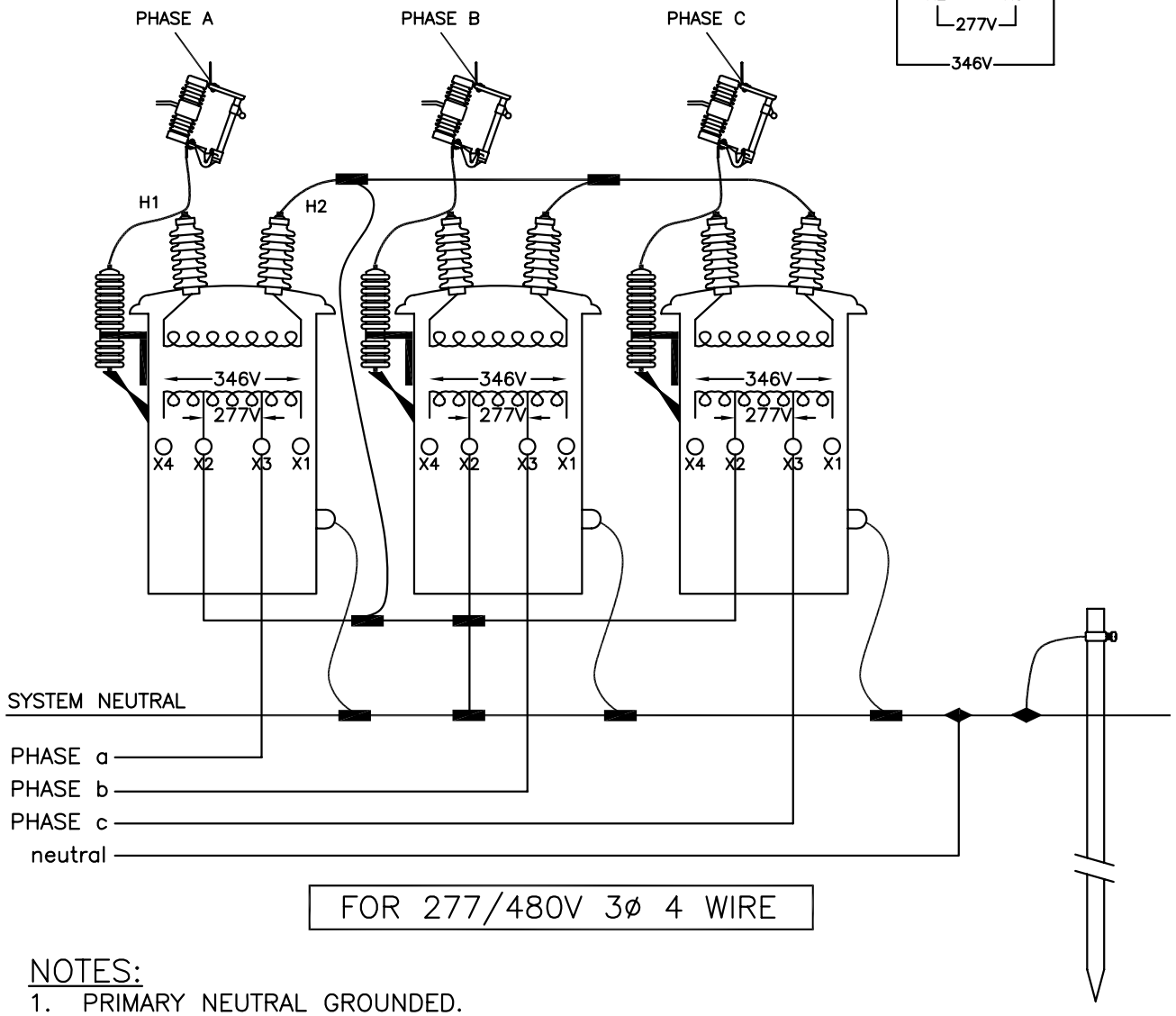
DRAWING 2608

DUAL HIGH SIDE 2400/4160Y – 7200/12470Y
FOUR BUSHING LOW SIDE WITH 277 AND 346V TAPS.

CARTE DESIGN







FOR 277/480V 3ø 4 WIRE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE w/277V TAP.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. NEUTRAL BUS & CONNECTIONS SHALL BE SIZED TO MATCH THE SERVICE OR SECONDARY CONDUCTORS.

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DISTRIBUTION CONSTRUCTION STANDARDS

277/480V FOUR WIRE SERVICE
CONVENTIONAL TRANSFORMERS
CARTE DESIGN
GRD WYE – GRD WYE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2609

NO.	REVISION	DATE	CK

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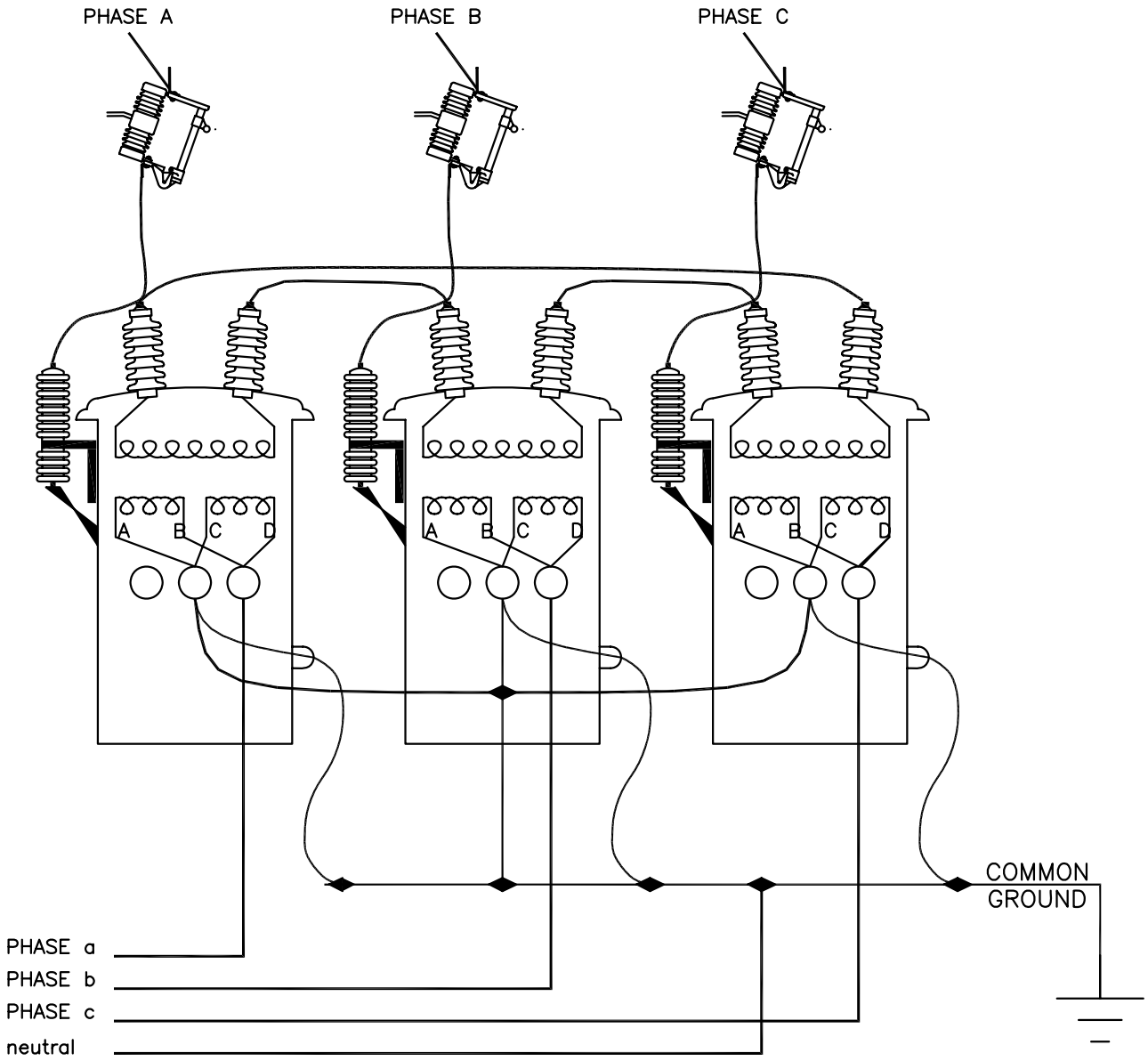

FOR 120/240V 3ø 4 WIRE

NOTES:

1. NO PRIMARY NEUTRAL.
2. SECONDARY NEUTRAL GROUNDED.
3. PRIMARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
4. SECONDARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
5. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE COMMON GROUND. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. FOR USE w/ STONINGTON DELTA PRIMARY, OTHERWISE MAINTENANCE USE ONLY.

DISTRIBUTION CONSTRUCTION STANDARDS

120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS DELTA – GRD WYE

BANGOR HYDRO ELECTRIC Co.

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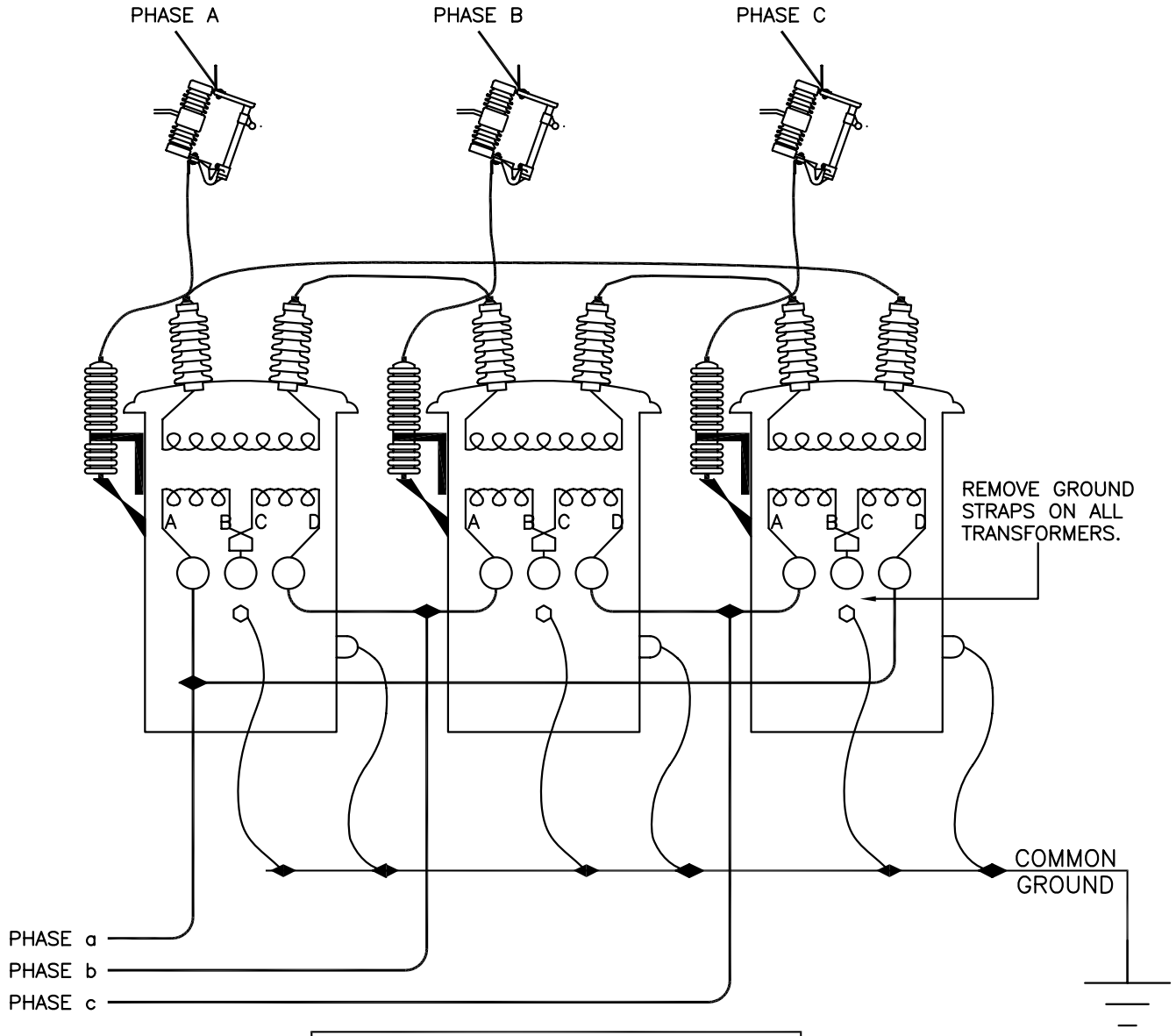

FOR 240Δ OR 480Δ 3 WIRE

NOTES:

1. NO PRIMARY OR SECONDARY NEUTRAL.
2. PRIMARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
3. SECONDARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
4. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE COMMON GROUND. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
5. FOR USE w/ STONINGTON DELTA PRIMARY.

	DISTRIBUTION CONSTRUCTION STANDARDS	240/480V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS DELTA – DELTA
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2611

NO.	REVISION	DATE	CK

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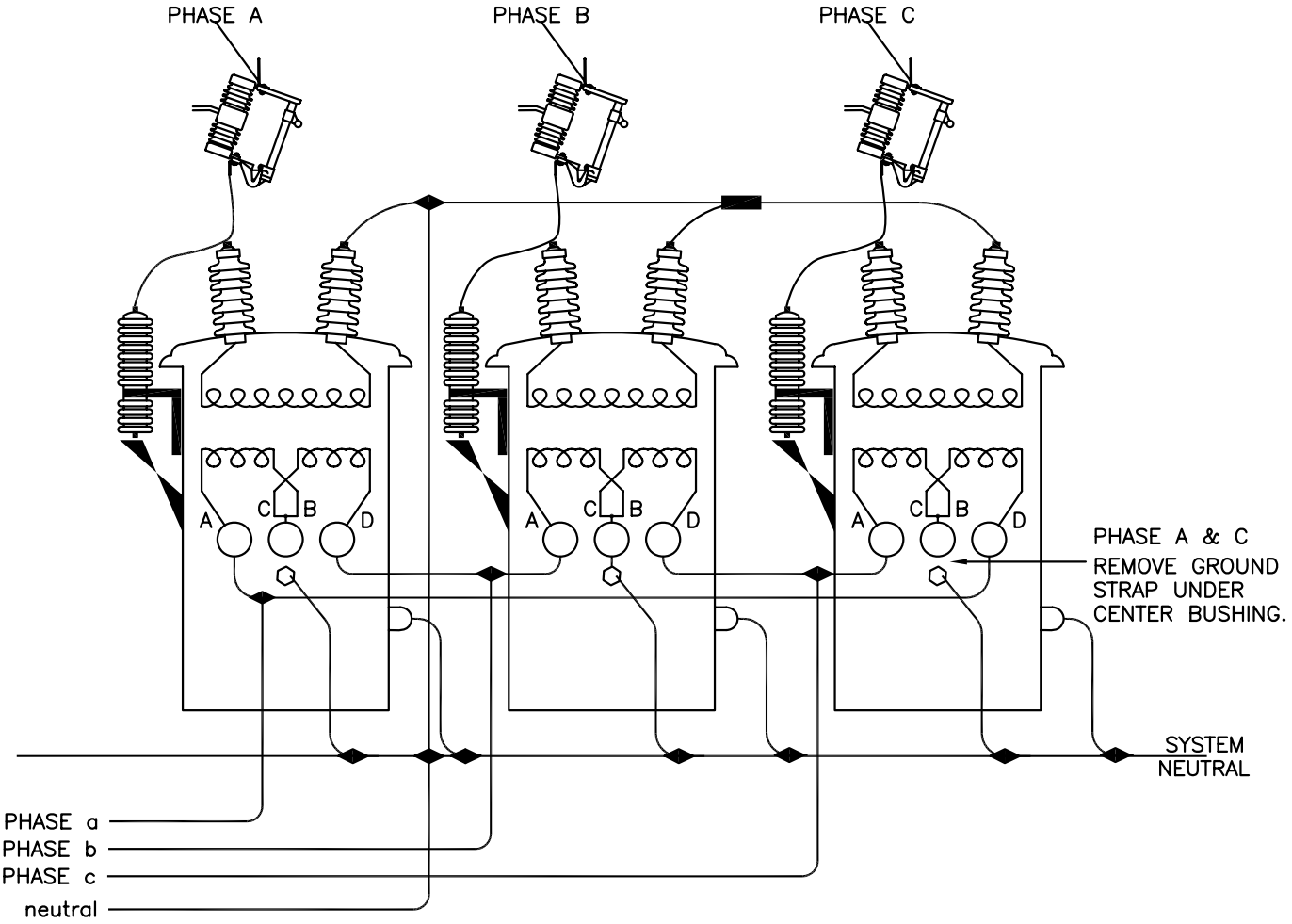
1	2009 REVISIONS & REFORMAT	8-30-10	GAN



FOR 240V AND CENTER TAPPED 120V 3ø 4 WIRE

NOTES:

1. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
2. SECONDARY WINDINGS RATED AT 120/240V.
3. OVERSIZE MIDDLE CENTER TAPPED TRANSFORMER.
4. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
5. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
6. FOR MAINTENANCE USE ONLY. NO NEW INSTALLATIONS.

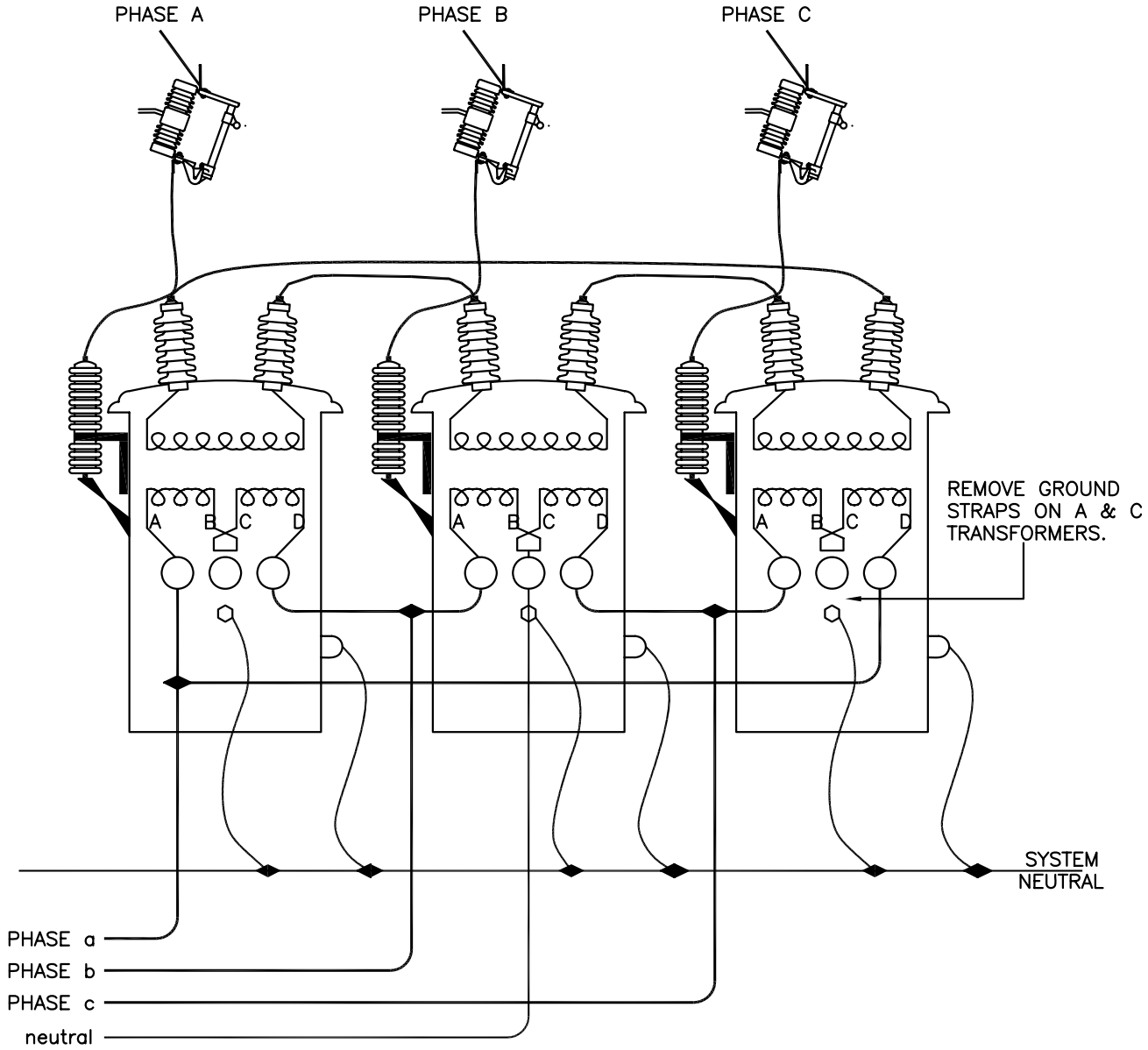
NO.	REVISION	DATE	CK

DISTRIBUTION CONSTRUCTION STANDARDS

240V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS GRD WYE – DELTA

BANGOR HYDRO ELECTRIC Co.

DRAWING
2612



FOR 240V AND CENTER TAPPED 120V 3ø 4 WIRE

NOTES:

1. PRIMARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
2. SECONDARY WINDINGS RATED AT 120/240V.
3. THE NEUTRAL OR GROUND MUST BE TAKEN TO THE MAIN DISCONNECT.
4. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
5. FOR MAINTENANCE USE ONLY. NO NEW INSTALLATIONS.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
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DISTRIBUTION CONSTRUCTION STANDARDS

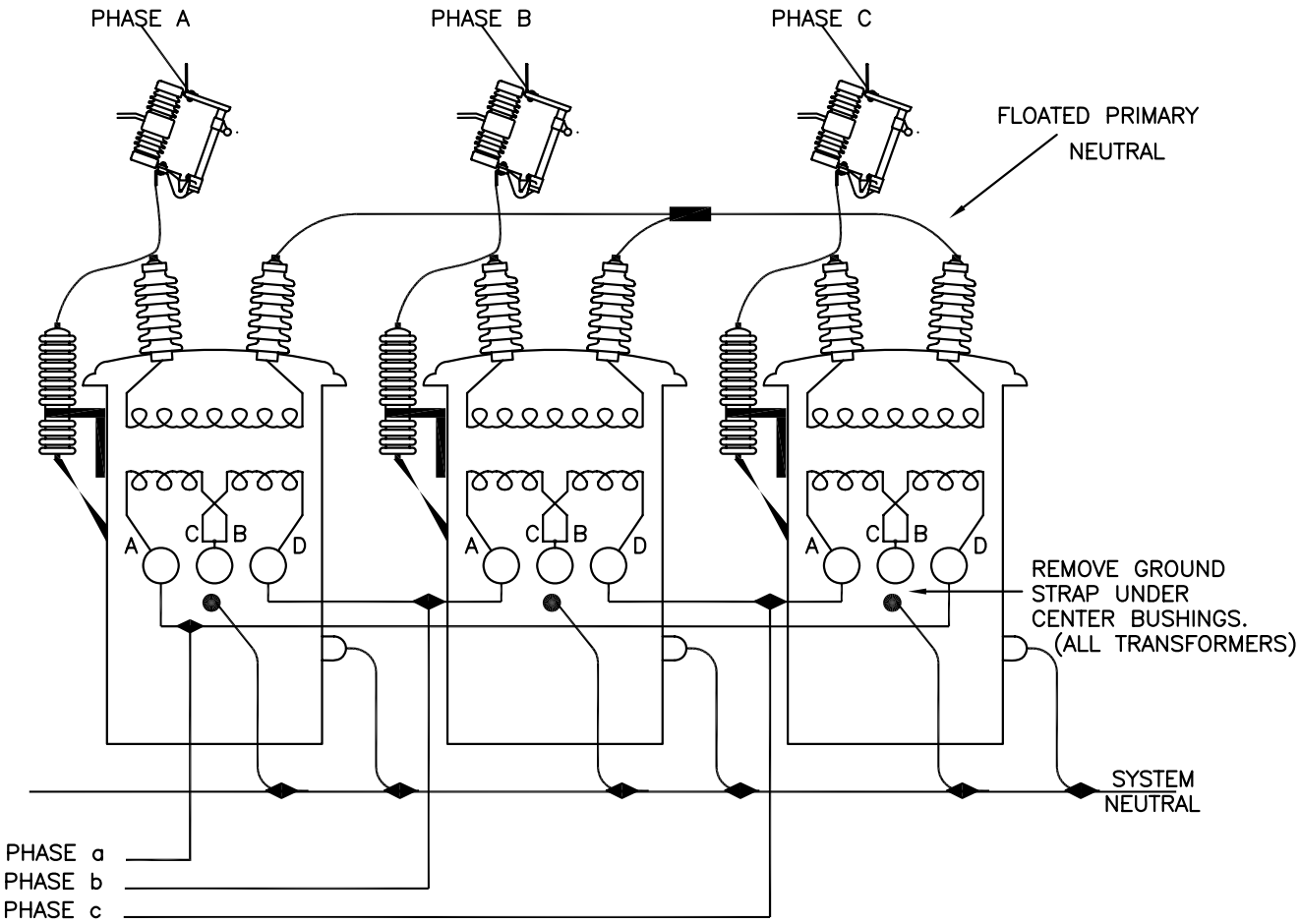
240V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS DELTA – DELTA

BANGOR HYDRO ELECTRIC Co.

DRAWING 2613

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

NO.	REVISION	DATE	CK

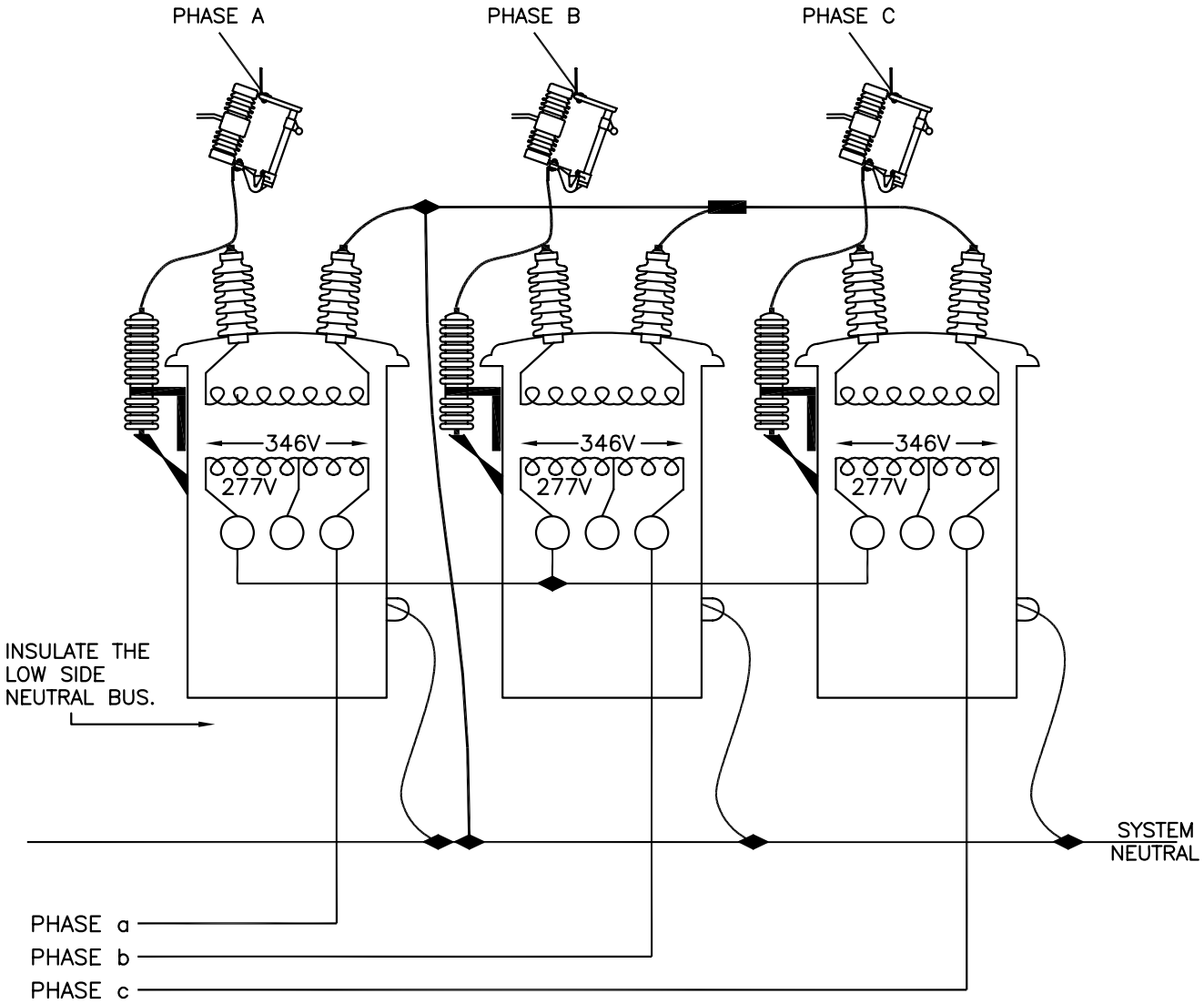


FOR 240,480 or 600V 3ø 3 WIRE

NOTES:

1. INSULATE (FLOAT) THE PRIMARY NEUTRAL TO PREVENT THIS BANK ACTING AS A GROUNDING BANK.
2. PRIMARY WINDINGS RATED AT PHASE TO NEUTRAL VOLTAGE.
3. SECONDARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
4. NO GROUNDS ANYWHERE ON THE SECONDARY SIDE.
5. DO NOT USE ON 19.9/34.5KV PRIMARY SYSTEMS.
6. REMOVE THE GROUND STRAP CONNECTIONS FROM ALL CENTER SECONDARY BUSHINGS.
7. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
8. FOR MAINTENANCE USE ONLY. NO NEW INSTALLATIONS.

	DISTRIBUTION CONSTRUCTION STANDARDS	240,480 or 600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS WYE – DELTA
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2614



FOR 600V 3ø 3 WIRE

NOTES:

1. PRIMARY WINDINGS RATED AT PHASE TO NEUTRAL VOLTAGE.
2. SECONDARY WINDINGS RATED AT PHASE TO NEUTRAL VOLTAGE w/277V TAP.
3. USE THE LEFT SECONDARY BUSHINGS OF EACH TRANSFORMER TO FORM AN INSULATED (FLOATED) SECONDARY NEUTRAL BUS.
4. USE THE RIGHT SECONDARY BUSHING FOR THE PHASE SERVICE CONNECTIONS.
5. PRIMARY NEUTRAL GROUNDED.
6. THERE WILL BE NO CONNECTION FROM THE SECONDARY NEUTRAL BUS TO THE SERVICE. CONNECT THE CABLE MESSENGER TO THE PRIMARY SYSTEM NEUTRAL.
7. NO CONNECTION IS MADE TO THE CENTER BUSHING.
8. THE NEUTRAL BUS SHOULD BE SIZED TO CARRY THE FULL LOAD OF EACH TRANSFORMER.
9. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
10. FOR MAINTENANCE USE ONLY. NO NEW INSTALLATIONS.

NO.	REVISION	DATE	CK

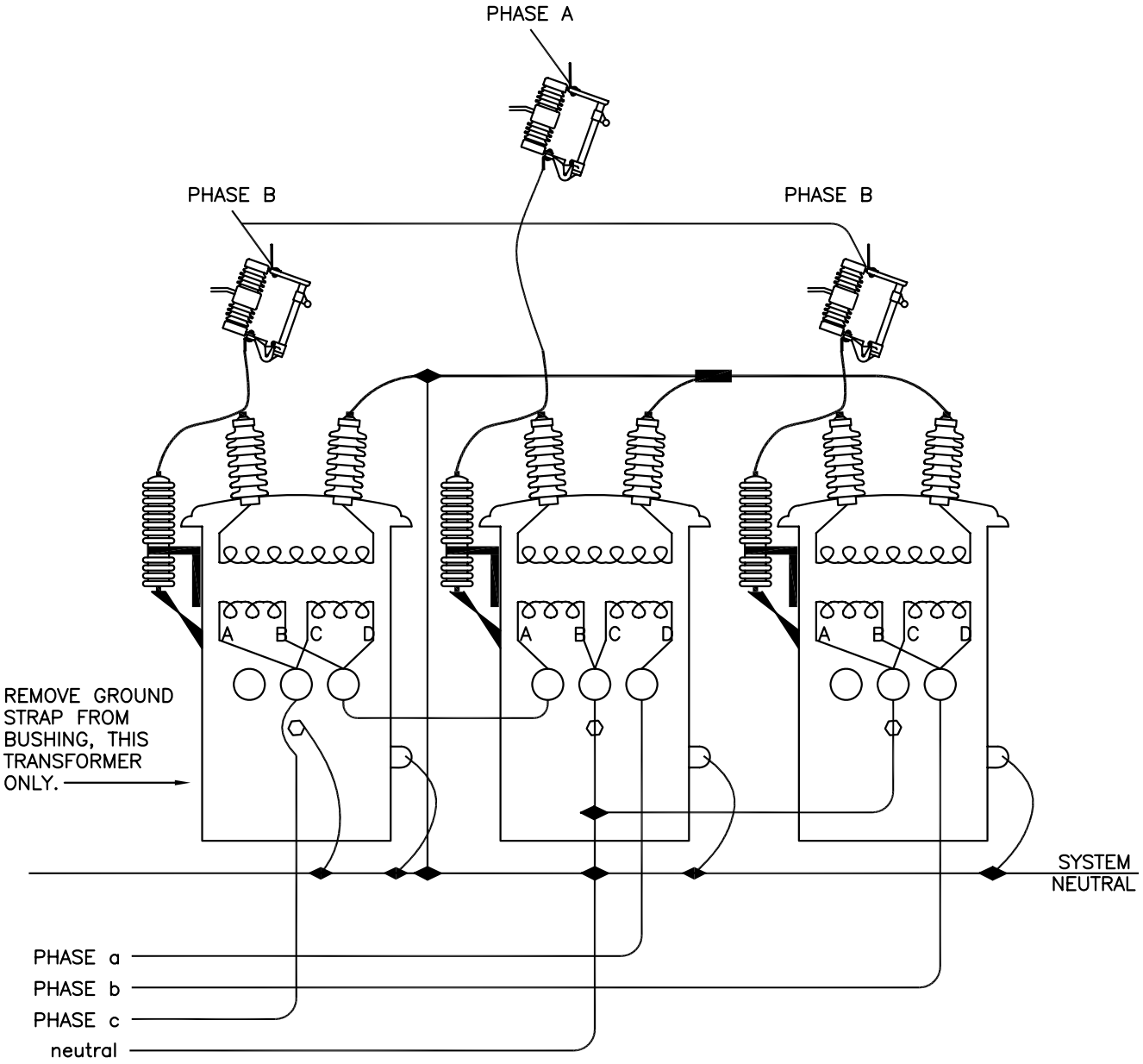
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS GRD WYE – DELTA

BANGOR HYDRO ELECTRIC Co.

DRAWING 2615



FOR 120/208V 3ø 4 WIRE
WHERE ONLY TWO PHASES AVAILABLE

NOTES:

1. PRIMARY NEUTRAL GROUNDED.
2. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
3. THE MIDDLE AND RIGHT TRANSFORMERS SHOULD HAVE SECONDARY CONNECTION TO THE NEUTRAL. THE LEFT TRANSFORMER SHOULD HAVE NO SECONDARY CONNECTION TO THE NEUTRAL.
4. OVERSIZE THE MIDDLE (PHASE "A") TRANSFORMER.
5. THE NEUTRAL MUST BE TAKEN TO THE MAIN DISCONNECT.
6. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
7. FOR MAINTENANCE USE ONLY. NO NEW INSTALLATIONS.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN

NO.	REVISION	DATE	CK

DISTRIBUTION CONSTRUCTION STANDARDS

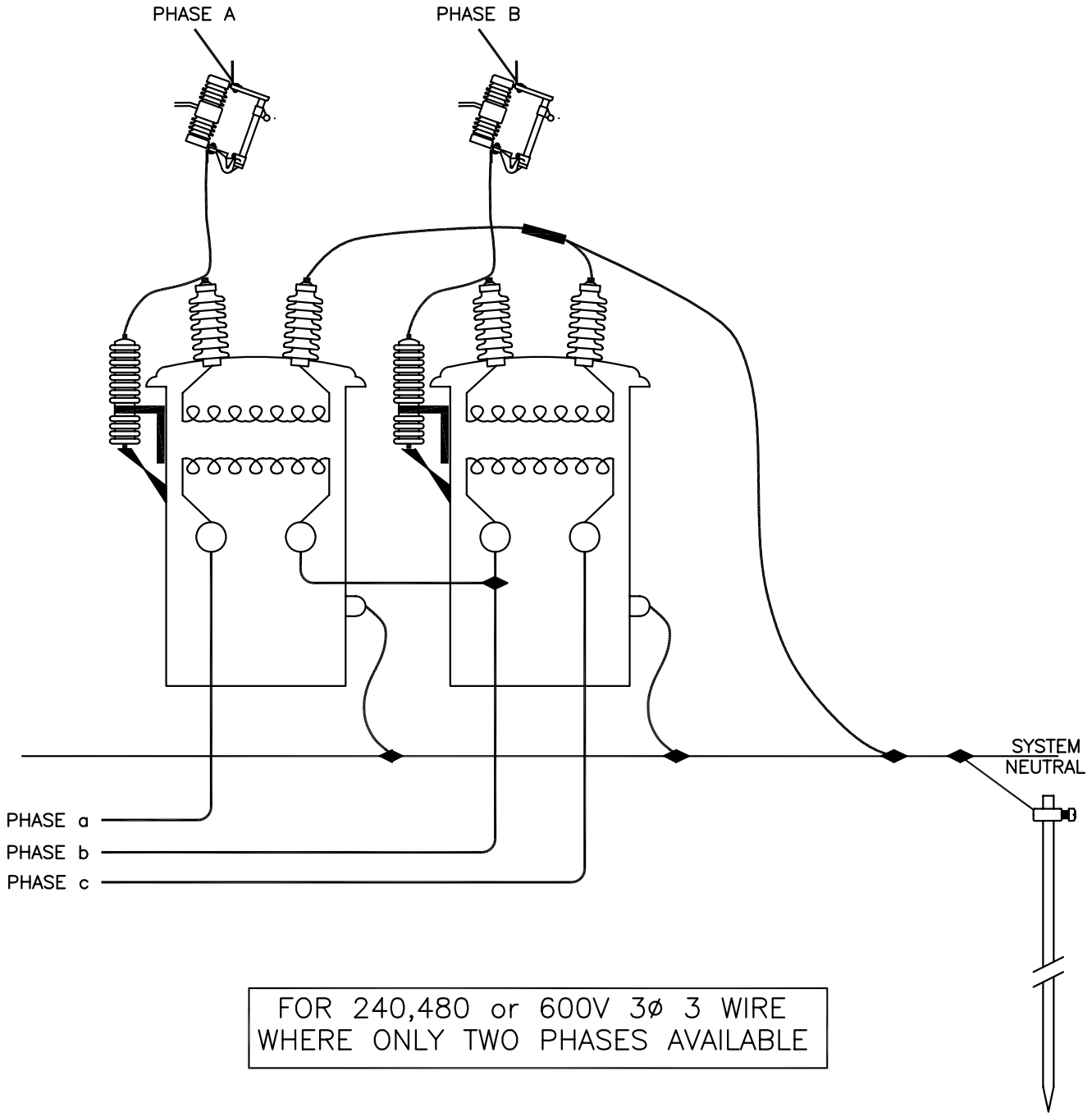
120/208V FOUR WIRE SERVICE CONVENTIONAL TRANSFORMERS OPEN GRD WYE – GRD WYE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2616

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-30-10	GAN



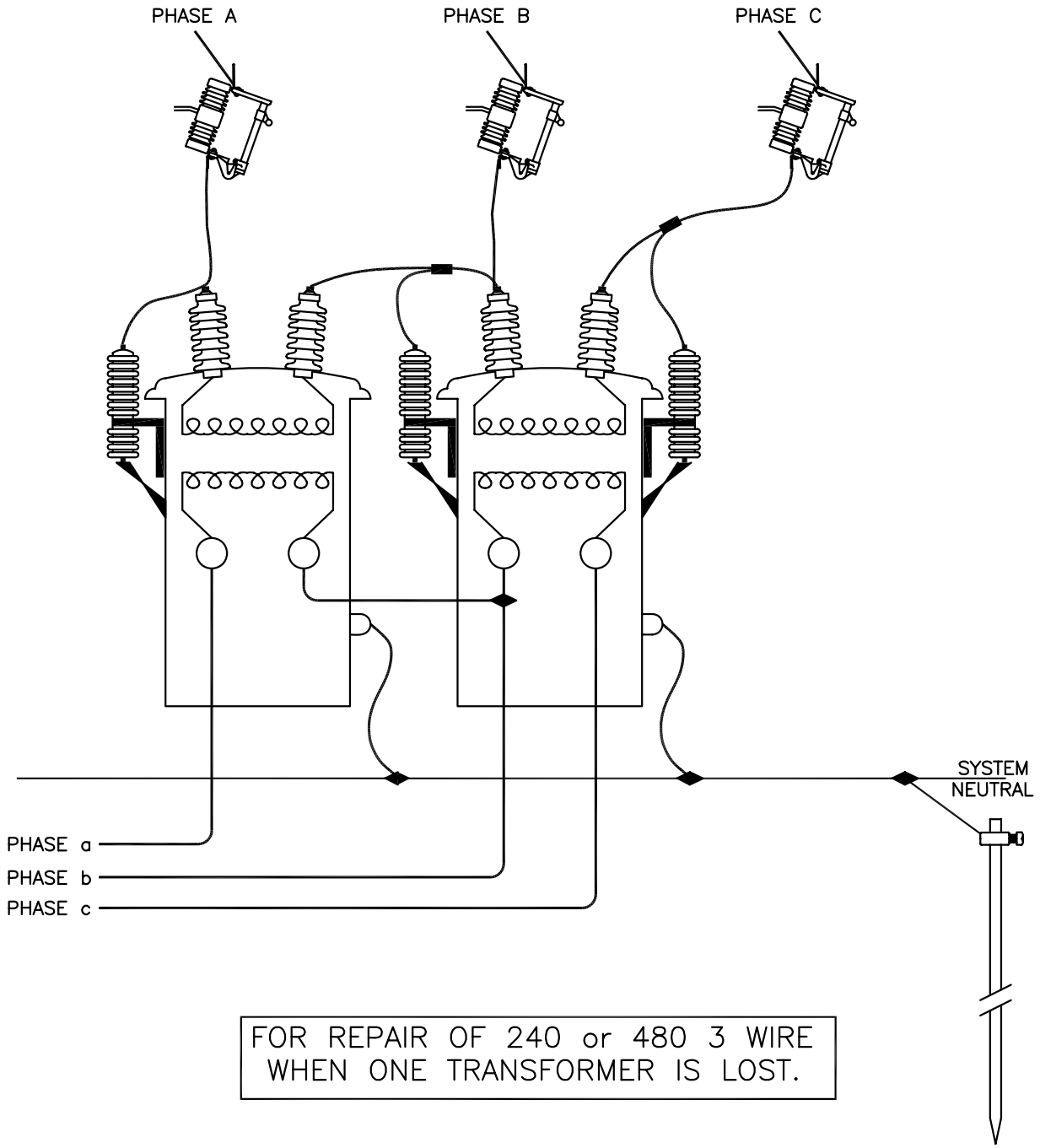
FOR 240,480 or 600V 3ø 3 WIRE
WHERE ONLY TWO PHASES AVAILABLE

NOTES:

1. PRIMARY WINDINGS RATED AT PHASE TO GROUND VOLTAGE.
2. SECONDARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
3. NO GROUNDS ON SECONDARY SIDE.
4. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
5. THIS SERVICE IS ONLY AVAILABLE FOR LIMITED LOADS WITH PRIOR T&D ENGINEERING APPROVAL.

	DISTRIBUTION CONSTRUCTION STANDARDS	240,480 or 600V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS OPEN GRD WYE – OPEN DELTA
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2617

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-11-09	GAN

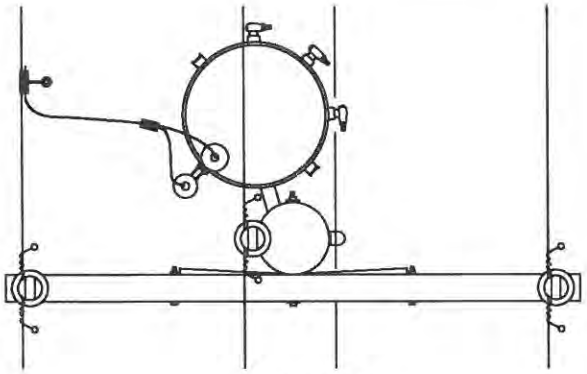


FOR REPAIR OF 240 or 480 3 WIRE
WHEN ONE TRANSFORMER IS LOST.

NOTES:

1. PRIMARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
2. SECONDARY WINDINGS RATED AT PHASE TO PHASE VOLTAGE.
3. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST FOR SAFETY. INSTALL A GROUND ROD WHICH IS CONNECTED TO THE SYSTEM NEUTRAL. INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
4. THIS CONNECTION IS ONLY TO BE USED FOR EMERGENCY REPAIR OF THE TRANSFORMER BANK SHOWN IN STANDARD #2611.

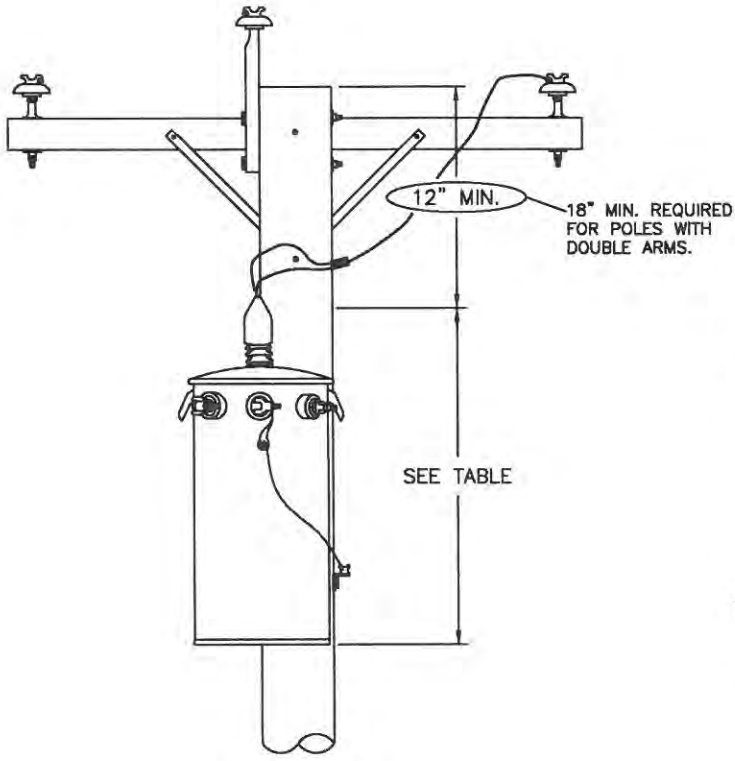
	DISTRIBUTION CONSTRUCTION STANDARDS	FOR REPAIR OF 240 or 480V THREE WIRE SERVICE CONVENTIONAL TRANSFORMERS OPEN DELTA – OPEN DELTA
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2618



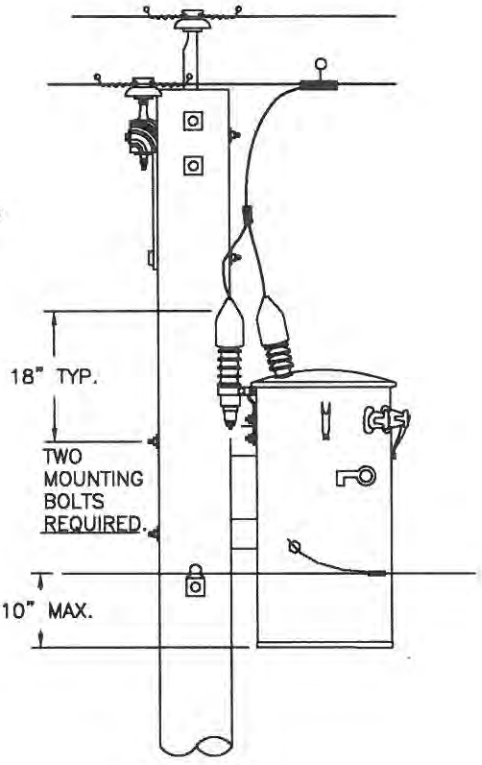
TOP VIEW

MAX. TRANSFORMER HEIGHT INCLUDING BUSHINGS

KVA SIZE	15KV	34.5KV
10	42"	46"
25	44"	48"
50	48"	52"
75	54"	58"



FRONT VIEW



SIDE VIEW

NOTES:

1. TAP LENGTH NOT TO EXCEED 4', WIRE SHOULD BE COVERED TYPE.
2. DISTANCE BELOW NEUTRAL TO TRANSFORMER BASE NOT TO EXCEED 10".
3. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
4. DOUBLE GROUND CONNECTIONS ARE REQUIRED.
   (1) TANK GROUND, (2) NEUTRAL GROUND.
5. ILLUSTRATED w/ 15KV C.S.P. TRANSFORMER. FOR 34.5KV, USE CONVENTIONAL TRANSFORMER w/ FUSED CUTOUT. SEE STANDARD #2603.

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-14-09	GAN

NO.	REVISION	DATE	CK

STATE OF MAINE
GERARD H. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

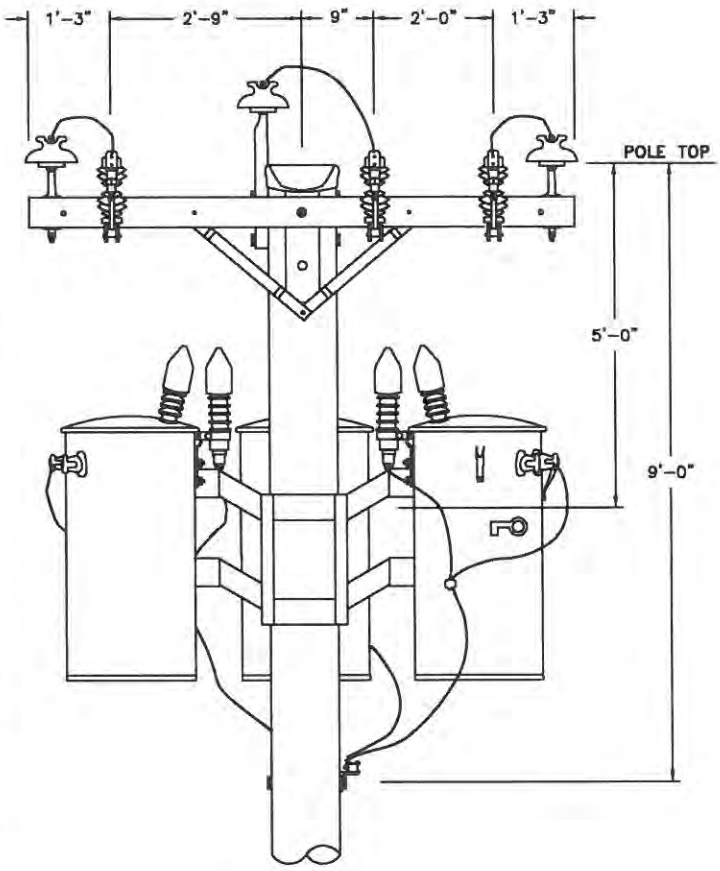
TRANSFORMER POLE

BANGOR HYDRO ELECTRIC Co.

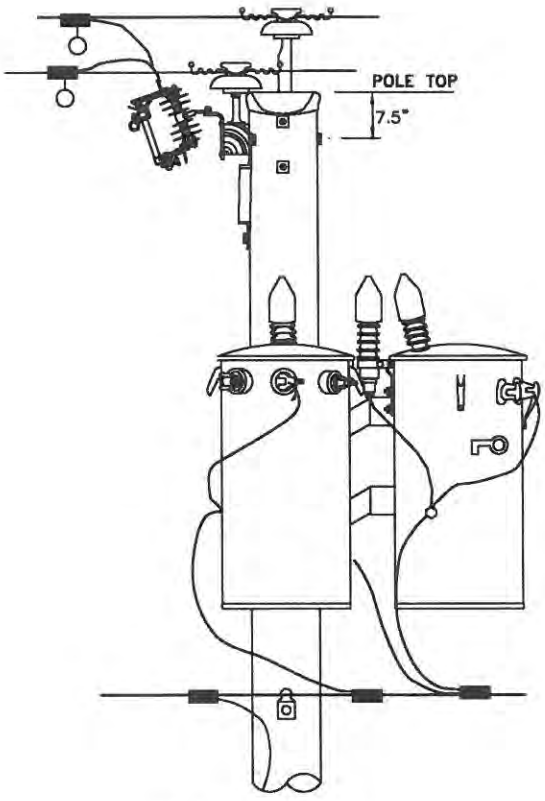
DRAWING
2621

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	8-18-10	GAN



FRONT VIEW



SIDE VIEW

NOTES:

1. TAP LENGTH NOT TO EXCEED 4', WIRE SHOULD BE COVERED TYPE.
2. DISTANCE BELOW NEUTRAL TO TRANSFORMER BASE NOT TO EXCEED 10".
3. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
4. DOUBLE GROUND CONNECTIONS ARE REQUIRED.
   (1) TANK GROUND, (2) NEUTRAL GROUND.
5. MAXIMUM OF THREE 75KVA TRANSFORMERS ALLOWED.
6. SMALLER TRANSFORMERS MAY NOT REQUIRE THE SPACING SHOWN. CONSULT T&D ENGINEERING FOR REDUCED SPACING REQUIREMENTS.

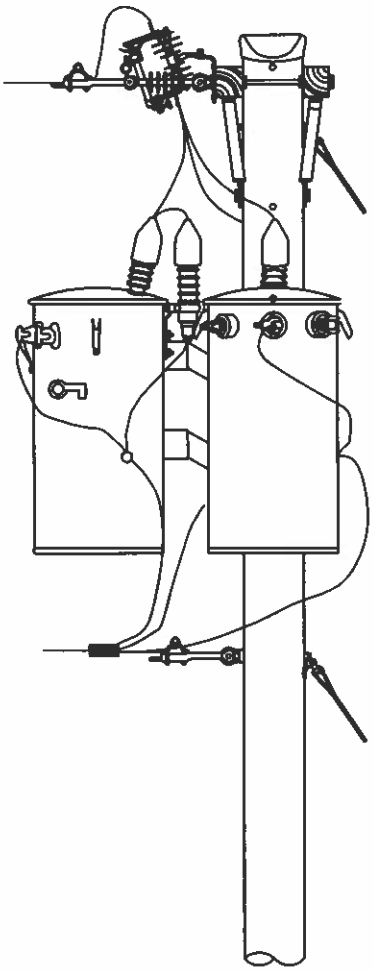
STATE OF MAINE
GERARD R. CHASSE
NO. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

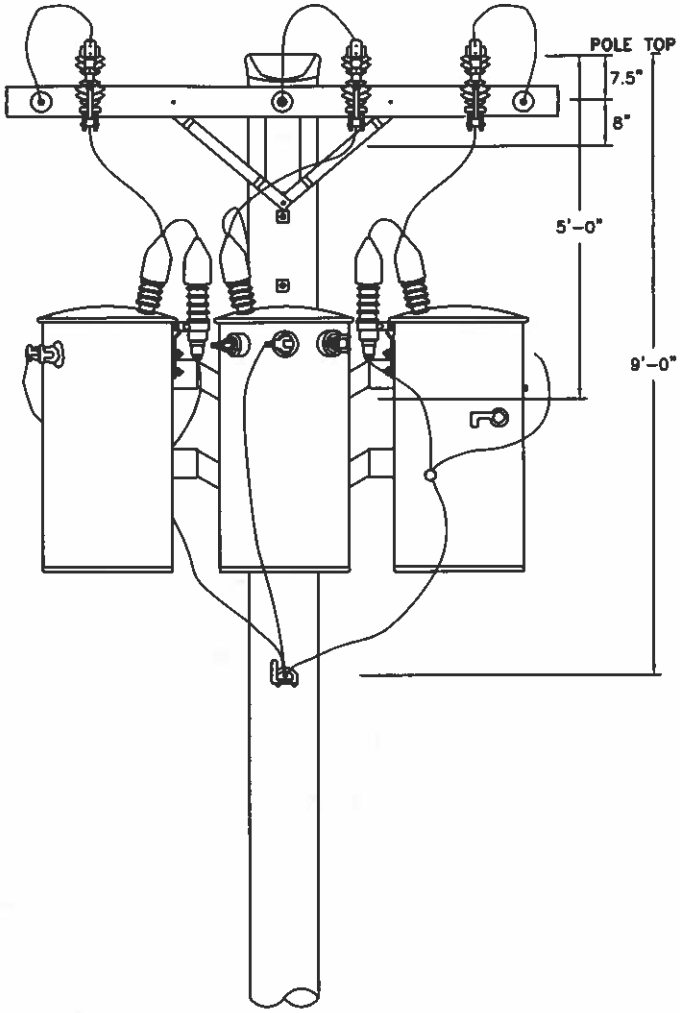
TRANSFORMER POLE
THREE PHASE CLUSTER MOUNT

BANGOR HYDRO ELECTRIC Co.

DRAWING
2622



SIDE VIEW



FRONT VIEW

NOTES:

1. TAP LENGTH NOT TO EXCEED 4', WIRE SHOULD BE COVERED TYPE.
2. DISTANCE BELOW NEUTRAL TO TRANSFORMER BASE NOT TO EXCEED 10".
3. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
4. DOUBLE GROUND CONNECTIONS ARE REQUIRED.
   (1) TANK GROUND, (2) NEUTRAL GROUND.
5. MAXIMUM OF THREE 75KVA TRANSFORMERS ALLOWED.
6. THIS DESIGN SUITABLE FOR USE WITH BRACELESS FIBERGLASS DEADEND.
7. SMALLER TRANSFORMERS MAY NOT REQUIRE THE SPACING SHOWN. CONSULT T&D ENGINEERING FOR REDUCED SPACING REQUIREMENTS.
8. WIRES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONFIRM CORRECT CONFIGURATION PRIOR TO ENERGIZATION.
9. THIS DESIGN TO USE A MINIMUM CLASS 3 POLE.
10. SEE SECTION 1300 FOR GUYING REQUIREMENTS.

STATE OF MAINE ★ DAVID W. NORMAN ★ No. 8377 LICENSED PROFESSIONAL ENGINEER 7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

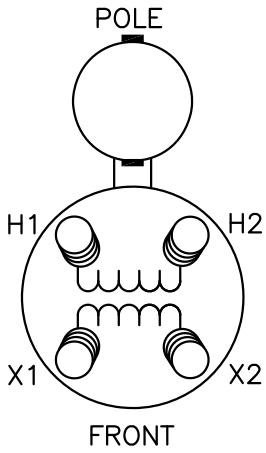
VERSANT POWER

TRANSFORMER POLE
THREE PHASE CLUSTER MOUNT
DEADEND POLE

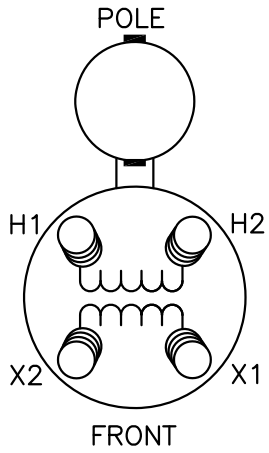
LAST REVISED	DRAWING
02-24-2020	2622.1

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	ADD LABELING & CONNECTIONS SHEETS	10-9-18	GAN

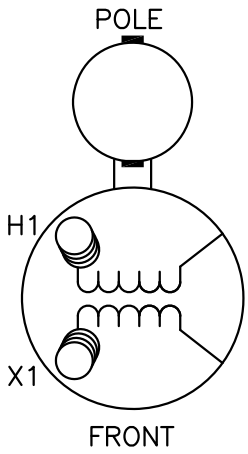


SUBTRACTIVE POLARITY

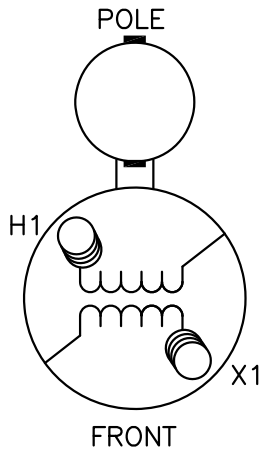


ADDITIVE POLARITY

4 BUSHING TRANSFORMERS



SUBTRACTIVE POLARITY

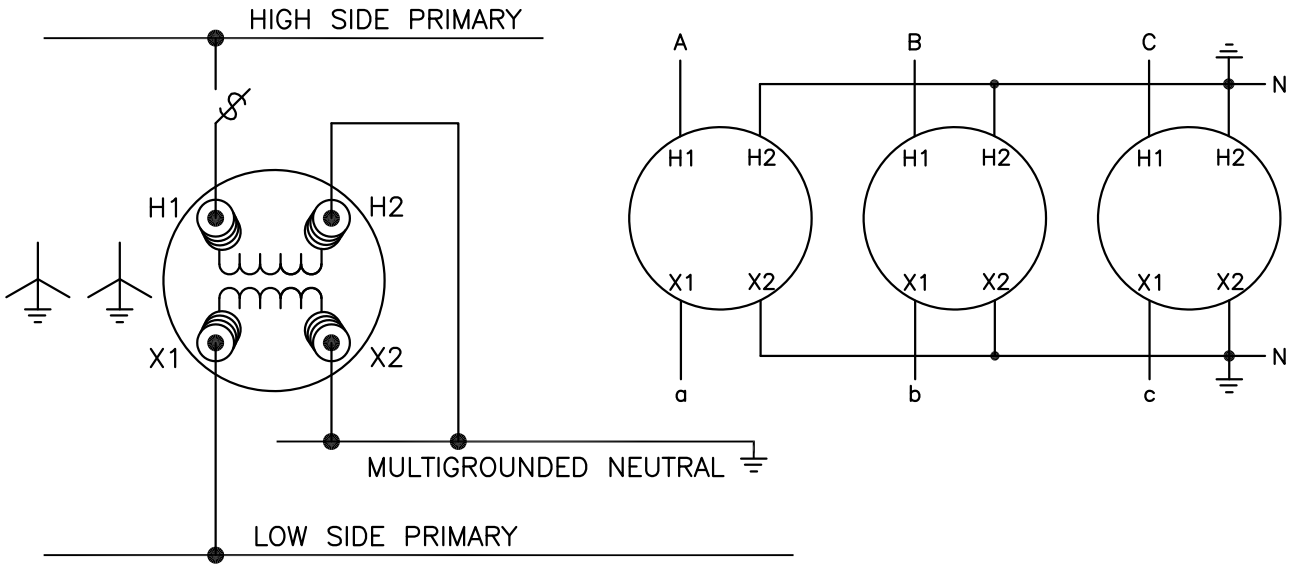


ADDITIVE POLARITY

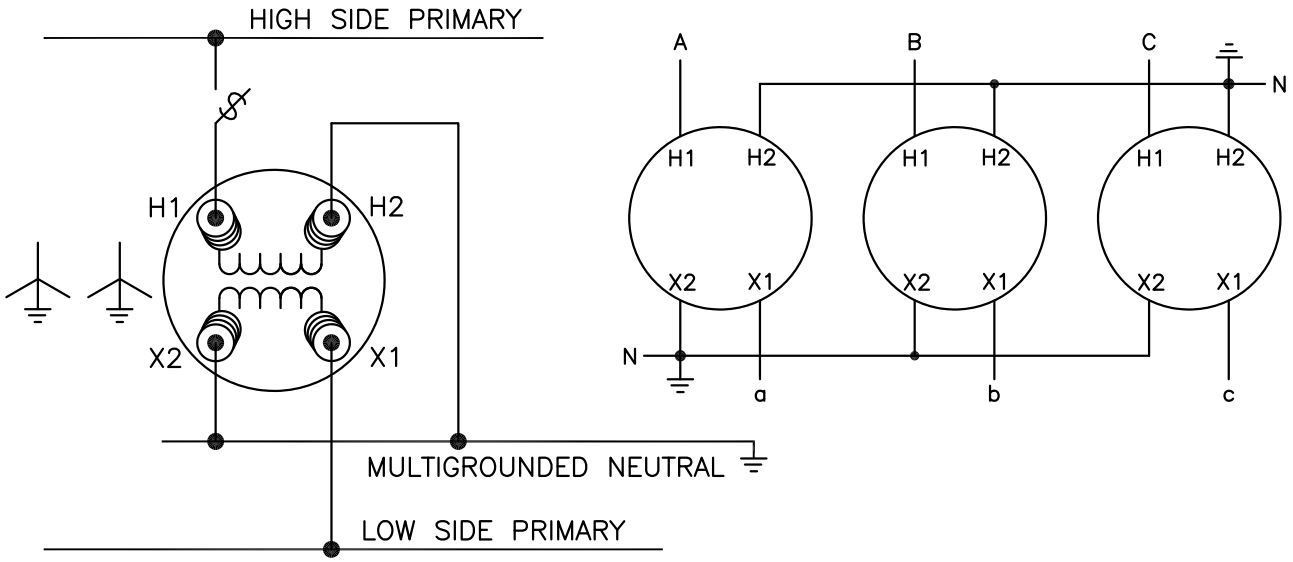
2 BUSHING TRANSFORMERS

ALWAYS REFERENCE THE TRANSFORMER NAMEPLATE FOR BUSHING DESIGNATIONS

	DISTRIBUTION CONSTRUCTION STANDARDS	OVERHEAD TYPE STEPDOWNS BUSHING LABELS & IDENTIFICATION SIMPLE H & X WINDINGS WITHOUT TAPS
	Emera Maine	DRAWING 2623.1



SUBTRACTIVE POLARITY TRANSFORMER CONNECTIONS
GROUNDED WYE PRIMARY



ADDITIVE POLARITY TRANSFORMER CONNECTIONS
GROUNDED WYE PRIMARY

NOTES:

1. HIGH AND LOW VOLTAGE PRIMARY WINDINGS RATED PHASE TO GROUND.
2. H2 AND X2 BUSHINGS GROUNDED TO NEUTRAL AND A GROUND ROD. FOR 2 BUSHING STEPDOWNS: H2 AND X2 INTERNALLY GROUNDED, CONNECT TANK GROUND TO NEUTRAL AND A GROUND ROD.
3. INSTALL GROUNDS FIRST, REMOVE GROUNDS LAST, AND INSURE THAT ALL TANK GROUNDS ARE IN PLACE.
4. INSTALLING THE HIGH SIDE FUSED CUTOUT ONE SECTION AWAY IS PREFERRED.
5. SEE DRAWING 2601 FOR TRANSFORMER INSTALLATION PROCEDURE, TEST VOLTAGE BEFORE CONNECTING TO CUSTOMERS.

NO.	REVISION	DATE	CK

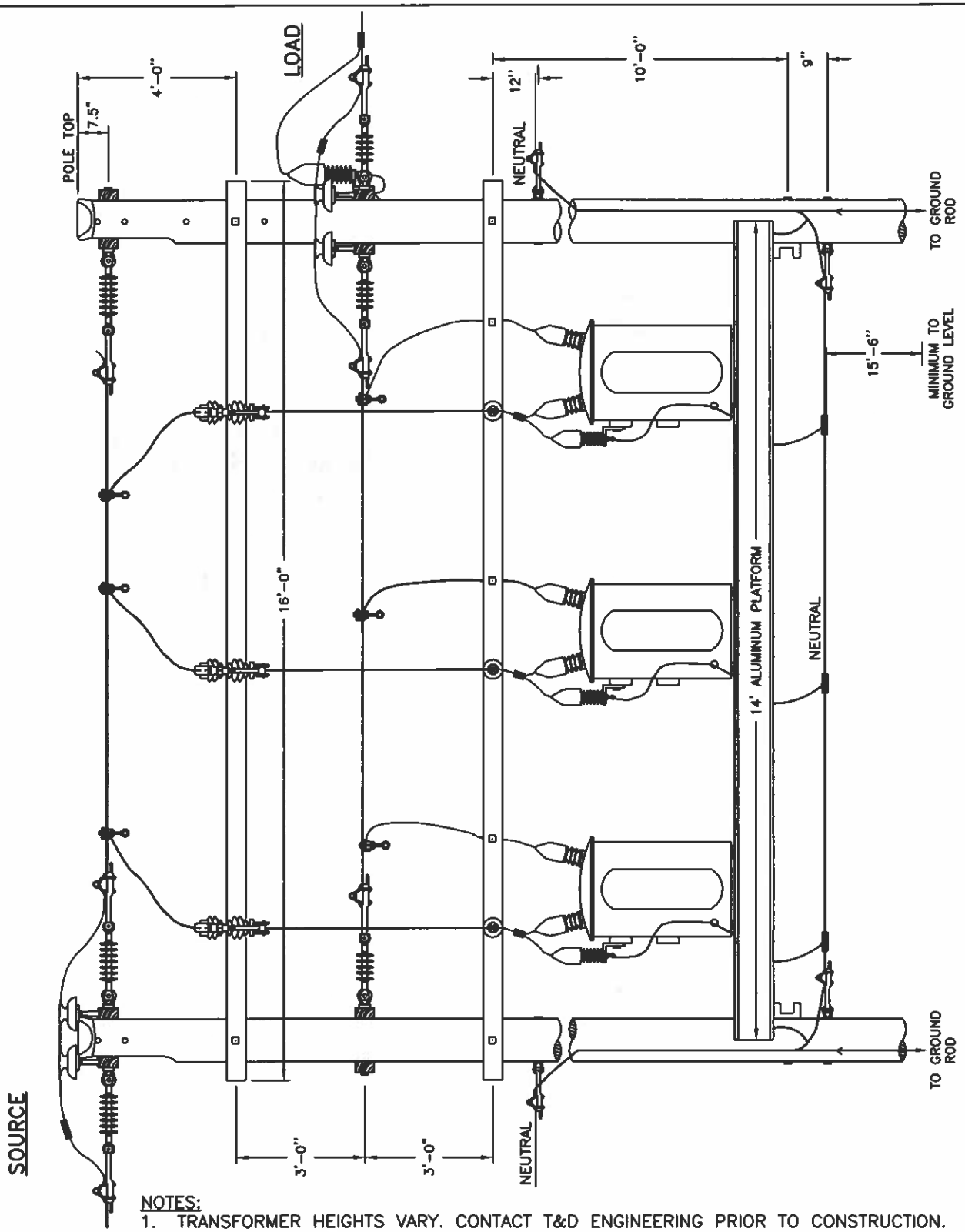
NO.	REVISION	DATE	CK
1	ADD LABELING & CONNECTIONS SHEETS	10-9-18	GAN

DISTRIBUTION CONSTRUCTION STANDARDS

OVERHEAD TYPE STEPDOWNS TRANSFORMER CONNECTIONS

Emera Maine

DRAWING
2623.2



NOTES:

1. TRANSFORMER HEIGHTS VARY. CONTACT T&D ENGINEERING PRIOR TO CONSTRUCTION.
2. SEE STANDARD #1405 FOR PLATFORM DETAIL.
3. POLES TO BE MINIMUM CLASS 1–50'
4. FOR JOINT POLE CONSTRUCTION, NEUTRAL MUST BE 23' MINIMUM ABOVE GROUND LEVEL.

STATE OF MAINE
DAVID W. NORMAN
No. 8577
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK

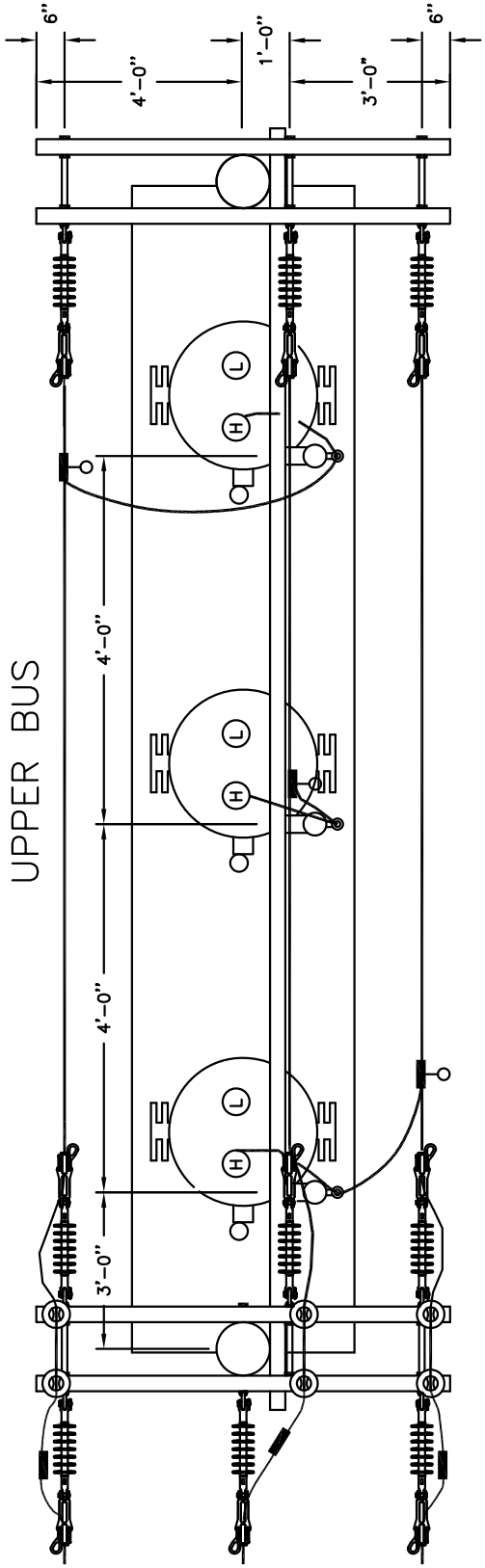
LAST REVISED	DRAWING
07–15–2020	2623.3

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-31-09	GAN
2	ADD LABELING & CONNECTIONS SHEETS	10-9-18	GAN

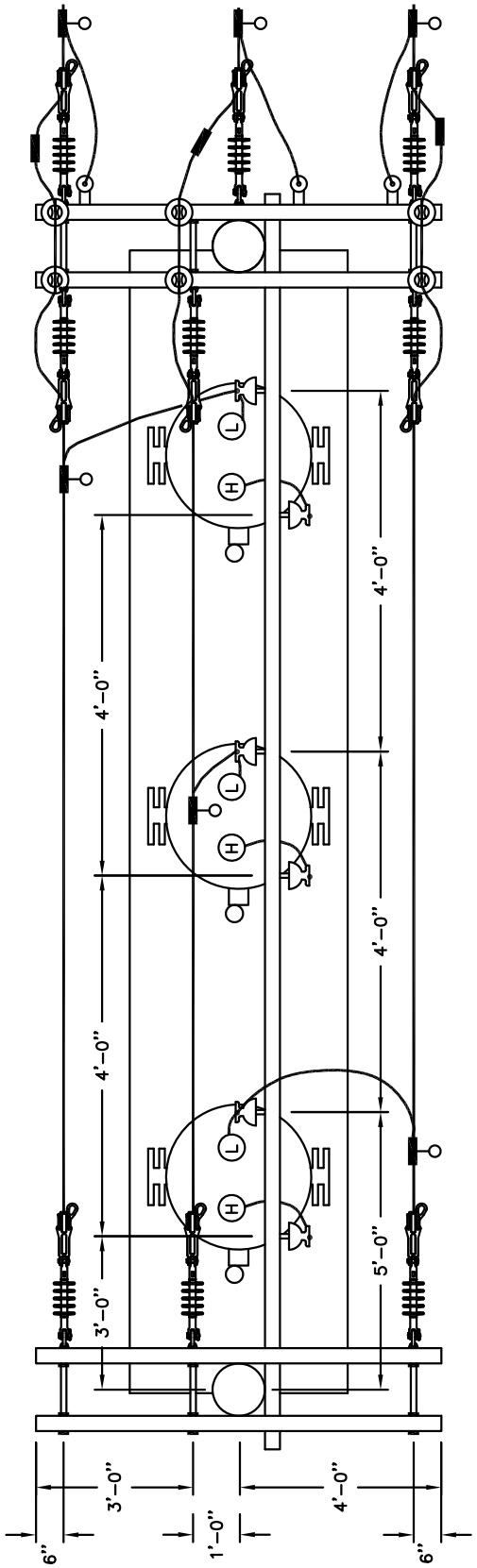
NO.	REVISION	DATE	CK

TOP VIEWS

UPPER BUS



LOWER BUS



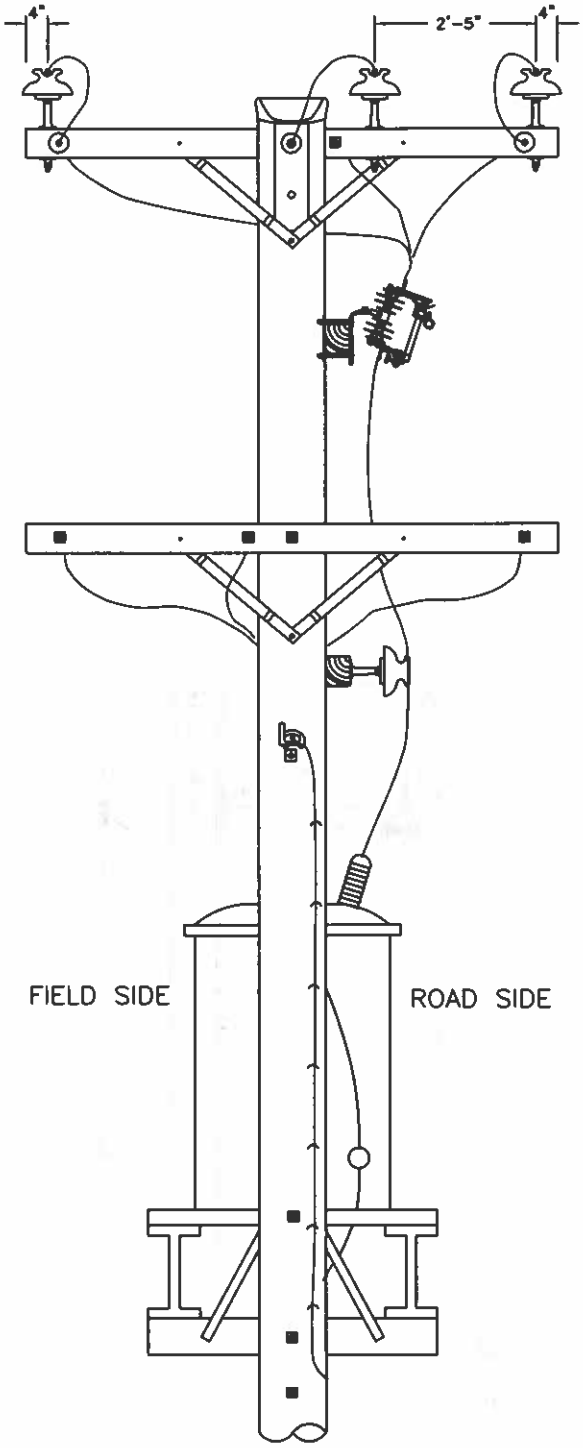
DISTRIBUTION CONSTRUCTION STANDARDS

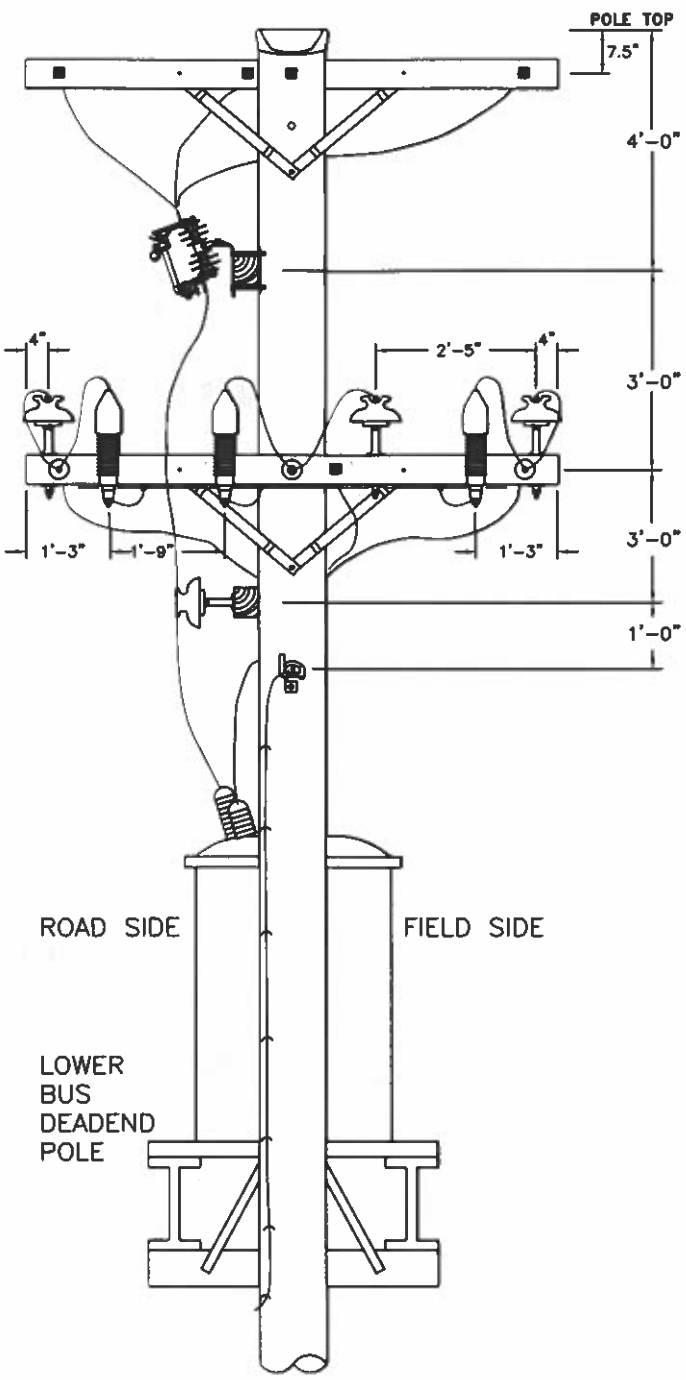
THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK

Emera Maine

DRAWING

2623.4





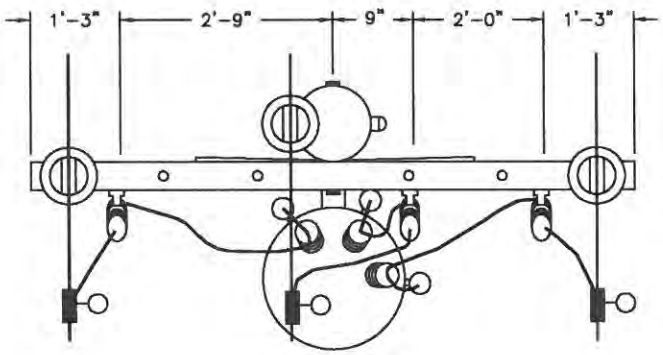
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

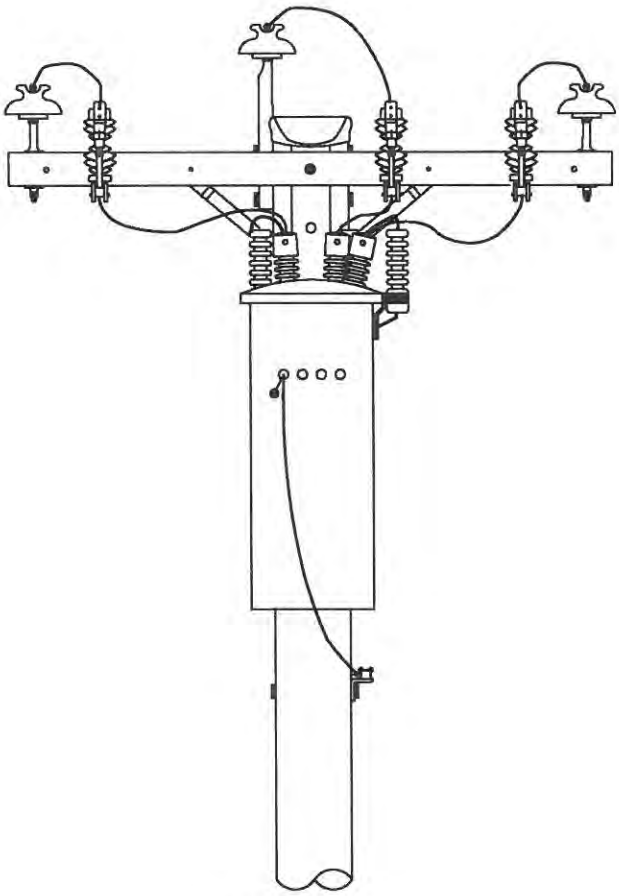
VERSANT POWER

THREE PHASE PLATFORM MOUNTED STEP DOWN OR STEP UP TRANSFORMER BANK

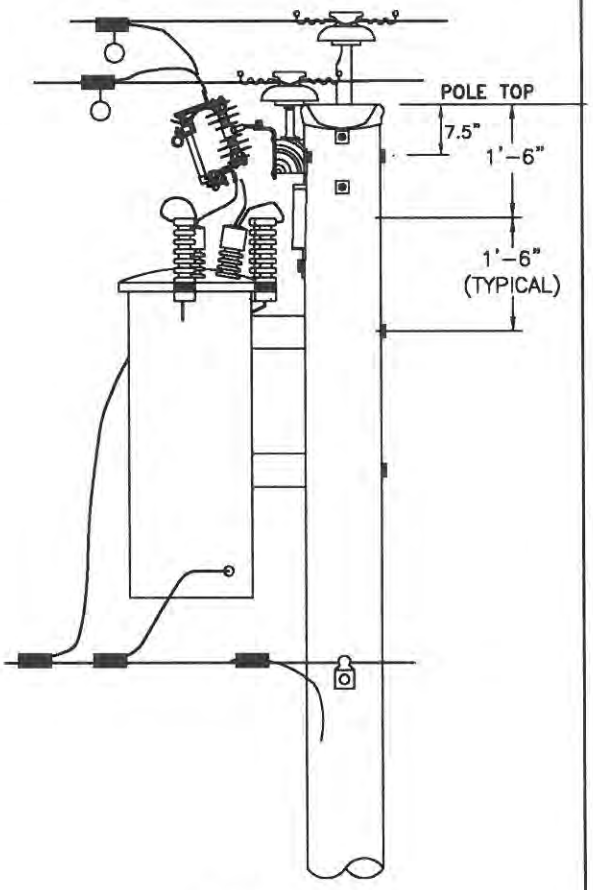
LAST REVISED	DRAWING
09-15-2020	2623.5



TOP VIEW



FRONT VIEW



SIDE VIEW

NOTE:

1. TYPICAL OVERALL TRANSFORMER HEIGHT IS 5'.
2. A GROUNDED TRANSFORMER TANK MAY EXTEND A MAXIMUM OF 10" INTO THE NEUTRAL SPACE IF NECESSARY.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-31-09	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

7200/12470 VOLT SINGLE UNIT 3ø TRANSFORMER INSTALLATION FOR SELF-PROTECTED UNITS

BANGOR HYDRO ELECTRIC Co.

DRAWING
2624

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2701	TEMPORARY SERVICE STRUCTURE FOR USE DURING BUILDING CONSTRUCTION	3-9-2010
2702	RIGID STEEL MAST 100-400A SERVICE TO LOW BUILDING	7-9-2020
2703	RIGID STEEL MAST 100-400A SERVICE MULTIPLE METERS TO LOW BUILDING	3-9-2010
2704	OVERHEAD CONDUIT SERVICE 200 AMPS MAXIMUM	3-9-2010
2705	OVERHEAD CABLE SERVICE 400 AMPS MAXIMUM	3-9-2010
2706	OVERHEAD SERVICE TO MOBILE HOME OR TRAVEL TRAILER OR CUSTOMER U.G. SECONDARY	7-10-2020
2707	UNDERGROUND SECONDARY SERVICE ON COMPANY OWNED POLES	7-10-2020
2708	100-400 AMP SELF-CONTAINED METER PRIVATE POLE MOUNTED	7-7-2020
2709	100-200 AMP OUTDOOR UNDERGROUND METERING PEDESTAL	7-8-2020
2710	MULTI-METERING PEDESTAL STRUCTURE	3-9-2010
2711	200-400 AMP OUTDOOR UNDERGROUND METERING PEDESTAL	3-9-2010
2712	CLASS 320 METER ENCLOSURES	7-14-2020
2713	INSTRUMENT TRANSFORMER CABINET REQUIREMENTS	7-14-2020

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2716	OUTDOOR PEDESTAL FOR TRANSFORMER RATED PAD MOUNTED METERING	7–14–2020
2717	CURRENT TRANSFORMER METERING FROM PADMOUNT TRANSFORMER	12–13–2010
2718	CURRENT TRANSFORMER RATED SERVICE OUTDOOR CT CABINET	7–14–2020
2719	SEASONAL LIGHTING & ORNAMENTS ON B.H.E. Co. OWNED POLES OPERATED BY MUNICIPALITIES	12–22–2009

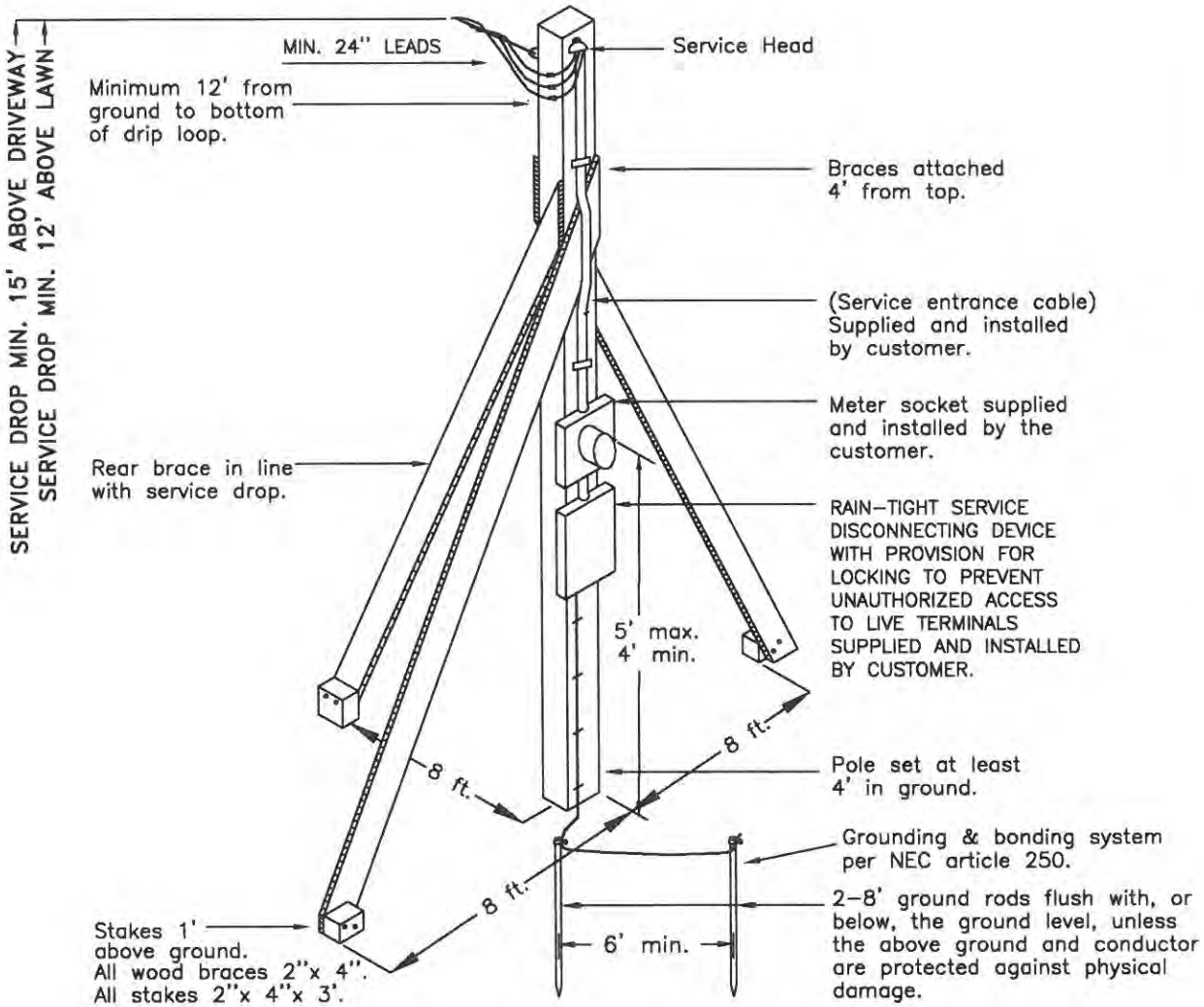
DISTRIBUTION CONSTRUCTION STANDARDS

– INDEX –
SERVICE STANDARDS

VERSANT POWER

LAST REVISED
03–19–2021

DRAWING
2700.2



1. The service location and type of construction must be approved in advance by a B.H.E. company representative. All equipment to be owned and installed by the customer, except where designated.
2. Installation of temporary service on a construction shack having suitable height may be permitted with the approval of the local line department.
3. The pole of the temporary service structure must be at least 5" in diameter at the top, or a 6"x 6" timber(4"x 4" timber may be used when the distance to the service pole is 25' or less). TREES ARE NOT ACCEPTABLE. Distance over 75' may require pole and anchor.
4. The temporary pole must be tall enough to permit the drip loop to be at least 12' above the ground. Ground clearance for 120/240V & 120/208V services is 12'. Clearance for 277/480V service is 15'.
5. This structure shall not be used for road crossings. When on the opposite side of street from the B.H.E. Co. owned pole, the road crossing span shall be between conventional pole structures approved by B.H.E. Co.
6. All equipment, except the service drop, service drop connectors and the meter, are to be supplied, installed and maintained by the customer.

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-9-10	GAN

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

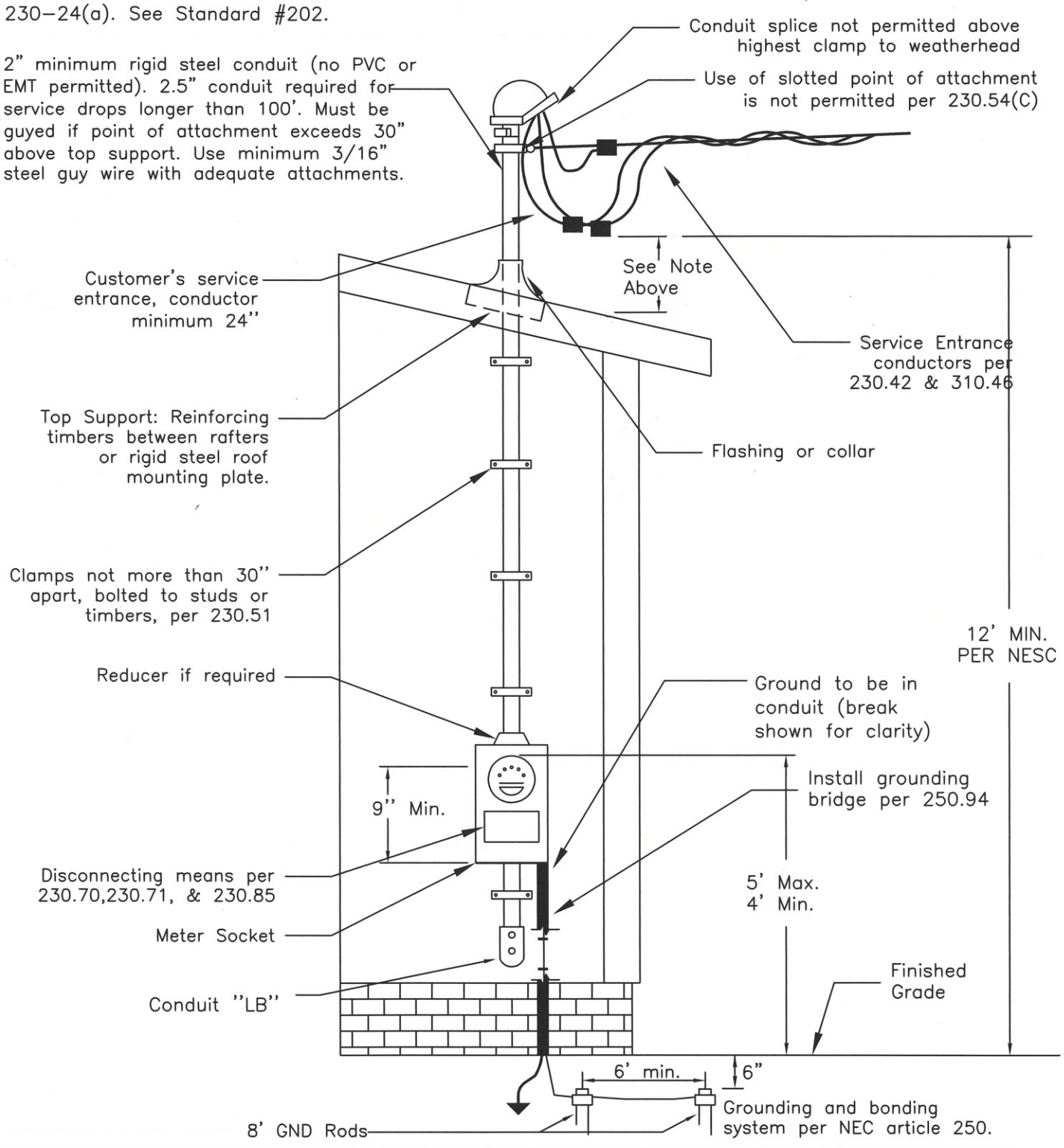
DISTRIBUTION CONSTRUCTION STANDARDS

TEMPORARY SERVICE STRUCTURE FOR USE DURING BUILDING CONSTRUCTION

BANGOR HYDRO ELECTRIC Co.

DRAWING
2701

NOTE:
Where the voltage between conductors does not exceed 300V and the service passes above only the overhang portion of the roof and for a distance of not more than 4', then the minimum clearance is 1'–6". For all other conditions, refer to NEC para. 230–24(a). See Standard #202.



STATE OF MAINE
DAVID W NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
12/2/20

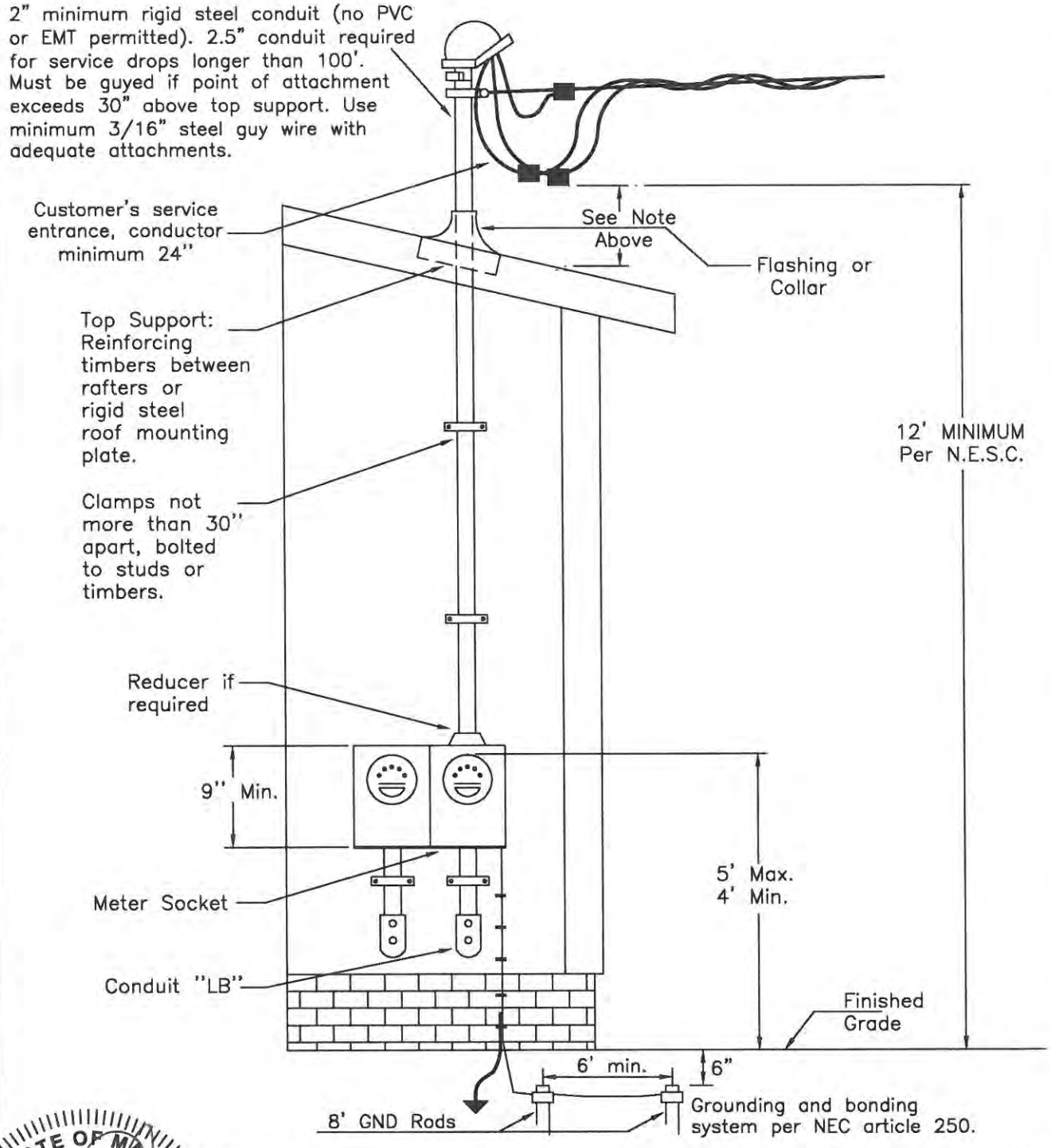
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

RIGID STEEL MAST 100 – 400A SERVICE TO LOW BULDING

LAST REVISED	DRAWING
07–09–2020	2702

NOTE:
Where the voltage between conductors does not exceed 300 and the service passes above only the overhang portion of the roof and for a distance of not more than 4', then the minimum clearance is 1'–6". For all other conditions, refer to N.E.C. para. 230–24(a). See Standard #202.

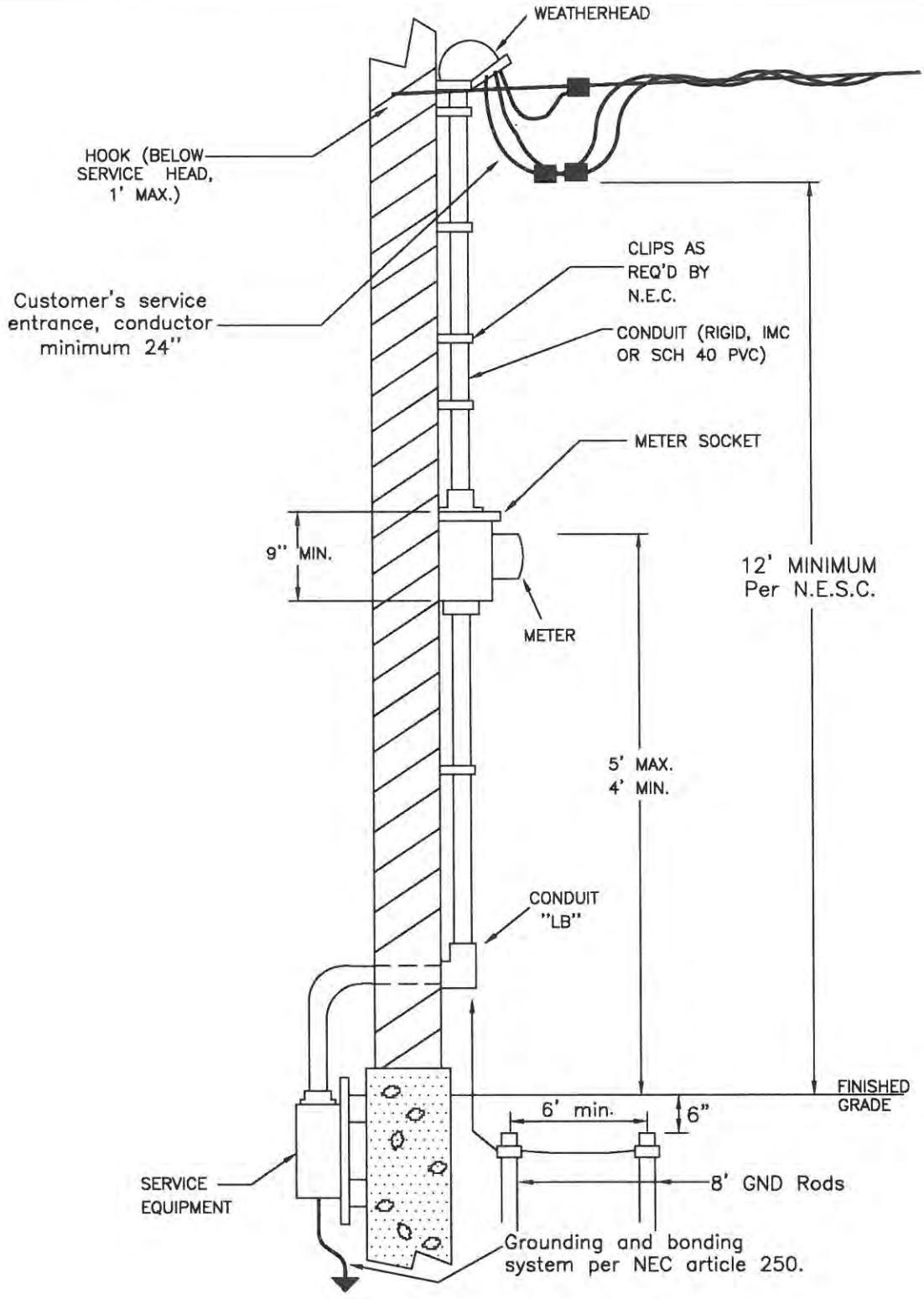


NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	3-9-10	GAN

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	RIGID STEEL MAST 100–400A SERVICE – MULTIPLE METERS TO LOW BUILDING	
BANGOR HYDRO ELECTRIC Co.		DRAWING 2703



NO.	REVISION	DATE	CK

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	2009 REVISIONS & REFORMAT	3-9-10	GAN

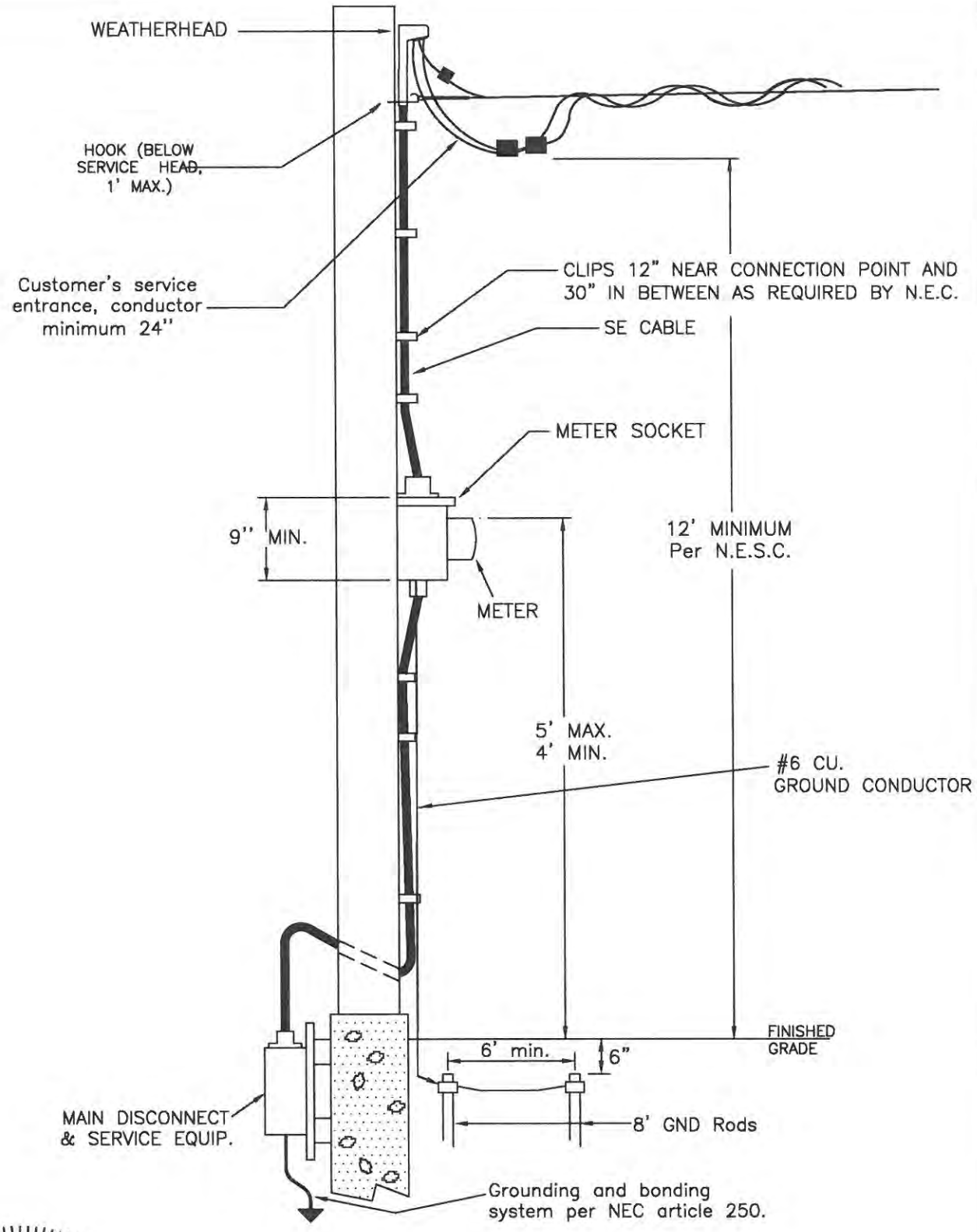
STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

OVERHEAD CONDUIT SERVICE
200 AMPS MAXIMUM

BANGOR HYDRO ELECTRIC Co.

DRAWING
2704



NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
13	2009 REVISIONS & REFORMAT	3-9-10	GAN

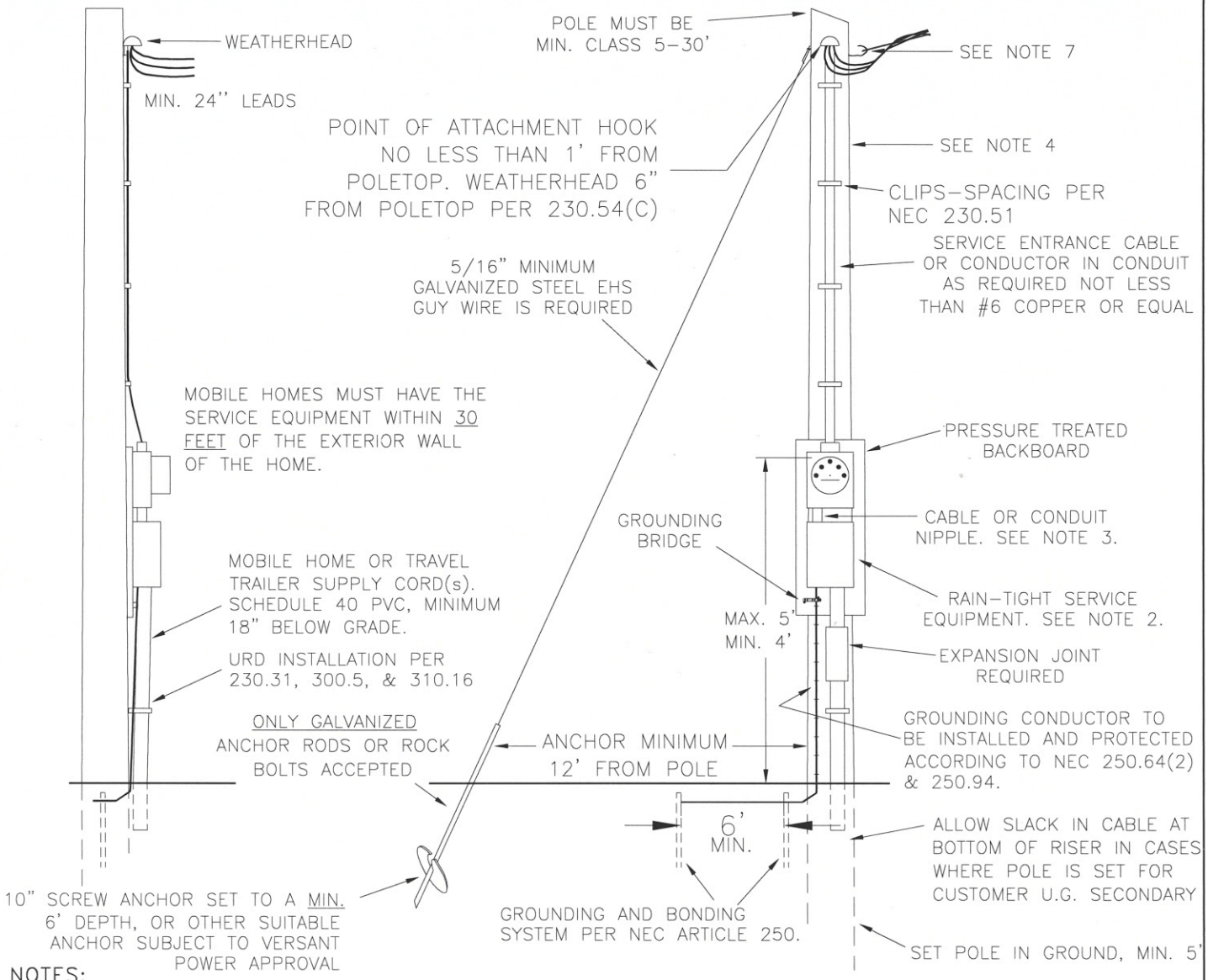
STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

OVERHEAD CABLE SERVICE 400 AMPS MAXIMUM

BANGOR HYDRO ELECTRIC Co.

DRAWING
2705



NOTES:

INSTALLATIONS ON PRIVATELY-OWNED SERVICE POLES

ALL EQUIPMENT EXCEPT THE SERVICE DROP, SERVICE DROP CONNECTORS AND THE METER ARE TO BE SUPPLIED, INSTALLED AND MAINTAINED BY THE CUSTOMER.

1. THE POLE SHOWN SHOULD BE CONSIDERED AS THE MINIMUM REQUIREMENT. ALL SUCH CUSTOMER OWNED POLES MUST BE OF SUFFICIENT HEIGHT TO ALLOW NECESSARY CLEARANCE FROM GROUND, WITH A MINIMUM 25' POLE ALLOWED. GUYING REQUIREMENTS WILL BE SPECIFIED, ACCORDING TO NEED, BY VERSANT POWER PERSONNEL.
2. RAIN TIGHT SERVICE EQUIPMENT w/ DISCONNECTING MEANS PER 230.70,230.71, & 230.85 AND OVERCURRENT PROTECTION FOR MOBILE HOME SUPPLY CORDS OR PERMANENTLY INSTALLED CIRCUITS, PER ARTICLE 550 OR 551 OF NEC.
3. IF METALLIC NIPPLE IS USED, IT SHALL BE PROPERLY BONDED PER NEC SECTION 250-72.
4. THE POLE SHALL BE MIN. CLASS 5-30' EASTERN WHITE CEDAR OR PRESSURE TREATED. PRESSURE TREATED POLES MUST BE USED FOR ROAD CROSSINGS AND TRANSFORMER LOCATIONS.
5. THESE INSTALLATIONS ARE ENTIRELY THE PROPERTY AND RESPONSIBILITY OF THE CUSTOMER, HOWEVER THEY MUST MEET VERSANT POWER & NEC REQUIREMENTS.
6. REFER TO VERSANT POWER "REQUIREMENTS AND SPECIFICATIONS FOR ELECTRIC SERVICE INSTALLATIONS" HANDBOOK FOR ADDITIONAL DETAILS.
7. USE OF SLOTTED POINT OF ATTACHMENT IS NOT PERMITTED.

STATE OF MAINE
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No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/1/20

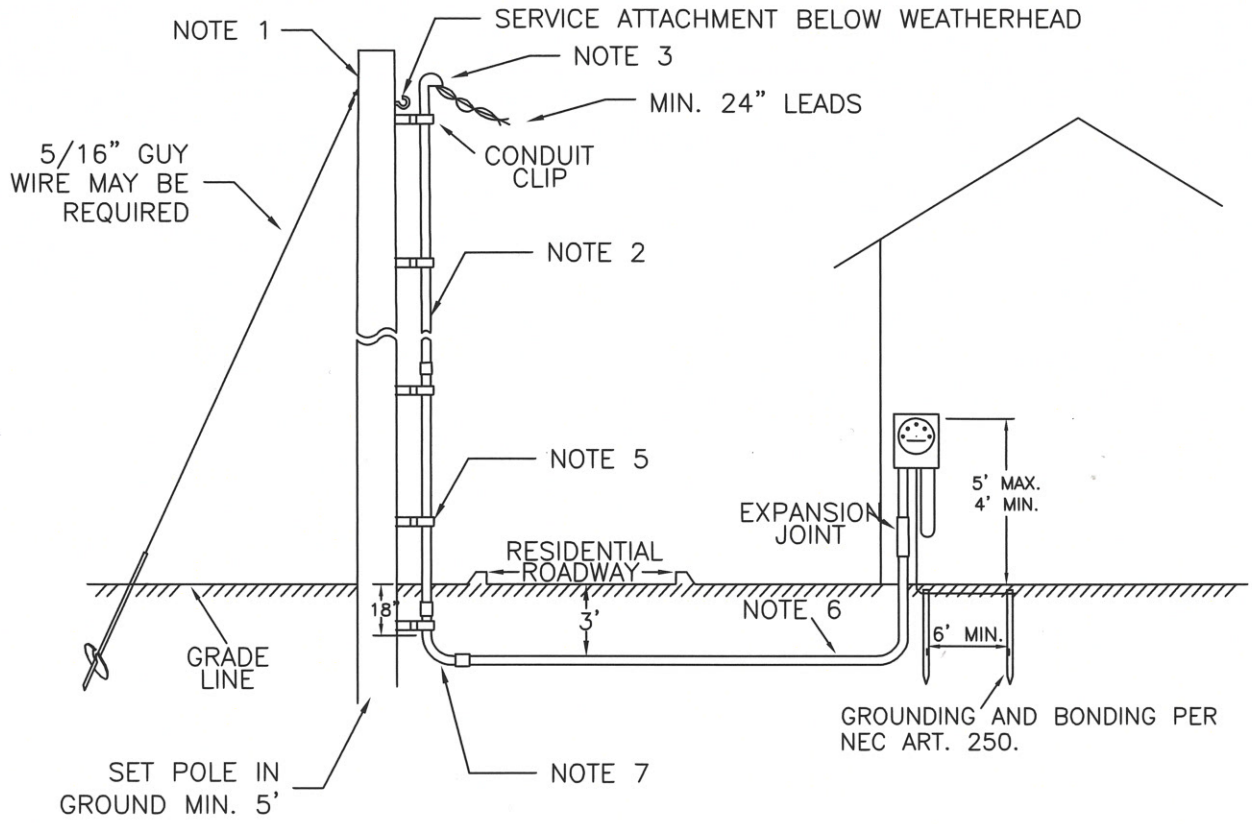
DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

OVERHEAD SERVICE TO MOBILE HOME OR TRAVEL TRAILER OR CUSTOMER U.G. SECONDARY

LAST REVISED	DRAWING
07-10-2020	2706

ELEVATION VIEW



NOTES:
CONDUIT INSTALLATIONS OF CONDUIT ON COMPANY OWNED DISTRIBUTION POLES

1. LOCATION AND HEIGHT OF RISER POLE TO BE SPECIFIED BY VERSANT POWER CONDUIT SHALL NOT BE ATTACHED TO VERSANT POWER POLES WITHOUT THE PRIOR APPROVAL FROM VERSANT POWER.
2. RISERS SHALL BE RIGID METAL. THE MINIMUM CONDUIT SIZE IS 4" FOR ALL THREE PHASE INSTALLATIONS AND 2" FOR SINGLE PHASE INSTALLATIONS.
3. SEAL TOP OF CONDUIT WITH SUITABLE WEATHERHEAD OR CONDULATOR TYPE FITTING. TOP OF CONDUIT MUST EXTEND 4" ABOVE THE NEUTRAL. SLOTTED POINT OF ATTACHMENT IS NOT PERMITTED.
4. CONDUIT GROUNDING CONNECTOR MADE OF EITHER COPPER ALLOY OR GALVANIZED STEEL MATERIAL OF SUITABLE DESIGN. INSTALL POLE GROUND IF ONE DOESN'T EXIST. INSTALL INSULATING GROUNDING BUSHING AT POINT 3 AND GROUND TO SYSTEM NEUTRAL.
5. RISERS MUST USE STANDOFF BRACKETS. INSTALL BRACKETS AT BOTTOM & TOP OF RISER AND EVERY 10' BETWEEN.
6. CABLE RUN SHALL BE IN CONDUIT TO THE METER. SECTION FROM CONDUIT SWEEP TO HOUSE IS CUSTOMER'S RESPONSIBILITY.
7. CONDUIT SWEEP SHALL HAVE A MINIMUM OF A 30" RADIUS BEND AND BE RIGID GALVANIZED STEEL
8. CONDUIT SHALL BE REQUIRED UNDER ALL PAVED AREAS.
9. RIGID NON-METALLIC CONDUIT APPROVED FOR ELECTRIC SERVICE MAY BE USED IN THE BELOW GRADE SECTION(MINIMUM SCHEDULE 40).
10. INSTALLATION OF CONDUIT AND CABLE SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
11. REQUESTS FOR SINGLE PHASE SERVICES RATED IN EXCESS OF 200 AMPERES SHALL BE REFERRED TO T&D ENGINEERING.

STATE OF MAINE
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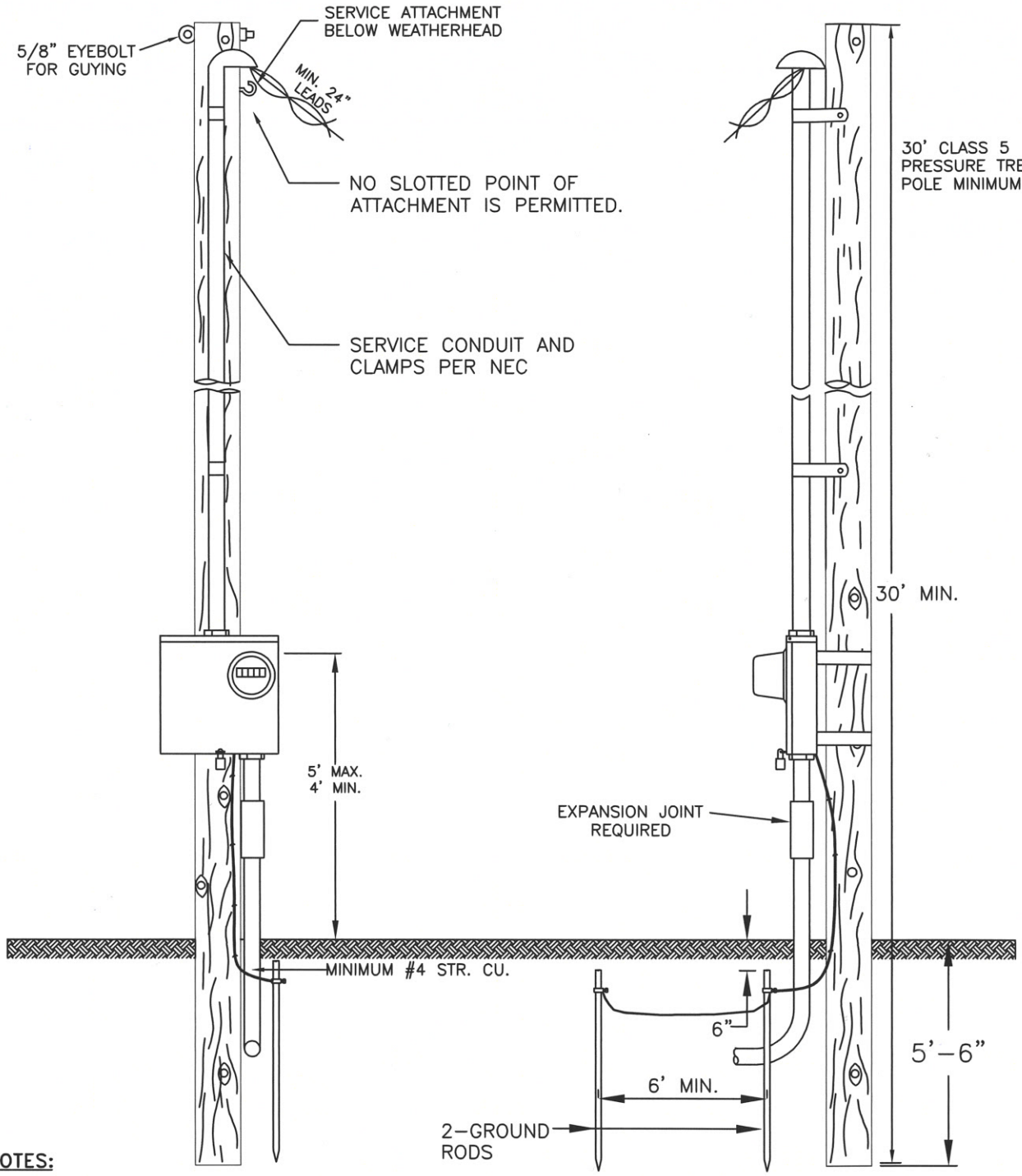
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

UNDERGROUND SECONDARY SERVICE ON COMPANY OWNED POLES

LAST REVISED	DRAWING
07-10-2020	2707



NOTES:

1. THIS INSTALLATION IS TO BE USED ONLY WITH PRIOR VERSANT POWER APPROVAL, WITHIN 20' OF A DRIVEABLE AREA, AND ACCESSIBLE BY BUCKET TRUCK.
2. CUSTOMER SHALL PROVIDE POLE IF CONSTRUCTION SPAN LENGTH IS IN EXCESS OF 150'
3. POLE TO BE TAGGED BY VERSANT POWER AND RECORDED IN GIS SYSTEM.
4. GROUNDING & BONDING SYSTEM PER NEC ARTICLE 250.
5. 3/16"x16"x5" ALUMINUM POLE MOUNTING BRACKETS.
6. NO MAIN DISCONNECT AT THE METER IS REQUIRED IF ENTIRE LENGTH OF UNDERGROUND IS IN MINIMUM SCHEDULE 80 PVC CONDUIT.

STATE OF MAINE
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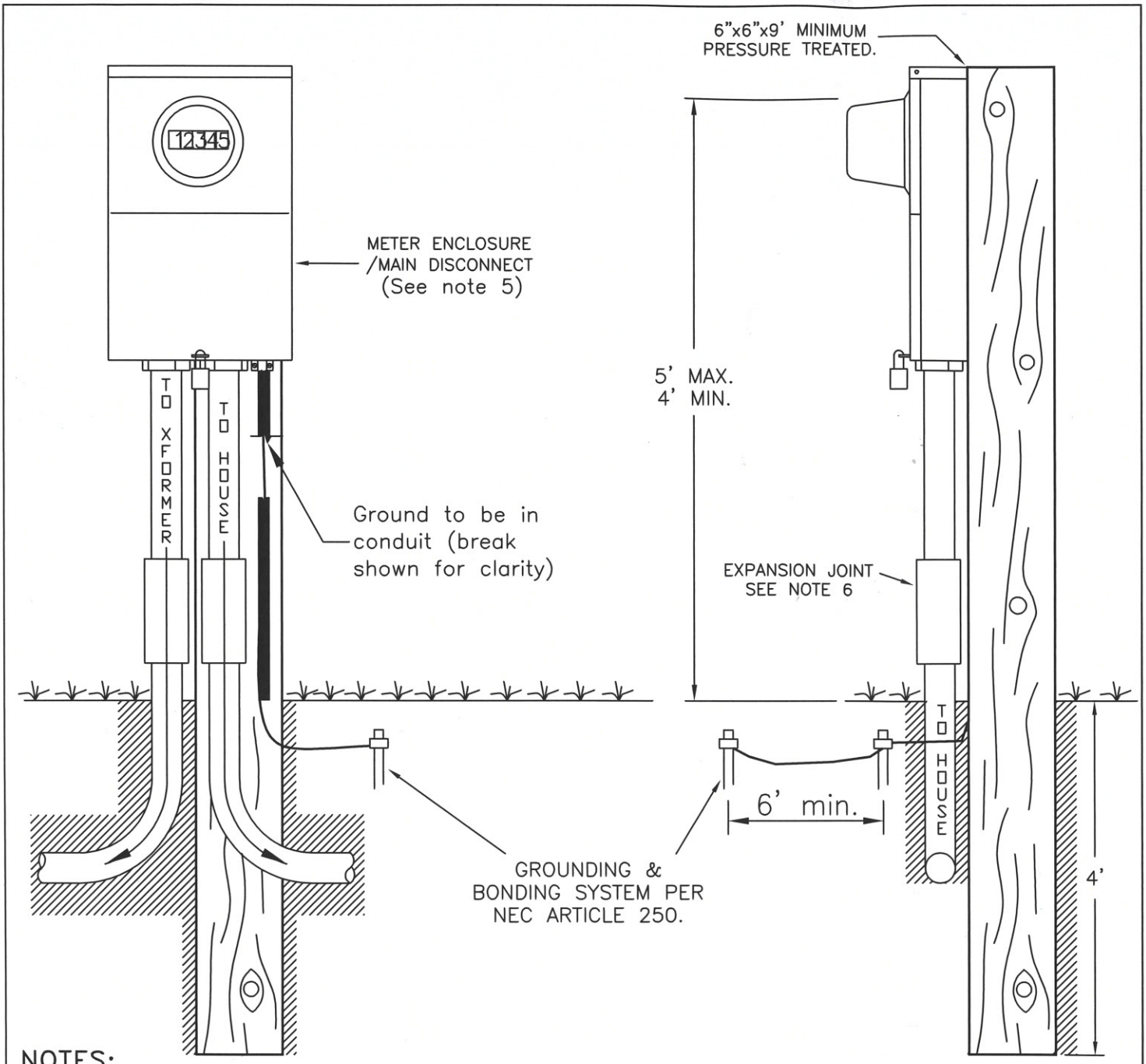
12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

100 – 400AMP METER
SELF-CONTAINED METER
PRIVATE POLE MOUNTED

REVISED	DRAWING
07-07-2020	2708



NOTES:

1. THE METER ENCLOSURE SHOULD BE APPLICABLE FOR UNDERGROUND APPLICATION.
2. THE TOTAL CABLE RUN FROM THE METER PEDESTAL TO THE TRANSFORMER SHOULD NOT BE MORE THAN 300'. VERSANT POWER WILL NOT GUARANTEE PROPER VOLTAGE OVER 300'.
3. THE PEDESTAL LOCATION MUST BE APPROVED BY VERSANT POWER w/ REGARD TO ACCESSIBILITY.
4. IF THE TOTAL CABLE RUN IS IN CONDUIT (MINIMUM SCHEDULE 40) THE DISCONNECT WILL NOT BE REQUIRED.
5. A COMBINATION METER ENCLOSURE/DISCONNECT IS RECOMMENDED. DISCONNECT PER 230.70,230.71,&230.85 REQUIRED.
6. ABOVE GROUND EXPANSION JOINTS REQUIRED.

STATE OF MAINE
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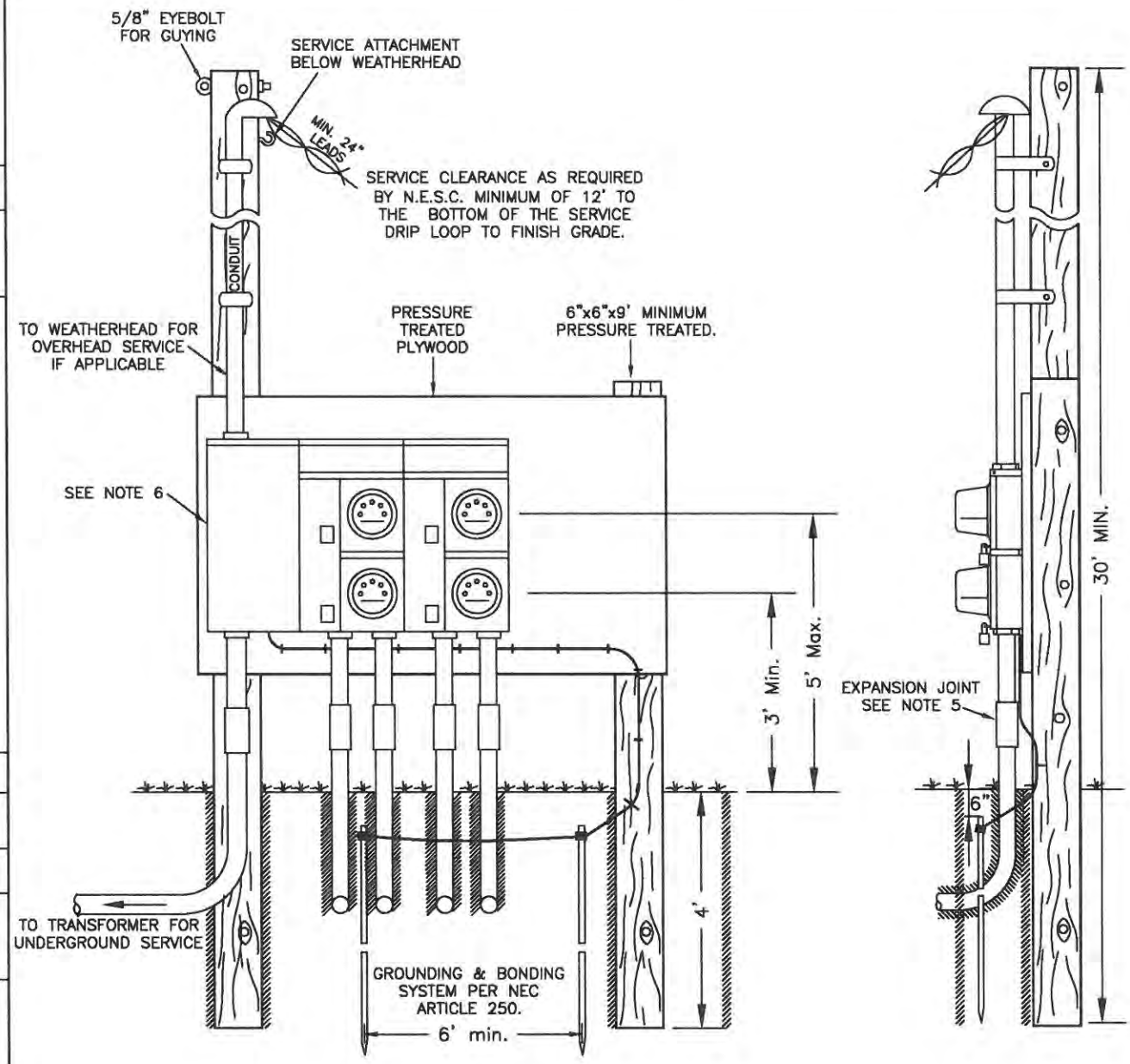
12/1/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

100 – 200 AMP OUTDOOR UNDERGROUND METERING PEDESTAL

LAST REVISED	DRAWING
07-08-2020	2709



NOTES:

1. CONTACT B.H.E. Co. FOR APPROVAL OF THIS SERVICE ARRANGEMENT.
2. THE STRUCTURE MUST BE CONSTRUCTED USING PRESSURE TREATED POLES OR 6"x6" TIMBERS w/ SUFFICIENT STIFFENING ON THE BACKBOARD TO SUPPORT THE EQUIPMENT. PLYWOOD SHOULD BE 3/4" MINIMUM THICKNESS, PRESSURE TREATED & PAINTED.
3. 300' MAXIMUM SECONDARY CABLE RUN.
4. METERS SHALL BE INDIVIDUALLY LABELED w/ WEATHERPROOF LABELS.
5. ABOVE GROUND EXPANSION JOINTS REQUIRED.
6. MAIN SERVICE BREAKER REQUIRED IF MORE THAN 6 METERS ARE INSTALLED.

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	2009 REVISIONS & REFORMAT	3-9-10	GAN

NO.	REVISION	DATE	CK

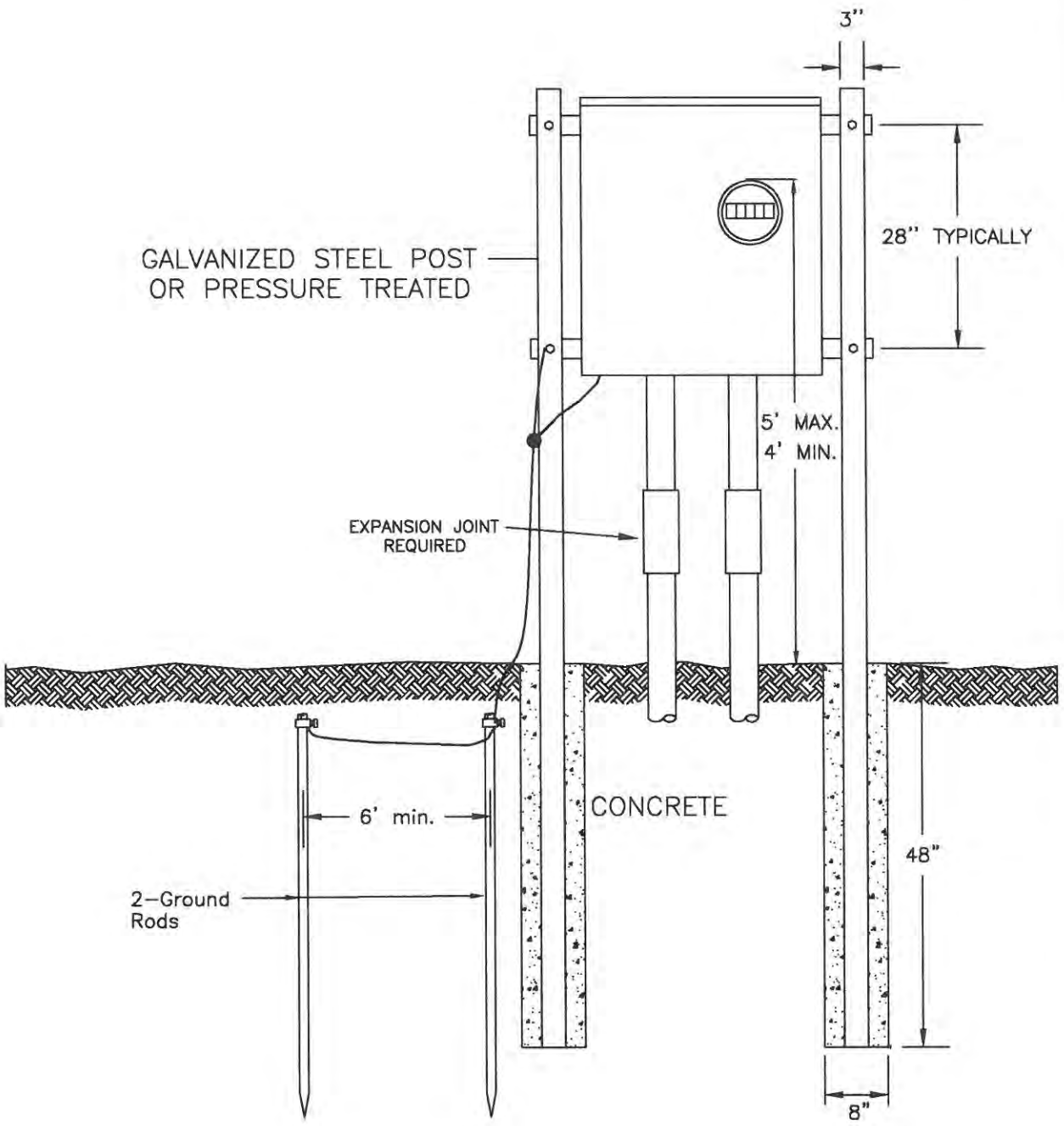
STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

MULTI-METERING PEDESTAL STRUCTURE

BANGOR HYDRO ELECTRIC Co.

DRAWING
2710



NOTES:

1. INSTALLATION IS TO BE USED ONLY WITH PRIOR B.H.E. CO. APPROVAL.
2. THE POSTS SHALL BE 3"X3" GALVANIZED STEEL ANGLE SET IN CONCRETE AS SHOWN.
3. THE HORIZONTAL FRAMING SHALL BE 1–5/8"X2–7/16" 12 GAUGE MINIMUM GALVANIZED STEEL CHANNEL MOUNTED TO THE BACK OF THE POSTS. SHIM AS REQUIRED TO PLUMB ENCLOSURES.
4. GROUNDING AND BONDING SYSTEM PER N.E.C. ARTICLE 250.
5. TWO PRESSURE TREATED (PROOF REQUIRED) 6"X6" TIMBERS SET 4' IN EARTH AND SPANNED BY 3/4" PRESSURE TREATED PLYWOOD OR GALVANIZED CHANNEL CAN BE USED AS AN OPTION.
6. ABOVE GROUND EXPANSION JOINTS REQUIRED.
7. A MAIN DISCONNECT IS RECOMMENDED.

NO.	REVISION	DATE	CK

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STATE OF MAINE
GERARD R. HASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

200 – 400 AMP OUTDOOR UNDERGROUND METERING PEDESTAL

BANGOR HYDRO ELECTRIC Co.

DRAWING
2711

CLASS 320 METER ENCLOSURE

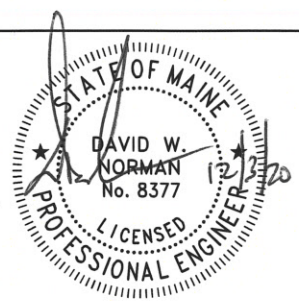
ALL 120/240 SINGLE PHASE, 120/208 THREE PHASE AND 277/480 THREE PHASE SERVICES GREATER THAN 200 AMPS BUT LESS THAN OR EQUAL TO 400 AMPS WILL BE METERED WITH CLASS 320 ENCLOSURES.

ALL ENCLOSURES WILL HAVE A MECHANICALLY OPERATED LEVER BY–PASS HANDLE. THE ENCLOSURES SHALL BE DESIGNED SO THE COVER CANNOT BE INSTALLED WITH THE BY–PASS ENGAGED.

THE SINGLE PHASE ENCLOSURES SHALL BE A MILBANK U–1797 OR COOPER B–LINE EL32T46GRST OR SIMILAR.

THE THREE PHASE ENCLOSURES SHALL BE A MILBANK U–2120 OR COOPER B–LINE EL32T76GRST OR SIMILAR.

INSTRUMENT TRANSFORMERS WILL BE USED ON 400 AMP 120/240, 120/208Y AND 277/408Y ONLY IN SPECIAL CIRCUMSTANCES WHERE PRIOR APPROVAL IS OBTAINED FROM VERSANT POWER. INSTRUMENT TRANSFORMERS WILL STILL BE USED ON ALL SERVICES OVER 400 AMPS.



DISTRIBUTION - CONSTRUCTION STANDARDS

VERSANT POWER

CLASS 320
METER ENCLOSURES

LAST REVISED	DRAWING
07–14–2020	2712

INSTRUMENT TRANSFORMER CABINETS

For installations where the service voltage does not exceed 480 volts, cabinets for instrument transformer (C.T.s) shall be furnished by the customer and be constructed and installed so as to meet the requirements of NEC Article 312. Cabinet size will be as specified by Versant Power (the Company)

All cabinets shall be constructed so the cover can be readily opened. The cover shall be attached with hinges. The cabinet must be mounted so that the cover does not interfere with installation or maintenance work. All cabinets shall be weatherproof or rain tight and be installed outdoors.

Provision must be made so that the cabinet can be securely sealed with a padlock type meter seal and padlock when the cover is closed. No customer owned devices other than conductors and connectors will be allowed in the C.T. cabinet.

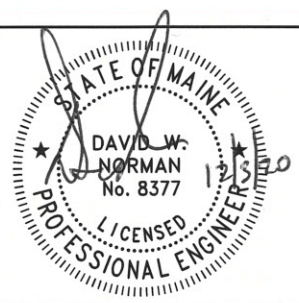
Instrument transformer cabinets with mechanical connectors (Similar to Milbank S1855-O or Cooper B-Line 363612DDHRTCT1N) which support bar type current transformers are required.

All line conductors, including the neutral, shall pass through the instrument transformer cabinet. A neutral connector shall be installed by the customer to provide for the connection of the metering neutral. The customer shall make all primary connections. Secondary metering wires and instrument transformers are furnished and installed by the Company.

A separate 1 ¼" minimum metallic conduit for secondary wires between instrument transformer cabinets and meter enclosures shall be furnished and installed by the customer. This conduit shall be either rigid metal conduit (RMC) or intermediate metal conduit (IMC) and be properly bonded to provide an effective ground. The maximum run of this conduit will be 35 feet.

The top of the cabinet shall be between 5 feet and 6 feet from finish grade.

Single phase 120/240 and three phase 120/208 services in excess of 400 amps require instrument transformer metering. Three phase 277/480 services in excess of 400 amps require instrument transformer metering.

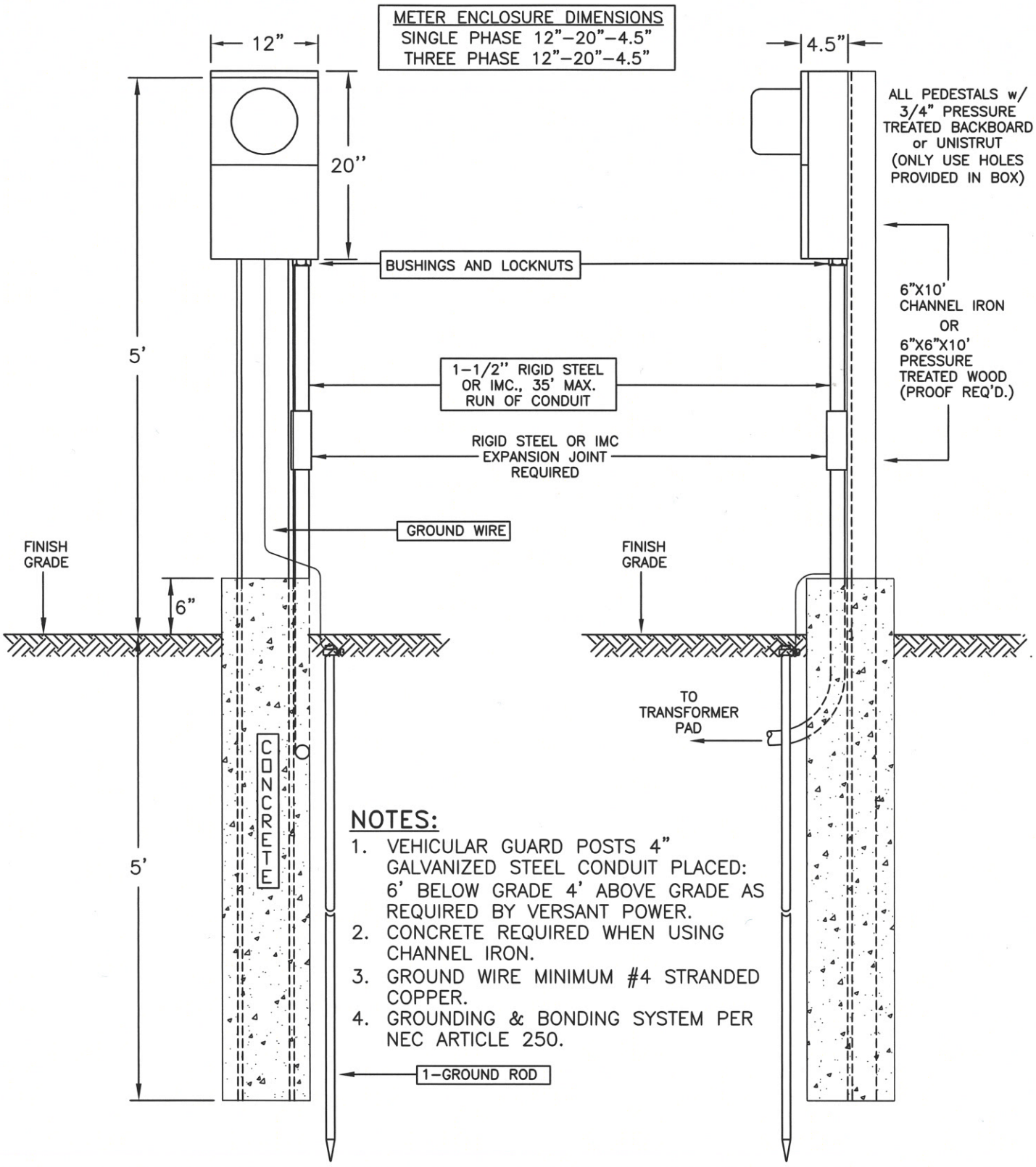


DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

INSTRUMENT TRANSFORMER CABINET REQUIREMENTS

LAST REVISED	DRAWING
07-14-2020	2713



NOTES:

1. VEHICULAR GUARD POSTS 4" GALVANIZED STEEL CONDUIT PLACED: 6' BELOW GRADE 4' ABOVE GRADE AS REQUIRED BY VERSANT POWER.
2. CONCRETE REQUIRED WHEN USING CHANNEL IRON.
3. GROUND WIRE MINIMUM #4 STRANDED COPPER.
4. GROUNDING & BONDING SYSTEM PER NEC ARTICLE 250.

STATE OF MAINE
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No. 8377
LICENSED
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12/3/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

OUTDOOR PEDESTAL FOR TRANSFORMER RATED PAD MOUNTED METERING

LAST REVISED	DRAWING
07–14–2020	2716

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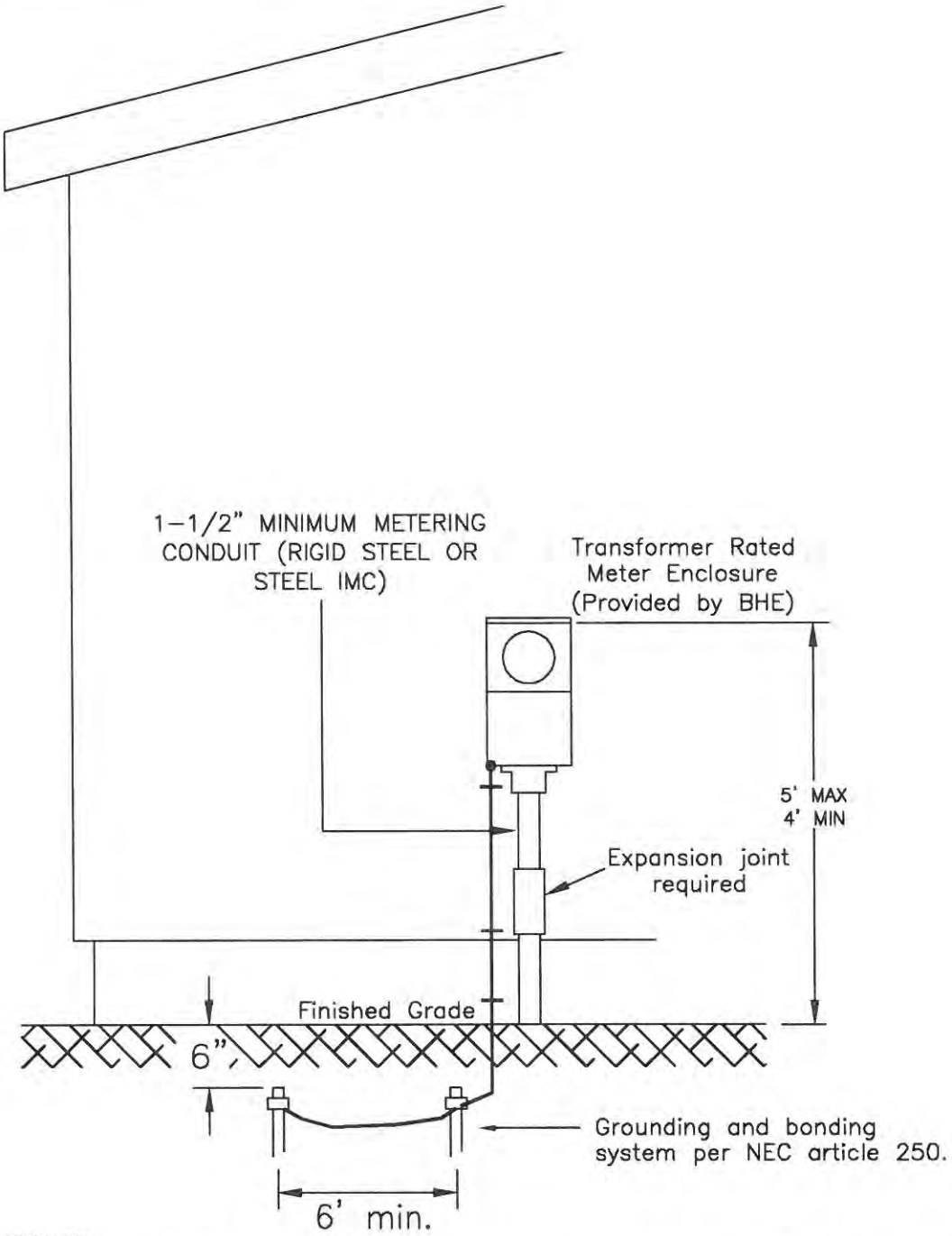
NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-13-10	GAN

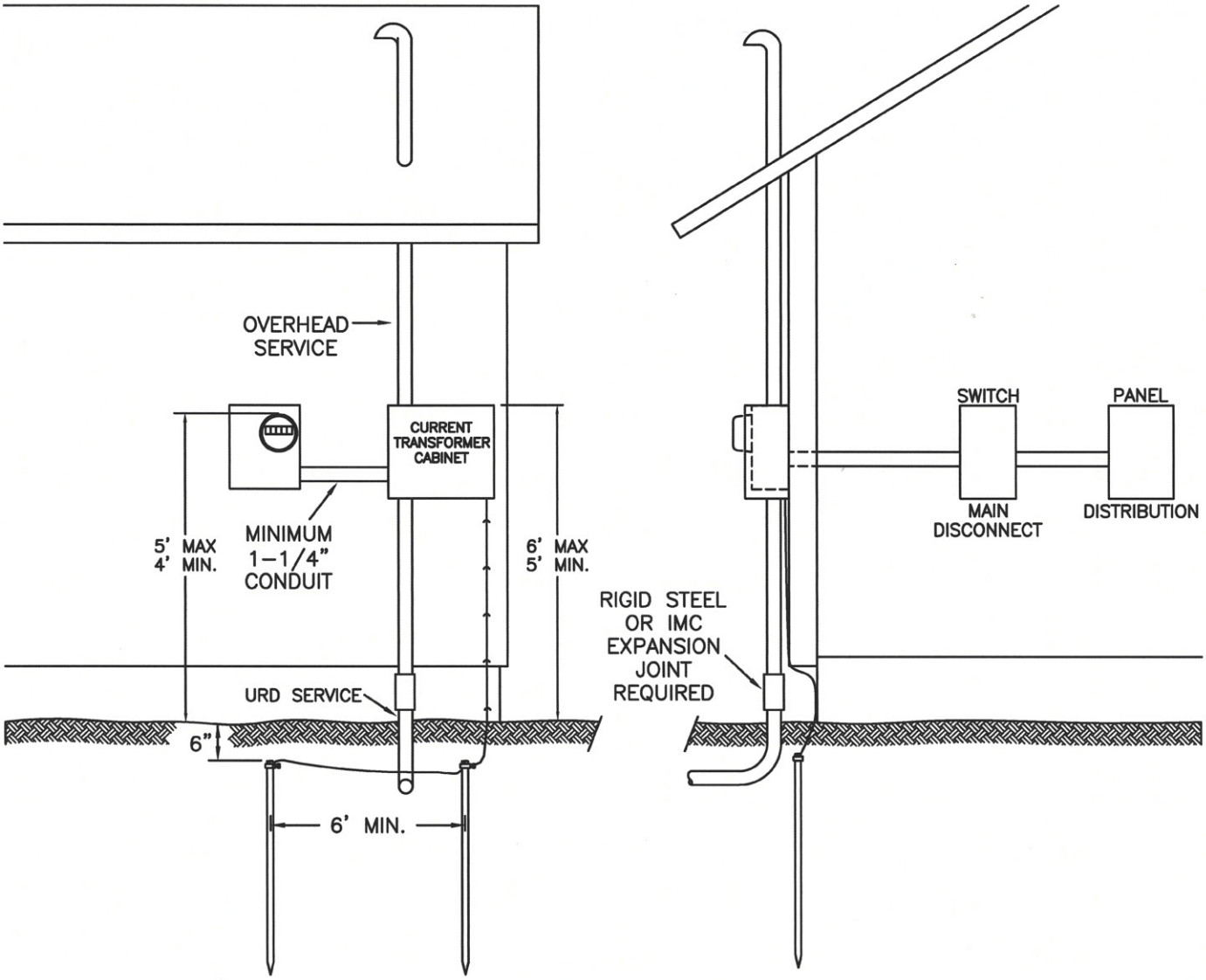


NOTES:

1. THIS DIAGRAM SHOWS TYPICAL CURRENT TRANSFORMER MOUNTING ON A BUILDING WALL AND IS TO BE USED ONLY w/ PRIOR B.H.E. Co. APPROVAL.
2. CONDUIT SHALL BE NO MORE THAN 35' FROM PADMOUNT FOUNDATION TO METER ENCLOSURE.
3. METERING CONDUIT SHALL BE NO LESS THAN 1–1/2" DIAMETER AND EITHER IMC OR RIGID.

STATE OF MAINE
GERARD R CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS	CURRENT TRANSFORMER METERING FROM PADMOUNT TRANSFORMER
BANGOR HYDRO ELECTRIC Co.	DRAWING 2717



NOTES:

1. CURRENT TRANSFORMER CABINET PER REQUIREMENTS OF STANDARD #2713.
2. CURRENT TRANSFORMER CABINET MUST PRECEDE THE MAIN DISCONNECT SWITCH.
3. INSTALLATIONS SHOULD BE APPROVED BY THE METER TECHNICAL DEPARTMENT BEFORE CONSTRUCTION STARTS.
4. GROUNDING AND BONDING SYSTEM PER NEC ARTICLE 250.
5. AN OUTSIDE WEATHERPROOF CURRENT TRANSFORMER CABINET IS REQUIRED.

STATE OF MAINE
DAVID W. NORMAN
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LICENSED PROFESSIONAL ENGINEER
2/13/20

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

CURRENT TRANSFORMER RATED SERVICE OUTDOOR CT CABINET

LAST REVISED	DRAWING
07-14-2020	2718

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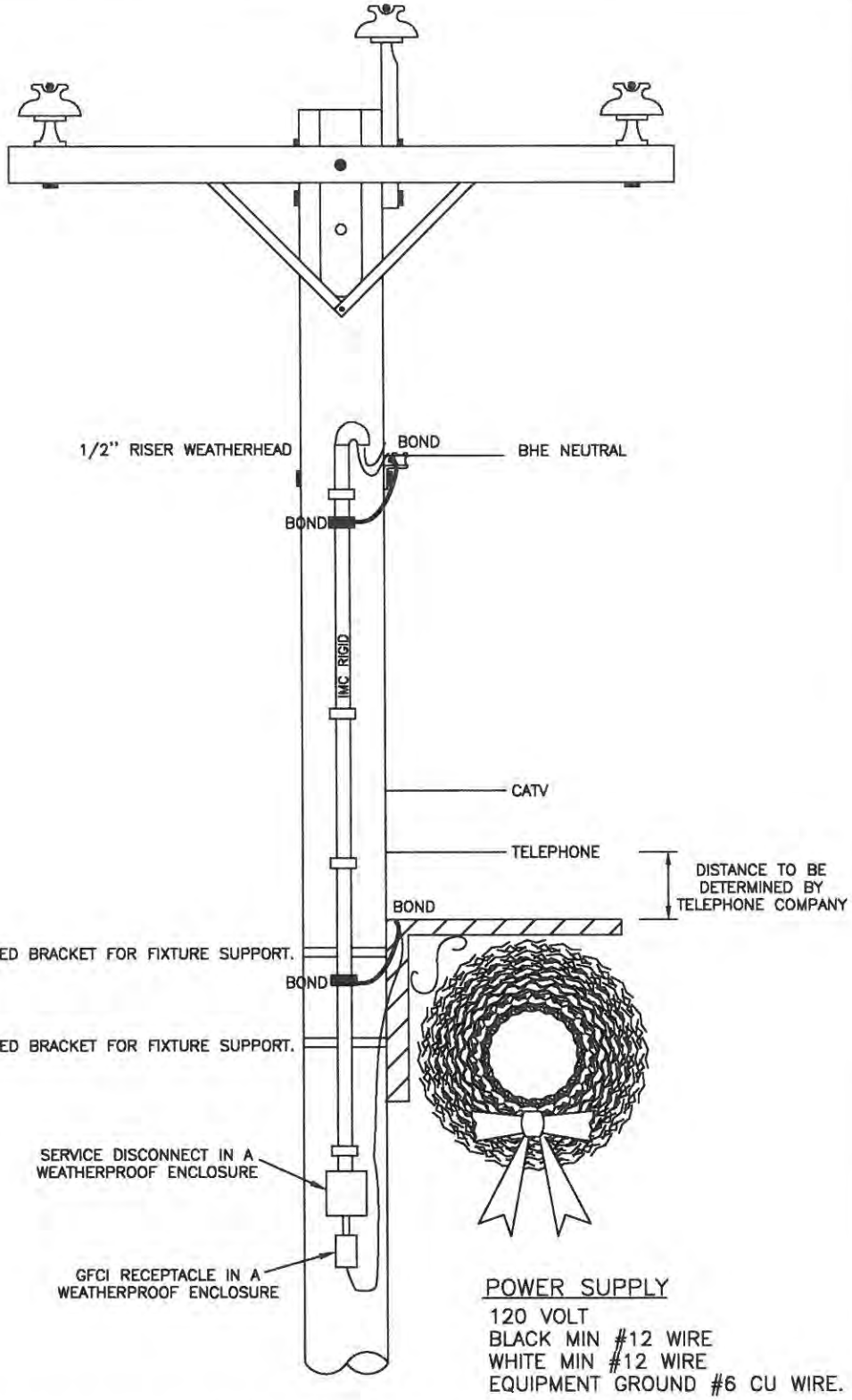
1	2009 REVISIONS & REFORMAT	12-22-09	GAN



POWER SUPPLY
120 VOLT
BLACK MIN #12 WIRE
WHITE MIN #12 WIRE
EQUIPMENT GROUND #6 CU WIRE.

NOTE:
RISER & BANDED BRACKET TO REMAIN ON POLE.

STATE OF MAINE
GERARD R. CHASSE
No. 8714
12-15-10
LICENSED PROFESSIONAL ENGINEER

DISTRIBUTION CONSTRUCTION STANDARDS

SEASONAL LIGHTING & ORNAMENTS ON B.H.E. Co. OWNED POLES OPERATED BY MUNICIPALITIES

BANGOR HYDRO ELECTRIC Co.

DRAWING
2719

STANDARD NUMBER	STANDARD DESCRIPTION	LATEST REVISION
2901	METERING ON A GROUNDED NEUTRAL 120/240V THREE WIRE SINGLE PHASE SERVICE	12-18-2009
2902	METERING ON A NETWORK 120/208V THREE WIRE SERVICE	12-18-2009
2903	METERING ON A FOUR WIRE WYE THREE PHASE SERVICE	7-14-2020
2904	METERING ON A THREE WIRE DELTA THREE PHASE SERVICE	12-18-2009
2905	15 kV PRIMARY METERING INDOOR SWITCHGEAR, METER BAY DETAILS	12-18-2009
2907	15 kV AIR-BREAK PRIMARY METERING POLE DG APPLICATIONS	02-24-2021
2908	15 kV PRIMARY METERING INDOOR SWITCHGEAR, METER BAY DETAILS	07-23-2021
2909	15 kV PRIMARY METERING NEW DEVICE	01-04-2022
2909.1	PRIMARY METERING NEW DEVICE DEADEND	01-04-2022
2910	CGR1240 ROUTER POLE MOUNT 2000# TENSION 1/0 & 336 CONDUCTOR	11-29-2021

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

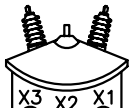
- INDEX -
METERING

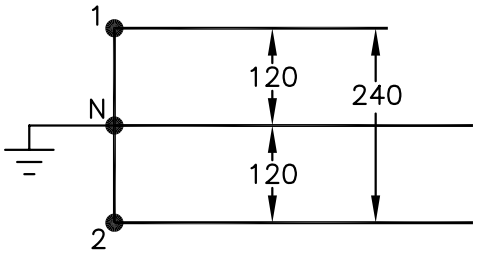
LAST REVISED
10-26-2022

DRAWING
2900

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-18-09	GAN

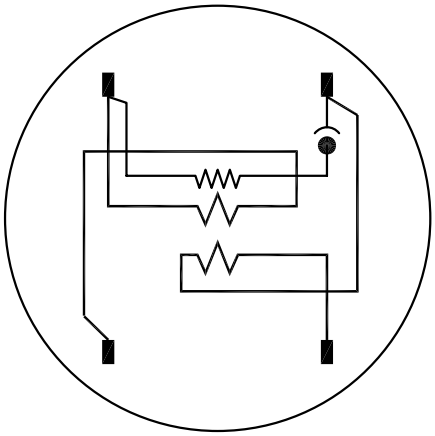
NO.	REVISION	DATE	CK



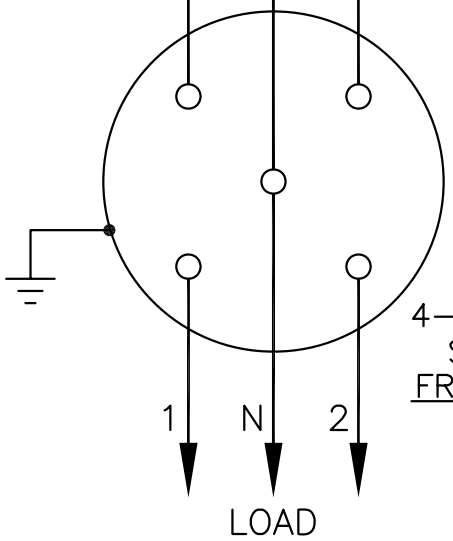


120/240 VOLT ONLY.
400 AMP BY-PASS IS REQUIRED.
100 AMP, 200 AMP BY-PASS IS ALLOWED IF DISCONNECT IS WITHIN SIGHT OF METER SOCKET.

FORM 2S



METER
INTERNAL DIAGRAM
FRONT VIEW



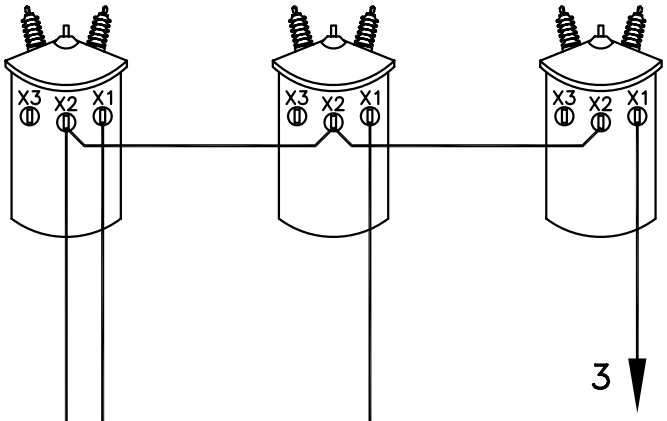
4-TERMINAL
SOCKET
FRONT VIEW

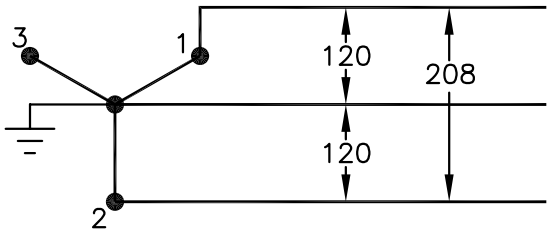
LOAD

DISTRIBUTION CONSTRUCTION STANDARDS	METERING STANDARDS FROM A GOUNDED NEUTRAL 120/240V THREE WIRE SINGLE PHASE SERVICE	
BANGOR HYDRO ELECTRIC Co.		DRAWING 2901

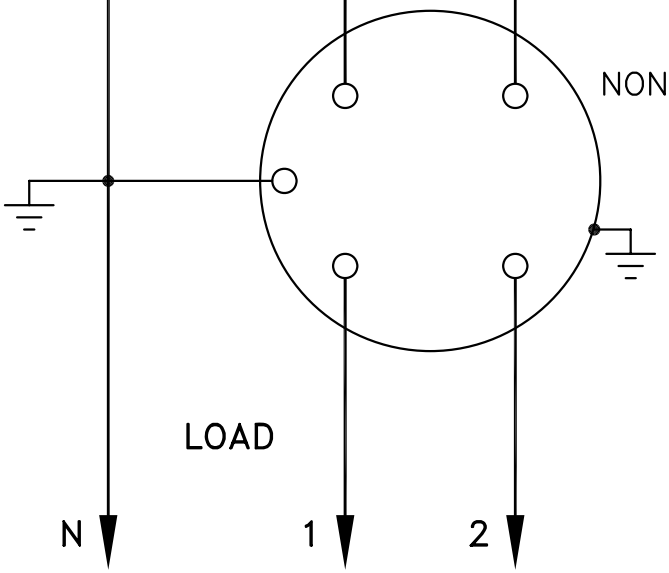
NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-18-09	GAN



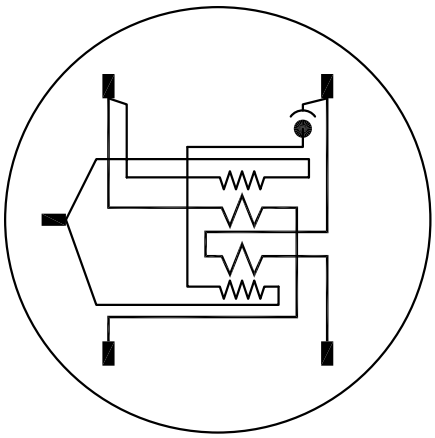


120/208 VOLT ONLY
100 AMP, 200 AMP
(NO BY-PASS)



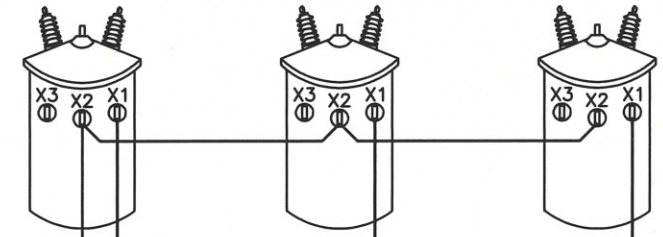
5-TERMINAL
NON-CIRCUIT CLOSING
SOCKET
FRONT VIEW

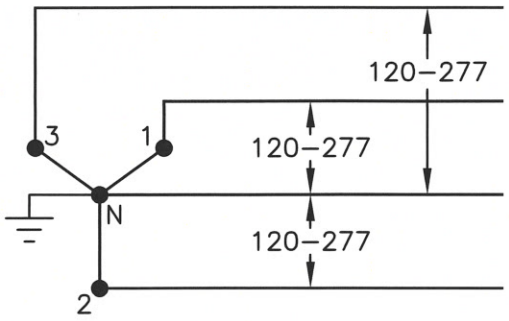
FORM 12S



METER
INTERNAL DIAGRAM
FRONT VIEW

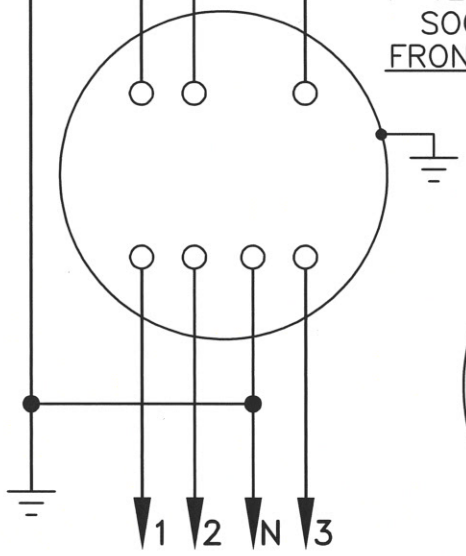
	DISTRIBUTION CONSTRUCTION STANDARDS	METERING STANDARDS ON A NETWORK 120/208V THREE WIRE SERVICE
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2902





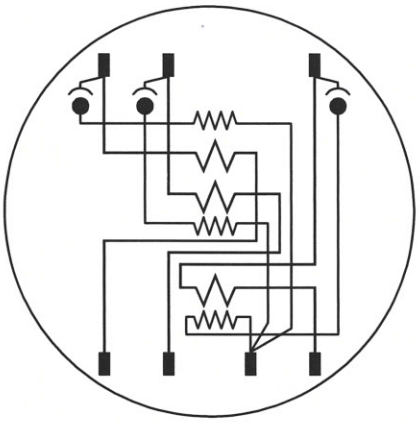
120/208 VOLTS & 277/480 VOLTS
100 AMP, 200 AMP, 400 AMP
SOCKET METER
(BY–PASS REQUIRED)
400+ AMP, CT METERING
SEE STANDARD #2712
FOR APPROVED 400 AMP
METER BOXES

7–TERMINAL
SOCKET
FRONT VIEW



LOAD

FORM 16S



METER
INTERNAL DIAGRAM
FRONT VIEW

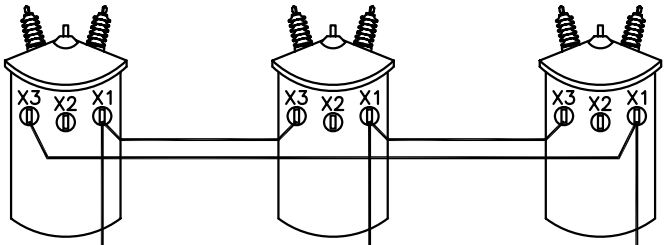
STATE OF MAINE
DAVID W.
NORMAN
No. 8377
LICENSED
PROFESSIONAL ENGINEER
12/3/20

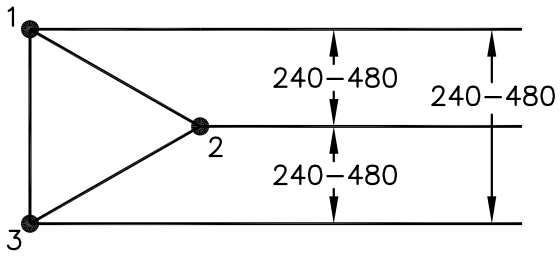
DISTRIBUTION
CONSTRUCTION
STANDARDS

VERSANT
POWER

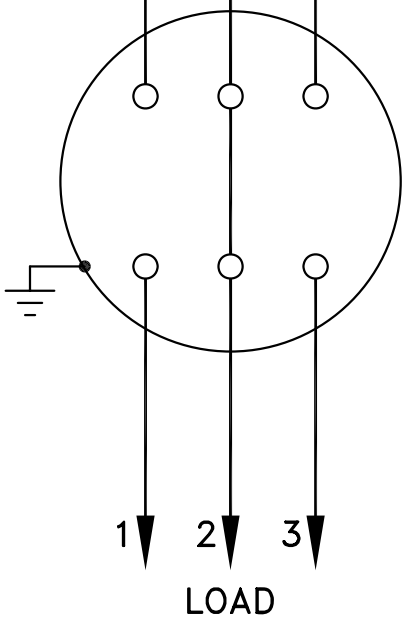
METERING STANDARDS
FOUR WIRE WYE
THREE PHASE SERVICE

LAST REVISED	DRAWING
07–14–2020	2903



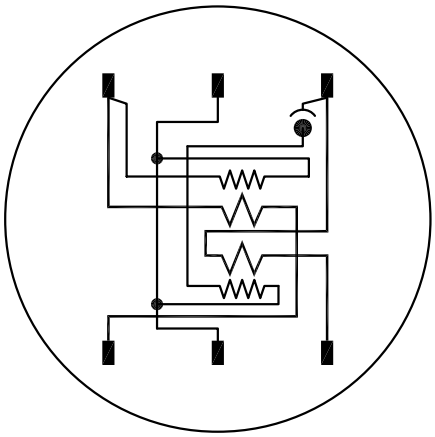


240 VOLT or 480 VOLT ONLY
100 AMP, 200 AMP
SOCKET METER
(BY–PASS REQUIRED)
200+ AMP, CT METERING



5–JAW
6–TERMINAL
SOCKET
FRONT VIEW

FORM 12S



METER
INTERNAL DIAGRAM
FRONT VIEW

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12–18–09	GAN

DISTRIBUTION
CONSTRUCTION
STANDARDS

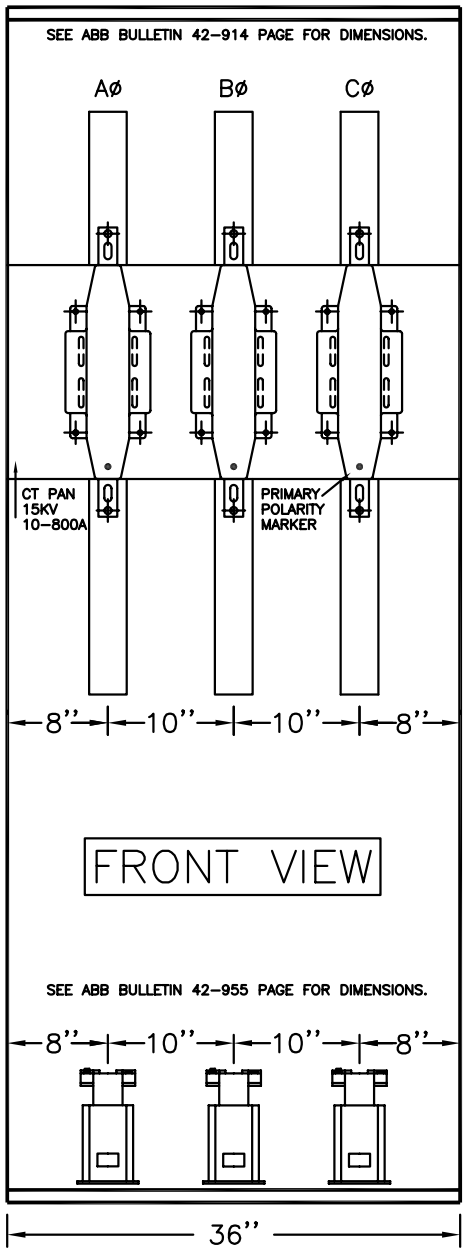
METERING STANDARDS
THREE WIRE DELTA
THREE PHASE SERVICE

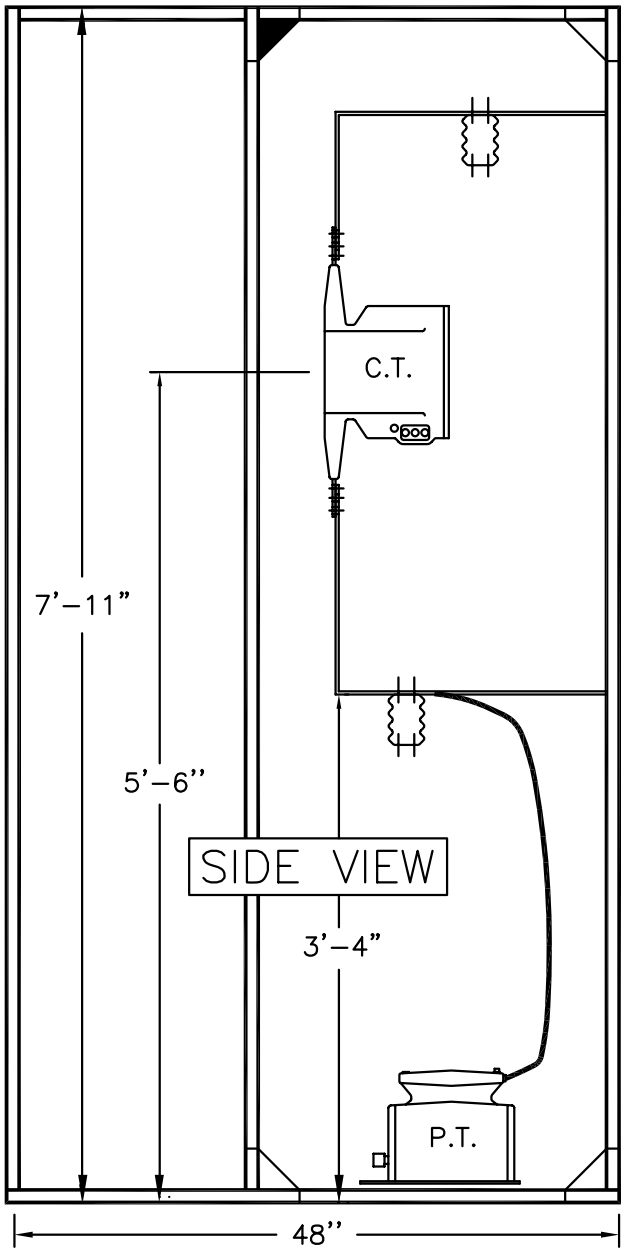
BANGOR HYDRO ELECTRIC Co.

DRAWING
2904

NO.	REVISION	DATE	CK

NO.	REVISION	DATE	CK
1	2009 REVISIONS & REFORMAT	12-18-09	GAN





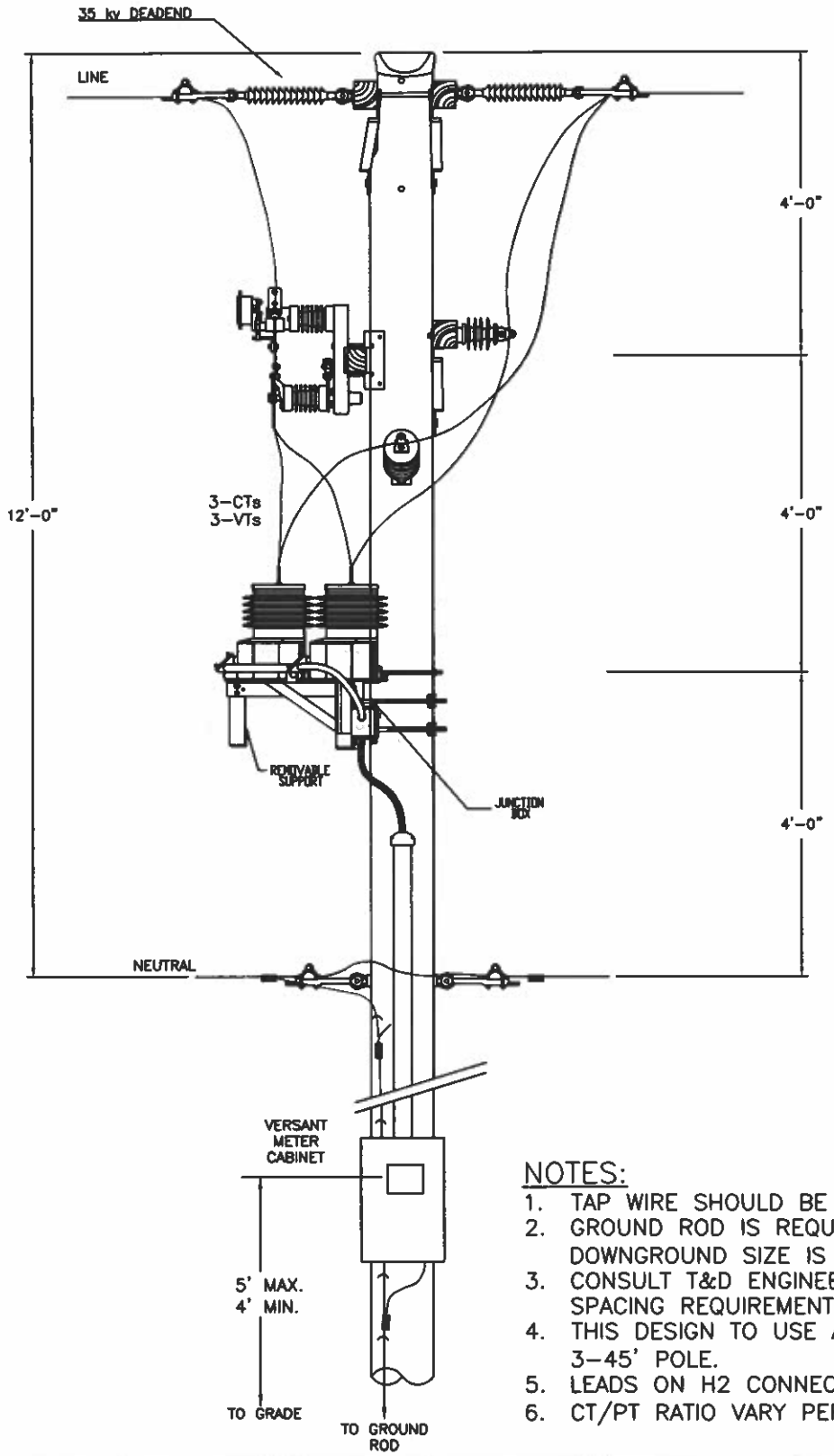
NOTES:

1. BUS CLEARANCES PHASE TO PHASE 7'' MINIMUM
   PHASE TO GROUND 5 '' MINIMUM
2. BUS PHASING FROM FRONT – A,B,C LEFT TO RIGHT.
   BUS PHASING FROM REAR – C,B,A LEFT TO RIGHT.
3. 4 FT. FRONT AND REAR WORKING CLEARANCE REQUIRED AROUND METER BAY.

POTENTIAL TRANSFORMER (INDOOR):
ABB VIZ-11 110KV BIL 7200/12470Y 60:1

CURRENT TRANSFORMER (INDOOR):
ABB KIR-11 110KV BIL NOMINAL SERVICE VOLTAGE 13.8KV

	DISTRIBUTION CONSTRUCTION STANDARDS	METERING STANDARDS 15KV PRIMARY METERING INDOOR SWITCHGEAR METER BAY DETAILS
	BANGOR HYDRO ELECTRIC Co.	DRAWING 2905



NOTES:

1. TAP WIRE SHOULD BE COVERED TYPE.
2. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
3. CONSULT T&D ENGINEERING FOR REDUCED SPACING REQUIREMENTS.
4. THIS DESIGN TO USE A MINIMUM CLASS 3-45' POLE.
5. LEADS ON H2 CONNECTION TO CUSTOMER.
6. CT/PT RATIO VARY PER CONSTRUCTION.

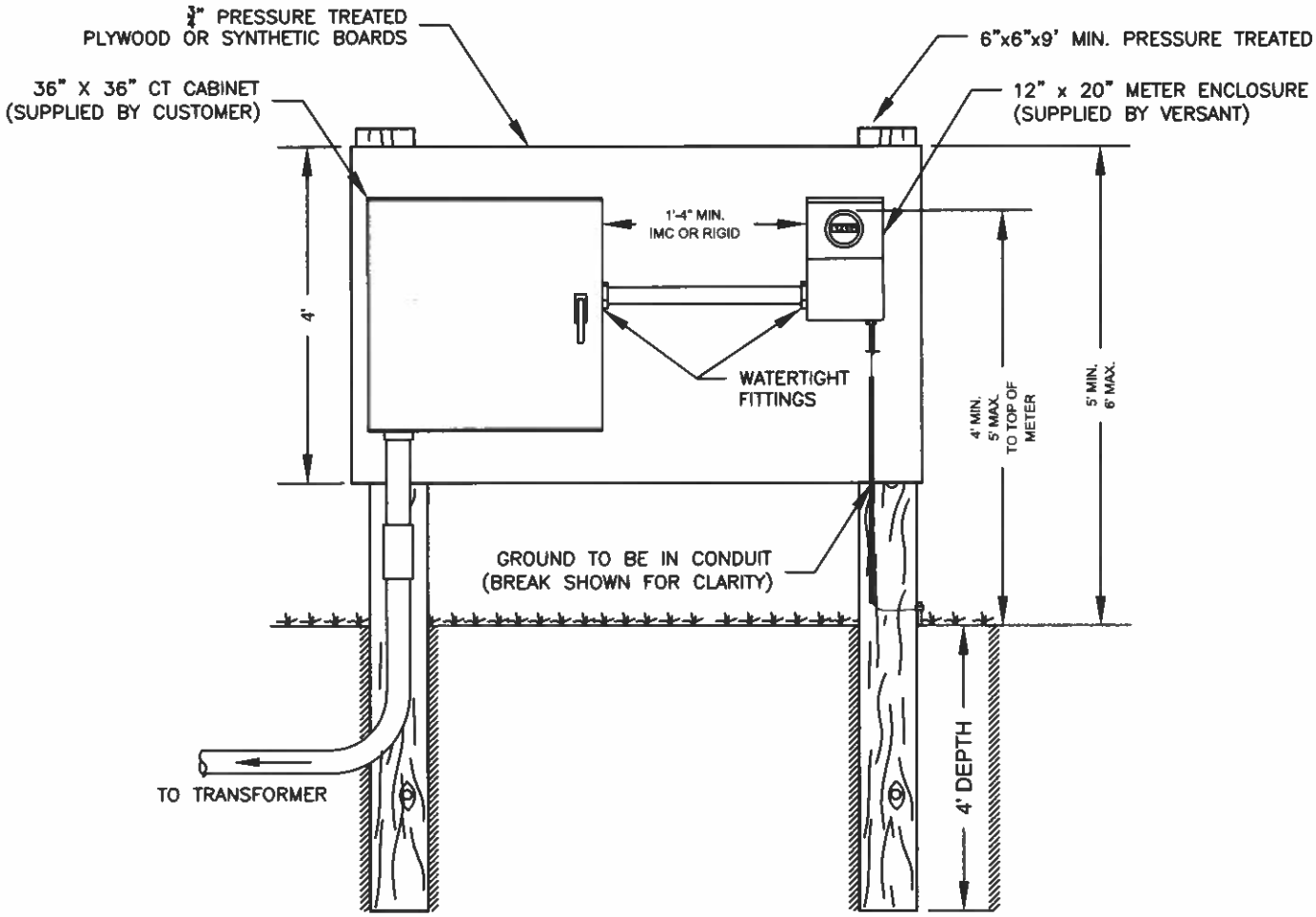
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
7/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV AIR-BREAK PRIMARY METERING POLE DG APPLICATIONS

LAST REVISED	DRAWING
02-24-2021	2907



NOTES:

1. TWO PRESSURE TREATED (PROOF REQUIRED) 6"X6" TIMBERS SET 4' IN EARTH AND SPANNED BY 3/4" PRESSURE TREATED PLYWOOD OR GALVANIZED CHANNEL CAN BE USED AS AN OPTION.
2. GROUNDING AND BONDING SYSTEM PER N.E.C. ARTICLE 250.
3. ABOVE GROUND EXPANSION JOINTS REQUIRED.

STATE OF MAINE
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No. 8377
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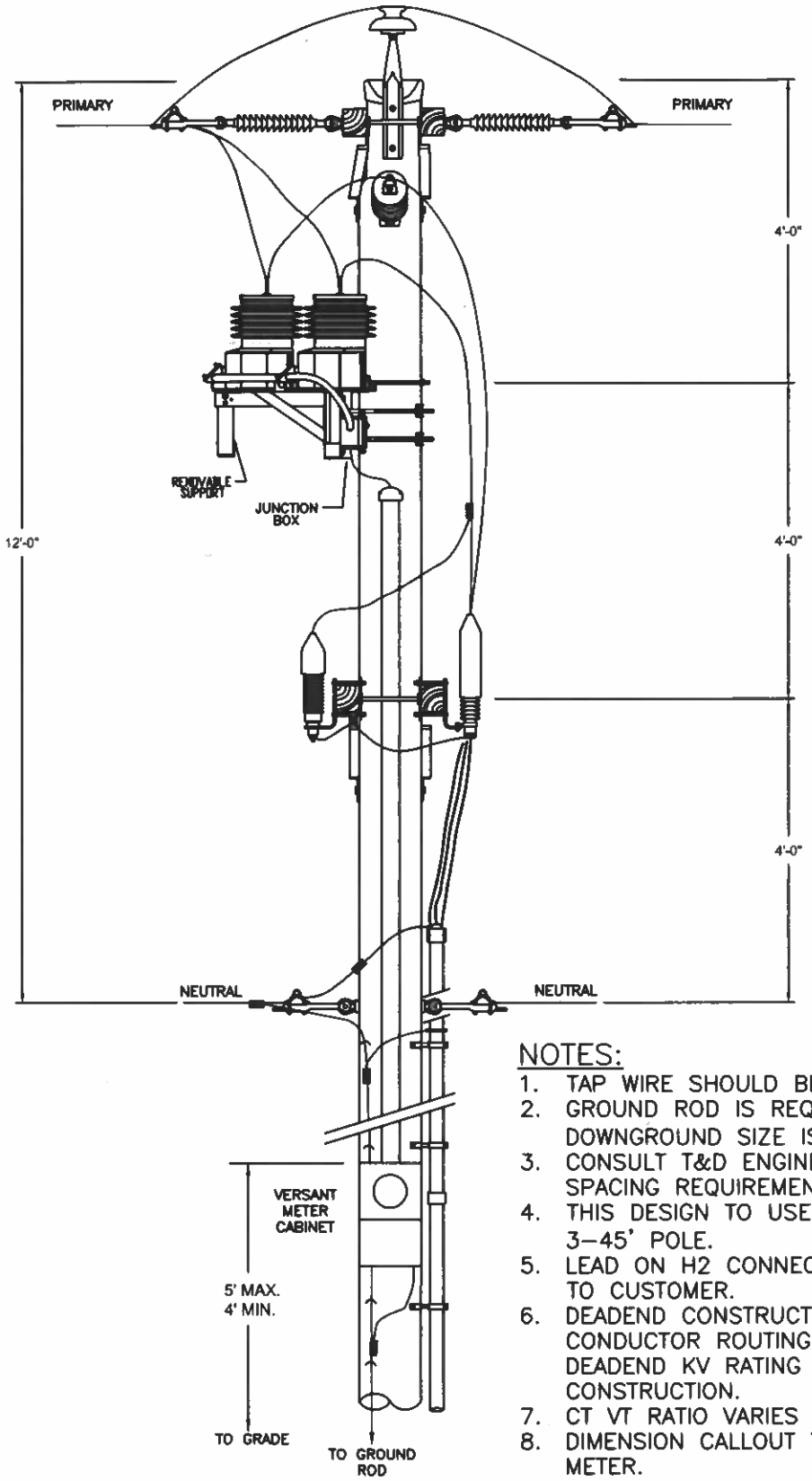
1/24/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

SECONDARY METERING PEDESTAL DG APPLICATIONS OVER 400 AMPS

LAST REVISED	DRAWING
07/22/2021	2908



NOTES:

1. TAP WIRE SHOULD BE COVERED TYPE.
2. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
3. CONSULT T&D ENGINEERING FOR REDUCED SPACING REQUIREMENTS.
4. THIS DESIGN TO USE A MINIMUM CLASS 3–45' POLE.
5. LEAD ON H2 CONNECTION ON DEVICE IS TO CUSTOMER.
6. DEADEND CONSTRUCTION PERMITS CONDUCTOR ROUTING TO DEVICE. DEADEND KV RATING VARIES PER CONSTRUCTION.
7. CT VT RATIO VARIES PER CONSTRUCTION.
8. DIMENSION CALLOUT TO TOP OF NEW METER.

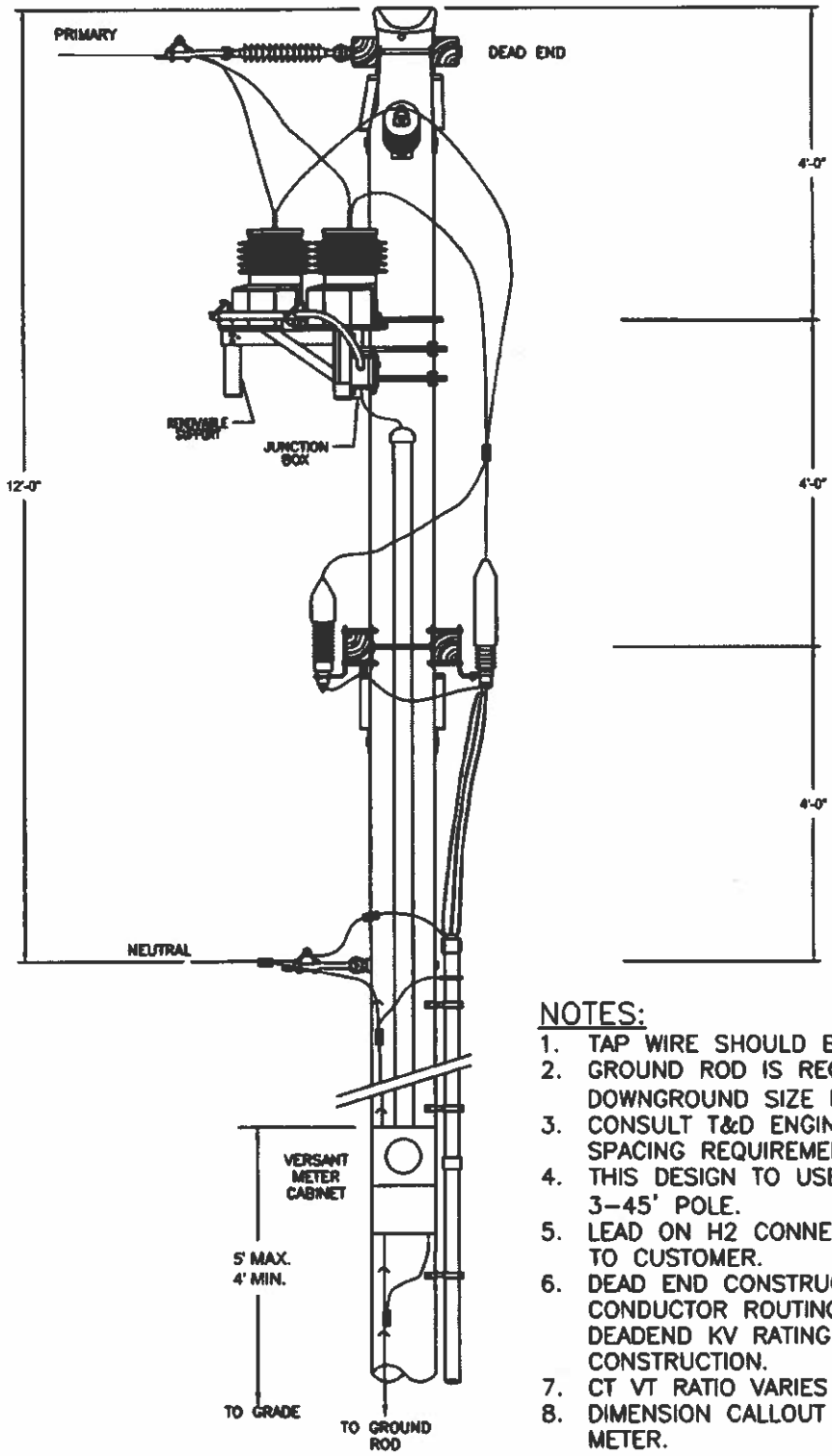
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
1/30/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

PRIMARY METERING NEW DEVICE

LAST REVISED	DRAWING
01–04–2022	2909



NOTES:

1. TAP WIRE SHOULD BE COVERED TYPE.
2. GROUND ROD IS REQUIRED. MINIMUM DOWNGROUND SIZE IS #4 COPPER.
3. CONSULT T&D ENGINEERING FOR REDUCED SPACING REQUIREMENTS.
4. THIS DESIGN TO USE A MINIMUM CLASS 3–45' POLE.
5. LEAD ON H2 CONNECTION ON DEVICE IS TO CUSTOMER.
6. DEAD END CONSTRUCTION PERMITS CONDUCTOR ROUTING TO DEVICE. DEADEND KV RATING VARIES PER CONSTRUCTION.
7. CT VT RATIO VARIES PER CONSTRUCTION.
8. DIMENSION CALLOUT TO TOP OF NEW METER.

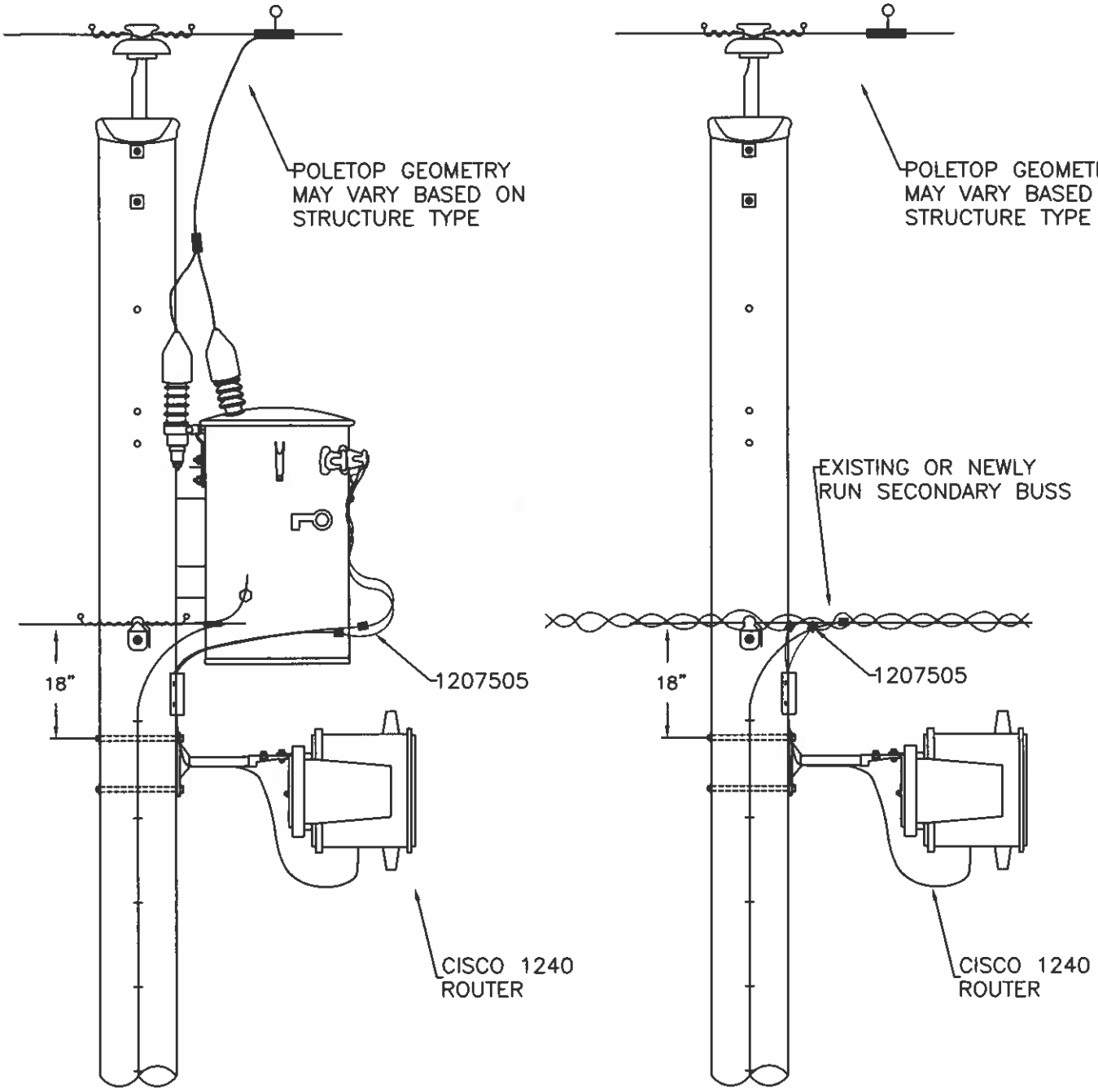
STATE OF MAINE
DAVID W. NORMAN
No. 8377
LICENSED PROFESSIONAL ENGINEER
1/10/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

PRIMARY METERING NEW DEVICE DEADEND

LAST REVISED	DRAWING
01–04–2022	2909.1



NOTES:

1. POWER SUPPLY CONNECTION TO BE TO TRANSFORMER OR SECONDARY BUSS AT NEUTRAL ELEVATION USING PART NO. 127505.
2. IF INSTALLING WITHIN 75' OF WELL OR POTABLE WATER SOURCE, INSTALL FG POLE.
3. 127102 TO BE INSTALLED 4 PER MILE & AT EACH LOCATION WITH A TRANSFORMER, EXTENDING UP TO THE NEUTRAL ATTACHMENT FOR BONDING.
4. SEE SECTION 102 FOR ADDITIONAL GROUNDING AND BONDING INFORMATION.

STATE OF MAINE
DAVID W. NORMAN
No. 8317
LICENSED
PROFESSIONAL ENGINEER
7/29/22

DISTRIBUTION CONSTRUCTION STANDARDS

VERSANT POWER

15 kV – CGR1240 ROUTER POLE MOUNT 2000# TENSION 1/0 & 336 CONDUCTOR

LAST REVISED	DRAWING
11-29-2021	2910

Approved Materials for BHE Line Extensions

Stock Code	Description
1101030	POLES W. RED CEDAR, UNTREATED, 30' CLASS 4
1101035	POLES W. RED CEDAR, UNTREATED, 35' CLASS 5
1101040	POLES W. RED CEDAR, UNTREATED, 40' CLASS 4
1101045	POLES W. RED CEDAR, UNTREATED, 45' CLASS 3
1101055	POLES W. RED CEDAR, UNTREATED, 55' CLASS 2
1101060	POLES W. RED CEDAR, UNTREATED, 60' CLASS 2
1101140	POLES PSP, 40' CLASS 1
1101145	POLES PSP, 45' CLASS 1
1101150	POLES PSP, 50' CLASS 1
1101155	POLES PSP, 55' CLASS 1
1101170	POLES PSP, 70' CLASS 1
1101175	POLES PSP, 75' CLASS 1
1101240	POLES PSP, 40' CLASS 2
1101245	POLES PSP, 45' CLASS 2
1101250	POLES PSP, 50, CLASS 2
1101255	POLES PSP, 55' CLASS 2
1101260	POLES PSP, 60' CLASS 2
1101265	POLES PSP, 65' CLASS 2
1101270	POLES PSP, 70' CLASS 2
1101270	POLES PSP, 70' CLASS 2
1101275	POLES PSP, 75' CLASS 2
1101335	POLES PSP, 35' CLASS 3
1101340	POLES PSP, 40' CLASS 3
1101345	POLES PSP, 45' CLASS 3
1101350	POLES PSP, 50' CLASS 3
1101355	POLES PSP, 55' CLASS 3
1101360	POLES PSP, 60' CLASS 3
1101365	POLES PSP, 65' CLASS 3
1101365	POLES PSP, 65' CLASS 3
1101370	POLES PSP, 70' CLASS 3
1101385	POLES PSP, 85' CLASS 3, POWER-TEL
1101440	POLES PSP, 40' CLASS 4
1101445	POLES PSP, 45' CLASS 4
1101530	POLES PSP, 30' CLASS 5
1101535	POLES PSP, 35' CLASS 5
1102128	ARM WOOD, 120" 6 PIN HEAVY DUTY 4 1/2" X 3 1/2"
1102201	ARM FIBERGLASS EXTRA H/D TANGENT W/FORMED MOUNT, PUPI #TB3000-96-BH2, 8' X 3 5/8" X 4 5/8", 10,000LB ULTIMATE LOAD PER EACH, BHE SPEC 410
1102203	ARM FIBERGLASS EXTRA H/D, DEADEND, W/FORMED CENTER MOUNT BRKT. 3 POSITION 5 ATTACHMENTS, PUPI #DA3000-96E2-BH2, 8' X 3 5/8" X 4 5/8", 14,700LBS ULTIMATE LOAD PER WIRE
1102501	ARM WOOD, 3-WIRE DEAD END ASSY, 13/16" HOLES, ALUM-FORM #HD-DEA-86-EB-BVQ
1102693	ARM WOOD, 6 PIN, 96" X 4 1/2" X 3 1/2" - DOUGLAS FIR 0.040 P/CF PENTA. TREATMENT - DRILLED TO SPEC. DRAWING 410
1103250	BRACE WOOD ALLEY, 7', HUGHES #1096.7, BROOKS # 41018-08
1103275	BRACE WOOD ALLEY, 10', HUGHES #1096.10
1103301	BRACE CROSSARM, WOOD, 27", ALUM-FORM #AF-626, HUBBELL # PSCAF626, MACLEAN #JA5526
1103330	BRACE CROSSARM, WOOD, 36", ALUM-FORM #RA6018-11/16, HUBBELL # PSCRA6018A1116, MACLEAN # JA1370RT.1
1103350	BRACE CROSSARM, FIBERGLASS, 7/8" H/D ROD TYPE W/ALUM REVERSIBLE FITTINGS BOTH ENDS , SIDE-MOUNT, PUPI #B5518-SM
1104216	LAG SCREWS, 4" X 1/2", GIMLET POINT, JOSLYN J8784
1104412	LAG SCREWS, 4" X 1/2", FETTER DRIVE DRIVE POINT #J-8754P, HPS 508754-1/2
1106106	BOLTS MACH, 6" X 1/2", #J-8706
1106110	BOLTS MACH, 10" X 1/2", #J-8710

Approved Materials for BHE Line Extensions

Stock Code	Description
1106112	BOLTS MACH, 12" X 1/2", #J-8712
1106114	BOLTS MACH, 14" X 1/2", J-8714
1106308	BOLTS MACH, 8" X 3/4", #J-8908
1106310	BOLTS MACH, 10" X 3/4", #J-8910
1106312	BOLTS MACH, 12" X 3/4", J-8912, HPS 8912
1106314	BOLTS MACH, 14" X 3/4", #J-8914, HPS 8914
1106316	BOLTS MACH, 16" X 3/4", #J-8916
1106318	BOLTS MACH, 18" X 3/4", #J-8918
1106320	BOLTS MACH, 20" X 3/4", #J-8920
1106322	BOLTS MACH, 22" X 3/4", #J-8922
1106324	BOLTS MACH, 24" X 3/4", #J-8924
1106418	BOLTS DA, 18" X 3/4", #J-8888
1106420	BOLTS DA, 20" X 3/4", #J-8890
1106424	BOLTS DA, 24" X 3/4", #J-8894
1106426	BOLTS DA, 26" X 3/4", #J-8896
1106506	BOLTS MACH, 6" X 5/8", #J-8806, HPS 8806
1106508	BOLTS MACH, 8" X 5/8", #J-8808
1106510	BOLTS MACH, 10" X 5/8", #J-8810, HPS 8810
1106512	BOLTS MACH, 12" X 5/8", #J-8812, HPS 8812
1106514	BOLTS MACH, 14" X 5/8", #J-8814, HPS 8814
1106516	BOLTS MACH, 16" X 5/8", #J-8816
1106518	BOLTS MACH, 18" X 5/8", #J-8818
1106520	BOLTS MACH, 20" X 5/8", #J-8820
1106522	BOLTS MACH, 22" X 5/8", #J-8822
1106524	BOLTS MACH, 24" X 5/8", #J-8824
1106622	BOLTS DA, 22" X 7/8", HUGHES #TR822-F, FULL THREADS W/4 NUTS
1106624	BOLTS DA, 24" X 7/8", HUGHES #TR824-F, FULL THREADS W/4 NUTS
1106626	BOLTS DA, 26" X 7/8", HUGHES #TR826-F, FULL THREADS W/4 NUTS
1106628	BOLTS DA, 28" X 7/8", HUGHES #TR828-F, FULL THREADS W/4 NUTS
1106702	BOLTS MACH, 2" X 7/8", HUGHES #B82-2
1106703	BOLTS MACH, 2 1/2" X 7/8", HUGHES #B82-1/2-2
1106710	BOLTS MACH, 10" X 7/8", HUGHES #B810-6
1106712	BOLTS MACH, 12" X 7/8", HUGHES #B812-6
1106714	BOLTS MACH, 14" X 7/8", HUGHES #B814-6
1106716	BOLTS MACH, 16" X 7/8", HUGHES #B816-6, JOSLYN #J-9066
1106718	BOLTS MACH, 18" X 7/8", HUGHES #B818-6
1106720	BOLTS MACH, 20" X 7/8", HUGHES #B820-6
1106722	BOLTS MACH, 22" X 7/8", HUGHES #B822-6
1106724	BOLTS MACH, 24" X 7/8", HUGHES #B824-6
1106726	BOLTS MACH, 26" X 7/8", HUGHES #B826-6
1106818	BOLTS DA, 18" X 5/8", #J-8868, HPS 8868
1106820	BOLTS DA, 20" X 5/8", #J-8870, HPS 8870
1106822	BOLTS DA, 22" X 5/8", #J-8872, HPS 8872
1106824	BOLTS DA, 24" X 5/8", #J-8874
1106826	BOLTS DA, 26" X 5/8", #J-8876
1106924	BOLTS DOUBLE END, 24" X 7/8", HUGHES #TR824-5, 5" THREADS W/2 NUTS
1106926	BOLTS DOUBLE END, 26" X 7/8", HUGHES #TR826-5, 5" THREADS W/2 NUTS
1107312	BOLTS EYE, 12" X 3/4", #J-9512
1107314	BOLTS EYE, 14" X 3/4", #J-9514
1107406	BOLTS SHOULDER EYE, 8" x 3/4", #J-9528
1107412	BOLTS EYE & SADDLE ASSEMBLY, 11" x 3/4", HUGHES #2824.6-6-8
1107506	BOLTS EYE, 6" X 5/8", #J-9406

Approved Materials for BHE Line Extensions

Stock Code	Description
1107508	BOLTS EYE, 8" X 5/8", #J-9408, HPS 29958
1107510	BOLTS EYE, 10" X 5/8", #J-9410, HUBBELL #29960
1107512	BOLTS EYE, 12" X 5/8", #J-9412, HUBBELL #29962
1107514	BOLTS EYE, 14" X 5/8", #J-9414
1107516	BOLTS EYE, 16" X 5/8", #J-9416
1107518	BOLTS EYE, 18" X 5/8", #J-9418
1107520	BOLTS EYE, 20" X 5/8", #J-9420
1107904	BOLTS CARRIAGE, 4 1/2" X 3/8", #J8634-1/2, HPS 8634-1/2
1108330	ANCHOR ROCK, 30" x 2.25", JOSLYN #JR130-L, HUBBELL #R130L
1108353	ANCHOR ROCK, 53" X 2.25", JOSLYN #JR153-L, HUBBELL #R153L
1108360	ANCHOR ROCK, 72" X 2.25", JOSLYN #JR172-L, HUBBELL #R172L
1108396	ANCHOR ROCK, 96", JOSLYN #JR196-L, HPS R196L
1108412	ANCHOR EXPANSION, 12", 8-WAY, CHANCE #1283, JOSLYN #J0283
1108508	ANCHOR LOG, 8' X 8" X 8", ROUGH SAWN HEMLOCK, #1&2, PENTA
1108610	ANCHOR SCREW,10", MACLEAN #TDH225-104, CHANCE #T102-5229, RATED 10,000 LBS
1108615	ANCHOR SCREW, 14", DIXIE # DTX-134, CHANCE #C102-5203 (14") RATED 10,000 LBS
1108901	ANCHOR MANTA RAY, #MR-1, 16,000 lbs
1110101	BRACKET NEUT. WIRE, MACLEAN #NWB-5
1110301	BRACKET PUSH BRACE, MACLEAN #PAX-138
1110400	BRACKET HENDRIX, STIRRUP, #TS-1
1110401	BRACKET HENDRIX, TANGENT, 14", #BM-14, - GALV. DUCTILE IRON W/MC-2 MESSANGER CLAMP
1110402	BRACKET HENDRIX, TANGENT, 24", #BM-24A, - CAST ALUM. W/ MC-2 MESSENGER CLAMP FOR 46KV AND BELOW
1110405	BRACKET HENDRIX, ANGLE, #BA3-35
1110407	BRACKET HENDRIX, DEAD END, #BD-35
1110414	BRACKET HENDRIX, 14" ANTI-SWAY, #BAS-14F
1110424	BRACKET HENDRIX, 24" ANTI-SWAY, #BAS-24F
1110502	BRACKET STANDOFF, FIBERGLASS, 24" 2" DIA, MACLEAN #G1HDA424DL1
1110504	BRACKET STANDOFF, FIBERGLASS, 3-PH, 2" DIA, W/ BRACE, CONT. #CED-3026-CMP
1110513	BRACKET APPARATUS, 18" FIBERGLASS, 2" DIA, HUBBELL # 1SBHI8CL, MPS G1HDA418AT
1110516	BRACKET, 3-POSITION MOUNTING, ALUMAFORM # F3CA-MV-H4824-D3, MACLEAN # G3MA014824DD
1110520	BRACKET DOWN LEAD, FIBERGLASS, CONT. #DLBB-18A, JOSLYN #65-18
1110600	BRACKET MOUNTING, REG. BY-PASS SWITCH, #SWB-36, FOR 4833710 SW.
1110802	BRACKET HOUSE SERVICE, #J-2854, CHANCE #8205
1110906	BRACKET CLUSTER MOUNT, ALUM-FORM #6M3-6, HUBBELL C6M36, HOLDS UP TO 50KVA
1110915	BRACKET CLUSTER MOUNT, ALUM-FORM #15M3-9, HUBBELL C15M39, HOLDS UP TO 100KVA
1110936	BRACKET WOOD EQUIPMENT MOUNT, ALUMA-FORM # WT3CA-48
1112011	EYE GUY HOOK, MACLEAN #P151-X, CHANCE # GH151A
1112013	EYE GUY HOOK, FLAGG #P133A
1112200	EYE OVAL BALL, #3014, JOSLYN #13000, ANDERSON #BE-30
1112408	EYE SOCKET, ANDERSON #SA-05, FOR ADEZ CLAMPS
1112410	EYE SOCKET, ANDERSON #SA-06, FOR SD-70N & SD-86N, MCLEAN #SI-750
1112500	EYE AUXILIARY ANCHOR, CONT. #AE-155A, FOR 3/4" & 1" RODS
1113522	SIDEWALK GUY ATTACHMENT, JOSLYN J0522, 10/BOX
1113541	SIDEWALK GUY POLE FLANGE, MCLEAN #SWGB-20-54
1113931	SIDEWALK GUY CLAMP, JOSLYN J931, 3 BOLT CLAMP, 20/BOX
1113941	SIDEWALK DOUBLE GUY FITTING, LINDSEY # 2141
1115101	GUARDS GUY, YELLOW, PREF0RMED #PGMS4988
1115120	GUARDS WILDLIFE PROTECTOR, ELECT/MATERIAL #100-B
1115122	GUARDS WILDLIFE PROTECTOR, ELECT/MATERIAL #WLP-1
1115125	GUARDS PERCH PREVENTER, HENDRIX #HPP-24
1115130	GUARDS ELECTROSTATIC ANIMAL, 3-M #GG-1525, TRANSFORMER MOUNT

Approved Materials for BHE Line Extensions

Stock Code	Description
1115306	GUARDS POLE TOPPER, 16", OSMOSE #0Z9 70-110-020-016 (10 / BOX)
1115308	GUARDS POLE TOPPER, 19", OSMOSE #0Z9-1 PART # 70-110-010-019 (10 / BOX)
1115310	GUARDS POLE TOPPER, 16 OZ BOTTLE, OSMOSE #OZ 12-1, (12 PER)
1116316	HOOKS SCREW, GALV., 3/8" X 3-1/2", HUBBELL #8777
1116317	HOOKS DRIVE, GALV., 7/16" X 4-3/4", JOSLYN #J3316P, CHANCE #C205-0190
1121101	INSULATORS STRAIN, 3' FG, MCLEAN. #GCC21-36R, CHANCE # GS21036CC1, ALUMAFORM FGS21-36CR
1121102	INSULATORS STRAIN, 5' FG, MACLEAN #GCC30-60R
1121103	INSULATORS GUY STRAIN, 10' FG, 36,000LB, MACLEAN #GCC36120R2
1122101	LINK TWISTED, 7/8" HOLE, 9/16" DIA, #BT3085, MACLEAN #F8L903045
1122350	LINK DEAD END EXTENSION, 14" X 1-1/2" X 3/8", JOSLYN #J-6658
1124034	NUTS SQUARE, 3/4"-10 GALV. JOSLYN #J-8564
1124038	NUTS SQUARE, 3/8"-16 GALV. JOSLYN J-8561
1124058	NUTS SQUARE, 5/8"-11 GALV. JOSLYN #J-8563
1124078	NUTS SQUARE, 7/8"- 8 GALV. HUGHES #N80
1124080	NUTS SQUARE, HEAVY DUTY FOR RODS, 1" GALV. HUGHES #N100, HUBBLE #55320P
1124102	NUTS EYE, 5/8", MACLEAN #J-1092, CHANCE #6502
1124103	NUTS EYE, 3/4", JOSLYN #J-1093, CONT. #EN-6
1124105	NUTS EYE, 7/8", HUGHES #EN80
1124201	NUTS LOCKNUTS, 3/4", JOSLYN #J-8584, CHANCE #3513
1124402	NUTS LOCKNUTS, 7/8", JOSLYN #J-8584-1/2
1125103	PINS POLE TOP 24" NYLON JOSLYN #J-744Z, CHANCE #C206-0140P 10/PKG
1125201	PINS STEEL, 7" NYLON TOP, MACLEAN #J-607Z, CHANCE #4326
1125202	PINS HENDRIX, #SSP-2, (SEE JOSLYN #J629Z)
1125302	PINS ANGLE, 8", MACLEAN #P-402Z
1125501	PINS POLE TOP, FIBERGLASS, 30", MACLEAN #G1HDR130AS1, HUBBELL #RPH301
1126101	RACKS QUICK LOCK, JOSLYN #J250
1126203	RACKS 3 WIRE SECONDARY, HD, CHANCE #C207-0052, COOPER #DR1F2
1127101	RODS GALV. GROUND, 8' X 3/4" CHANCE #8618. COPPER BONDED: ALLIED BOLT # 2122, ERITECH # 613480, GALVAN # 7508, HPS # C613480, LINE HARDWARE # GR348C
1127205	RODS ANCHOR, 7' X 1" W/TRI EYE, DIXIE #D-100T, CHANCE #E102-0053, 36,000 MIN. BREAKING STR.
1127206	RODS ANCHOR, 6' X 5/8", JOSLYN #J-7516, CHANCE #5346
1127208	RODS ANCHOR, 8' X 1", JOSLYN #J-7538 OR J-7338
1127209	RODS ANCHOR, 10' X 1", JOSLYN #J-7540
1127308	RODS ARMOR, 4/0 ACSR 6/1 PENGUIN, PREFORMED #AR-0124 OR DULMISON #AAR-1400, DIA. .182, RED .552 - .585
1127309	RODS ARMOR, 266/800 ACSR 26/7 PARTRIDGE, PREFORMED #AR-0127 OR DULMISON #AAR-1605, YELLOW .631 - .655
1127318	RODS ARMOR, 795 ACSR 45/7 TERN, DULMISON #AAR-2630, PREFORMED #AR-0139, BLUE 1.036-1.064, .310 DIA.
1127322	RODS ARMOR, 3#7 CU-WELD, #AR-5112, BLACK, .296-.314, 44"
1134101	STUDS SHORT, 3/4" X 1 3/4", CHANCE #DF19M3
1134102	STUDS LONG, 3/4" X 7", CHANCE #DF19M4
1136114	PLATFORM TRANSFORMER, ALUM-FORM #HD2PAL-14', 13,500lb LOAD LIMIT 3 X 4,500
1136214	PLATFORM TRANSFORMER, TIE DOWN KIT, ALUM-FORM #50417
1137100	PLATES POLE BOTTOM GROUND, HOMAC #5575
1137140	PLATES SINGLE POLE EYE, JOSLYN #PX37B, 15/16" HOLES, MCLEAN #EPR-77S-7 (OLD #EPR8-77-7)
1137150	PLATES DBL. POLE EYE, JOSLYN #PX42, HUGHES #AS-2720-4.5 & A-2132-F1, (MCLEAN #EPR8-77-D7 TO BIG)
1138100	WASHERS FLAT, 2 1/4" X 2 1/4" X 3/16", 13/16" HOLE, JOSLYN #J-1076, CHANCE #6814
1138104	WASHERS FLAT, 6" X 6" X 1/2", 1 1/8" HOLE, HUGHES #SW6-100-1/2
1138106	WASHERS FLAT, 4" X 4" X 1/4", 15/16" HOLE, JOSLYN #J-1082, CHANCE #6819
1138107	WASHERS FLAT, 4" X 4" X 3/16", 13/16" HOLE, JOSLYN #J-1080, CHANCE #6818
1138108	WASHERS CURVED CAST, 4" X 4" X 7/16", 13/16" HOLE, JOSLYN-FLAGG #P-144, MACLEAN #CW-44-6, CHANCE #GCW41

Approved Materials for BHE Line Extensions

Stock Code	Description
1138110	WASHERS FLAT, 4" X 4" X 1/2", 1 1/8" HOLE, JOSLYN #J-1081, CHANCE #6820
1138111	WASHERS CURVED, 4" X 4" X 1/4", 15/16" HOLE, JOSLYN #J-6829, CHANCE #SCW4-80, HUGHES & MCLEAN #CW80
1138112	WASHERS CURVED CAST, 4" X 4" X 7/16", 15/16" HOLE, FLAGG #P-144B, MCLEAN #CW-44-7
1138200	WASHERS CURVED, 3" X 3" X 1/4", 13/16" HOLE, JOSLYN #J-6823, COOPER #DF4W5
1138400	WASHERS LOCK, 3/8" BOLT, JOSLYN #J134, COOPER #DF7W1
1138401	WASHERS LOCK, 1/2" BOLT, JOSLYN #J-138
1138402	WASHERS LOCK, 5/8" BOLT, JOSLYN #J-139, CHANCE #4036 (2000 STD. PKG.)
1138504	WASHERS LOCK, 3/4" BOLT, JOSLYN #J-140
1138506	WASHERS LOCK, 7/8" BOLT, HUGHES #SLW80
1138602	WASHERS DBL. COIL SPRING LOCK, 5/8", JOSLYN #J-177
1138604	WASHERS DBL. COIL SPRING LOCK, 3/4", JOSLYN #J-178
1138606	WASHERS DBL. COIL SPRING LOCK, 7/8", HUGHES #SLW2-80
1138702	WASHERS ROUND, 1 3/8" X 9/16", JOSLYN J1086, HPS PS6803
1138704	WASHERS ROUND CAST, 4" X 7/16", 15/16" HOLE, MCLEAN #RW-40-7
1140100	COUPLING SCREW ANCHOR, MACLEAN # D354
1201200	ARRESTERS ARM, 9KV POLYMER VARIGAP, 7.65 MCOV, COOPER # URT09050A3A1B1B, YELLOW BASE
1201201	ARRESTORS TRANSFORMER, 9KV POLYMER VARIGAP, 7.65 MCOV, COOPER # UNG09056A3C1D1B, YELLOW BASE
1201202	ARRESTER ARM, 9KV ULTRASIL POLYMER HIGH ENERGY STATION CLASS, COOPER # UX0090071045A11
1201203	ARRESTERS ARM, 10KV POLYMER HD, 8.4KV MCOV, HUBBELL #213709-7224, MACLEAN/JOSLYN #ZHP-010-0C00100, COOPER #UHS10050A1A1B1A
1201204	ARRESTERS TRANSFORMER, 10KV POLYMER HD, 8.4KV MCOV, MACLEAN/JOSLYN #ZHP010-0A11112-BS, COOPER #UHS10055D1C1D1A
1201206	ARRESTERS ARM, 27KV MOV POLYMER, HUBBELL/OB #213722-7324, MACLEAN #ZHP027-0C00100, COOPER #UHS27110A1A1B1A
1201207	ARRESTERS TRANSFORMER, 27KV MOV POLYMER, MACLEAN #ZHP027-0W11112-B, COOPER #UHS27115D1C1D1A
1202101	BLADE SOLID, 15KV 100A CUTOUTS OPEN, S&C #89621R9, CHANCE #T710-133T
1202102	BLADE SOLID, 27KV 300A CUTOUTS OPEN, ABB #7194C60G08
1202305	BLADE SOLID, 15KV LB, ABB #278C310A14
1202306	BLADE SOLID, 27KV LB, ABB #278C310A33
1203101	CABLE ALUM SERVICE, # 2/2/4 - 3/W, SOLASTER, 6201 ALLOY NEUT., XLP INS, 4.60ft. per lb. (MAXIMUM REEL SIZE: 32" FLANGE, 24" TRAVERSE, 27.5" OVERALL WIDTH, 3.125" ARBOR HOLE) 1500' PER REEL, SPOOLED ON N17A WOOD REELS
1203102	CABLE ALUM SERVICE, 1/0 3/W, GAMMARUS, 6201 ALLOY NEUT., XLP INS, N19 NAILED WOOD REEL, 2.54 ft. per lb.
1203103	CABLE ALUM SERVICE, 1/0 4/W, SHETLAND, 6201 ALLOY NEUT, XLP INS, N29 NAILED WOOD REEL, 1.875ft. per lb.
1203104	CABLE ALUM SERVICE, 4/0 4/W, WALKING, 6201 ALLOY NEUT., 1.003ft. per lb.
1203106	CABLE ALUM SERVICE, 4/0 3/W, LEPAS, 6201 ALLOY NEUT.,
1203201	CABLE ALUMOWELD MESSENGER, #052, .486 DIA.
1203300	CABLE HENDRIX, 1/0, 15KV AAAC, 7X, 6201 ALLOY, .015SC, .075HMW, .075BTRHDP, .728" FINISHED CABLE DIA., CONDUCTOR DIA. .398"
1203301	CABLE HENDRIX, 1/0, 35KV AAAC, 7X, 6201 ALLOY, .015SC, .175HMW, .175BTRHDP, 1.028" FINISHED CABLE DIA., CONDUCTOR DIA. .362"
1203304	CABLE HENDRIX, 336/400, 35KV AA, 19X, EC-H19, CMT, .020SC, .175HMW, .175BTHDP, 1.237" FINISHED CABLE DIA., COMP. CONDUCTOR DIA. .603"
1203307	CABLE HENDRIX, 336/400, 15KV AA, 19X, EC-H19, .015SC, .075HMW,.075BTRHDP, .937" FINISHED CABLE DIA., COMP. CONDUCTOR DIA. .603", ***CHECK BALANCE AT 202 BEFORE REORDERING***
1203310	CABLE HENDRIX, 556MCM, 15KV AA, 19X, ECH-19, .020SC, .075HMW, .075BTRHDP, 1.125" FINISHED CABLE DIA., COMP. CONDUCTOR DIA. .780"
1203313	CABLE HENDRIX, 556MCM, 46KV AA, 19X, EC-H19, .225HMW, .175BTRHDP, 1.615" FINISHED CABLE DIA., COMP. CONDUCTOR .780"
1203314	CABLE HENDRIX, 795MCM, 15KV AA, 37X, EC-H19, .020SC, 080HMW, .080BTRHDP, 1.292" FINISHED CABLE DIA., COMP. CONDUCTOR .932"
1203400	CABLE 600V CU, #6, 19 STRAND, TYPE THHN
1203401	CABLE 600V CU, #4, 19 STR, TYPE THHN

Approved Materials for BHE Line Extensions

Stock Code	Description
1203402	CABLE 600V CU, #2, 7 STR, TYPE XHHW
1203403	CABLE 600V CU, 1/0, 19 STR, TYPE XHHW
1203404	CABLE 600V CU, 4/0, 19 STR, TYPE XHHW
1203405	CABLE 600V CU, 250MCM, CXP, TYPE XHHW
1203501	CABLE ALUM, #4, 600V, TYPE XLP, RHW, USE
1206102	CLAMP LIVE LINE, CHANCE #P1520AGP, MAIN ACSR/AAC #8 - 2/0, TAP ACSR #8 - 1/0 AL/CU #8 - 2/0
1206104	CLAMP LIVE LINE, ANDERSON #AH4GPXB, RUN 397.5 - #6 SOL. TAP 4/0 STR. - #6 SOL CU
1206107	CLAMP LIVE LINE, HUBBELL # S1545AGP, .939-1.49 MAIN, .198-.703 TAP
1206108	CLAMP LIVE LINE, ANDERSON #BC-2/0, CU, TAP & RUN #8 SOL. - 2/0 STR.
1206110	CLAMP LIVE LINE, CU, RUN #6 - 400, TAP #6 - 4/0, ANDERSON #BH-4
1206201	CLAMP DEAD END, ANDERSON #ADEZ-47N, ACSR #6 - 2/0 AL #4 - 3/0, PREFORMED #SOD-47, CONT. #HDSO-47-E
1206202	CLAMP DEAD END, ANDERSON #ADEZ-88N, ACSR 3/0 - 477 AL 3/0 - 556, PREFORMED #SOD-88, CONT. #HDSO-88-E
1206204	CLAMP DEAD END, ACSR 336 - 954 AL 350 - 1000, ANDERSON #ADEZ-116N
1206250	CLAMP DEAD END, CU, #6 - 1/0, ANDERSON #MDE-40N, CONT. #SDE46F
1206251	CLAMP DEAD END, CU, 2/0 - 250, ANDERSON #MDE-60N
1206275	CLAMP, DEADEND COMPRESSION, 795 TERN, DOUBLE TONGUE, HUBBELL # DEDA-3318-NT, DIES 30AH & 10SH
1206305	CLAMP GROUND, CU & AL, TO 1" RODS, CONT. #BC-105, CHANCE #CB-10
1206325	CLAMP BONDING CLIP, FOR 7/8" BOLT, HUGHES #2727.8
1206399	CLAMP SUSP. SHOE, .16 - .46 DIA, #FCS-46N, .20 - .60 DIA, FSC-60N, GALV. BODY
1206400	CLAMP SUSP. SHOE, .20 - .62 DIA. ANDERSON #HAS-62-N, ALUM. BODY, MCLEAN #LS-0-S
1206401	CLAMP ANGLE SUSP, .16 - .75 DIA., MACLEAN #FAC75, PREFORMED #FAS-75-90
1206402	CLAMP SUSP. SHOE, .90 - 1.39 DIA, ANDERSON # HAS-139S, MCLEAN #LS-4-S, .90-1.39 DIA. ALUM. BODY
1206403	CLAMP SUSP. SHOE, .50 - 1.04 DIA, ANDERSON #HAS-104-S, ALUM. BODY
1206404	CLAMP SUSP. SHOE, 1.25 - 1.92 DIA, ANDERSON #HAS-182-S, ALUM. BODY
1206405	CLAMP SUSP. SHOE, 1.40 - 2.04 DIA, ANDERSON #HAS-204-S, ALUM. BODY
1206450	CLAMP HENDRIX, #H-20V, SINGLE PHASE SPACER
1206452	CLAMP HENDRIX, #RTL-15, OLD #H-15D GRAY
1206458	CLAMP HENDRIX, #H-46D 46KV, NEW STYLE #RTL-46
1206500	CLAMP STIRRUP, 336.4 - 954, ANDERSON #AHLS-954022-E, MACLEAN HLS-795-E, HUBBELL GH-202-AD
1206501	CLAMP STIRRUP, 4/0 - 477, ANDERSON #AHLS-397021-E
1206503	CLAMP STIRRUP, #2 - 4/0 STR, ANDERSON #AHLS-024021-E
1206600	CLAMP DE STRAIN, #2 - 336.4 ACSR, ANDERSON #SD-70-S
1206611	CLAMP DE STRAIN, 336.4 - 1113.0 ACSR, ANDERSON #SD-130-S, MACLEAN ADE-2526-S
1206755	CLAMP STRAIN, STATIC WIRE DE, .22 - .55 DIA, #SWDE-55-S
1206902	CLAMP SIDEWALK GUY, DBL., COOPER # DG4D5
1206903	CLAMP GUY OR STRAIN, #P-345A, MACLEAN #MGA345A, CHANCE # GEP5A34
1207200	CONNECTOR COVER, FARGO #GA9000B2, FOR 9002L & 9020SS CONN.
1207202	CONNECTOR DIST, FARGO #GA9002L, RUN & TAP #2 - #12, FOR ST. LTS.
1207203	CONNECTOR DIST, FARGO #GA9020LSS, RUN ACSR AL 1/0 - #6, TAP ACSR 1/0 AL #6 - 2/0
1207204	CONNECTOR COVER, FARGO #GA9000B3, FOR 9040L, 9041L, 9400L AND 9401L
1207205	CONNECTOR DIST, FARGO #GA9040L, RUN ACSR - AL #2 - 4/0, TAP ACSR - AL- CU #2 - 4/0
1207207	CONNECTOR DIST, FARGO #GA9041L, RUN ACSR - AL #2 - 4/0, TAP ACSR - AL- CU #6 - 2/0
1207209	CONNECTOR DIST, FARGO #GA9400L, RUN & TAP ACSR 3/0 - 336.4
1207211	CONNECTOR DIST, FARGO #GA9401L, RUN ACSR 3/0 - 336.4, TAP ACSR #6 - 4/0
1207213	CONNECTOR DIST, FARGO #GA9520GL, RUN & TAP ACSR 4/0 - 477
1207215	CONNECTOR DIST, FARGO #GA9820GL, RUN & TAP ACSR 336.4 - 636
1207505	CONNECTOR INS. PIERCING, MAIN 2/0 - #4, TAP #10 - #14, #TTD-0510F, - INSULATED WIRE ONLY
1207508	CONNECTOR INS. PIERCING, MAIN 750 - 3/0, TAP #10 - #14, #TTD-0810F, - INSULATED WIRE ONLY
1207510	CONNECTOR INS. PIERCING, MAIN 1/0 - #8, TAP #2 - #10. #TTD-1010FBTUNI
1207518	CONNECTOR INS. PIERCING, MAIN 1/0 - #8, TAP 1/0 - #8, TTD-1810FBTUNI, - INSULATED OR BARE WIRE

Approved Materials for BHE Line Extensions

Stock Code	Description
1207527	CONNECTOR INS. PIERCING, MAIN 4/0 - #2, TAP 4/0 - #4, #TTD-2710FBTUNI, - INSULATED OR BARE WIRE
1207540	CONNECTOR INS. PIERCING, MAIN 4/0 - #2, TAP 2/0 - #6, #TTD-2110FBTUNI - INSULATED OR BARE WIRE
1207550	CONNECTOR INS. PIERCING, MAIN 500 - 4/0 TAP 350 - 1/0, #TTD-4510FT
1207603	CONNECTOR PARALLEL, GRD. FOR ST. LT. BRKTS, #PAA-59, #LC-51-A-XB
1207610	CONNECTOR PARALLEL, ALUM TO CU, 397.5 - 954 AAC TO #8 SOL - 2/0 STR. AAC, #LC-83-A-XB
1208171	CLEVIS PIN, 5/8" PIN, MCLEAN #CT-88, CHANCE #TCI
1209115	CUTOUT OPEN, 100 AMP 15KV (110KV BIL), ABB #X1JEBNAM11, S&C #89021R1-P-CM (66 PER PALLET), (AB CHANCE #CP710-112LB)
1209310	CUTOUT OPEN, 100 AMP 27KV (150KV BIL), ABB #X5JEBNAM12, 12ea/cs
1209320	CUTOUT LOAD BREAK, 100/300 AMP 35KV, ABB #1C08030A12
1209500	CUTOUT FUSE TUBES, 100 AMP 15KV, S&C #89521R9, CHANCE #T710-112T (6 PER BOX)
1209520	CUTOUT FUSE TUBES, 200 AMP 15KV, CHANCE #T710-143T (6 PER BOX)
1209600	CUTOUT FUSE TUBES, 100 AMP 38KV 10kAIC, ABB #7194C60G05MP
1210102	GRIPS GUY, 1/4", #GDE-1104, YELLOW
1210104	GRIPS GUY, 5/16", PREFORMED #GDE-1106, CHANCE #5/16CTLG-C, DUL. SGG-0790, BLACK
1210108	GRIPS GUY, 14M, PREFORMED #AWDE-4120, CHANCE #C14M-AWTLG, DUL. #AWGG-0905, BLUE
1210120	GRIPS GUY, 20M, #AWDE-4126, YELLOW
1210201	GRIPS DE, #4 ACSR, PREFORMED #DG-4541, DUL. #AWDG-0635, ORANGE
1210203	GRIPS DE, #2 ACSR, #DG-4542, RED
1210205	GRIPS DE, 1/0 ACSR & AAAC, PREFORMED #DG-4544, DUL. #AWDG-0990, YELLOW
1210209	GRIPS DE, 4/0 ACSR, #DG-4547, RED
1210211	GRIPS DE, 266.800 ACSR, 26/7 STR, #DG-4548, (DE-0154), BLACK
1210213	GRIPS DE, 336.4 AAC, 19 STR, #DG-4549, GREEN
1210302	GRIPS DE, #4 ACSR W/P, PREFORMED #ND-0102, CHANCE #C30-PCGG, DUL. #AND-0790, BLUE
1210304	GRIPS DE, 1/0 W/P, PREFORMED #ND-0110, CHANCE #C70-PCGG, DUL. #AND-1210, BLUE
1210502	GRIPS HENDRIX, 1/0, 15KV, .654 - .739, STEEL, #DG-2101, RED
1210503	GRIPS HENDRIX, 1/0, 35KV, 1.006-1.070, PREFORMED ND-0122, RED, COATED ALUMINUM
1213102	INSULATORS SPOOL, GRAY, JOSLYN #J151, HENDRIX #HPI-53-2, 56/CASE
1213202	INSULATORS SILICONE RUBBER LINE POST, 15KV, K-LINE #KL-15SK, W/ "K" CLAMP 3/4" HUB, 126 PER. SKID, 1350LB. M.D.C.L.
1213304	INSULATORS PIN TYPE, 15KV, F-NECK, ANSI #55.4, COOPER #NP21D8, PPC INSULATORS #366S
1213306	INSULATORS PIN TYPE, 23KV, J NECK, COOPER #NP23D8, P/P #386-ST
1213415	INSULATORS DEADEND, 15KV, OB #PDI-15, SALISBURY #9501-U-SI, K-LINE #KL15ASCTM, PORC. PROD #PDEI-15, MACLEAN #DS-15M, VICTOR #8215-DS-15G
1213434	INSULATORS DEADEND, 35KV, HUBBELL #401035-0215, K-LINE #KL-35SCTM, PORC. PROD. #PDEI-35, SALS. #9503U-SI, MACLEAN #DS-35M, VICTOR #8235-DS-35G
1213803	INSULATORS VISE TOP, HENDRIX #HPI-15VTP, 2 BOLT 18/pkg
1213809	INSULATORS VISE TOP, HENDRIX #HPI-35VTP-01, 2 BOLT
1213900	INSULATORS TORQUE BOLT, HENDRIX #B-1, FOR HPI
1214106	LINKS 15KV FUSE, 6 AMP, CHANCE #M6T23, COOPER #FL11T6R
1214110	LINKS 15KV FUSE, 10 AMP, CHANCE #M10T23, COOPER #FL11T10R
1214115	LINKS 15KV FUSE, 15 AMP, CHANCE #M15T23, COOPER #FL11T15R
1214125	LINKS 15KV FUSE, 25 AMP, CHANCE #M25T23, COOPER #FL11T25R
1214140	LINKS 15KV FUSE, 40 AMP, CHANCE #M40T23, COOPER #FL11T40R
1214165	LINKS 15KV FUSE, 65 AMP, CHANCE #M65T23, COOPER #FL11T65R
1214180	LINKS 15KV FUSE, 80 AMP, CHANCE #M80T23, COOPER #FL11T80R
1214191	LINKS 15KV FUSE, 100 AMP, CHANCE #M100T23, COOPER #FL11T100R
1214193	LINKS 15KV FUSE, 140 AMP, CHANCE #M140T23, COOPER #FL11T140R
1214195	LINKS 15KV FUSE, 200 AMP, CHANCE #M200T23, COOPER #FL11T200R
1214206	LINKS 38KV FUSE, 6 AMP, COOPER #FL16T6
1214210	LINKS 38KV FUSE, 10 AMP, COOPER #FL16T10
1214215	LINKS 38KV FUSE, 15 AMP, COOPER #FL16T15
1214225	LINKS 38KV FUSE, 25 AMP, COOPER #FL16T25

Approved Materials for BHE Line Extensions

Stock Code	Description
1214240	LINKS 38KV FUSE, 40 AMP, COOPER #FL16T40
1214265	LINKS 38KV FUSE, 65 AMP, COOPER #FL16T65
1214291	LINKS 38KV FUSE, 100 AMP, COOPER #FL16T100
1214393	LINKS 15KV FUSE, 140 AMP, CHANCE #M140TA23 REMOVABLE HEAD
1214395	LINKS 15KV FUSE, 200 AMP, CHANCE #M200TA23 REMOVABLE HEAD
1217201	SPREADERS SECONDARY, HENDRIX #S-604
1219139	SLEEVE COMP, 336.4 19X CMPT. AA HENDRIX, #YDS301AT, USE DIE 321
1220111	SPLICE AUTO, #6 SOL. CU, FARGO #GL-111, REL #61
1220112	SPLICE AUTO, #4 SOL. CU, FARGO #GL-112
1220113	SPLICE AUTO, 6A COPPERWELD, #4 STD. CU, FARGO #GL-113
1220115	SPLICE AUTO, #2 STR. CU, FARGO #GL-115
1220116	SPLICE AUTO, 1/0 SOL. CU, FARGO #GL-116
1220117	SPLICE AUTO, 1/0 STR. CU, FARGO #GL-117
1220213	SPLICE COMP, 336.4 AAC 19 STR. TULIP, HOMAC #2176, USE DIE 321
1220227	SPLICE COMP, 312.800 AAAC, BURNDY #YDS-30LT
1220402	SPLICE AUTO, #4 ACSR, FARGO #GL-402A, REL #7651
1220404	SPLICE AUTO, #2 ACSR - AAAC, FARGO #GL-404, REL #7652AP
1220406	SPLICE AUTO, 1/0 ACSR - AAAC, FARGO #GL-406A, REL #7653
1220409	SPLICE AUTO, 4/0 ACSR, FARGO #GL-409A, RELIABLE #7656-AP
1220415	SPLICE AUTO, 266.8 ACSR - 312.8 AAAC - 336.4 AAC, FARGO #GL-410, REL #7658AP
1221100	SWITCH, AIR BREAK SOLID BLADE DISCONNECT, 15KV 110KV BIL, ABB TYPE SID, 600A"CUTOUT STYLE",W/4-HOLE NEMA PADS %CLAMSHELL TER. (4/0-500) NEMA B, ANGLE EXT. STRAP, AND HARDWARE, GALV. STEEL HOOKS, SILICONE RUBBER INS.. ABB #D1NGAL600J
1221103	SWITCH HORZ, 15KV 900 A, S&C #147412R2-C-P1/ED701R2-S2
1221105	SWITCH HORZ, 34.5KV 900 A, BRIDGES #984X-35A, S&C #137464R2-E-ED669-S2-A2 - (COOPER #M3H51SC3FHRT1 - PO 20011747 - TRIAL) (CHANCE #D7HS3 AL-D-O DO NOT ORDER PER KEN MILLER)
1221106	SWITCH VERT, 15KV 900 A, S&C #147512R2-B-C-P1/ED-703R2-S2, 25KV BRIDGES #963V-35
1221108	SWITCH VERT, 34.5KV 900 A, S&C #137194R1-E/ED-642R4-S2-14, INCLUDES INSULATED OPERATING SHAFT
1221204	SWITCH GROUNDING MATT, 4' X 6', ERICO #MT2C48B72B, BURNDY #BGM640066
1221208	SWITCH ARRESTER BRAKETS, AB CHANCE #C801-1014
1221210	SWITCH OVHD DISCONNECT, 38KV, 600 A, 150KV BIL, ESP RUBBER, HOOKSTICK OPERATED, CHANCE #M3D-68B
1221320	SWITCH DUOGAP EXPULSION INTERRUPTER, 7.8 KV - 27 KV 600 A, CHANCE #C801-0520-P
1221322	SWITCH DUOGAP EXPULSION INTERRUPTER, 38 KV 600 A, CHANCE #C801-0532-P
1221327	SWITCH, COOPER LOADBREAK INTERRUPTER 38KV, FOR M-FORCE SW. SER. #F212275
1221329	SWITCH, BRIDGES TOPPER, SAF-T-GAP INTERRUPTER, 38KV, PLUG-IN, #350-M
1223205	TIES F NECK DIST, 15KV GLASS, PREFORMED #UTF-1210, 336.4 19W, BROWN
1226006	WIRE GUY, 5/16" GALV. EHS, GRADE A, 7 STR. .313" DIA. 11,200 LB. MIN. BREAKING STRENGTH
1226014	WIRE GUY, 14M ALUMOWELD, 7 STR. .363" DIA. 14,000 LB. BREAKING LOAD, 250' HAND COILS
1226020	WIRE GUY, 20M ALUMOWELD, DIA. .444", 2.874 F/LB, 20,000 LB. BREAKING LOAD (ORDER REELS NOT HANDCOILS)
1226201	WIRE BARE CU TIE, #6, SOFT DRAWN, 25lb SPOOL = 315' .162" DIA., PLASTIC SPOOL 12" X 4", 2" ARBOR HOLE
1226203	WIRE SOLID CU, #6 BARE, MED. HARD DRAWN .162" DIA. 12.594 FT./LB. SPOOLED ON REELS
1226214	WIRE STRANDED CU. HARD DRAWN, 4/0, 7 STR.
1226221	WIRE BARE CU, #4, 7 STR, SOFT DRAWN .232" DIA. 7.758 FT/LB
1226222	WIRE BARE CU, #2, 7 STR, SOFT DRAWN .292" DIA. 4.88 FT/LB
1226223	WIRE BARE CU, 1/0, 7 STR, SOFT DRAWN .368" DIA 3.069 FT/LB
1226226	WIRE BARE CU, 4/0, 19 STR, SOFT DRAWN .528" DIA. 1.531 FT/LB
1226227	WIRE BARE CU, 350MCM, 37 STR., SOFT DRAWN
1226228	WIRE BARE CU, 500MCM, 37 STR, SOFT DRAWN, .813" DIA. .648 FT/LB
1226303	WIRE ALUM TIE, #4, 25lb SPOOL = 650', WOOD REEL SIZE 12' X 7.5", 2" ARBOR HOLE
1226321	WIRE AAAC BARE, 1/0, AZUSA, 8.6 fplb, 6000' / 700 LB. REELS .398" DIA.

Approved Materials for BHE Line Extensions

Stock Code	Description
1226620	WIRE AAC BARE, 336.4MCM, 19 STR, TULIP, .666 DIA., 3.166 fplb. - 6020 FT PER. REEL./1900 LBS PER REEL, SPOOLED ON A38 WOOD REELS
1226630	WIRE AAC BARE, 795MCM, 37 STR, ARBUTUS, 1.026 DIA., 1.34 fplb. 4960' REEL DESIGNATION NR 66.28
1303100	CONTROL PHOTO EYE, 105-130 VAC, FISHER PIERCE #7760-SSS
1303240	CONTROL PHOTO EYE, 208/277 VOLT,1800VA, TORK #2004S
1304125	IGNITORS, 35 - 150 WATT HPS, GE #35-216702R22
1304130	IGNITORS, 150 - 400 WATT HPS, GE #35-216702R10
1304150	IGNITORS, 50 WATT HPS, COOPER # 220C173M01
1308101	LAMPS MV, 100 WATT, PHILIPS #H38JA-100/DX
1308103	LAMPS MV, 175 WATT, PHILIPS #H39KC-175/DX
1308105	LAMPS MV, 250 WATT, PHILIPS #H37KC-250D/X
1308107	LAMPS MV, 400 WATT, PHILIPS #H33GL-400/DX 12/cs
1308201	LAMPS HPS, 50 WATT, #LU-50, WESCO #C50S68/ALTO
1308202	LAMPS HPS, 70 WATT, #LU-70, WESCO #C70S62/ALTO
1308203	LAMPS HPS, 100 WATT, #LU-100, WESCO #C100S54/ALTO
1308204	LAMPS HPS, 150 WATT, #LU150/55, WESCO #C150S55/ALTO
1308205	LAMPS HPS, 250 WATT, #LU 250, WESCO #C250S50/ALTO
1308206	LAMPS HPS, 400 WATT, #LU 400, WESCO #C400S51/ALTO
1309101	REFLECTOR, COOPER OPEN STYLE RMARR0A5
1309102	REFLECTOR OPEN STYLE, GE #SA-V3AL
1309103	REFRACTOR SKYGARD OPEN FULL CUTOFF, SGR-1
1309104	REFRACTOR LUMINAIRE, GE #35-232406R02, FITS 70, 100, 150 & 250 ROADWAYS
1309105	REFRACTOR FULL CUTOFF FLAT LENS # 35-962470-04
1309106	REFRACTOR LUMINAIRE, GLASS, GE #35-231137R01, FITS 250 OLD STYLE ROADWAY. GE 35-130583R01 FITS M2RR25S0A2GMS2 NEW STYLE ROADWAY
1309202	REFLECTOR FLOOD, LENSE & CLIPS, GE #35-963490-22, FOR 100 & 150 FLD. LTS
1309204	REFLECTOR FLOOD, DOOR & GLASS, GE, #35-963490-20, FOR 100 & 150 FLD. LTS.
1313101	BRACKET ALUM STREET LT, 6', 1 1/4" DIA., MACLEAN # A-125-6G, HAPCO # 81-004
1313102	BRACKET ALUM FLOOD LT, 30", CURLEE FL200309G-HDWR, HAPCO #55964-001
1313103	BRACKET ALUM FLOOD LT, 4', MACLEAN #A24F, HAPCO #60828-002
1313108	BRACKET ALUM STREET LT, 8', 2" DIA., HAPCO #82-004
1313110	BRACKET ALUM STREET LT, 10', 2" DIA., HAPCO #85-004
1313202	BRACKET PHOTO EYE, GE #MB-PECTL 028302
1316050	STREET LT. HPS, 50 WATT, 4100 LUMEN OPEN GE. #SAH05SIN21T, COOPER RMA50SR255Z
1316070	STREET LT. HPS, 70 WATT, 4400 LUMEN OPEN GE. #SAH07SIN21
1317100	FLOOD LT. HPS, 100 WATT, 120 VOLT, 9500 LUMEN, GE. #P54S10S1H26X6DB
1317150	FLOOD LT. HPS, 150 WATT, 120 VOLT, 16,000 LUMEN, GE. #P54S15S1H26X6DB
1317250	FLOOD LT. HPS, 250/400 WATT, 120,208,240,277 VOLT, 27,500 LUMEN, GE. #PF4S24S0A46X6GR
1318070	STREET LT. ENCLOSED HPS, 70W, 5,800 LUMEN, GE. #M2RR07S1N2AMS2
1318100	STREET LT. ENCLOSED HPS, 100W, 9,500 LUMEN, GE. #M2RR10S1N2AMS2
1318150	STREET LT. ENCLOSED HPS, 150W, 16,000 LUMEN, GE. #M2RR15S1N2AMS2
1318250	STREET LT. ENCLOSED HPS, 250W, 27,500 LUMEN, GE. #M2RR25S0A2GMS2
1318410	STREET LT. ORNAMENTAL, COOPER UTR10SR2554HU
1452100	STAPLES BARB FENCE, GALV. 1 3/4", BRIGHT CUT, KEYSTONE #72540
1452200	STAPLES FENCE, COPPER COATED, 1 3/4" x 3/8", #J6495, (500 PER BOX)
1474216	NAILS COPPER, 16D, JOSLYN #J-7266, 2350 PER/BX, 47 PER/LB.
1474217	NAILS COPPER, GRD. CLIPS, KEARNEY #5730-1
1474300	NAILS GALV. STEEL, ZINC COATED, 1", PREMAX #BGN-15-5#, 5# BOX (775 PER #)
1474305	NAILS GALV. STEEL, 1 1/4" ROOFING FOR FUSE TAGS
1474530	SCREW, GRK FASTENER 9X3-1/8", 23# BOX, USE #25 TORX BIT
1475100	BASKETS GUY WIRE, PREFORMED #SGD0700
4151212	BOXES TRANSFORMER PAD, NORDIC FIBERGLASS #GS-37-43-32C-CE-2-MG-22X24, HI-LINE # HL-48-S0, CABLE ENTRANCE EACH SIDE

Approved Materials for BHE Line Extensions

Stock Code	Description
4151215	BOXES COVER, HI-LINE #HL-45-F1, FIBERGLASS TRANSFORMER FOUNDATION ADAPTER
4210021	CABLE END CAPS, .970-1.185" DIA. FITS #2-1/0 URD 220 MIL. HOMAC #CAP-95
4210040	CABLE END CAPS, 1.120"-1.400" DIA. FITS 4/0 URD 220 MIL. HOMAC #CAP105
4211080	CABLE CU, 350MCM 600V, TYPE XHHW
4211091	CABLE CU, 500MCM 600V, TYPE XHHW, 37 STRAND
4215021	CABLE ALUM, URD HENDRIX, #2, 7X, H19-PRSD, LHL, 15KV, .012"XSC, .220"TRXLP, .030"EZ-STRIP, 10 #14BCW EMBEDDED, .050" LLDPE, SEQ FTG. PRINT, POS. I.D., I/C R-5, 40X24X17 WOOD REEL, HENDRIX PRODUCT # U015K0002A-0106. TOLERANCE +/-5%
4215026	CABLE CU, 350MCM, 15KV, CU POWER CABLE OKOGUARD-OKOSEAL TYPE MV-105, COMPACT STR. EPR, 133% INSULATION, 220 MIL. TAPE SHIELDED, , - 0 + 5%,
4215028	CABLE CU, 500MCM, 15KV, CU POWER CABLE OKOGUARD-OKOSEAL TYPE MV-105, COMPACT STR. EPR, 133% INSULATION, 220 MIL. TAPE SHIELDED, , - 0 + 5%,
4215030	CABLE ALUM, URD HENDRIX, 1/0, 35KV, .012" XSC .345" TRXLP .040" EZ-STRIP, 16#14BCW .050 BHMWPE
4215054	CABLE ALUM, URD, 4/0, 19STR, 15KV, .220 TR-XLP, 20 - #12 AWG BCW EMBEDDED FULL NEUTRAL
4252200	CLAMPS GROUND, 1 1/2" - 2" GALV. CONDUIT, O-Z GEDNEY #G-200G
4252350	CLAMPS GROUND, 2 1/2" - 3 1/2" GALV. CONDUIT, O-Z GEDNEY #G-350G
4252500	CLAMPS GROUND, 4" - 5" GALV. CONDUIT, O-Z GEDNEY #G-500G
4331200	CONDULATOR KIT, 2" - 2 1/2", ROBERTS #VAK-2, NO BONDO IN KITS
4331300	CONDULATOR KIT, 3" - 3 1/2", ROBERTS #VAK-3, NO BONDO IN KITS
4331400	CONDULATOR KIT, 4" - 4 1/2", ROBERTS #VAK-4, NO BONDO IN KITS
4331500	CONDULATOR KIT, 5", ROBERTS #VAK-5, NO BONDO IN KITS
4332105	CONDULATOR KIT, BONDO FILLER, RAGE #105
4833033	SWITCH HOOKSTICK VERTICAL DISCONNECT, 15KV, 600 A, 110KV BIL, USCO TYPE HH6-01506-0036-001, WITH TR-205 S&C CYPOXY POLYMER INSULATORS AND BLADE STOPS
4833642	SWITCH, AIR BREAK SOLID BLADE DISCONNECT, 15KV 110KV BIL, ABB TYPE SID, 600A"CUTOUT STYLE",W/4-HOLE NEMA PADS %CLAMSHELL TER. (4/0-500) NEMA B, ANGLE EXT. STRAP, AND HARDWARE, GALV. STEEL HOOKS, SILICONE RUBBER INS.. ABB #D1NGAL600J
4833710	SWITCH VOLTAGE REG. BY-PASS, 15KV, 600 AMP, 110KV BIL, 40,000 CONT. AMP, BRIDGES #B-1-615, (DO NOT BUY WITHOUT CHECKING NOTE IN LONG DESCRIPTION)
4970010	UNDER-GRD ARRESTER, 10KV, MOV, HUBBELL/OB #221609-7324, MACLEAN/JOSLYN #ZRP010-0C00100, COOPER #URS10050A2A1B1A
4970027	UNDER-GRD ARRESTER, 27KV, MOV, HUBBELL/OB #221622-7324, MACLEAN/JOSLYN #ZRP0270C00100, COOPER #URS27110A2A1B1A
4970121	UNDER-GRD TERMINATOR/CABLE POSITIONER BRACKET, .75 - 2.0 DIA, ALUM-FORM #CS-820
4970122	UNDER-GRD CROSS ARM BRACKET, COOPER #DC63B1, MACLEAN #J24711
4970130	UNDER-GRD CONDUIT STANDOFF BRACKET. 24" WIDE 6" OFFSET, ALUM-FORM #6-CSO-24, - (ORDER IN MULTIPLES OF 5)
4970132	UNDER-GRD CONDUIT STRAP, 2", ALUM-FORM #STK-2
4970133	UNDER-GRD CONDUIT STRAP, 3", ALUM-FORM #STK-3
4970134	UNDER-GRD CONDUIT STRAP, 4", ALUM-FORM #STK-4
4970135	UNDER-GRD CONDUIT STRAP, 5", ALUM-FORM #STK-5
4970136	UNDER-GRD CONDUIT STRAP, 6", ALUM-FORM #STK-6
4970150	UNDER-GRD, PVC COND. CLAMP 1 1/4", #114 2H, 12 PER CASE
4970151	UNDER-GRD, LAG SCREW FOR PVC CLAMP, 1/4" X 2", #BLS2
4970507	UNDER-GRD BUSHING EXTENDER, 15KV, 600A, W/STUD, ELAST. #K655BE
4970510	UNDER-GRD LB BUSHING INSERT, 15KV, 200A, ELAST. #1601-A4
4970520	UNDER-GRD LB BUSHING INSERT, 35KV, 200 A, ELAST. #3701A3, RATED FOR 3 PHASE
4972510	UNDER-GRD FEED THRU DEVICE, 15KV, ELAST. #163-FTR 2
4973512	UNDER-GRD LB. ELBOWS, 15KV, 200A, W/TEST PT., ELAST. #166LR-B-5220, .665 - .905, COOPER #LE215A04T .220 MIL., .645-.800 15 EA PER PKG
4973516	UNDER-GRD LB ELBOWS, 15KV, 200 A, W/O TEST PT., ELAST. #165LR-B-5220, COOPER #LE215A04
4973522	UNDER-GRD LB ELBOWS, 1/0, 35KV, 200 A, W/TEST PT., 1.040-1.175, ELAST. #376LR-J5240
4973540	UNDER-GRD LB ELBOWS, 4/0, 19 STR, 15KV, 200 A, W/TEST PT., ELAST. #166LR-C5270
4974010	UNDER-GRD L.B. FEED THRU INSERT, 15KV, 200 AMP, ELASTIMOLD 1602-A3R, COOPER # LFI-215
4974502	UNDER-GRD LB JUNCTION, 15KV, 200A, 2-POINT, ELAST #164J2
4974503	UNDER-GRD LB JUNCTION, 15KV, 200A, 3-POINT, ELAST. #164J3

Approved Materials for BHE Line Extensions

Stock Code	Description
4974504	UNDER-GRD LB JUNCTION, 15KV, 200A, 4-POINT, ELAST. #164J4
4974507	UNDER-GRD LB JUNCTION, 15KV, 600A, 3-POINT, ELAST. #K650J3-U
4974508	UNDER-GRD LB JUNCTION, 15KV, 600A, 4-POINT, ELAST. #K650J4
4974514	UNDER-GRD LB JUNCTION, 35KV, 200A, 4-POINT, ELAST. #373J4
4975060	UNDER-GRD INS. PARKING BUSHING, 15KV, 200A, ELAST. #161-SOP
4975070	UNDER-GRD INS. PARKING BUSHING, 35KV, 200A, ELAST. #372-SOP
4975080	UNDER-GRD INS PARKING BUSHING, 15KV 600AMP, ELASTIMOLD K650SOP
4975100	UNDER-GRD LB REDUCING TAP PLUG, 15KV, 600A, ELAST. #650-ETP
4975120	UNDER-GRD INS. PLUG, I5KV, 600A, ELAST. #K650-BIP
4975500	UNDER-GRD INSULATED CAP WITH TEST POINT, (D/E RECEPT.) 15KV, 200A, ELAST. #160DRG, COOPER #LPC215
4975510	UNDER-GRD INSULATED CAP, 15KV, 600A, ELAST. #K656DRG
4975550	UNDER-GRD INSULATED CAP, W/GRD, 35KV, 200A, ELAST. #375DRG3
4976300	UNDER-GRD METALIC TAPE SHIELD ADAPTER, 15KV, .64 - .82 INS. DIA., ELAST. #20MA-F
4976302	UNDER-GRD METALIC TAPE SHIELD ADAPTER, 15KV, .76 - .95 INS. DIA., ELAST. #20MA-G, FITS #2 COPPER CABLE
4976305	UNDER-GRD METALIC TAPE SHIELD ADAPTER W/ #6 COPPER ROD, 200 AMP, ELASTIMOLD 200ECSG2-2
4976502	UNDER-GRD SPLICE, #2, 15KV, URD ALUM, .175-.220 CONC. NEUT, 3-M #5411-CI-21, OUTDOOR DIRECT BURIAL
4976504	UNDER-GRD SPLICE, #2 - 1, STR, CU. OR AL, 15KV, .637- .900 INS. DIA, 3-M #5501-C1-21 (QS-II) QUICK SHRINK
4976505	UNDER-GRD COLD SHRINK SPLICE, #2, 15KV, WIRE AND TAPE SHIELDED, .64"-1.01" INS, 3M 5513A-2-CU QS-III (ONE SPLICE PER KIT)
4976506	UNDER-GRD COLD SHRINK SPLICE, #2-4/0, 15KV, 3 CONDUCTOR ARMORED AND NON-ARMORED SHIELDED CABLE, 3M #5775A-MT QS-III (ONE KIT MAKES ONE 3-CONDUCTOR SPLICE) FOR CRANBERRY ISLE POWER CABLE
4976510	UNDER-GRD SPLICE, 1/0, 35KV, 345 MIL, URD, 1.060-1.210 INS. DIA, 3-M #5432-C1-1/0A
4978006	UNDER-GRD TERMINATOR KIT, 15KV, #2 ALUM, .637 - 1.12 INS. DIA, 3-M #5641-2, JOSLYN #JPT15J1-S03
4978010	UNDER-GRD TERMINATOR KIT, 15KV, 4/0 ALUM, .840 - 1.32 INS. DIA, 3-M #5642-4/0, JOSLYN #JPT15J1-S08
4978014	UNDER-GRD TERMINATOR KIT, 35KV, 1/0 ALUM, .840-1.32 INS. DIA. 3-M #5646-1/0
4978016	UNDER-GRD TERMINATOR KIT, 15KV, 350-700KCM COPPER, 3-M #7694-S4 (1 KIT = 3 TER.)
4978130	UNDER-GRD OUTDOOR TER. KIT, 15KV, #2 - 4/0, .64 -1.08 OD, 150KV BIL, 3M #7692-S-4, (EACH = 3) FOR TAPE SHIELDED POWER CABLE