SECTION 4 - SECONDARY CONSTRUCTION OVERHEAD

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GENERAL

1. THE NEUTRAL SHALL BE COMMON TO BOTH PRIMARY AND SECONDARY CIRCUITS ON WYE SYSTEMS. THE NEUTRAL SHALL BE MULTI-GROUNDED.

2. THE NEUTRAL CONDUCTOR SHALL ALWAYS BE IN THE TOP POSITION ON AN OPEN-WIRE SECONDARY CIRCUIT. SIZING OF SECONDARY CONDUCTORS WILL DEPEND ON THE AMOUNT OF LOAD, THE TYPE OF LOAD (SUCH AS MOTORS, ETC.), AND THE VOLTAGE DROP.

3. ALL SERVICE CONDUCTORS WILL BE OF COVERED ALUMINUM. THE REQUIRED SIZE, SHALL BE SPECIFIED BY THE ENGINEER.

4. THE SERVICE ENTRANCE LOCATION WILL BE DETERMINED BY THE COMPANY AND MUST BE AGREED TO BY THE CUSTOMER. CUSTOMER’S REQUESTS FOR NON-STANDARD LOCATIONS FREQUENTLY REQUIRE AN ADDITIONAL CHARGE.

5. FOR THREE PHASE FOUR WIRE DELTA SECONDARY CABLE AND SERVICES, THE PHASE CONDUCTOR WITH THE MOST NUMBER OF RAISED RIBS WILL BE THE HIGH (208 VOLT) PHASE.

6. USE INSULINKS OR INSTALL COVERS OVER SECONDARY CABLE OR SERVICE CABLE PHASE CONNECTORS.

7. STREETLIGHT CIRCUITS ARE TO BE CONSIDERED AS SECONDARY.

8. BEFORE CUTTING THE LACING WIRE ON AERIAL SECONDARY CABLE, BIND THE LACING WITH SEVERAL TURNS OF SCRAP LACING WIRE.

9. TO DEADEND THE PHASE CONDUCTORS OF AERIAL SECONDARY CABLE WHILE ALLOWING NEUTRAL TO CONTINUE ON, FIRST TAPE THE ENDS OF THE PHASE CONDUCTOR THEN BEND THEM BACK AND SECURE WITH SEVERAL WRAPS OF THE BINDING WIRE. COVER ENDS IF NOT IN USE.

### LIMIT FOR ALUMINUM CABLES NOT REQUIRING GUYING

<table>
<thead>
<tr>
<th>WIRE SIZE</th>
<th>CODE NAME</th>
<th>**SPAN LENGTH</th>
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</thead>
<tbody>
<tr>
<td>#4 DUPLEX SECONDARY</td>
<td>WHIPPET</td>
<td>150’</td>
</tr>
<tr>
<td>#4 TRIPLEX SERVICE</td>
<td>CRAB</td>
<td>150’</td>
</tr>
<tr>
<td>#2 TRIPLEX SERVICE</td>
<td>SOLASTER</td>
<td>150’</td>
</tr>
<tr>
<td>#1/0 TRIPLEX SERVICE/SECONDARY</td>
<td>SANDCRAB</td>
<td>110’</td>
</tr>
<tr>
<td>#4/0 TRIPLEX SERVICE</td>
<td>LEPAS</td>
<td>70’</td>
</tr>
<tr>
<td>350/500 TRIPLEX SERVICE</td>
<td></td>
<td>50’</td>
</tr>
<tr>
<td>#1/0 QUADRUPLEX SECONDARY</td>
<td>VIATKA</td>
<td>90’</td>
</tr>
<tr>
<td>#4/0 QUADRUPLEX SECONDARY</td>
<td>WALKING</td>
<td>60’</td>
</tr>
<tr>
<td>336.4/350 QUADRUPLEX SERVICE</td>
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<td>40’</td>
</tr>
<tr>
<td>500 QUADRUPLEX SERVICE</td>
<td></td>
<td>40’</td>
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* WIRE SIZE CUSTOM MADE IN FIELD
** BASED ON 350 LB. CUSTOMER MAST TENSION LIMIT AS INDICATED IN THE REQUIREMENTS FOR ELECTRIC SERVICE AND METER INSTALLATIONS MANUAL.
NORMAL POINT OF DELIVERY

NORMAL P.O.D.
NO CHARGE

NORMAL P.O.D. IS ON THE END OF THE BUILDING NEAREST THE OVERHEAD SOURCE.

NO EXTRA POLE CHARGE TO NORMAL P.O.D.
USING OH SECONDARY LIFT POLES

NORMAL POINT OF DELIVERY

WIRING BEYOND NORMAL POINT OF DELIVERY

NOTE: DIMENSIONS SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY.

POLE FEE AND PER FOOT CABLE CHARGES APPLY. CONTACT COMPANY REPRESENTATIVE FOR COSTS.
NOTES:

1. WHEN SPLICING NEUTRAL, CUT OFF ENOUGH CONDUCTOR TO ASSURE A LOOSE WRAP OF PHASE CONDUCTORS AT SPLICE.
2. USE "BG" GROOVE OF BURNDY TOOL, OR EQUIVALENT TOOL WITH DIE FOR 5/8" SLEEVES. USE 840 DIE ON 4/0 SLEEVE.
3. CLEAN CONDUCTORS BY WIRE BRUSHING.
4. FOR DETAILS OF INSULATED COMPRESSION CONNECTOR INSTALLATION SEE DWG 04.00-12.
5. "NEW" TRIPLEX OR QUADRUPLEX SECONDARIES AND SERVICES MAY CONTAIN A MAXIMUM OF ONE SPLICE PER SPAN. "REPAIR" TRIPLEX OR QUADRUPLEX SECONDARIES AND SERVICES MAY CONTAIN A MAXIMUM OF TWO SPLICES PER SPAN.
6. PHASE CONDUCTORS SHALL BE POSITIONED SUCH THAT CONTACT WITH THE NEUTRAL SLEEVE WILL NOT OCCUR.

SECONDARY AND SERVICE CABLE SPLICES

<table>
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<tr>
<th>CATALOG NUMBER</th>
<th>CONDUCTOR SIZE</th>
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<tr>
<td>11151610</td>
<td>#6 ACSR OR ALLOY</td>
</tr>
<tr>
<td>11164001</td>
<td>#4 ACSR OR ALLOY</td>
</tr>
<tr>
<td>11164100</td>
<td>#2 ACSR OR ALLOY</td>
</tr>
<tr>
<td>11165602</td>
<td>#4/0 ACSR OR ALLOY</td>
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</table>
NOTES:

1. STRIP INSULATION ON EACH CONDUCTOR FOR LENGTH SHOWN BY ARROWS ON SIDE OF CONNECTOR, CLEAN CONDUCTOR BY WIRE BRUSHING.

2. INSERT CONDUCTORS THROUGH CAPS ON EACH END UNTIL THEY HIT THE CENTER STOP.

3. MAKE THREE COMPRESSIONS ON EACH END. ROTATE TOOL SO THAT CRIMPS DO NOT LINE UP. USE "BG" GROOVE OF BURNDY TOOL, OR EQUIVALENT TOOL WITH DIE FOR 5/8" SLEEVES. REMOVE END CAPS WHEN INSTALLED ON BARE NEUTRAL.

4. INSULATED COMPRESSION CONNECTOR IS TO BE USED FOR NON-TENSION JOINTS ONLY. NO TAPING OR ADDITIONAL INHIBITOR IS REQUIRED. SEE DWG. 04.00-10 FOR SERVICE DROP CABLE SPLICE.
# Bill of Materials

### Insulator, Secondary Spool

<table>
<thead>
<tr>
<th>Macro Unit</th>
<th>CU/CN Item No.</th>
<th>Compatible Unit</th>
<th>QTY Req'd</th>
<th>Catalog Number</th>
<th>QTY per CU</th>
<th>Description</th>
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<tbody>
<tr>
<td>-</td>
<td>NSSB10C</td>
<td>1</td>
<td>011280</td>
<td>1 BOLT, SPOOL, 5/8 X 10, GALV, DUI WASHERS</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10543007</td>
<td>1 WASHER, SQ, 2-1/4&quot;, 3/16, GALV.</td>
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<tr>
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<td></td>
<td>10544005</td>
<td>1 WASHER, LOCK, 5/8, COIL, DOUBLE, GALV.</td>
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### Insulator, Secondary Rack

<table>
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<th>QTY per CU</th>
<th>Description</th>
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<td>1 WASHER, SQ, 2-1/4&quot;, 3/16, GALV.</td>
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<td>10544005</td>
<td>1 WASHER, LOCK, 5/8, COIL, DOUBLE, GALV.</td>
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</tbody>
</table>

### Bill of Materials

1. For Factory Formed Tie Information, see DWG. 03.04-09.
NOTES:

1. FOR 4/0 AND LARGER TPX & QPX, SUBSTITUTE STRAIGHT DEAD END CLAMP (CN 11104957) AND SALVAGED 4" STRAIN INSULATORS (CN 11222908) FOR LOOP DEAD END CLAMP, AND EYEBOLT (CN 10026201) FOR CLEVIS AND SPOOL.

2. APPLY INHIBITOR AND WIRE BRUSH ALL CONNECTIONS. USE ALUMINUM COMPRESSION CONNECTORS ON COPPER TO ALUMINUM CONNECTIONS. INSTALL CONNECTORS SO THAT ALUMINUM IS ABOVE COPPER.

3. POLES WITH ONLY SECONDARY CONDUCTORS WILL NOT BE EQUIPPED WITH A POLE GROUND.

4. POLES WITH METERING EQUIPMENT TO BE EQUIPPED WITH A POLE GROUND (EITHER WRAP BUTT OR TWO DRIVEN 5' GROUND RODS).

MULTIPLEX SERVICE ATTACHMENTS TO POLES
NOTES:

1. SERVICE DROP INSTALLATIONS SHALL BE APPLIED ONLY IN THOSE CASES WHERE THE ALTERNATIVE WOULD BE RELOCATING EXISTING POLES OR INSTALLING ADDITIONAL ONES TO SERVE CUSTOMERS.

2. SERVICE DROPS SHALL NOT BE SPECIFIED WHEN THE LOCATION IS INACCESSIBLE TO A LADDER.

3. INSTALLATIONS SHALL BE MADE SO THAT SAGS AND TENSIONS OF THE SECONDARY SERVICE CABLE ARE MAINTAINED FOR PROPER APPEARANCE.

4. MAXIMUM SIZE SERVICES PERMITTED FOR THIS INSTALLATION ARE 80' OF #2 TRIPLEX OR 60' OF #1/0 TRIPLEX.

5. MORE THAN ONE SERVICE PULL-OFF IN THE SAME SPAN IS NOT PERMITTED EXCEPT FOR BACK-TO-BACK SERVICES.

6. SECONDARY SPACERS MAY BE INSTALLED AT APPROXIMATELY 50' INTERVALS TO PREVENT OUTAGES DUE TO SECONDARY CONDUCTORS COMING TOGETHER IN LONG SPANS.
1. THE PREFERRED METHOD IS TO INSTALL THE TRIPLEX BENEATH THE PRIMARY NEUTRAL, CLEAR-SPANNING FROM POLE TO POLE.

2. THE TRIPLEX AT ITS LOWEST POINT MUST BE AT LEAST 30" ABOVE THE TELEPHONE/CATV LINES BELOW. IF THERE ARE NO TELEPHONE/CATV LINES, THE TRIPLEX AT ITS LOWEST POINT MUST HAVE THE APPROPRIATE MINIMUM GROUND CLEARANCE GIVEN BY DWG. 10.02-11.

3. IF THE SAG OF THE TRIPLEX ENCROACHES THE MINIMUM CLEARANCE TO THE TELEPHONE/CATV LINES OR GROUND BELOW, THE TRIPLEX SHOULD BE ATTACHED TO THE PRIMARY NEUTRAL, AS SHOWN IN DETAIL A ABOVE, AS OFTEN AS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM CLEARANCES.

4. ONLY #2 AND #4 TRIPLEX MAY BE ATTACHED TO THE PRIMARY NEUTRAL FOR ITS SUPPORT. THE LARGER SIZE TRIPLEXES MUST BE CLEAR-SPANNED BETWEEN POLES AND NOT SUPPORTED BY THE PRIMARY NEUTRAL.
NOTES:
1. HOUSE BRACKETS MUST BE INSTALLED IN STUDS (2" X 4") OR EQUIVALENT SUPPORT.

NOTES:
1. DRIP LOOPS SHALL BE FORMED ON SERVICE DROP SERVICE ENTRANCE CONDUCTORS.

2. THE CONNECTIONS OF THE SERVICE DROP CONDUCTORS TO THE SERVICE ENTRANCE CONDUCTORS SHALL BE MADE BELOW THE LEVEL OF THE SERVICE WEATHERHEAD.

3. SEE DWGS. 10.02-01 AND 10.02-03 FOR SERVICE GROUND CLEARANCES AND DWGS. 10.04-09A AND 10.04-09B FOR SERVICE CLEARANCES AT BUILDINGS.

4. SERVICE ENTRANCE CONNECTORS SHALL BE INSULATED PER NEC RULE 230-22.


6. CUSTOMER IS RESPONSIBLE FOR PROVIDING AN ATTACHMENT POINT FOR MASONRY AND STEEL BUILDINGS.

7. SEE DWG. 04.02-06 FOR SERVICE CLAMP COMPATIBLE UNITS.
NOTES:

1. OWNER PROVIDE AND INSTALL.
   A. A 20' CLASS 9 SOUTHERN YELLOW PINE (SYP) POLE OR A 6" X 6" SYP POST THAT IS PROPERLY TREATED WITH A WOOD PRESERVATIVE FOR EARTH CONTACT. SET POLE IN ACCORDANCE WITH OPTION A, B OR C.
   B. SERVICE ENTRANCE TO BE GROUNDED IN ACCORDANCE WITH N.E.C.

2. OWNER WILL INSTALL.
   A. METER SOCKET IN ACCORDANCE WITH N.E.C.

3. SETTING DEPTHS FOR THE THREE OPTIONS ARE FOR 350 LB. ICE TENSIONS.

4. THIS DRAWING MAY BE USED FOR VARIOUS TYPES OF OVERHEAD SERVICES:
   A. OVERHEAD MOBILE HOME SERVICES
   B. NON-RESIDENTIAL SERVICES
NOTES:

1. ALL DIMENSIONS SHOWN ARE MINIMUM.
2. MINIMUM 20’ POLE REQUIRED. TALLER MAY BE NEEDED TO MEET SERVICE SAG REQUIREMENTS. MINIMUM 16’ POLE ALLOWED IF SET WITHIN 10’ OF SOURCE COMPANY POLE.
3. ONE BRACE TO BE IN DIRECTION OF SERVICE. AT LEAST ONE ADDITIONAL BRACE TO BE LOCATED AT 90° TO DIRECTION OF SERVICE.
4. SOIL TO BE FIRMLY TAMPED AROUND POLE AND STAKES DRIVEN INTO FIRM EARTH.
5. CUSTOMER FURNISHES ALL ITEMS EXCEPT METER. THE METER BASE, WIRING, EQUIPMENT SERVICE EQUIPMENT GROUND ON THE POLE ARE TO BE INSTALLED BY THE CUSTOMER’S ELECTRICIAN IN ACCORDANCE WITH THE N.E.C AND LOCAL ORDINANCES.
6. SOLID, ONE PIECE, 4” X 4” WOOD POST MAY BE SUBSTITUTED WITH ENGINEER’S APPROVAL.
7. SERVICES SHALL NOT BE RUN TO TEMPORARY POLES NOT MEETING THE REQUIREMENTS SET FORTH HEREIN WITHOUT APPROVAL OF THE LOCAL ENGINEER ON SPECIFIC CASES.
8. HOUSE BRACKET MOUNTING LOCATION SHALL BE IN THE SIDE OF THE SERVICE POLE NOT IN THE TOP.
9. IF THE 4 FOOT MINIMUM DEPTH CANNOT BE OBTAINED DUE TO ROCK, TWO ADDITIONAL BRACES 90 DEGREES TO THE BRACES SHOWN MUST BE INSTALLED (FOUR BRACES TOTAL). IN NO CIRCUMSTANCES SHOULD THE EMBEDMENT DEPTH BE LESS THAN 2 FEET.
1. Do not provide service to sign which does not have clearances from adjacent overhead conductors as required by N.E.S.C. and any additional company specifications.

SEE DWG. 10.02-01 AND 10.02-03

NOTE:

BILLBOARD SERVICE ENTRANCE REQUIREMENTS

METHOD "A"

04.05-10
COMPANY SERVICE WIRE
SERVICE RISER AND MASTHEAD
STEEL POLE
OVERHEAD SERVICE WIRE MAY BE LOCATED ANYWHERE IN THIS AREA. CALL LOCAL COMPANY OFFICE FOR SERVICE ENTRANCE SPOTTING.

3' MIN.

SEE DWGS. 10.02-01 AND 10.02-03

3'-0" TO 5'-6" MT. HT.

NO PART OF COMPANY SERVICE WIRE WILL BE RUN WITHIN 3' OF LADDER

OVERHEAD SERVICE WIRE MAY BE LOCATED ANYWHERE IN THIS AREA. CALL LOCAL COMPANY OFFICE FOR SERVICE ENTRANCE SPOTTING.

BILLBOARD SERVICE ENTRANCE REQUIREMENTS
METHOD "B"

7/8/10 BURLISON GUINN ELKINS

SEE DWGS. 10.02-01 AND 10.02-03

3' MIN.

COMPANY SERVICE WIRE
LADDER LOCATION
SERVICE RISER
METER AND BASE
FINAL GRADE

ELEVATION

PLAN VIEW