



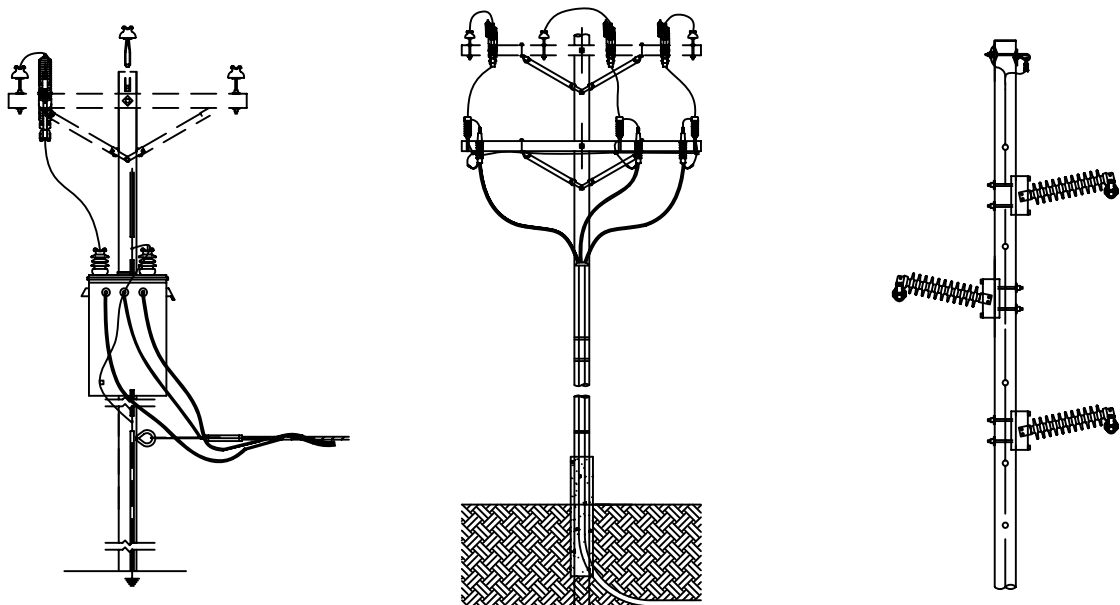
City of Alexandria

Electric Distribution Dept.

Construction Standards Manual

12.5/7.2kV Overhead Distribution
12.5/7.2kV Underground Distribution
138kV Transmission

Revision 3 - 4/20/07



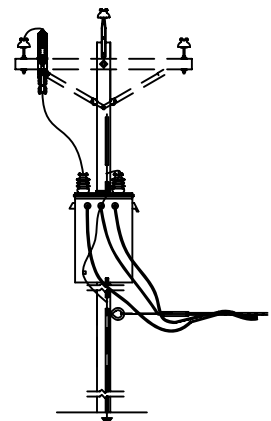
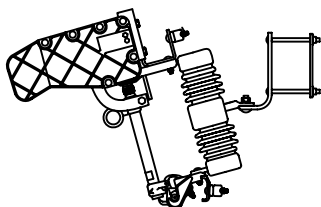
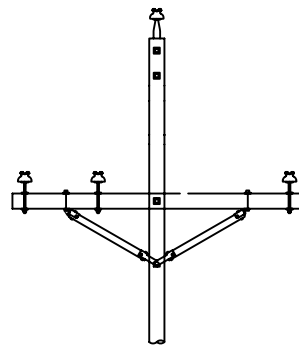


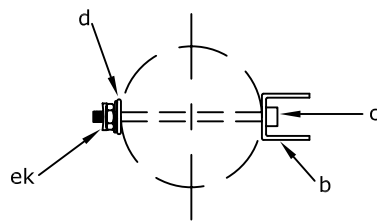
City of Alexandria

Electric Distribution Dept.

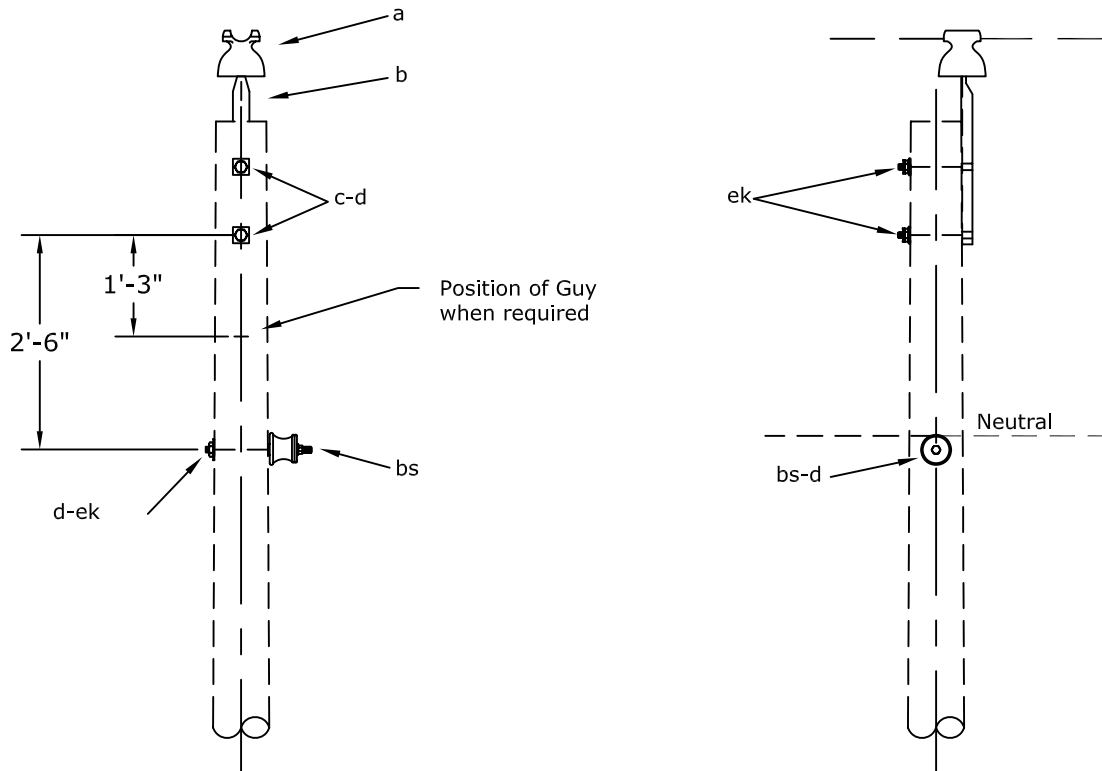
Overhead Distribution

Construction Manual





POLE TOP PIN ASSEMBLY



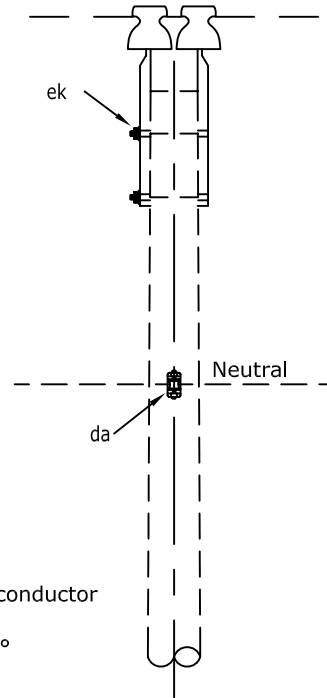
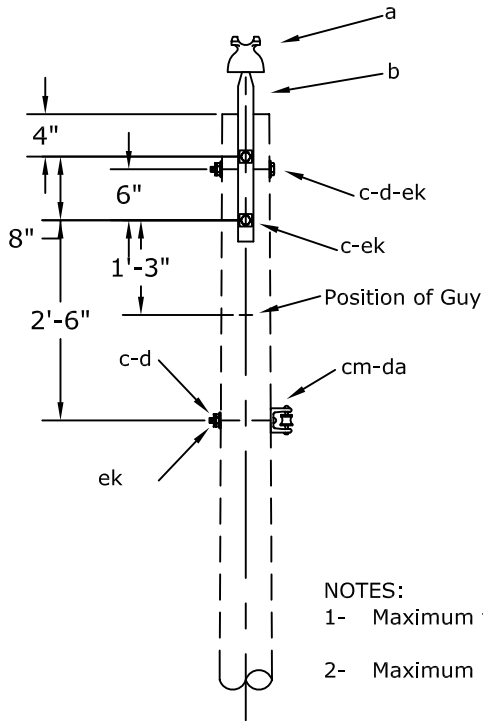
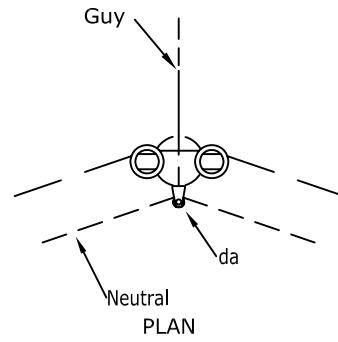
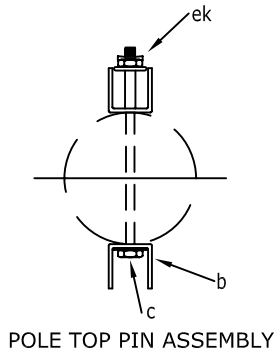
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor
- 2- Maximum line angle within load limits: 5°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	3	Washer, 2 1/4" Square With 13/16" Hole
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
ah	2801602124	12	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
ek	285740XXXX	3	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE TANGENT STRUCTURE SINGLE PRIMARY SUPPORT</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A1</p>

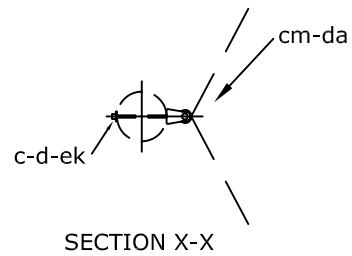
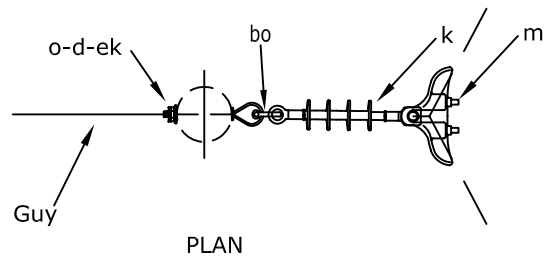
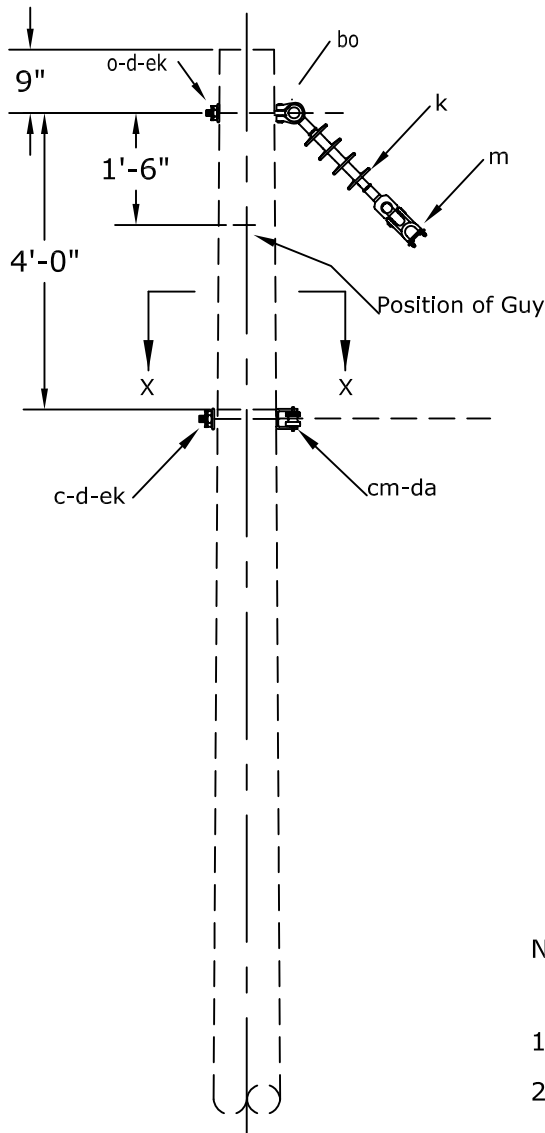


- NOTES:
 1- Maximum transverse load: 1000 lbs. per conductor
 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	2	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	3	Washer, 2 1/4" Square With 13/16" Hole
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ah	2801602124	15	Tie Wire, #4 Al (Feet)
ek	285740XXXX	4	Locknut, 5/8"

City of Alexandria Electric Distribution	12.5/7.2kV SINGLE PHASE SMALL ANGLE STRUCTURE DOUBLE PRIMARY SUPPORTS	DATE: 04-10-07
		STANDARD NUMBER A2



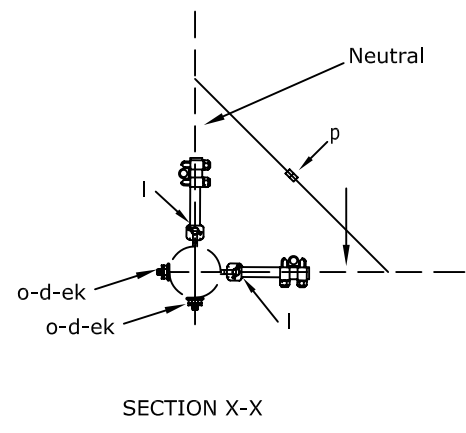
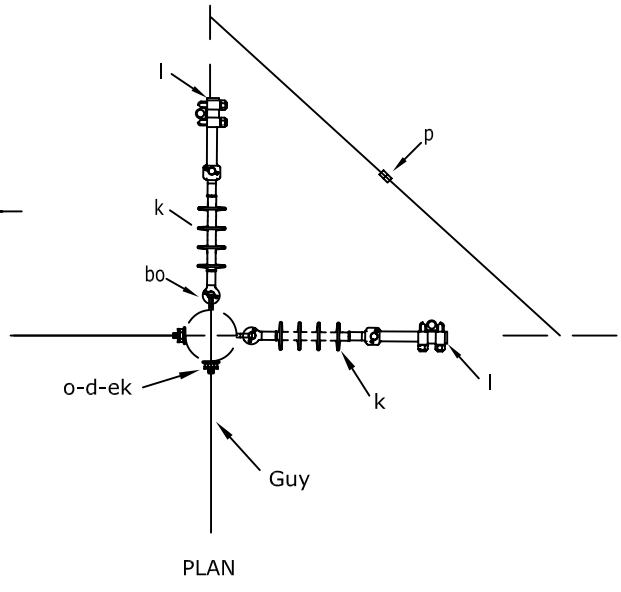
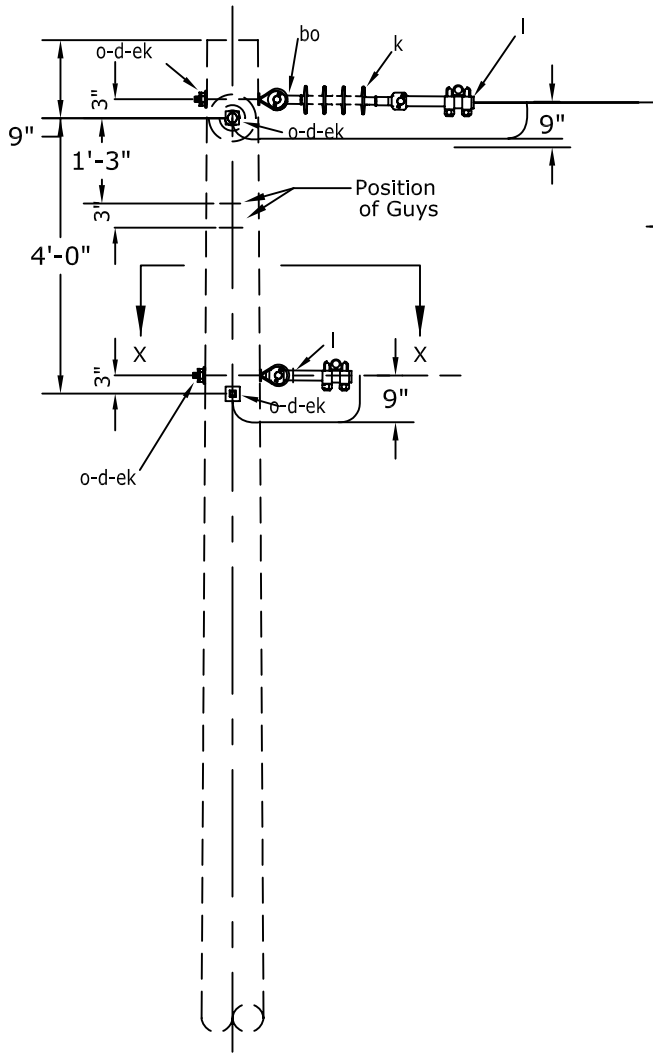
NOTES:

- 1- Maximum transverse load: 4000 lbs. per conductor
- 2- Maximum line angle within load limits: 15 kV - 20°-60°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
m	2851002134	1	Clamp, Suspension
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
bo	2857402296	1	Shackle, Anchor
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	2	Locknut, 5/8"

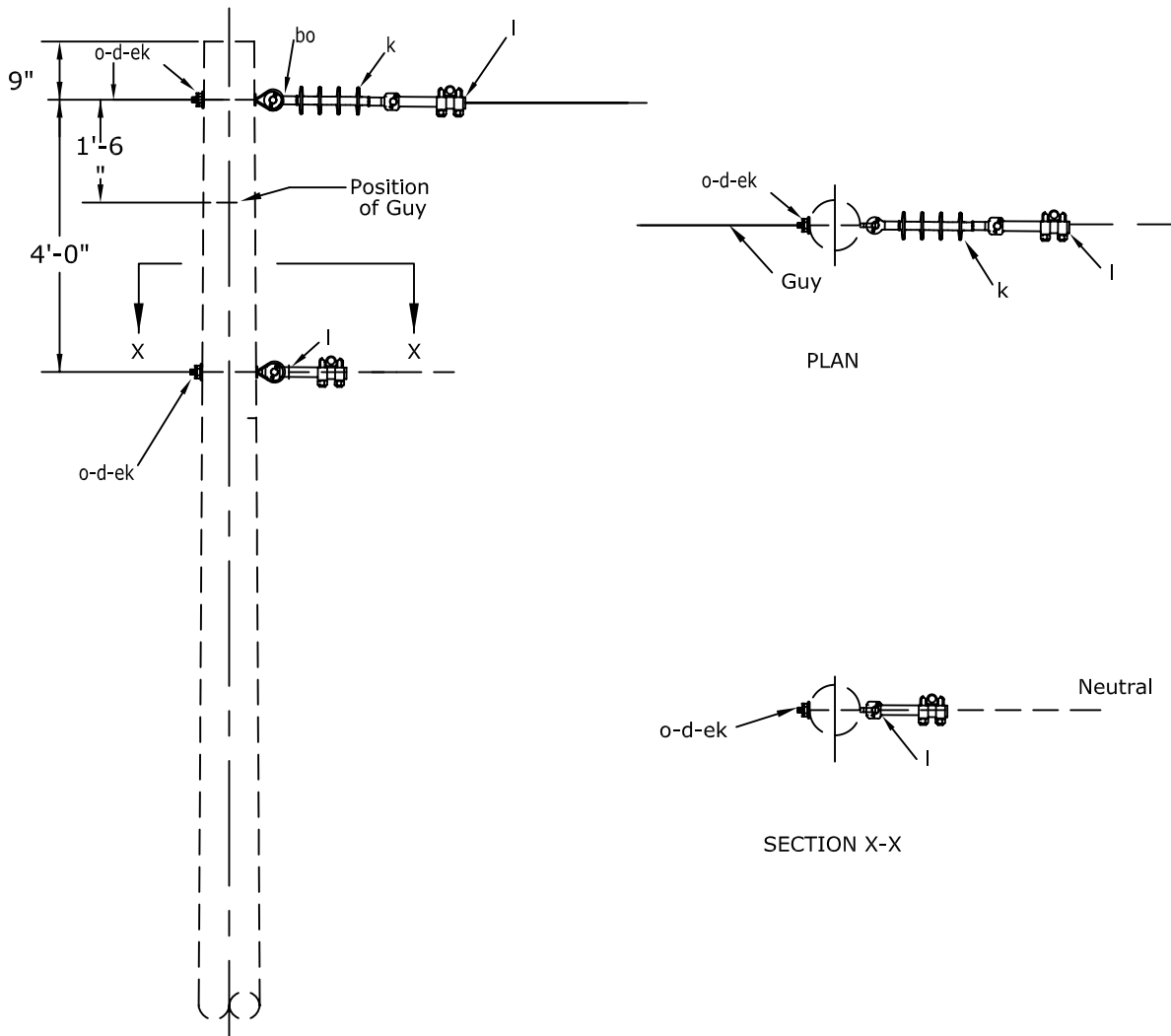
City of Alexandria Electric Distribution	12.5/7.2kV SINGLE PHASE MEDIUM ANGLE STRUCTURE	DATE: 04-10-07
		STANDARD NUMBER A3



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	2	Connector, Sized as Required
av	NA	2	Jumper, Sized As Required
ek	285740XXXX	4	Locknut, 5/8"

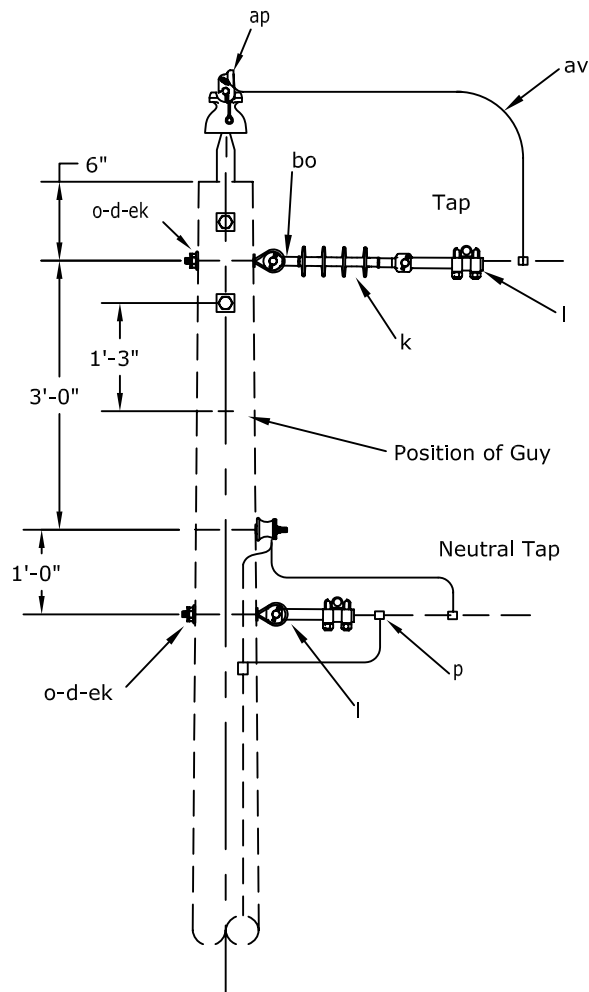
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2KV SINGLE PHASE</p> <p>VERTICAL DOUBLE-DEADEND STRUCTURE - 90° ANGLE</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A4</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
bo	2857402296	1	Shackle, Anchor
ek	285740XXXX	2	Locknut, 5/8"

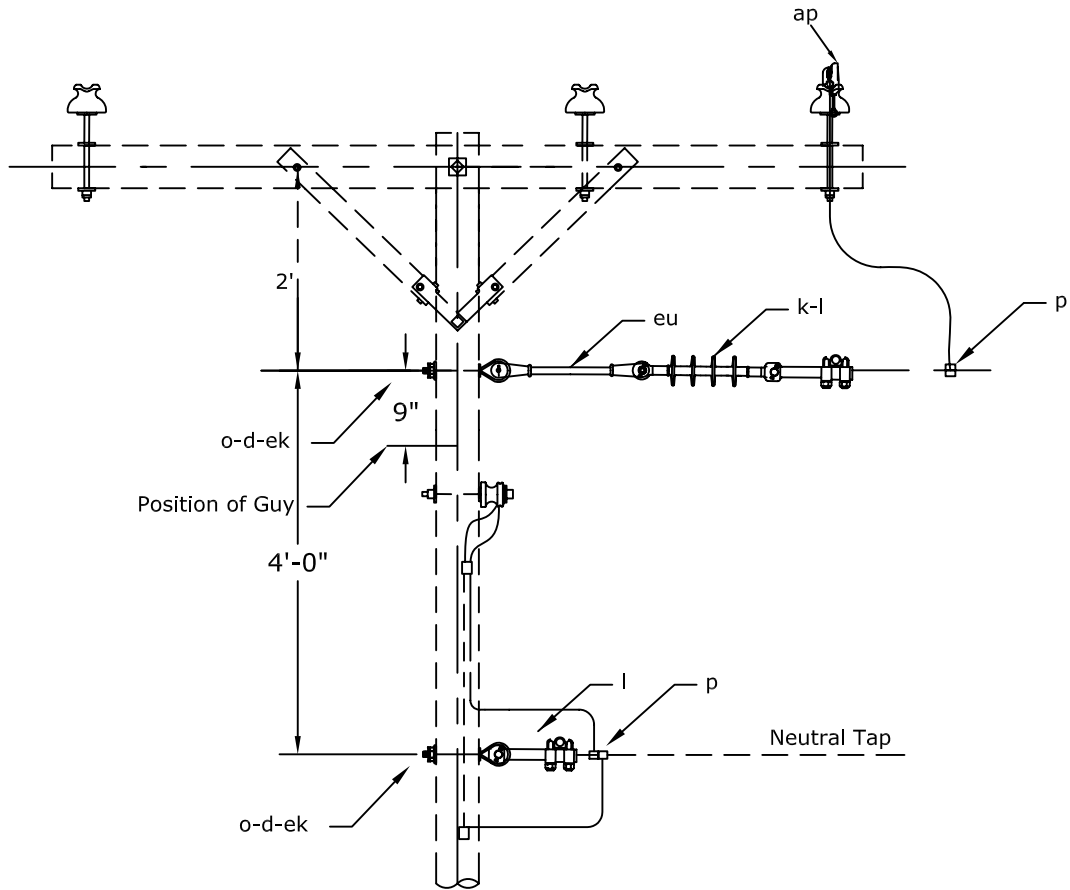
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE DEADEND STRUCTURE - VERTICAL</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A5</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	6	Connector, Sized As Required
ap	2851002131	1	Clamp, Hot Line
av	NA	1	Jumper, Sized As Required
bo	2857402296	1	Shackle, Anchor
ek	285740XXXX	2	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE TAP ASSEMBLY (FROM SINGLE PHASE LINE)</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A5-1</p>



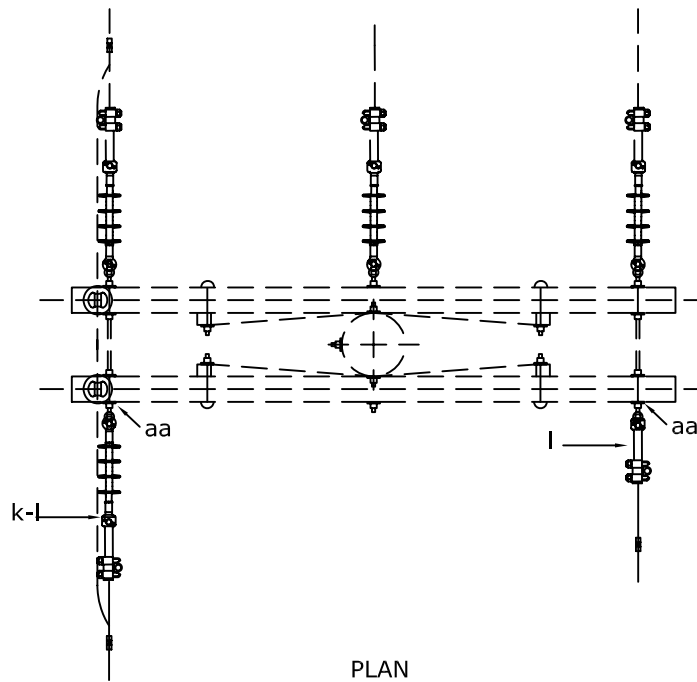
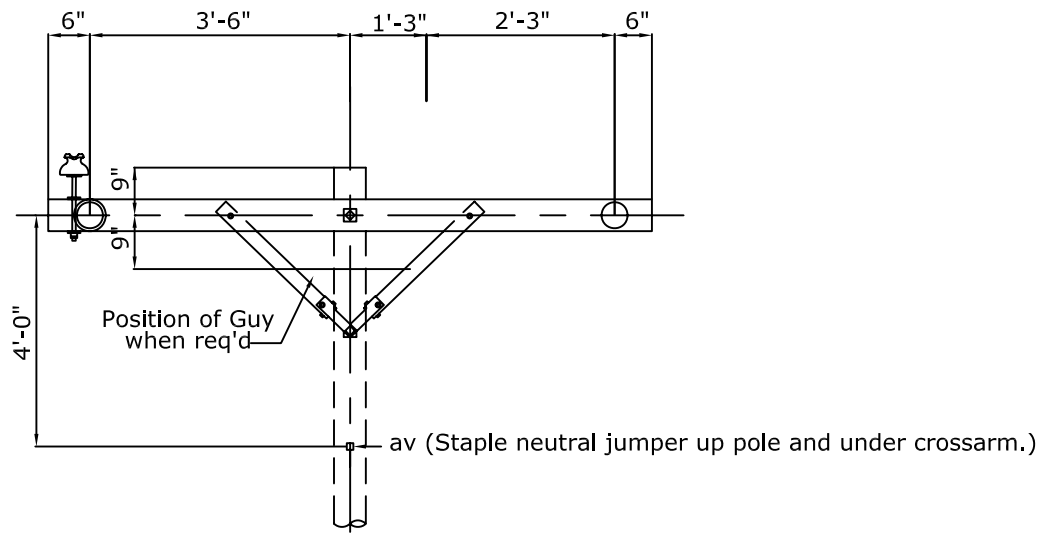
NOTES:

- 1- If needed, specify stirrup and loadbreak cutout separately.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	6	Connector, Sized As Required
ap	2851002131	1	Clamp, Hot Line
av	NA	1	Jumper, Sized As Required
bo	2857402296	1	Shackle, Anchor
ek	285740XXXX	2	Locknut, 5/8"
eu	2857402301	1	Extension Link, Fiberglass, 18"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE TAP ASSEMBLY (FROM B OR C-PHASE LINE)</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A5-2</p>



MATERIAL LIST

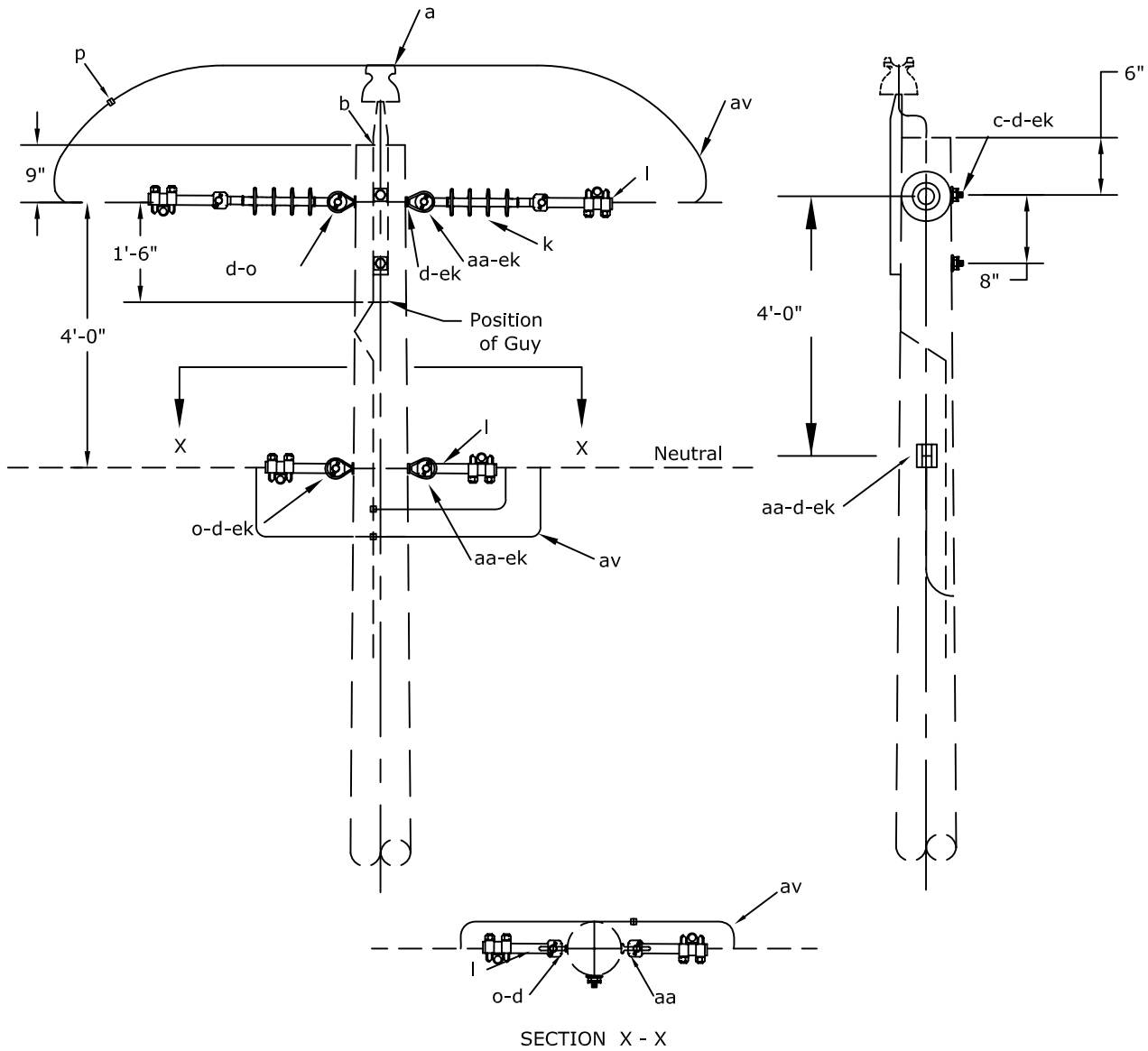
Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
p	28574022XX	2	Connector, Sized As Required
aa	2857402310	2	Nut, Oval Eye, 5/8"
ah	2801602124	10	Tie Wire, #4 Al (Feet)
av	NA	2	Jumper, Sized As Required

City of
Alexandria

Electric Distribution

12.5/7.2kV SINGLE PHASE
TAP ASSEMBLY (FROM B OR C-PHASE DEADEND)

DATE: 04-10-07
STANDARD NUMBER
A5-3



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	3	Connector, Sized As Required
aa	2857402310	2	Nut, Oval Eye, 5/8"
ah	2801602124	5	Tie Wire, #4 Al (Feet)
av	NA	2	Jumper, Sized As Required
ek	285740XXXX	2	Locknut, 5/8"

City of
Alexandria

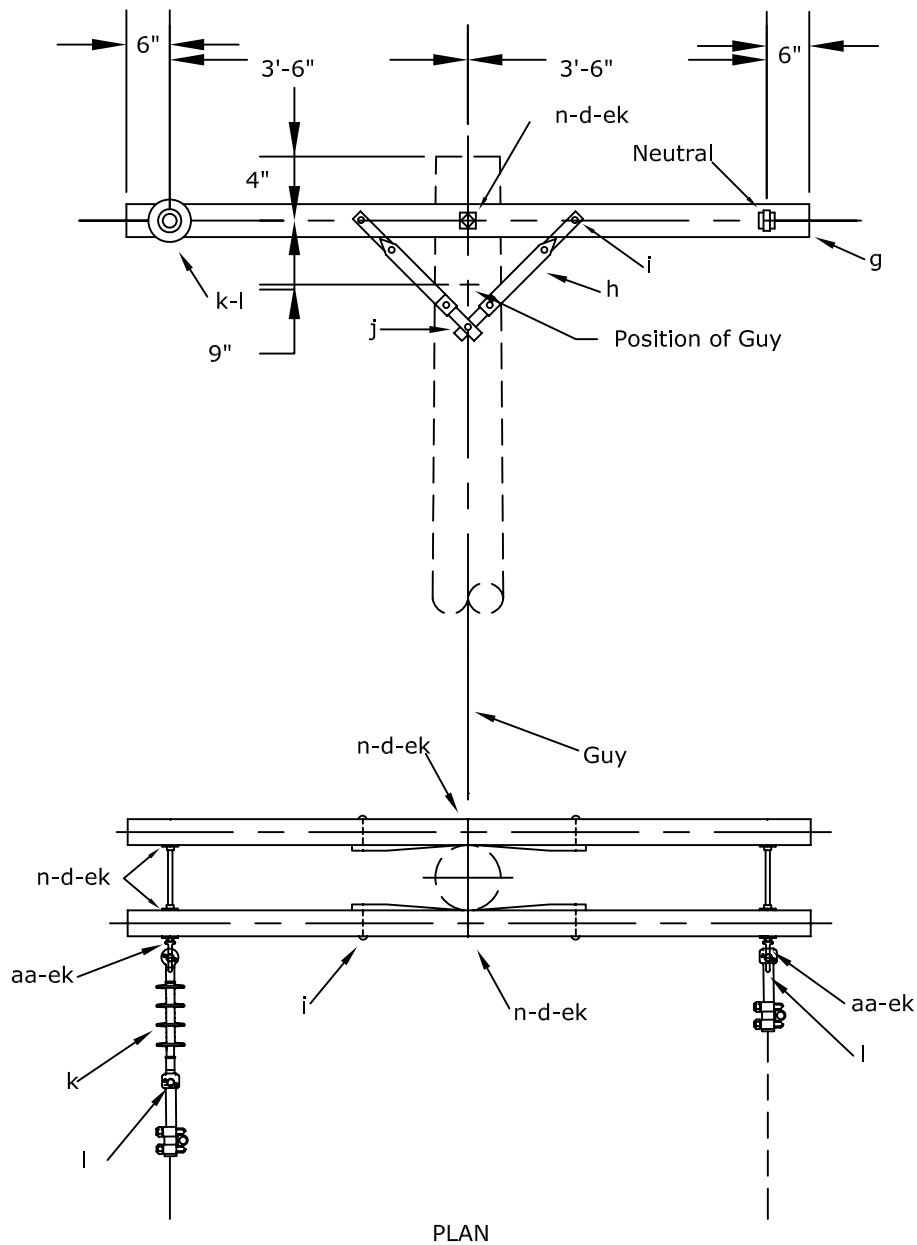
Electric Distribution

12.5/7.2kV SINGLE PHASE
DOUBLE-DEADEND STRUCTURE - VERTICAL

DATE: 04-10-07

STANDARD
NUMBER

A6



MATERIAL LIST

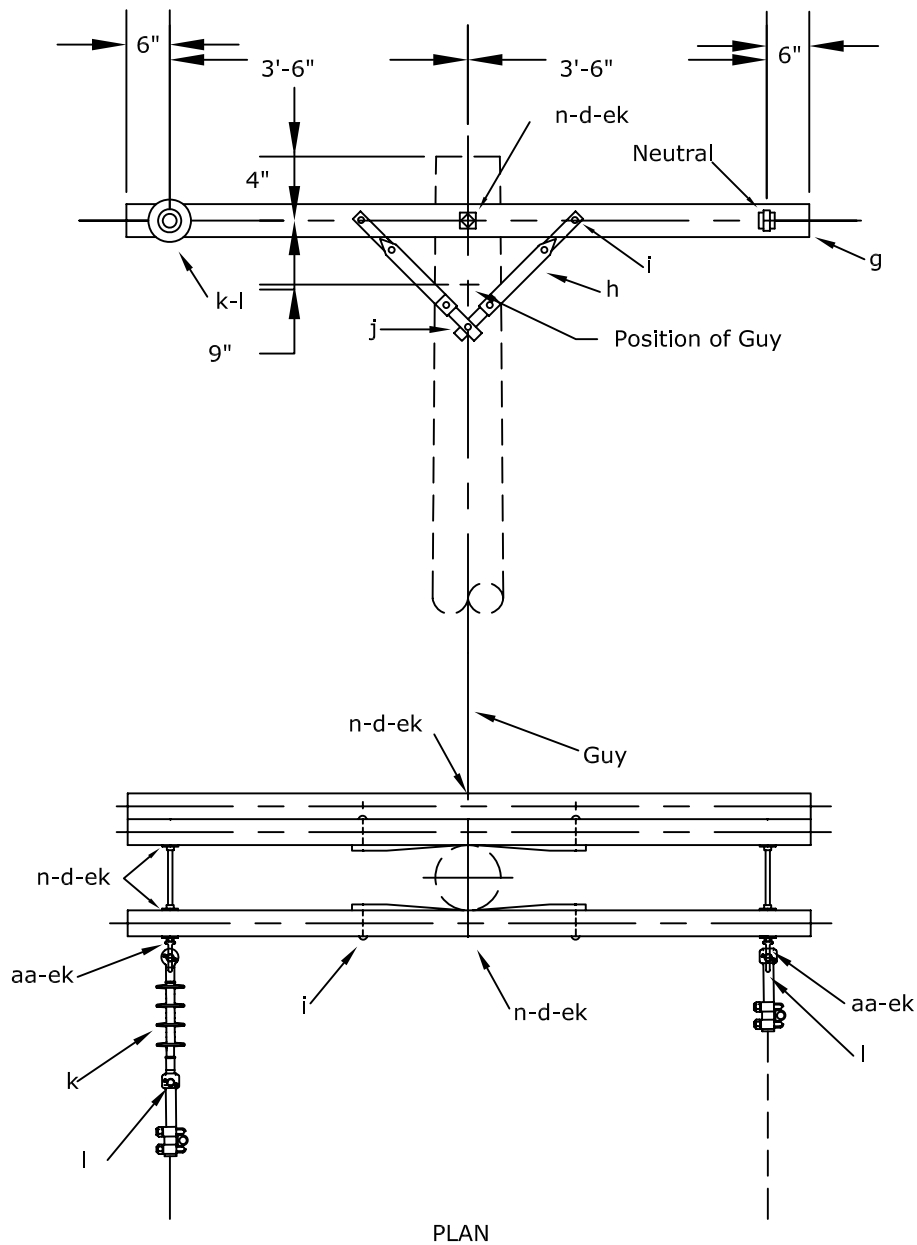
Item	COA Commodity Code	Qty.	Description
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
aa	2857402310	2	Nut, Oval Eye, 5/8"
ek	285740XXXX	10	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV SINGLE PHASE
CROSSARM DEADEND STRUCTURE

DATE: 04-10-07
STANDARD NUMBER
A7

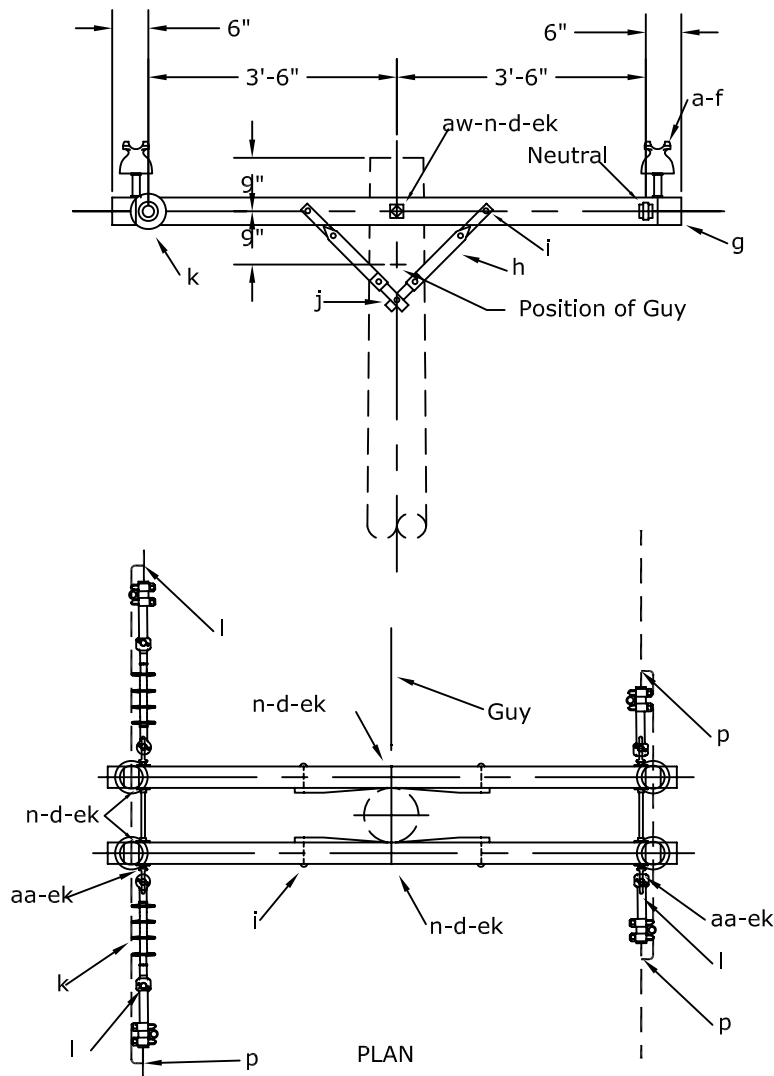


PLAN

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	3	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
aa	2857402310	2	Nut, Oval Eye, 5/8"
ek	285740XXXX	10	Locknut, 5/8"

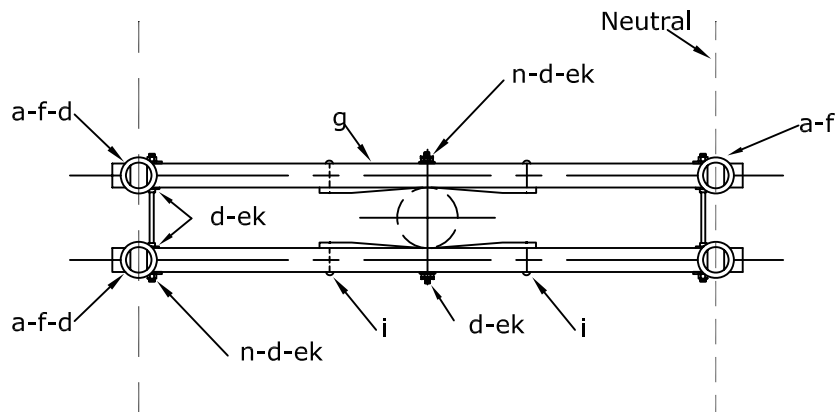
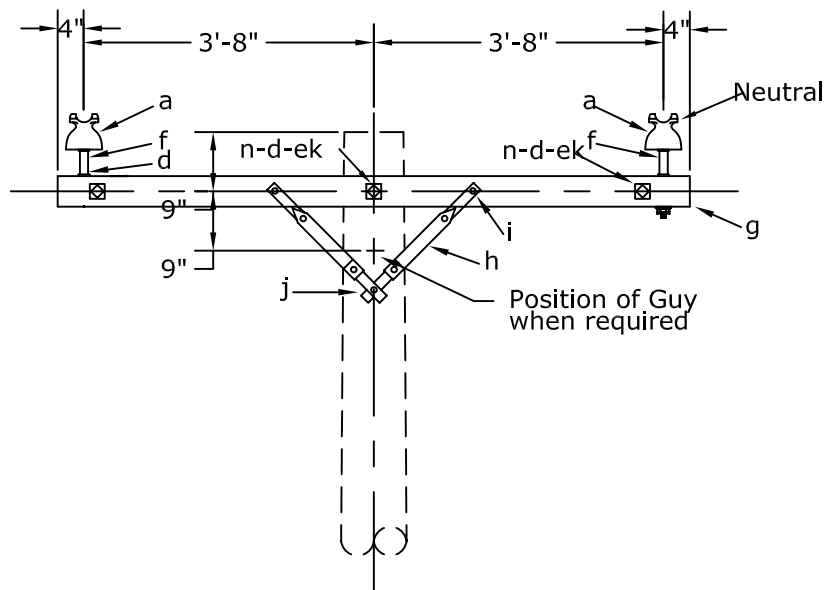
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM DEADEND STRUCTURE - HEAVY DUTY</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A7-1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	3	Connector, Sized As Required
aa	2857402310	4	Nut, Oval Eye, 5/8"
ah	2801602124	20	Tie Wire, #4 Al (Feet)
av	NA	2	Jumper, Sized As Required
ek	285740XXXX	14	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM DOUBLE-DEADEND STRUCTURE</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A8</p>



PLAN

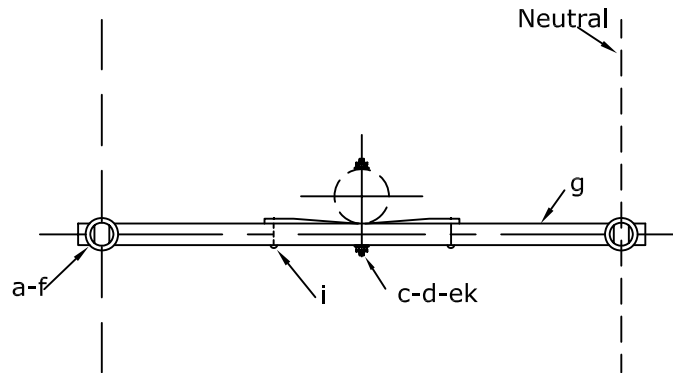
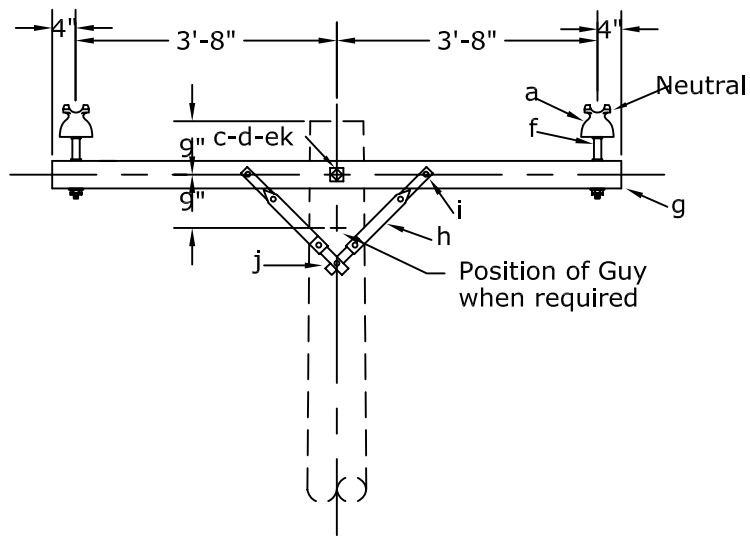
NOTES:

- 1- Maximum transverse load: 1000 lbs. per conductor
- 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8", Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	20	Tie Wire, #4 Al (Feet)
ek	285740XXXX	14	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM TANGENT STRUCTURE DOUBLE LINE ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A9</p>



PLAN

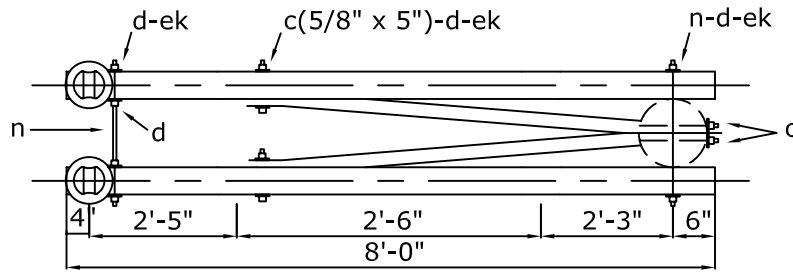
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor
- 2- Maximum line angle within load limits: 5°

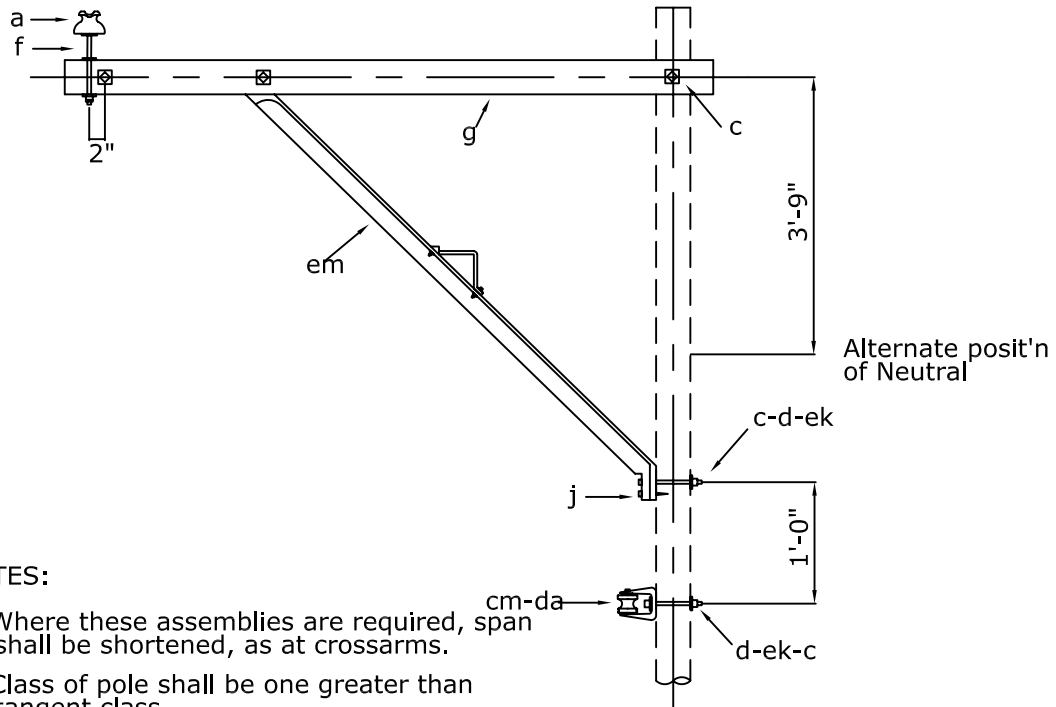
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	2	Insulator, Pin Type
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28", Wood
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	12	Tie Wire, #4 Al (Feet)
ek	285740XXXX	3	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A9-1</p>



PLAN



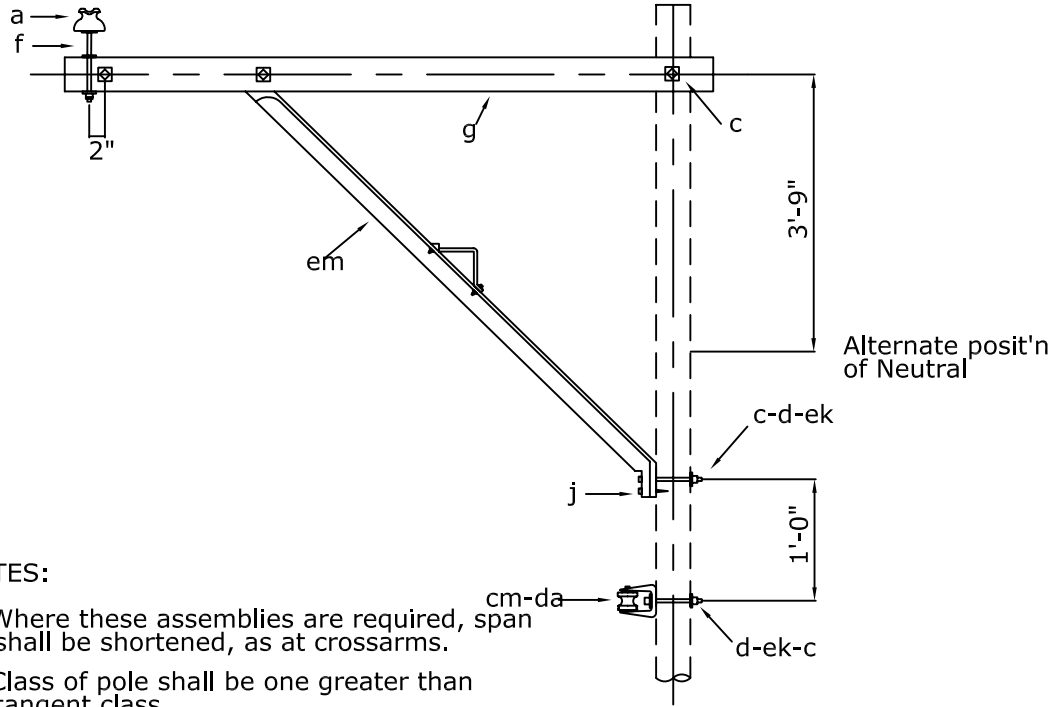
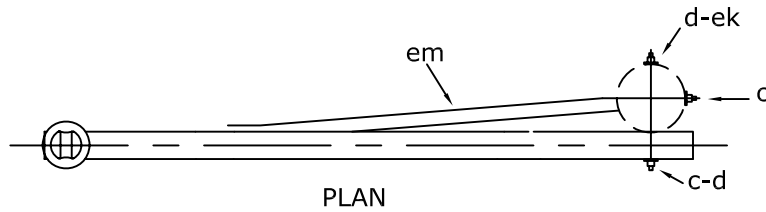
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	2	Insulator, Pin Type
c	28574020XM	5	Bolt, Machine, 5/8" x Required Length
d	2857402322	9	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	16	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	13	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM TANGENT STRUCTURE DOUBLE ALLEY ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A10</p>



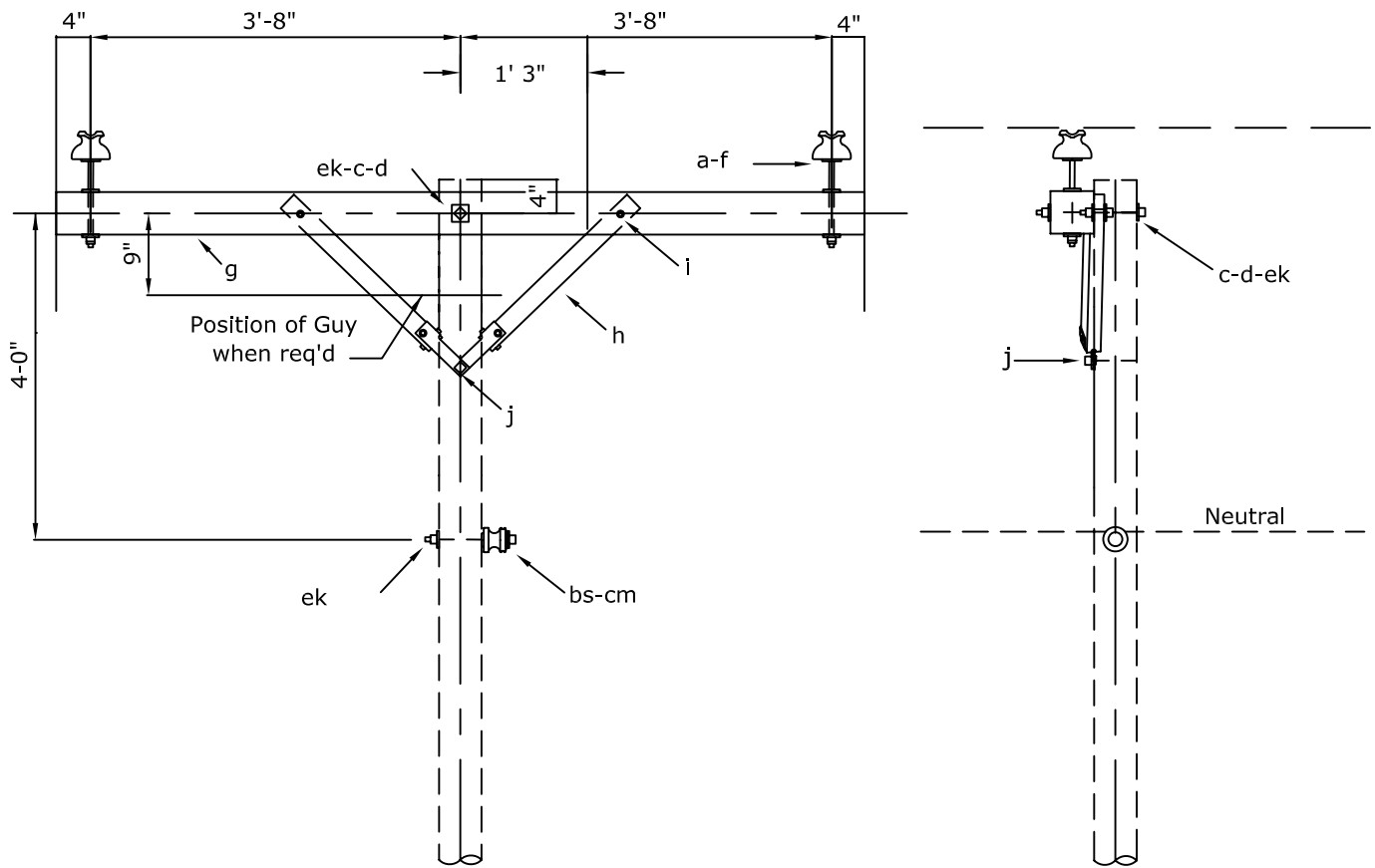
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	1	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8", Wood
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	4	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV SINGLE PHASE CROSSARM TANGENT STRUCTURE SINGLE ALLEY ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>A10-1</p>



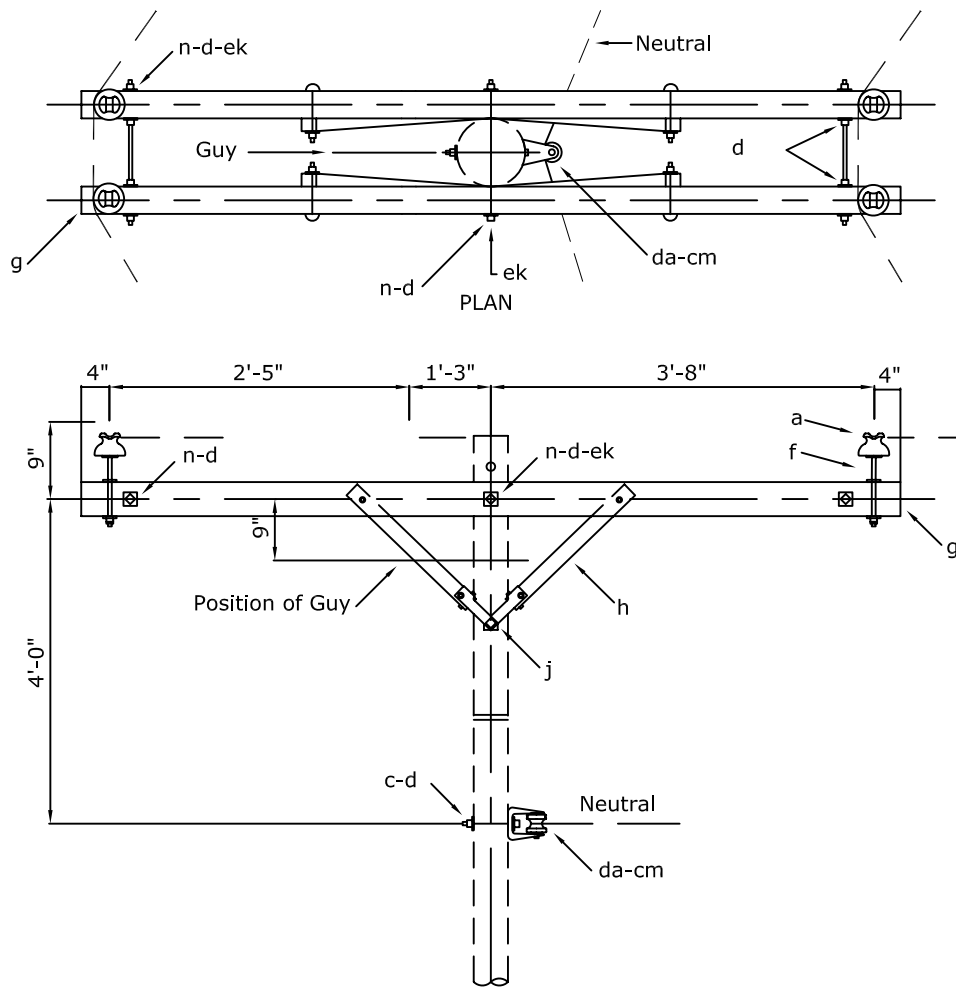
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	2	Insulator, Pin Type
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28", Wood
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	21	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
ek	285740XXXX	3	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B1</p>



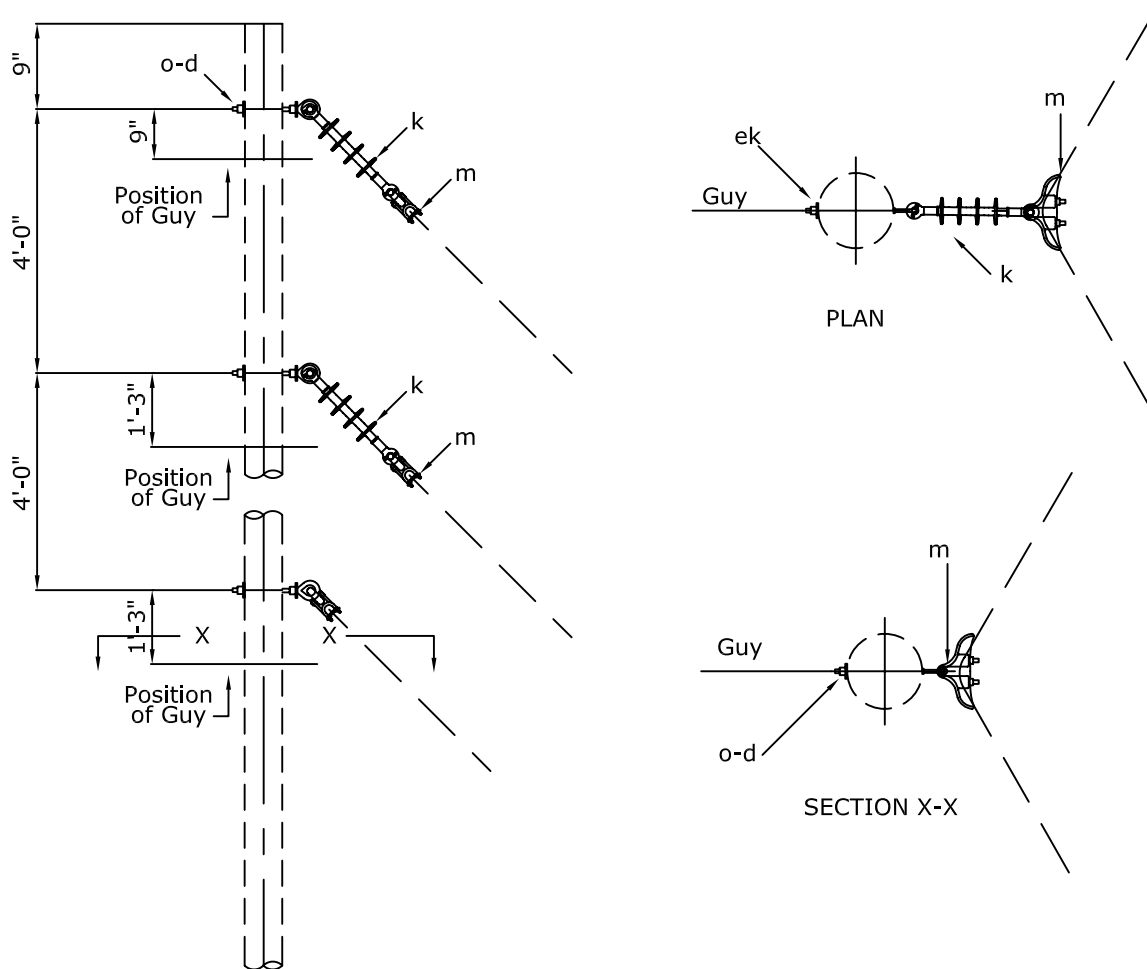
NOTES:

- 1- Maximum traverse load: 1,000 lbs. per conductor.
- 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	25	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	15	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM</p>	<p>DATE: 04-10-07</p>
		<p>STANDARD NUMBER</p> <p>B2</p>



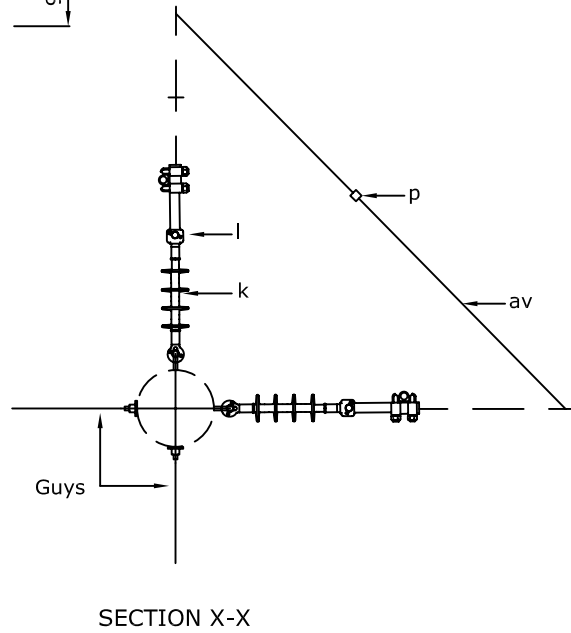
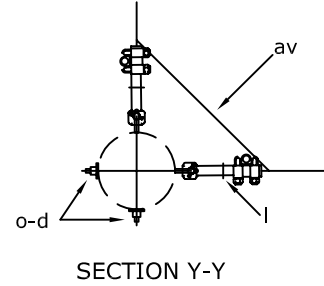
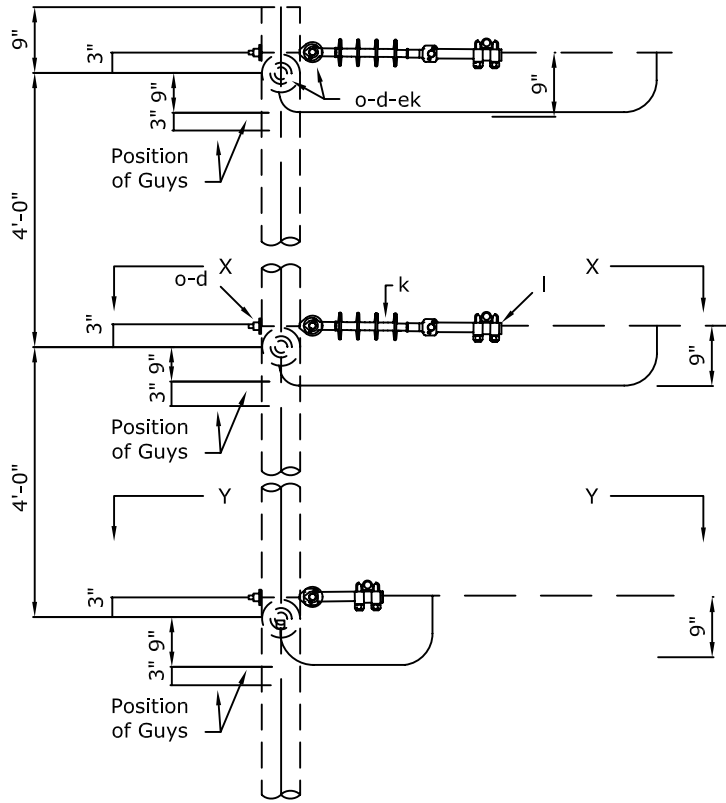
NOTES:

- 1- Maximum transverse load: 4,000 lbs. per conductor
- 2- Design angle: 20° - 60°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	3	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	2	Insulator, Suspension, Polymer
m	2851002134	3	Clamp, Suspension
o	28574020XE	3	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	3	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV VERTICAL CONSTRUCTION MEDIUM ANGLE STRUCTURE</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B3</p>



NOTES:
1- Design angle: 60° - 90°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	4	Insulator, Suspension, Polymer
l	2857402140	6	Clamp, Deadend
o	28574020XE	6	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	7	Connector, Sized As Required
av	NA	3	Jumper, Sized As Required
ek	285740XXXX	6	Locknut, 5/8"

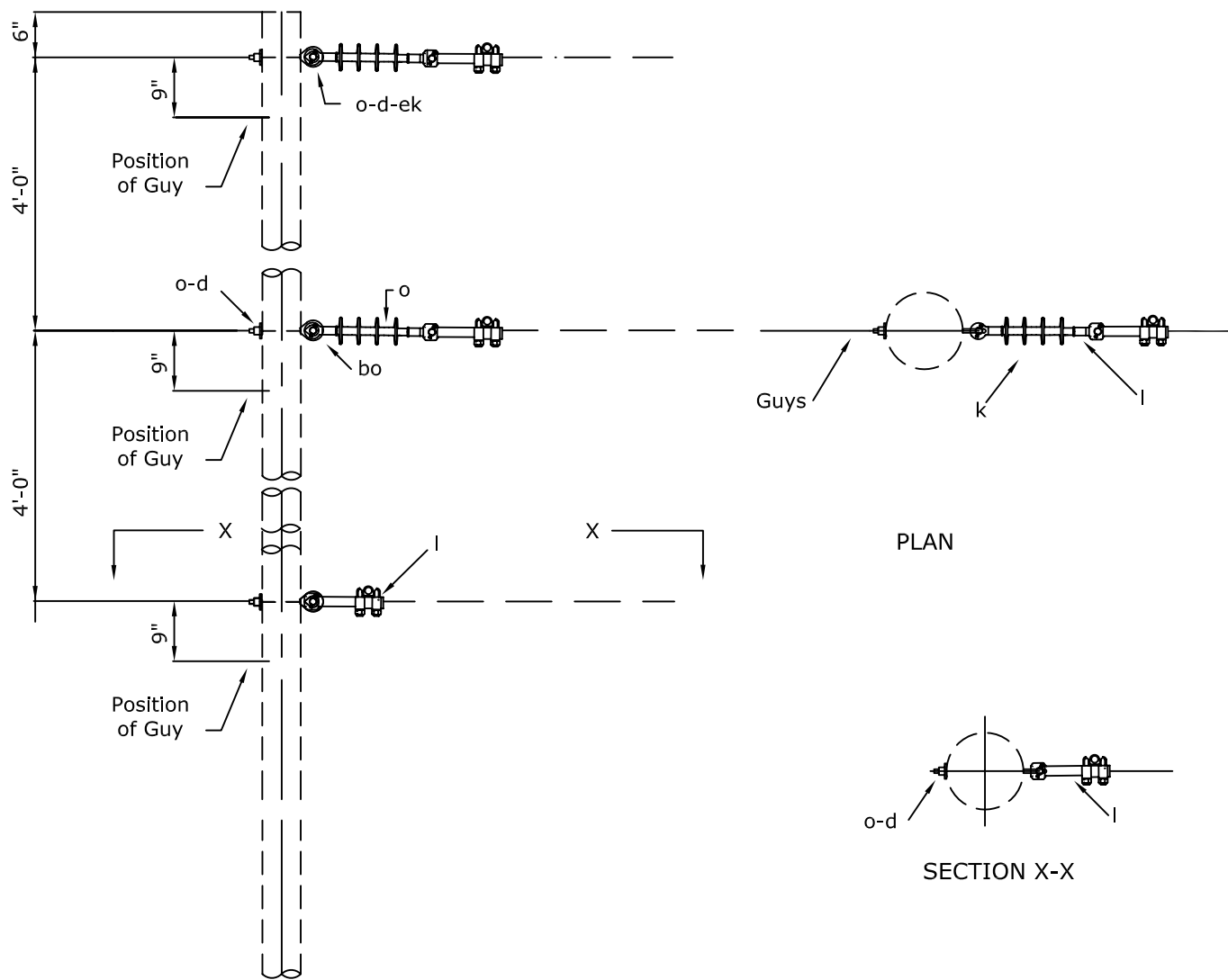
City of
Alexandria
Electric Distribution

12.5/7.2kV VERTICAL CONSTRUCTION
DOUBLE DEADEND STRUCTURE

DATE: 04-10-07

STANDARD
NUMBER

B4



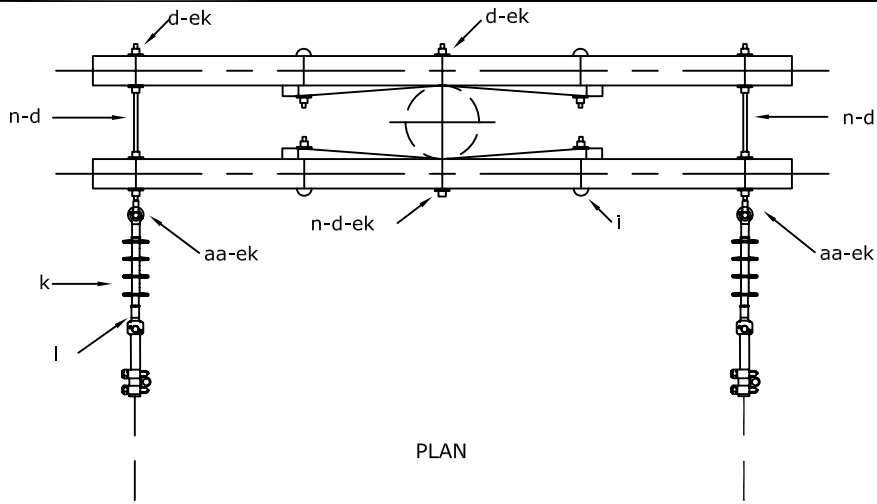
NOTES:

1- Design angle: 60° - 90°

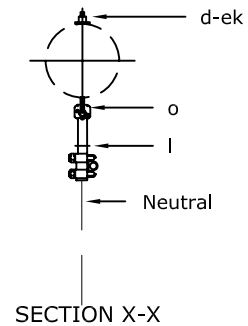
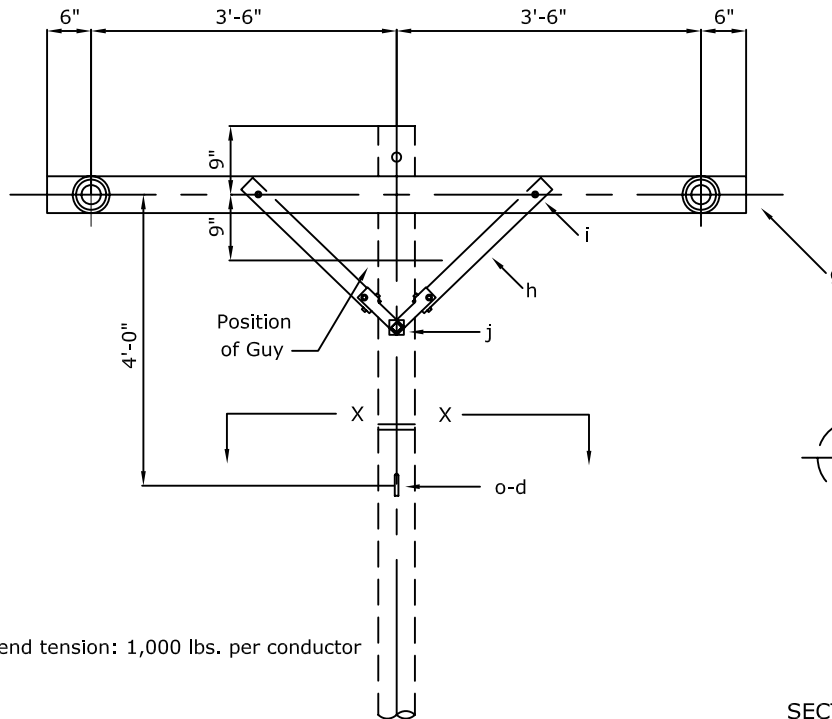
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	3	Insulator, Suspension, Polymer
I	2857402140	4	Clamp, Deadend
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	3	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV VERTICAL CONSTRUCTION SINGLE DEADEND STRUCTURE</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B5</p>



PLAN



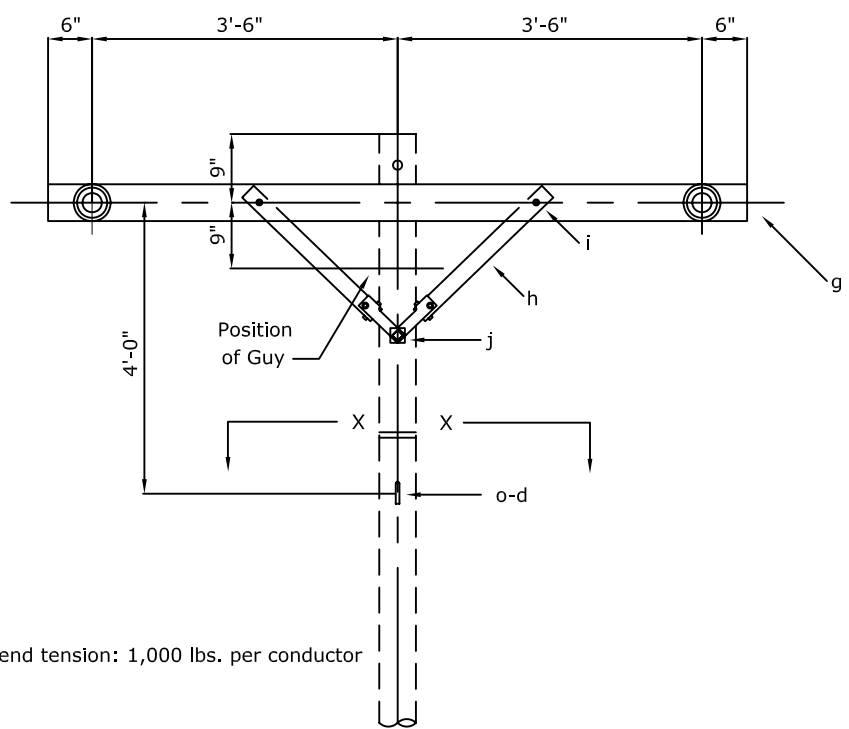
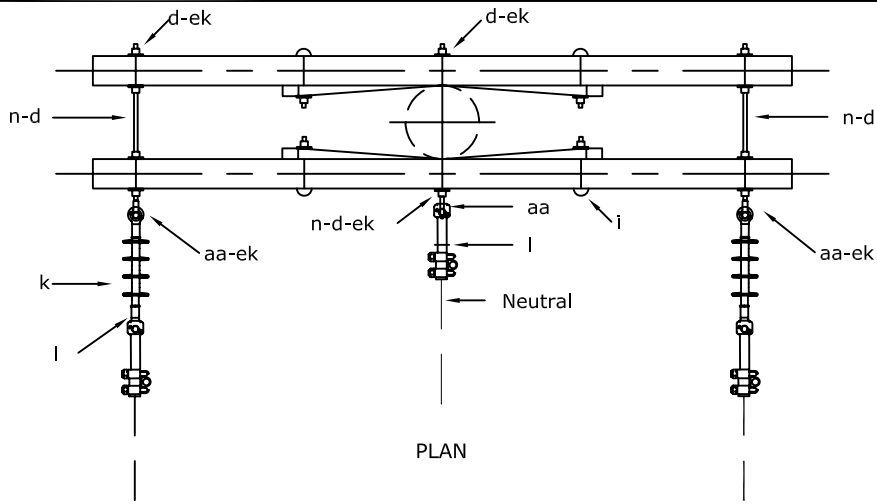
NOTES:

1- Maximum deadend tension: 1,000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	3	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	3	Nut, Oval Eye, 5/8"
ek	285740XXXX	11	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM SINGLE DEADEND SMALL CONDUCTORS</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B7</p>

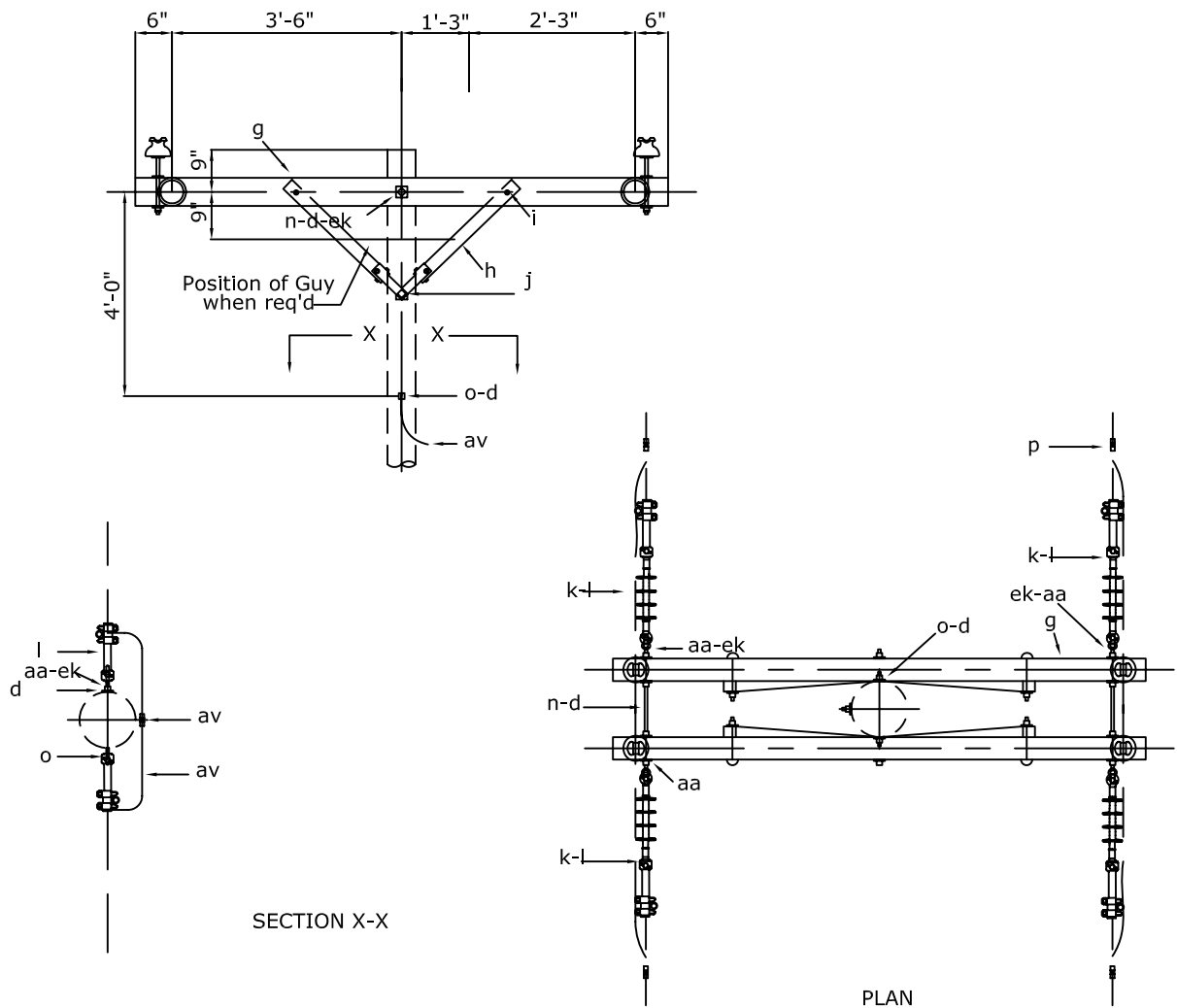


NOTES:
 1- Maximum deadend tension: 1,000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	3	Nut, Oval Eye, 5/8"
ek	285740XXXX	11	Locknut, 5/8"

City of <i>Alexandria</i> Electric Distribution	12.5/7.2kV CROSSARM SINGLE DEADEND NEUTRAL ON ARM	DATE: 04-10-07
		STANDARD NUMBER B7-1



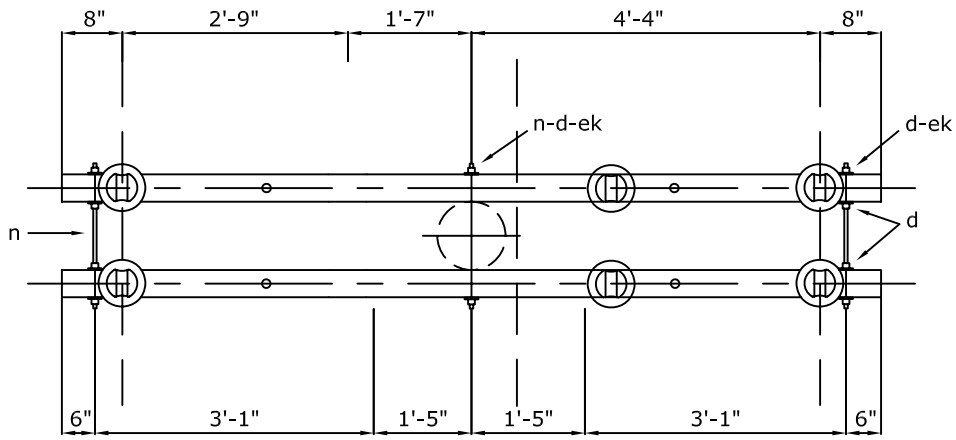
NOTES:

1- Maximum unbalance tension not to exceed 1000 lbs per conductor.

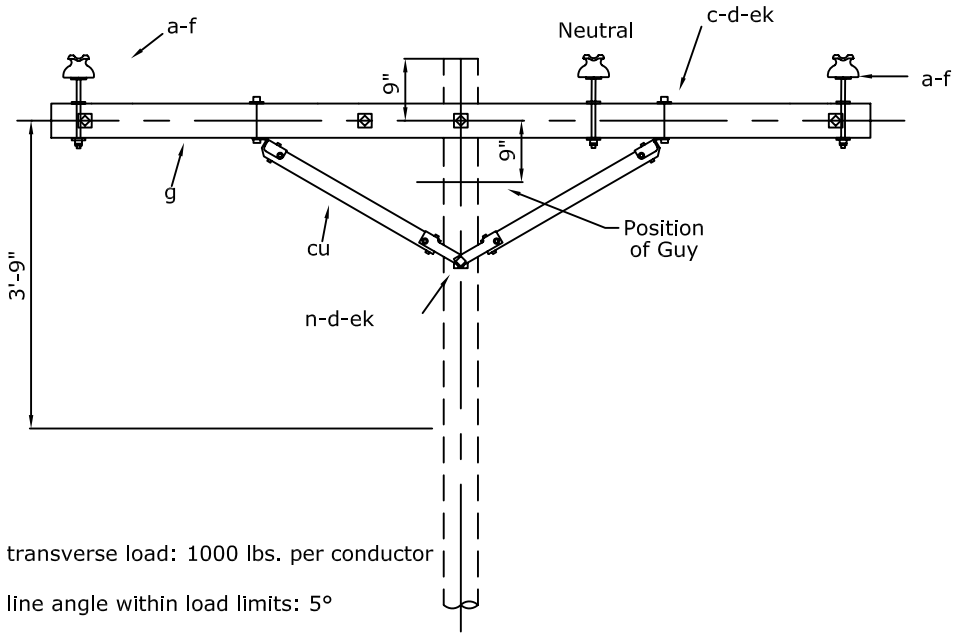
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	6	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
ek	285740XXXX	15	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND DOUBLE DEADEND STRUCTURE</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B8</p>



PLAN



NOTES:

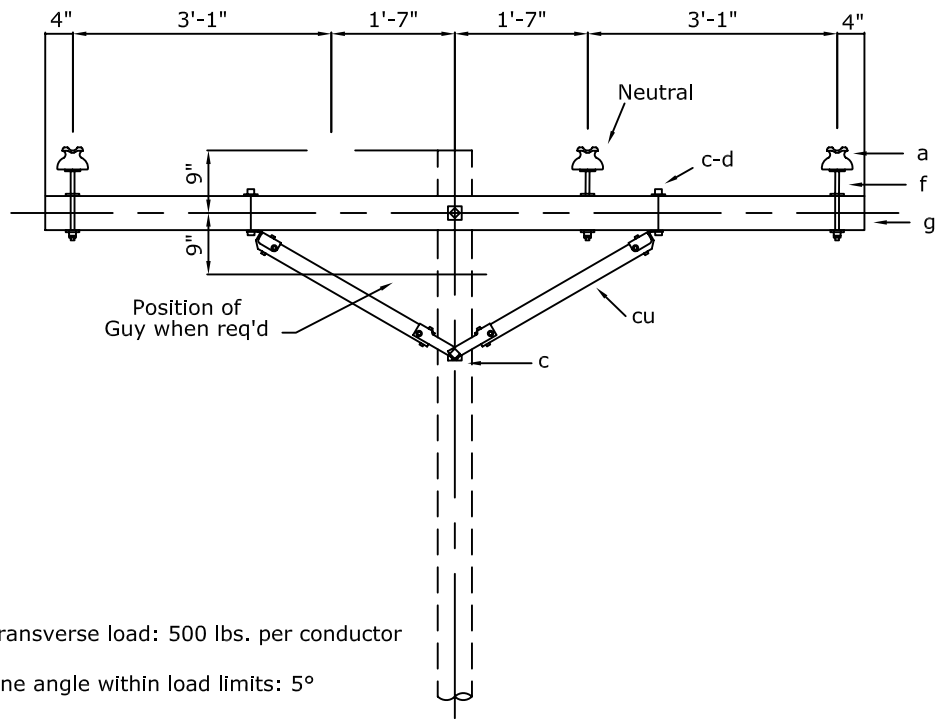
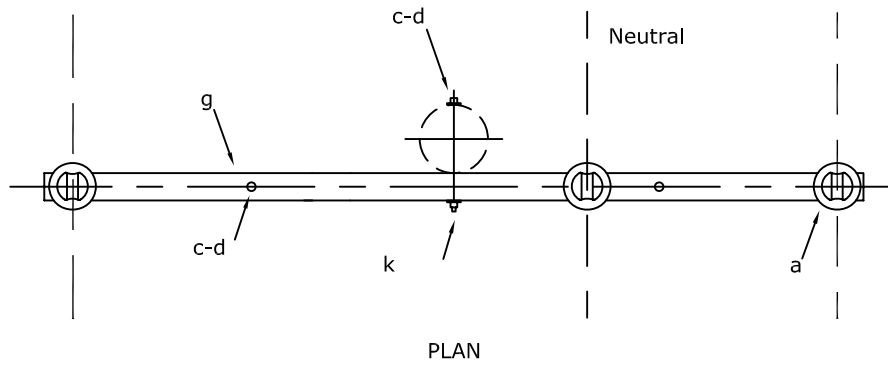
1- Maximum transverse load: 1000 lbs. per conductor

2- Maximum line angle within load limits: 5°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	15	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	40	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	17	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE DOUBLE LINE ARM - NEUTRAL ON ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B9</p>

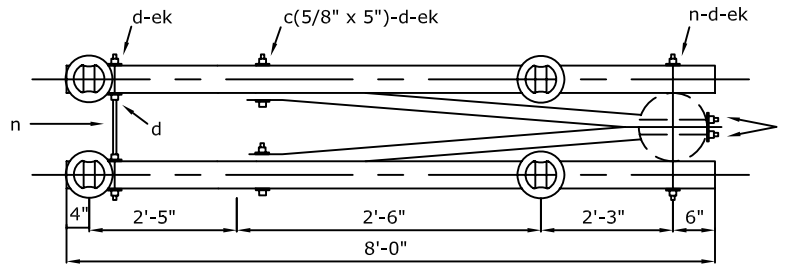


- NOTES:
- 1- Maximum transverse load: 500 lbs. per conductor
 - 2- Maximum line angle within load limits: 5°

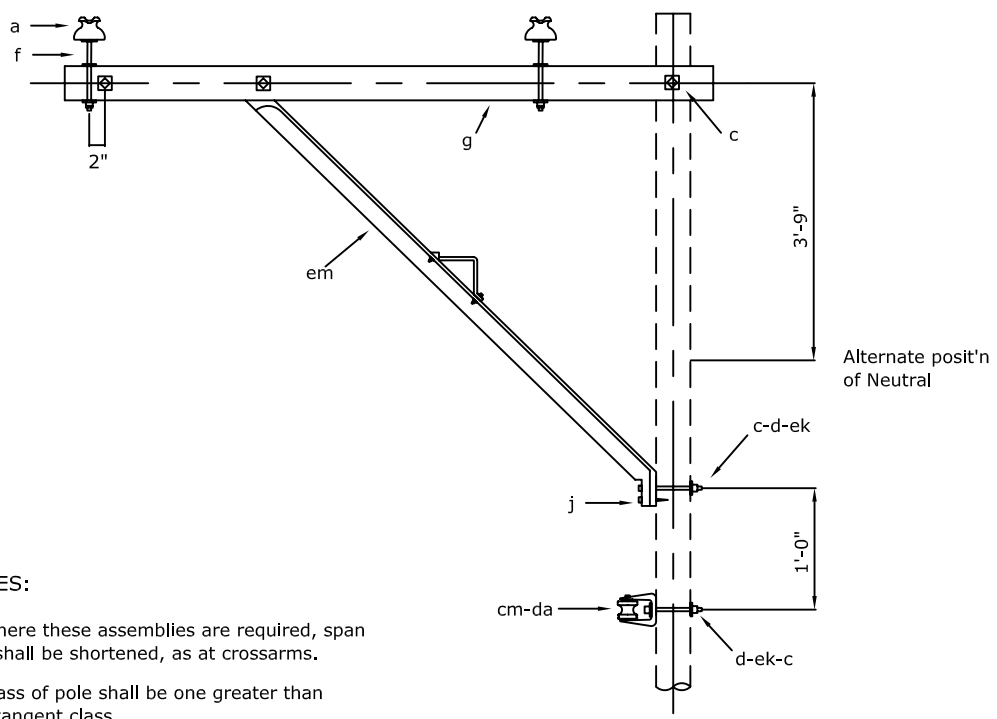
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
c	2857402008	2	Bolt, Machine, 1/2" x Required Length
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402321	2	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	3	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	5	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - NEUTRAL ON ARM</p>	<p>DATE: 04-10-07</p>
		<p>STANDARD NUMBER</p> <p>B9-1</p>



PLAN



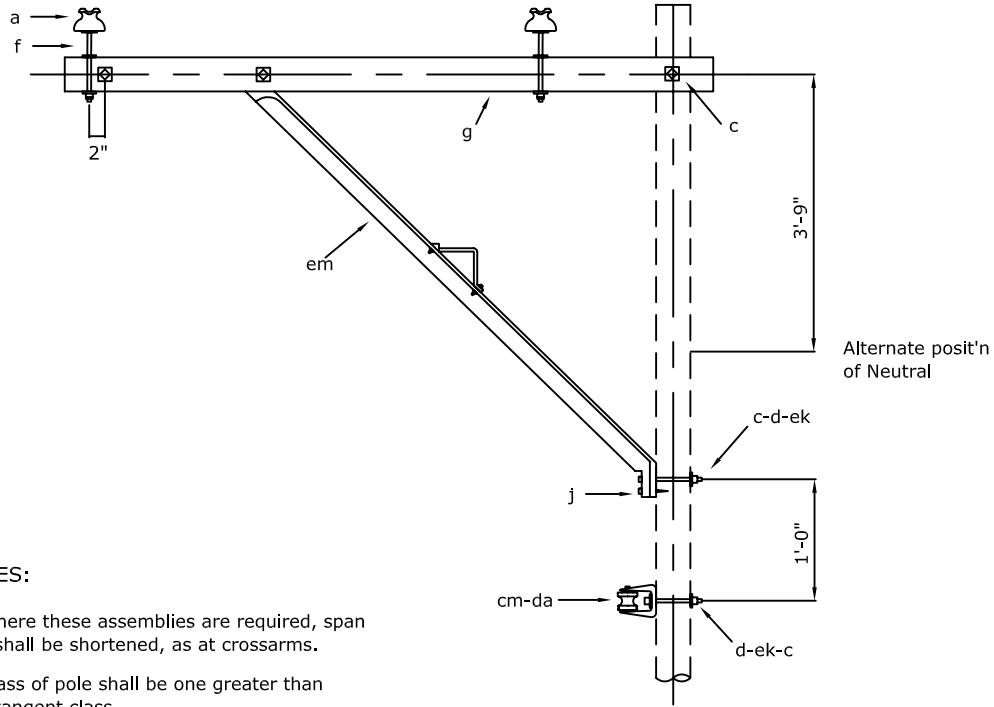
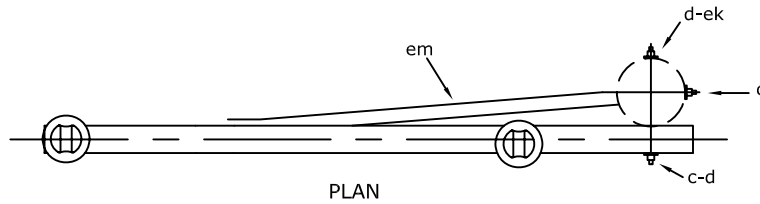
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
c	28574020XM	5	Bolt, Machine, 5/8" x Required Length
d	2857402322	9	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	26	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis, Insulated
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	13	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE DOUBLE ALLEY ARM</p>	<p>DATE: 04-10-07</p>
		<p>STANDARD NUMBER</p> <p>B10</p>



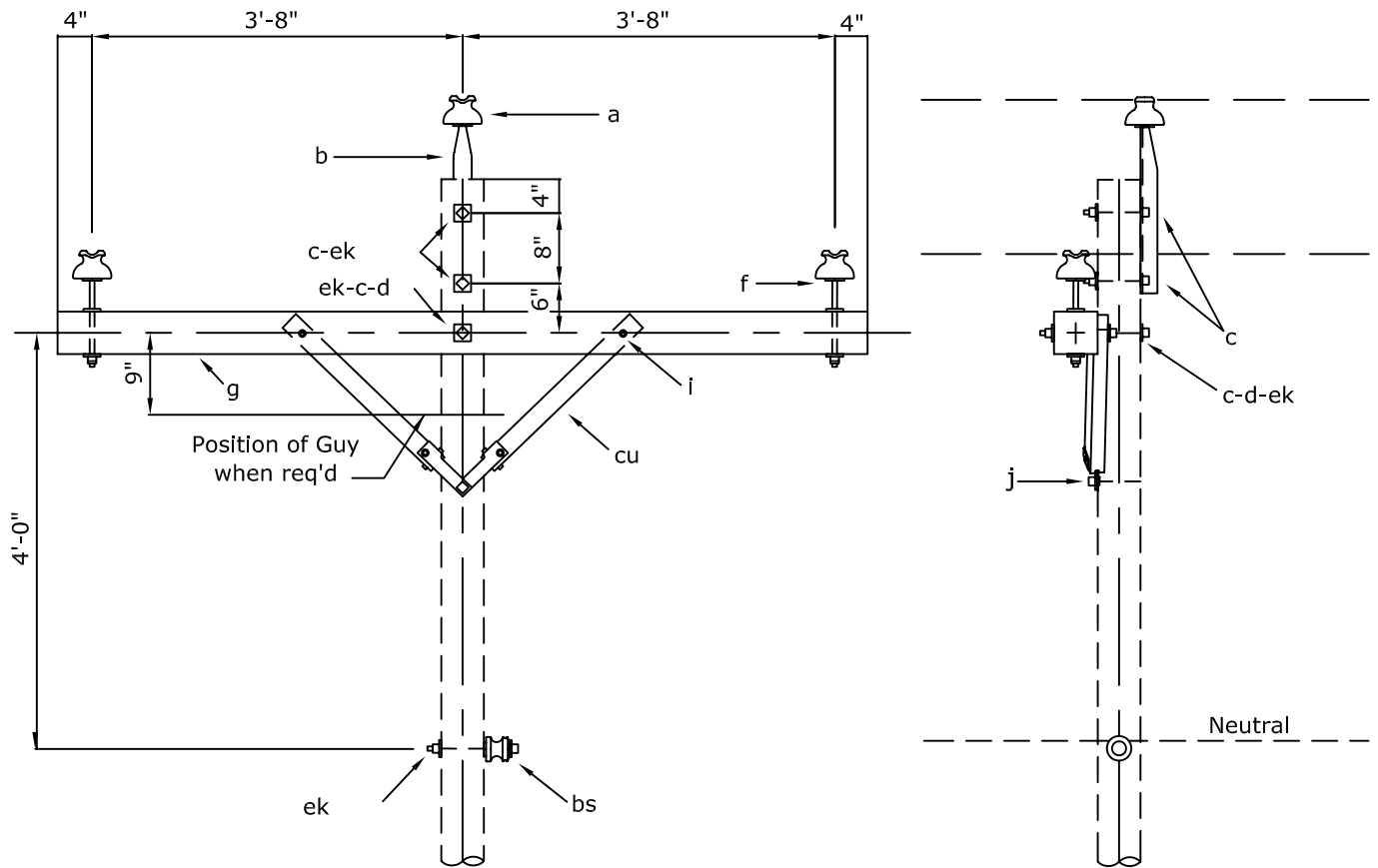
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	2	Insulator, Pin Type
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis, Insulated
em	2857802522	1	Brace, Alley Arm
ek	285740XXXX	5	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE ALLEY ARM</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>B10-1</p>



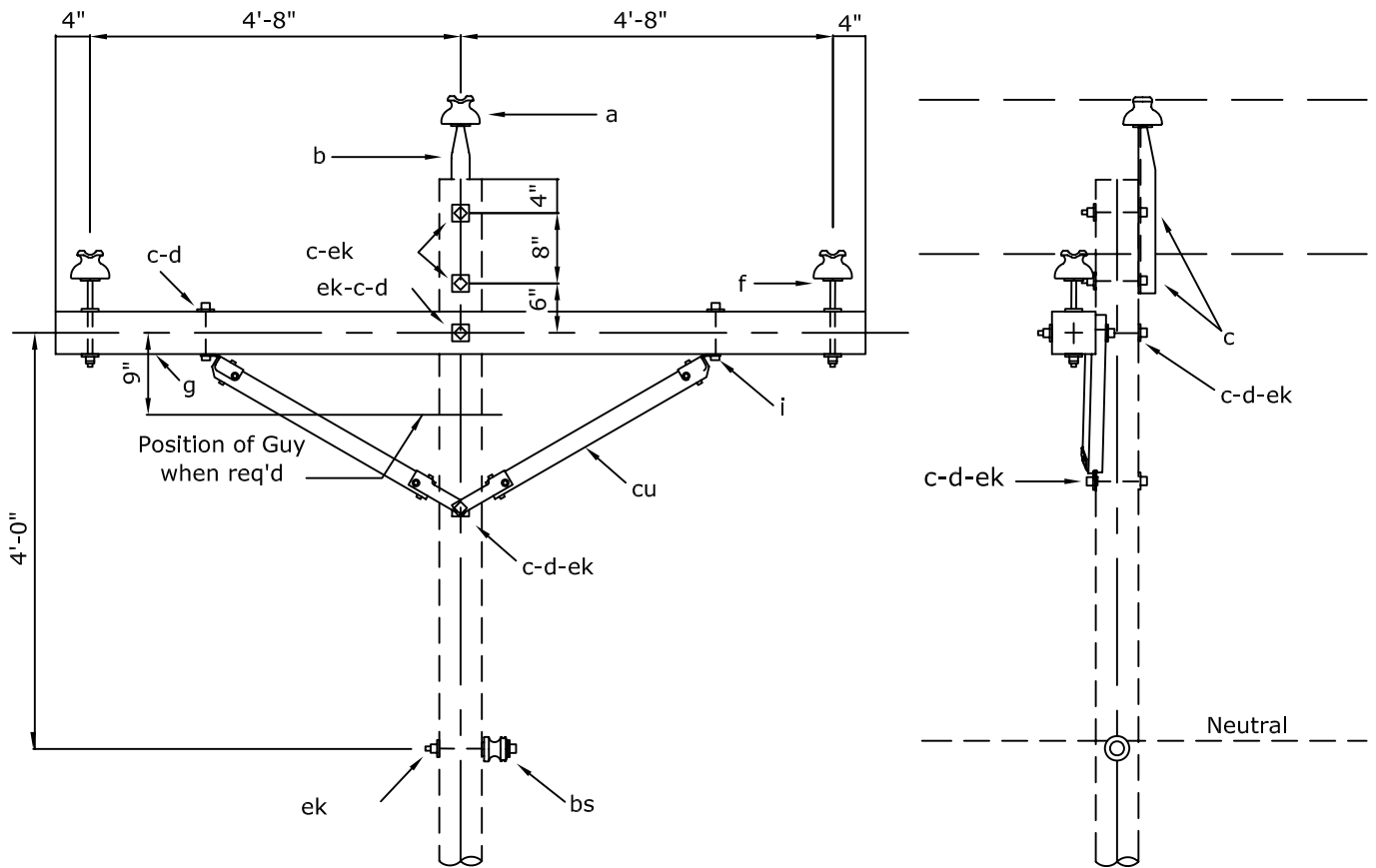
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28" (Wood or Steel)
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	25	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
ek	285740XXXX	6	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C1</p>



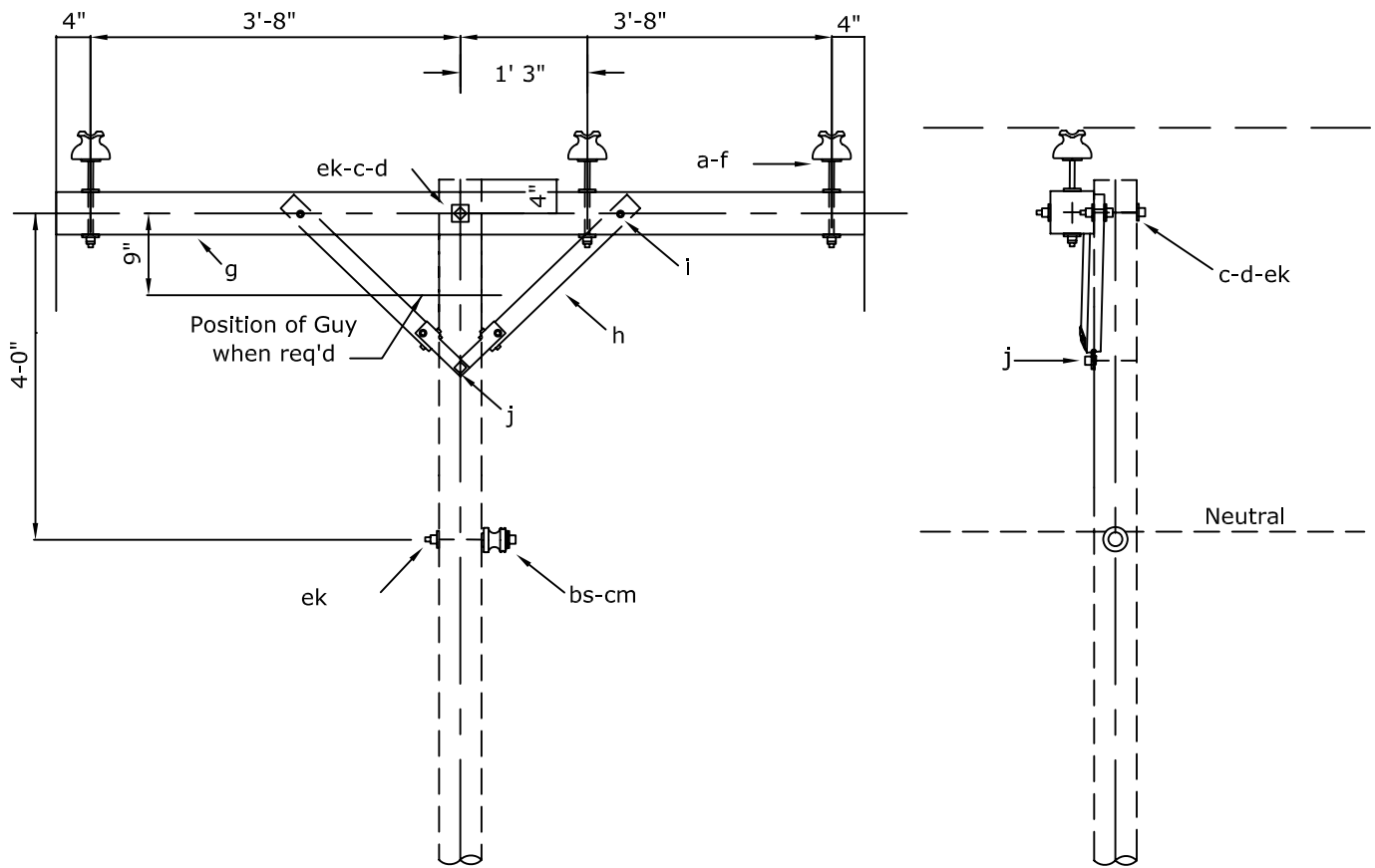
NOTES:

- 1- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	2857402008	2	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	7	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - LARGE CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C1L</p>



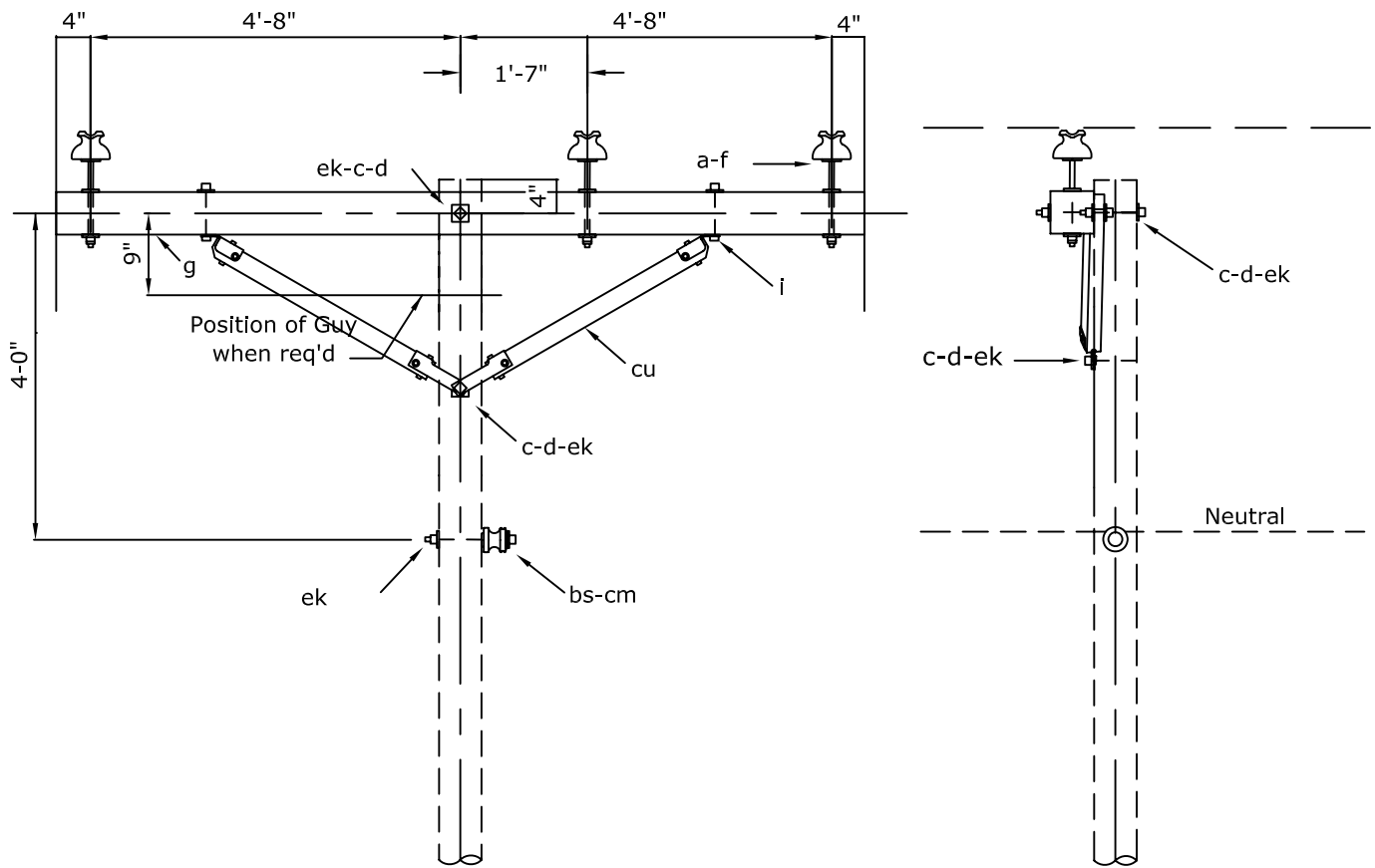
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	285740232X	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	3	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28" (Wood or Steel)
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	25	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
ek	285740XXXX	5	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C1A</p>



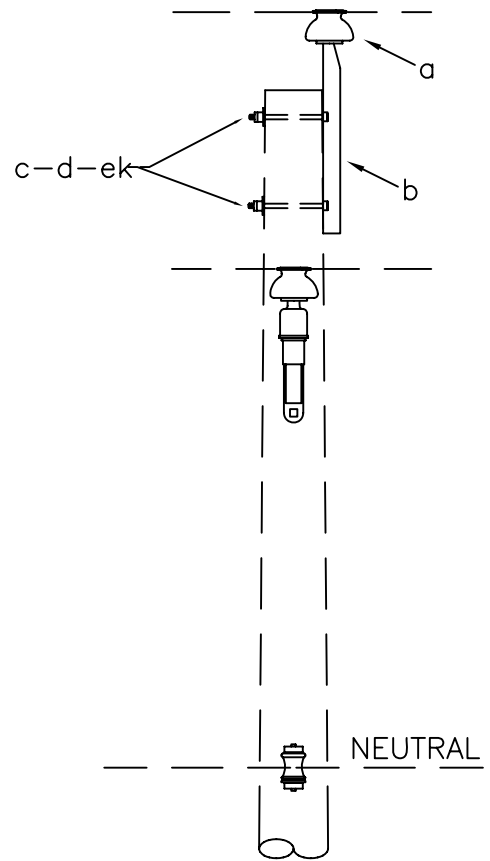
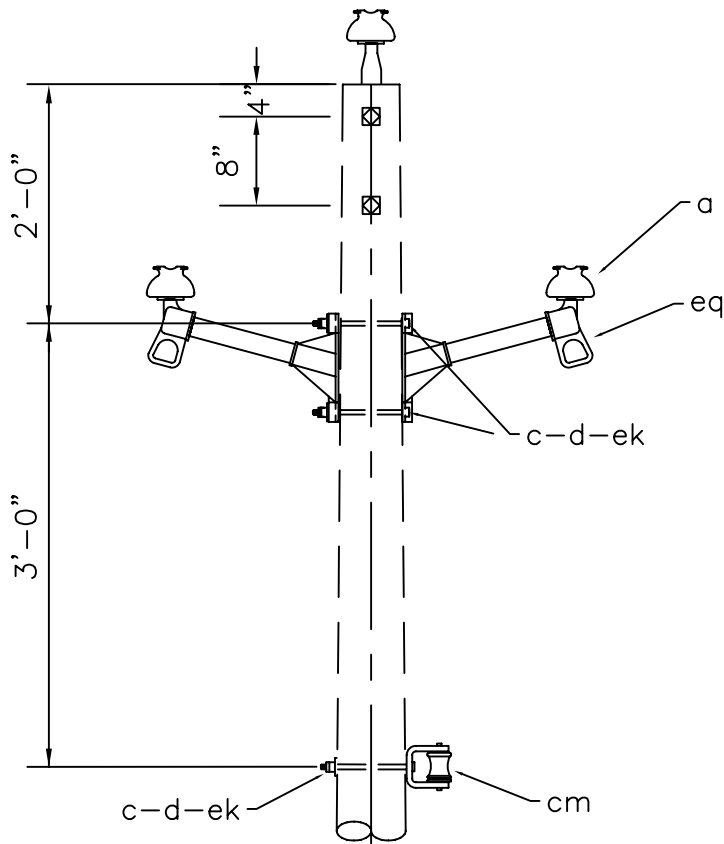
NOTES:

- 1- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
c	2857402008	2	Bolt, Machine, 1/2" x Required Length
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	3	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	6	Locknut, 5/8"

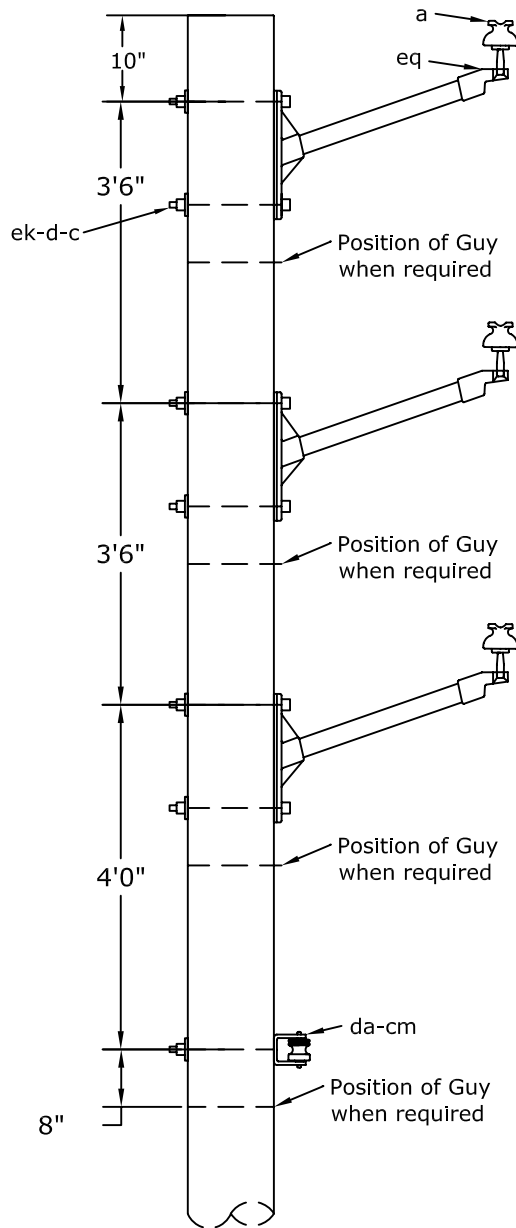
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - LARGE CONDUCTORS</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C1AL</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	5	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
ah	2801602124	23	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	5	Locknut, 5/8"
eq	2857802045	3	Narrow Profile Bracket With 1" Insulator Threads

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV NARROW PROFILE CONSTRUCTION TANGENT AND SMALL ANGLE STRUCTURE</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C1N</p>

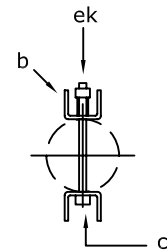
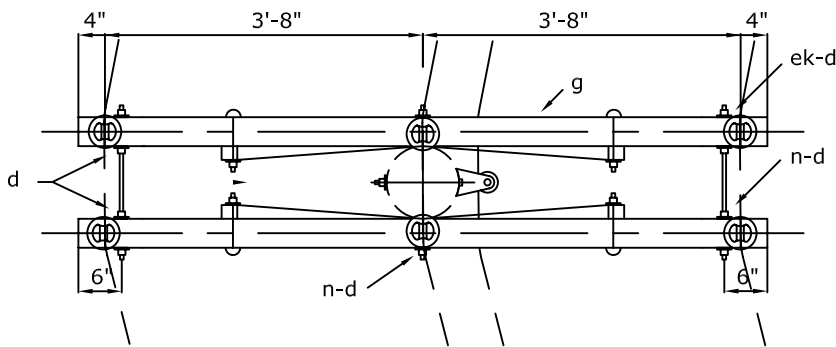


NOTE: When required. locate guy attachment 8" below bottom bolt of each bracket.

MATERIAL LIST

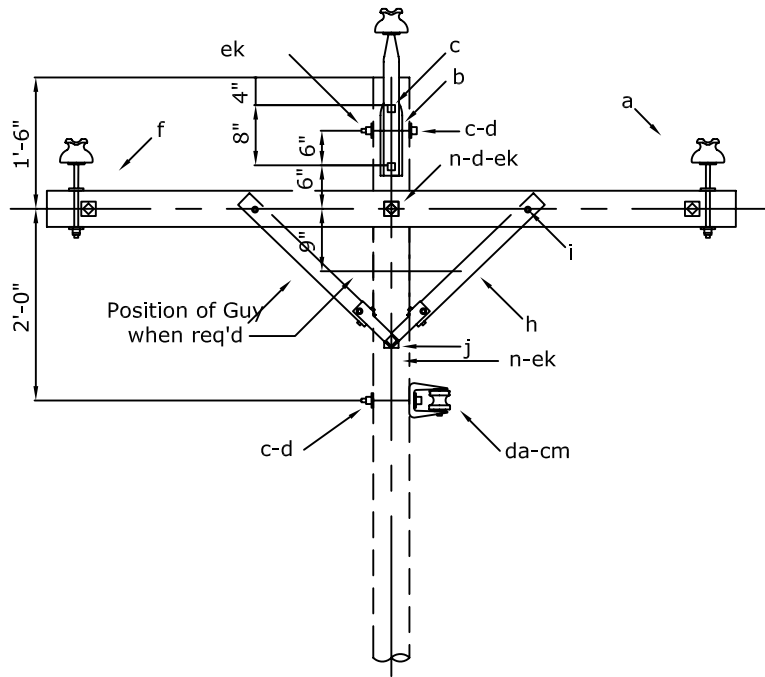
Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
c	28574020XM	7	Bolt, Machine, 5/8" x Required Length
d	2857402322	7	Washer, 2 1/4" Square With 13/16" Hole
ah	2801602124	23	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	7	Locknut, 5/8"
eq	2857802045	3	Narrow Profile Bracket With 1" Insulator Threads

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV VERTICAL CONSTRUCTION TANGENT AND SMALL ANGLE STRUCTURE</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C1V</p>



DETAIL OF POLE TOP PIN ASSEMBLY

PLAN



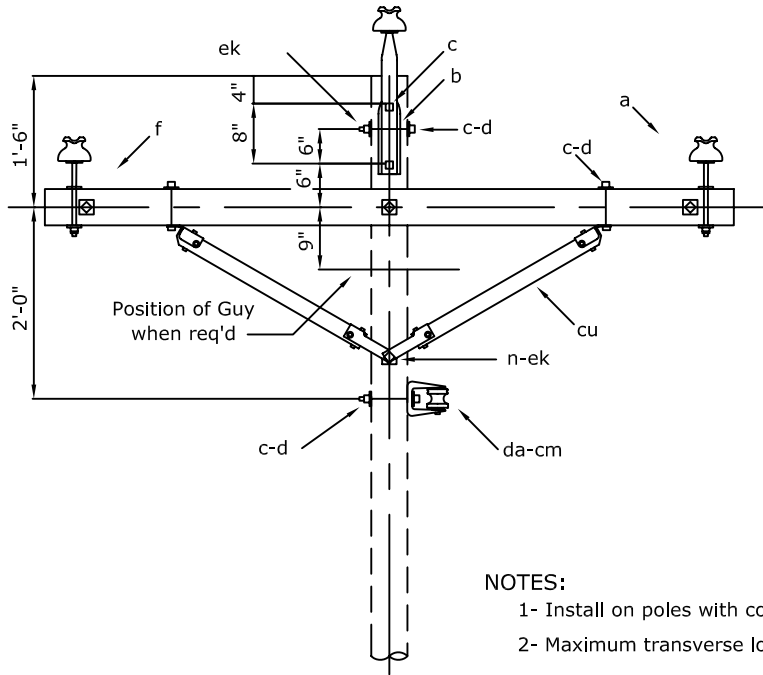
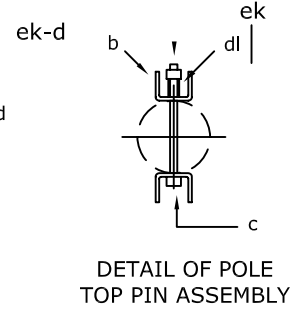
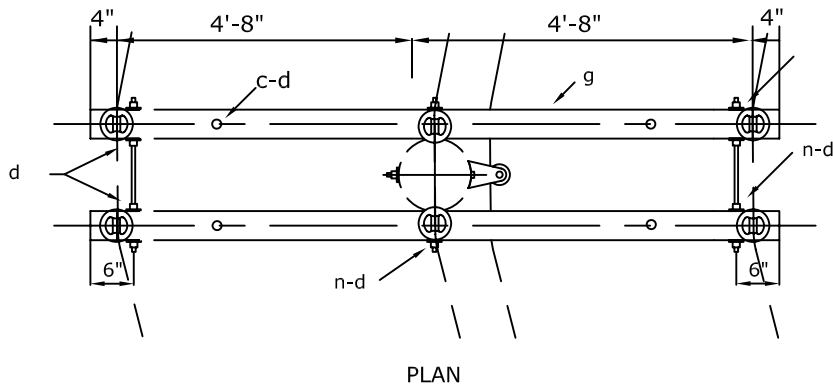
NOTES:

1- Maximum transverse load: 500 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	13	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28" (Wood or Steel)
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
ah	2801602124	35	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	19	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2KV CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C2</p>



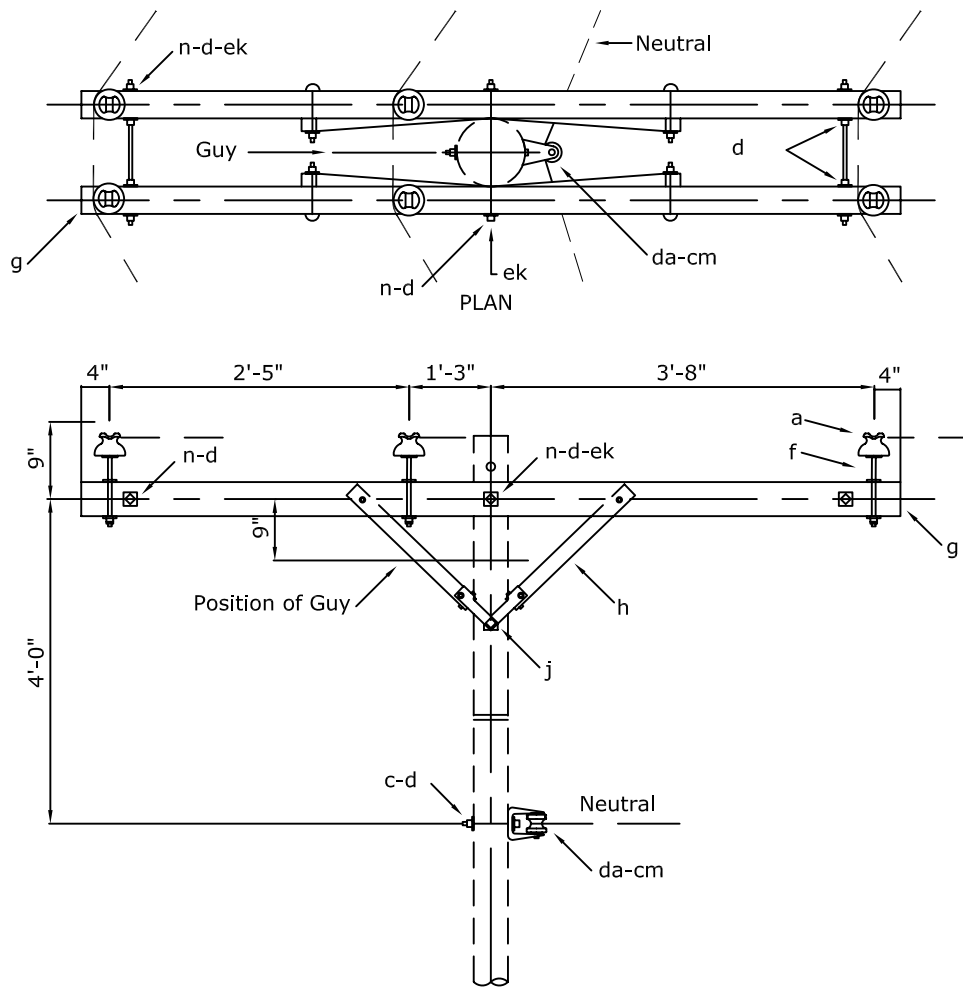
NOTES:

- 1- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).
- 2- Maximum transverse load: 1000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	13	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	35	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	20	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM - LARGE CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C2L</p>



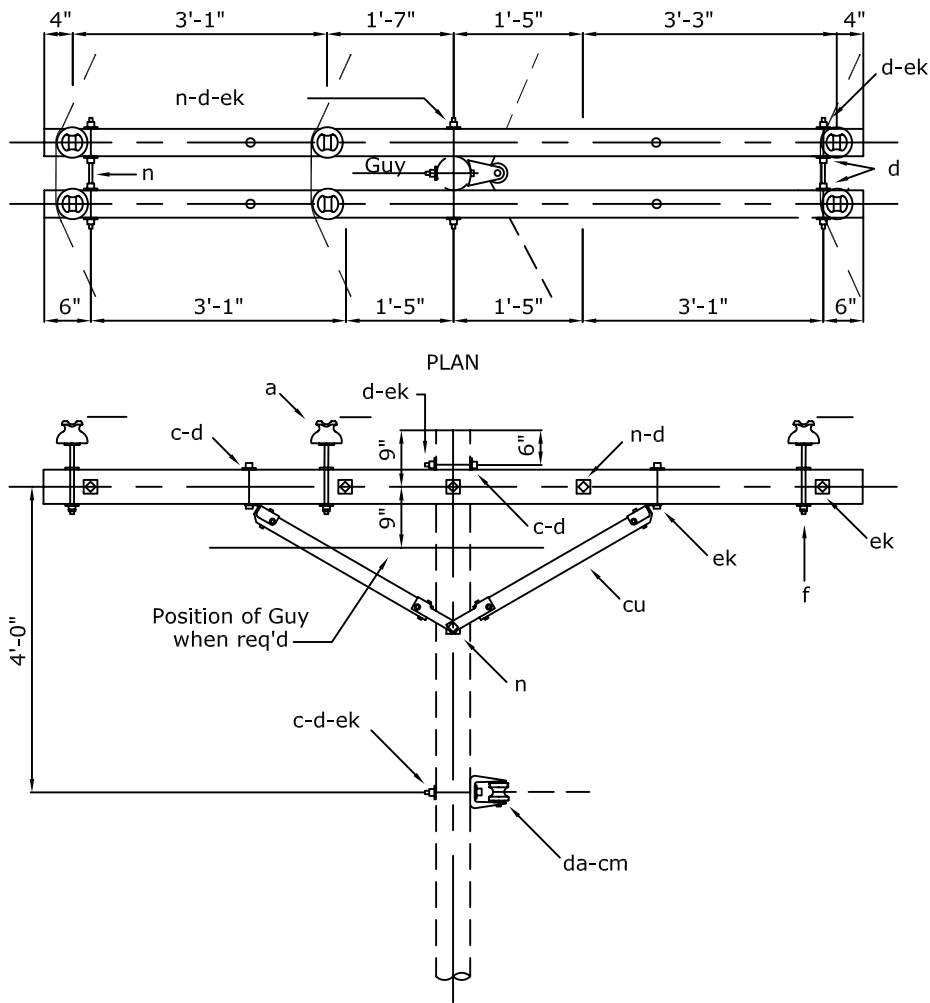
NOTES:

- 1- Center phase wire or neutral wire may be located on the opposite side of the pole where necessary to avoid crossing of wires in midspan.
- 2- Maximum traverse load: 1,000 lbs. per conductor.
- 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28" (Wood or Steel)
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	35	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	17	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C2A</p>



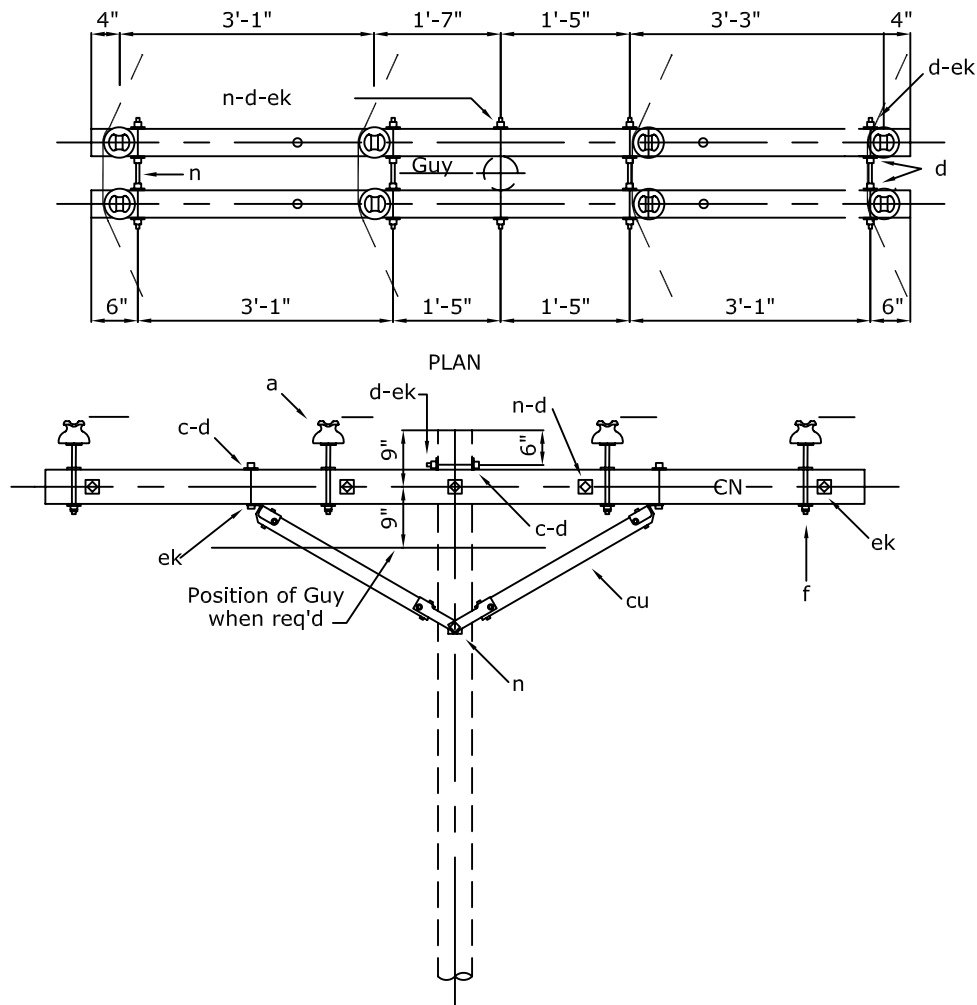
NOTES:

- 1- Side groove of insulator must always be larger than the overall diameter of conductor.
- 2- Center phase wire or neutral wire may be located on the opposite side of the pole where necessary to avoid crossing of wires in midspan.
- 3- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).
- 4- If transverse load exceeds 1,000 lbs per pin, use vertical construction.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	7	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	35	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
cu	2857802043	2	Brace, 60" Span (Wood)
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	19	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM - LARGE CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C2AL</p>



- NOTES:
- 1- Side groove of insulator must always be larger than the overall diameter of conductor.
 - 2- Center phase wire or neutral wire may be located on the opposite side of the pole where necessary to avoid crossing of wires in midspan.
 - 3- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).
 - 4- If transverse load exceeds 1,000 lbs per pin, use vertical construction.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	12	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	5	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	40	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	23	Locknut, 5/8"

City of
Alexandria

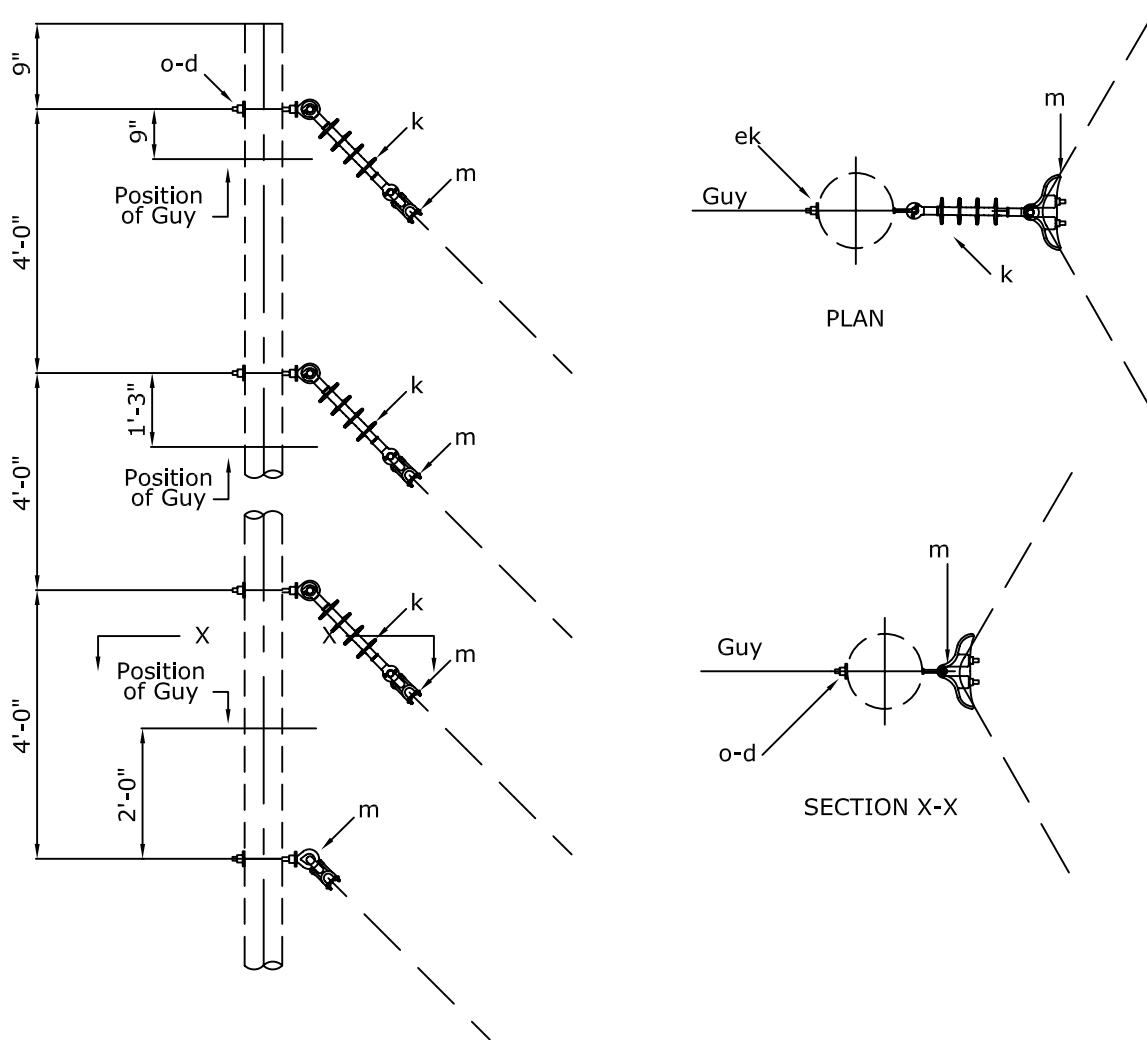
Electric Distribution

12.5/7.2kV CROSSARM SMALL ANGLE STRUCTURE
DOUBLE LINE ARM - SMALL OR LARGE CONDUCTORS
NEUTRAL ON ARM

DATE: 04-11-07

STANDARD
NUMBER

C2-1



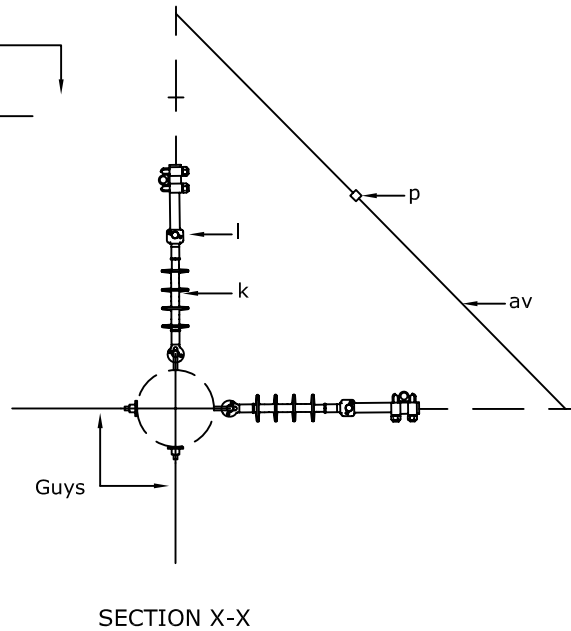
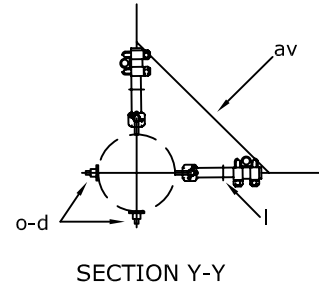
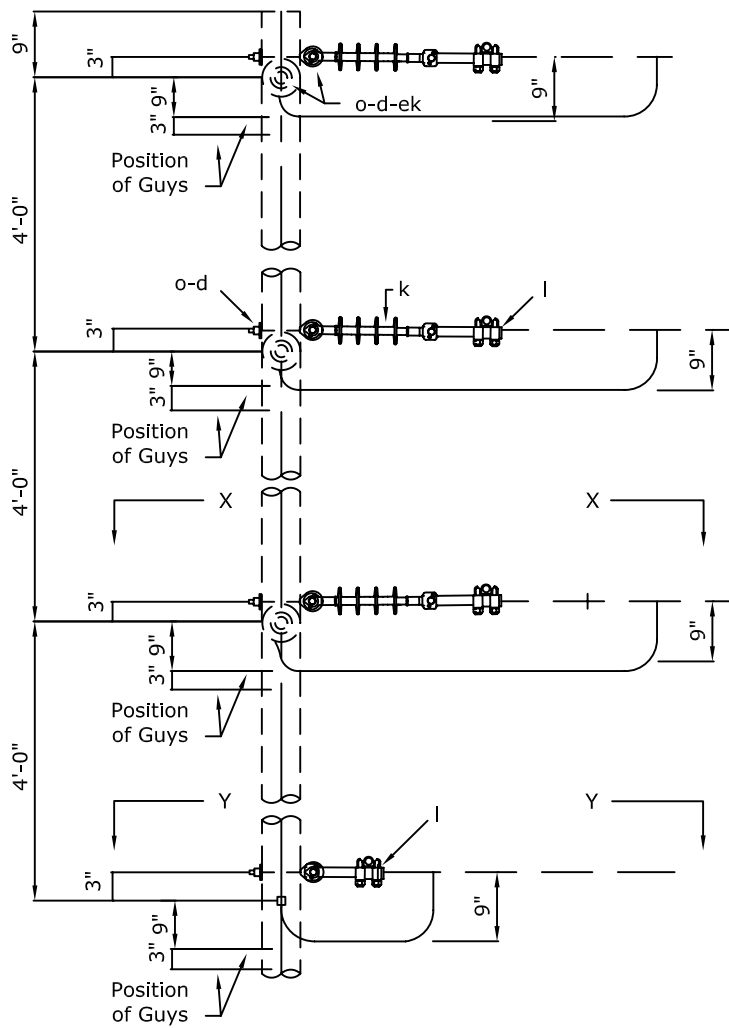
NOTES:

- 1- Maximum transverse load: 4,000 lbs. per conductor
- 2- Design angle: 20° - 60°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	3	Insulator, Suspension, Polymer
m	2851002134	4	Clamp, Suspension
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	4	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV VERTICAL CONSTRUCTION MEDIUM ANGLE STRUCTURE</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C3</p>



NOTES:
1- Design angle: 60° - 90°

MATERIAL LIST

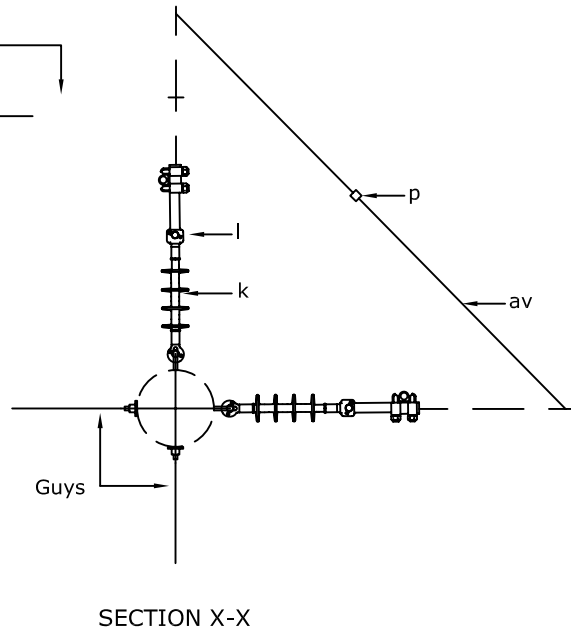
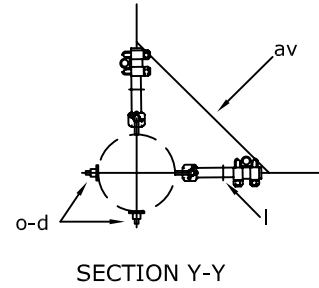
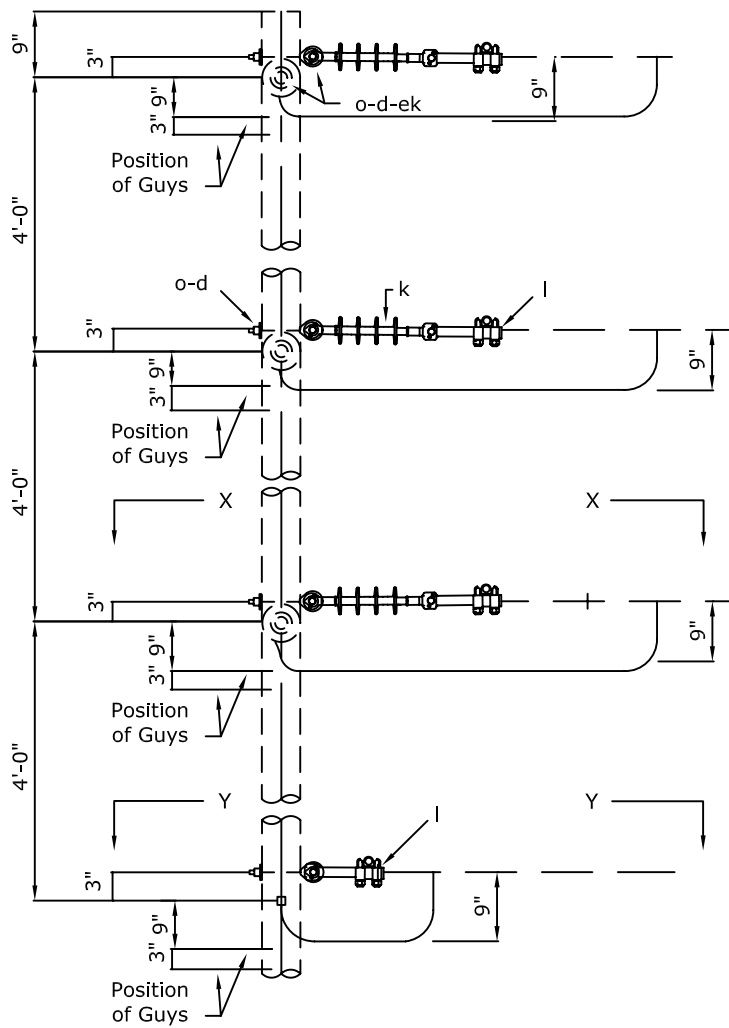
Item	COA Commodity Code	Qty.	Description
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
o	28574020XE	8	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	9	Connector, Sized As Required
av	NA	4	Jumper, Sized As Required
ek	285740XXXX	8	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV VERTICAL CONSTRUCTION
DOUBLE DEADEND STRUCTURE

DATE: 04-11-07
STANDARD NUMBER
C4



NOTES:
1- Design angle: 60° - 90°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	6	Insulator, Suspension, Polymer
I	2857402142	8	Clamp, Deadend, Large
o	28574020XE	8	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	9	Connector, Sized As Required
av	NA	4	Jumper, Sized As Required
ek	285740XXXX	8	Locknut, 5/8"

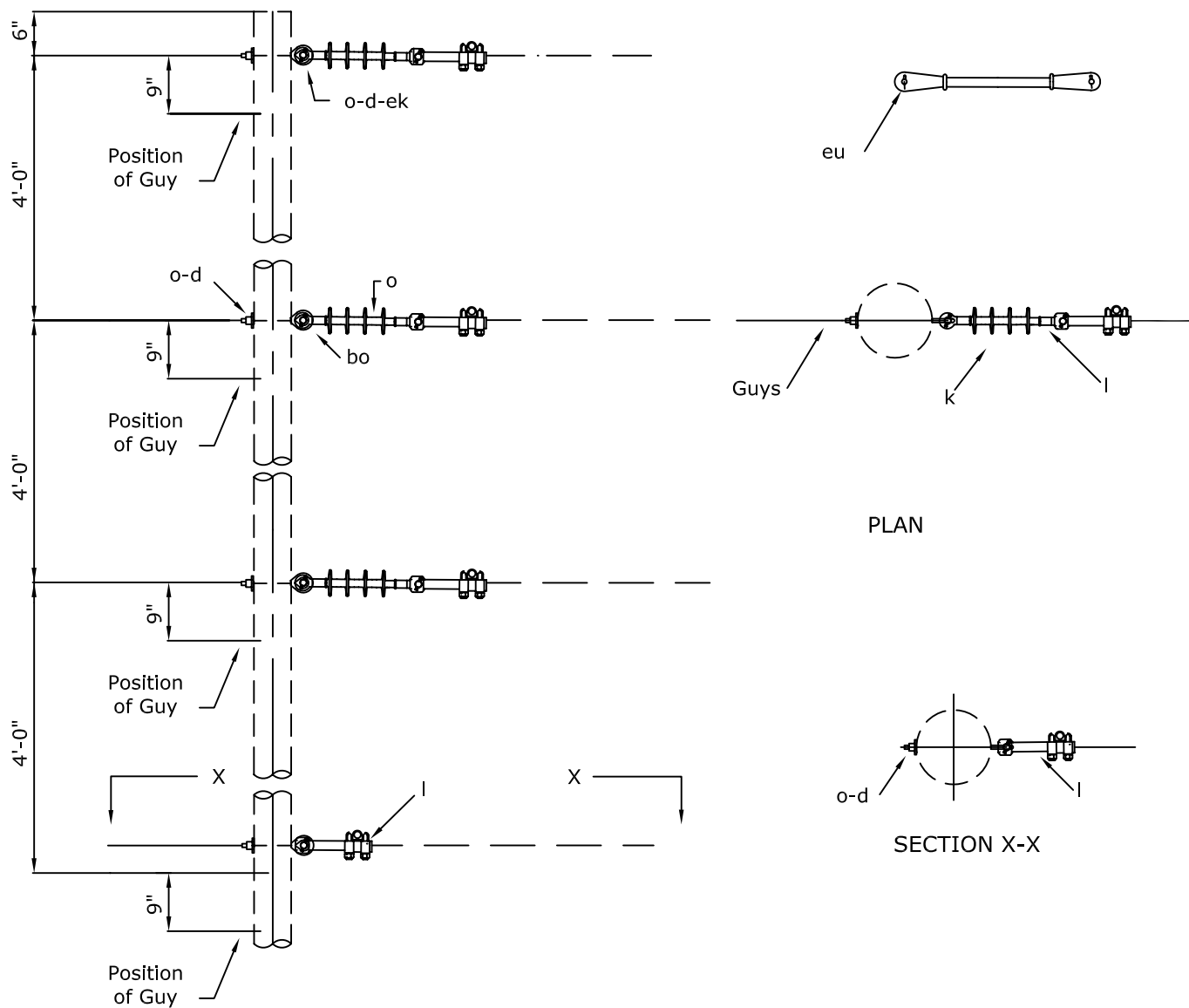
City of
Alexandria
Electric Distribution

12.5/7.2kV VERTICAL CONSTRUCTION
DOUBLE DEADEND STRUCTURE - LARGE CONDUCTORS

DATE: 04-11-07

STANDARD
NUMBER

C4L



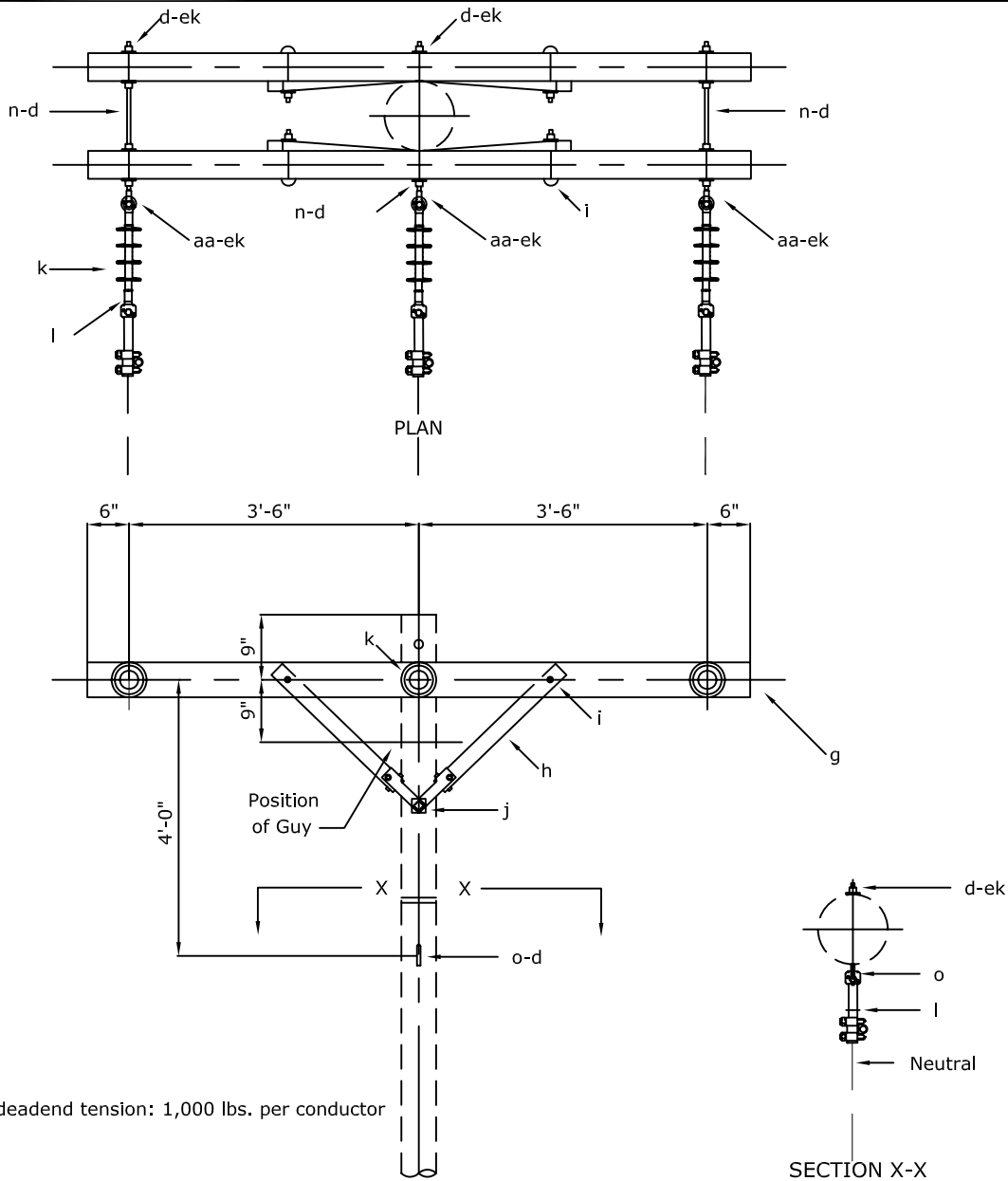
NOTES:

1- Add fiberglass extension links behind polymer deadends when taking off from an existing vertical structure.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	4	Locknut, 5/8"
eu	2857402301	3	Extension Link, Fiberglass, As Required

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV VERTICAL CONSTRUCTION SINGLE DEADEND STRUCTURE</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C5</p>



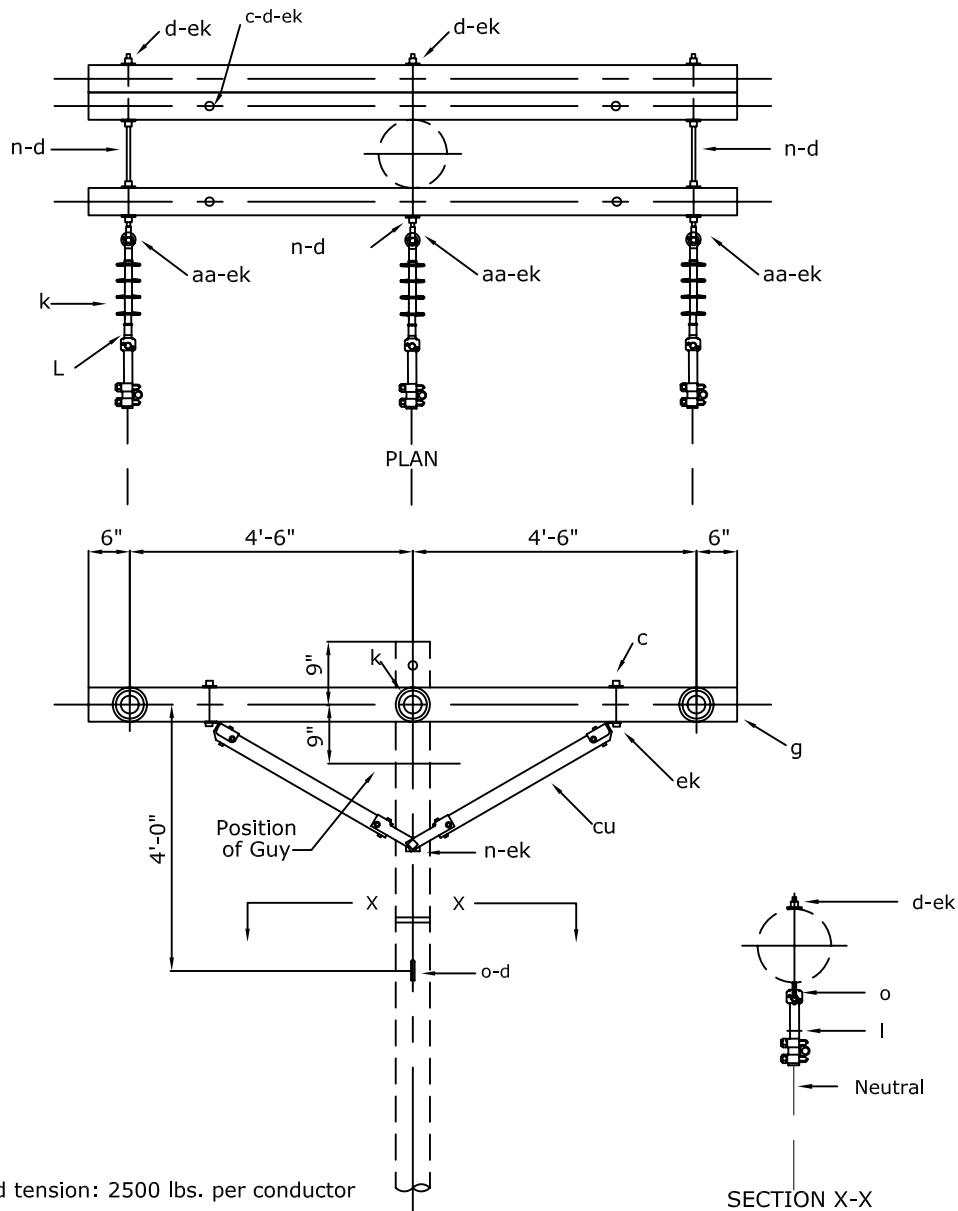
NOTES:

1- Maximum deadend tension: 1,000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28" (Wood or Steel)
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	3	Nut, Oval Eye, 5/8"
ek	285740XXXX	11	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM SINGLE DEADEND SMALL CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C7</p>

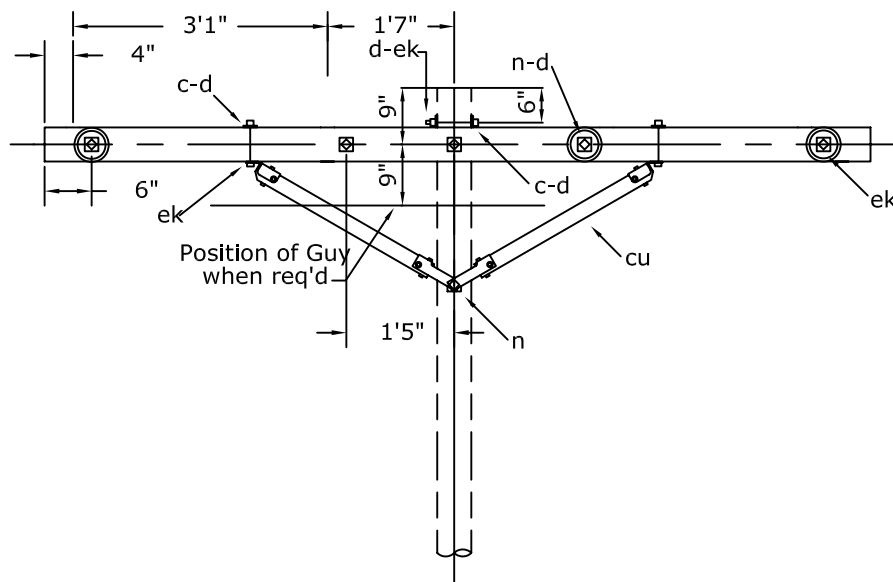
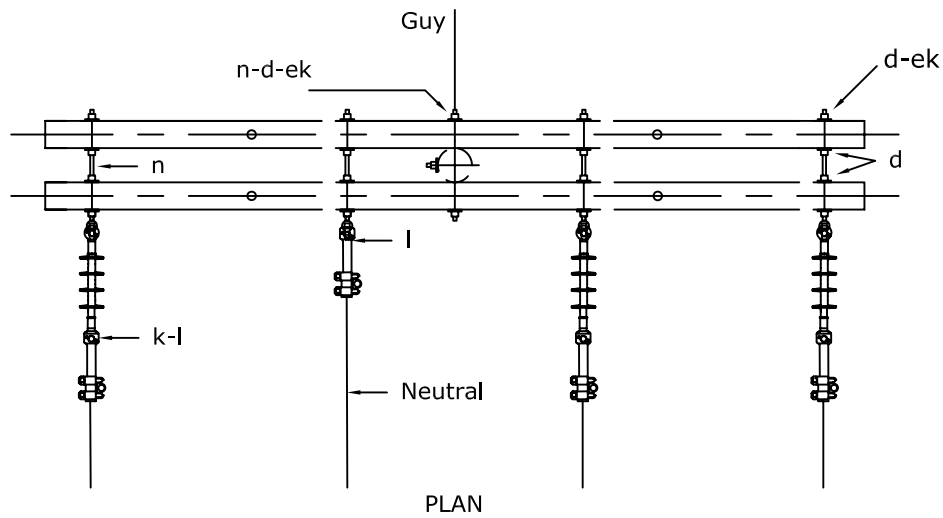


- NOTES:
- 1- Maximum deadend tension: 2500 lbs. per conductor
 - 2- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402142	4	Clamp, Deadend, Large
n	28574020XD	4	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	3	Nut, Oval Eye, 5/8"
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	12	Locknut, 5/8"

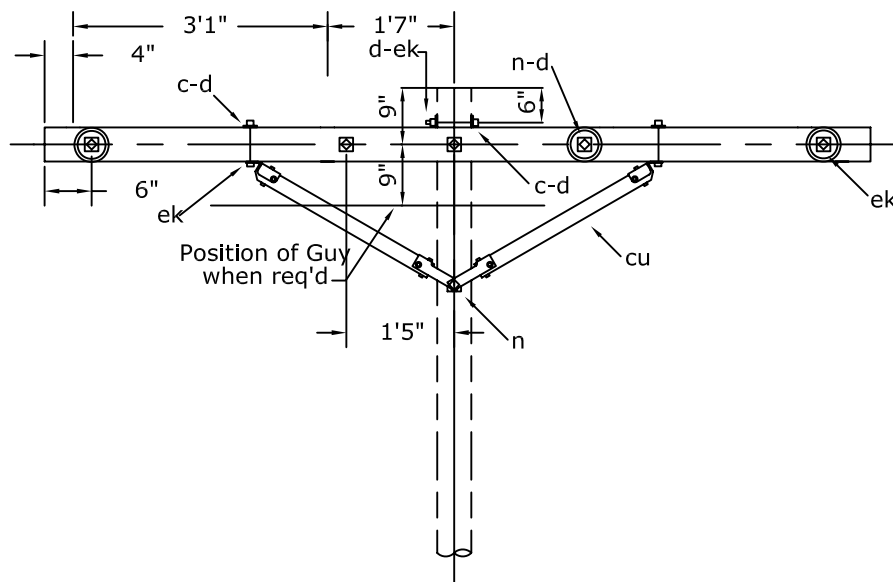
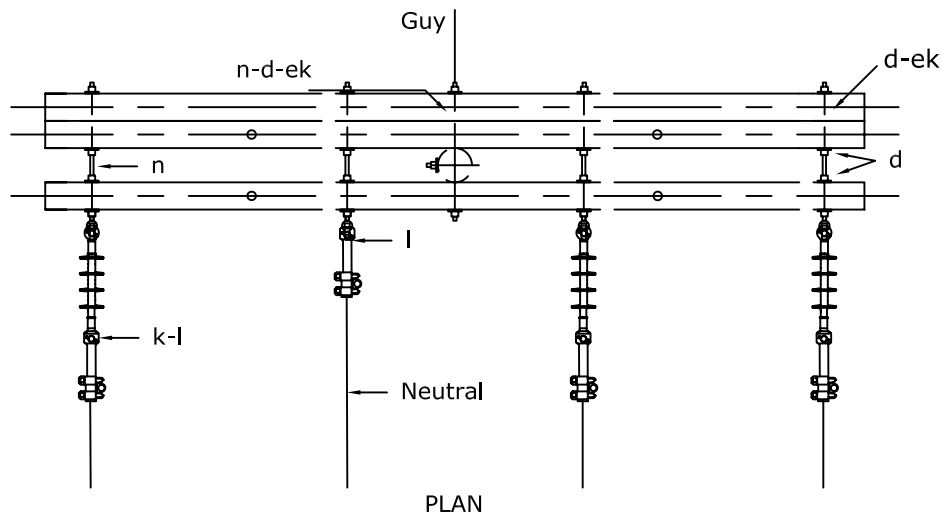
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM SINGLE DEADEND LARGE CONDUCTORS</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C7L</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
aa	2857402310	4	Nut, Oval Eye, 5/8"
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	14	Locknut, 5/8"

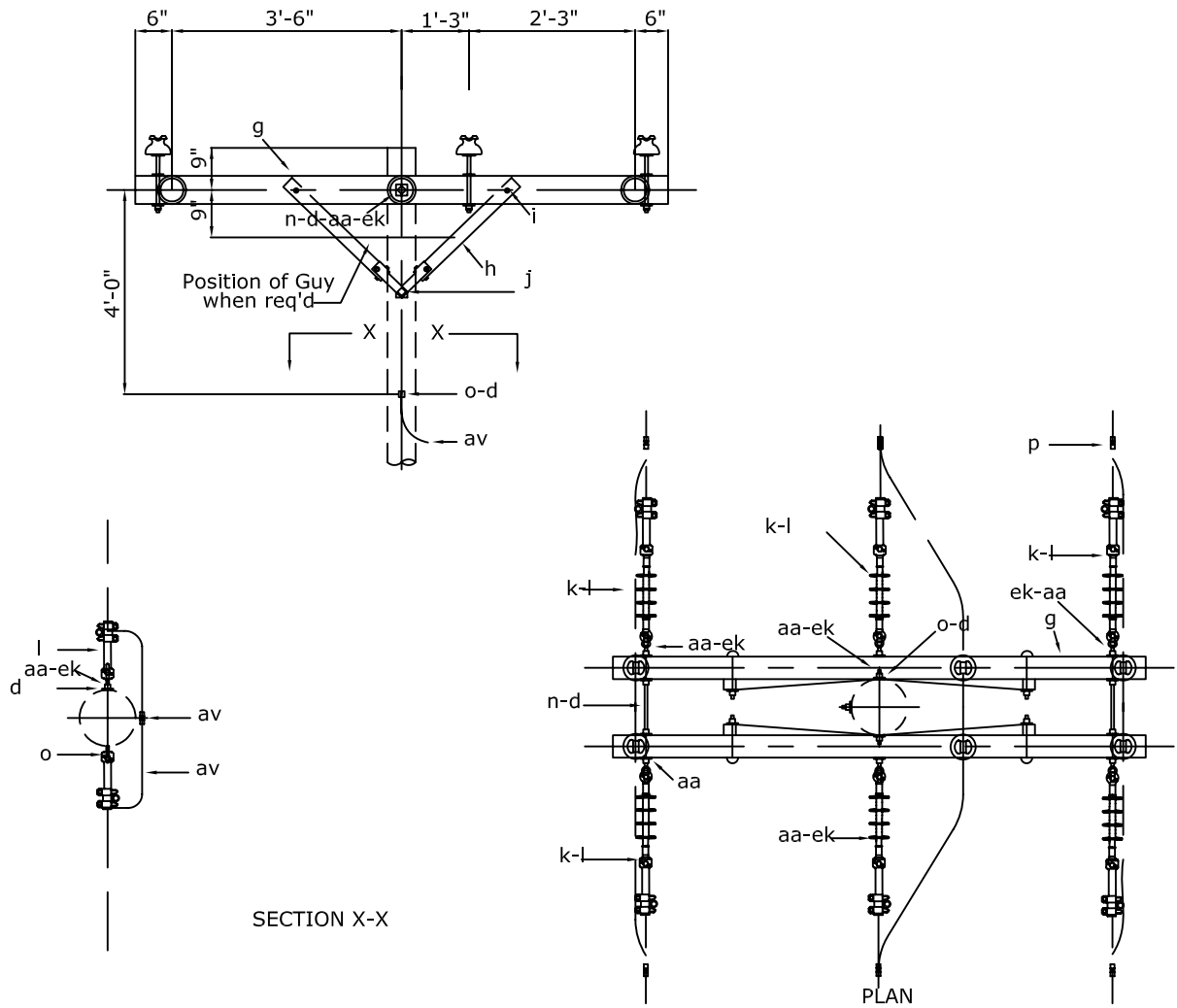
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM SINGLE DEADEND NEUTRAL ON ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C7-1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402142	4	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
aa	2857402310	4	Nut, Oval Eye, 5/8"
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	14	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM SINGLE DEADEND LARGE CONDUCTORS - NEUTRAL ON ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C7-1L</p>



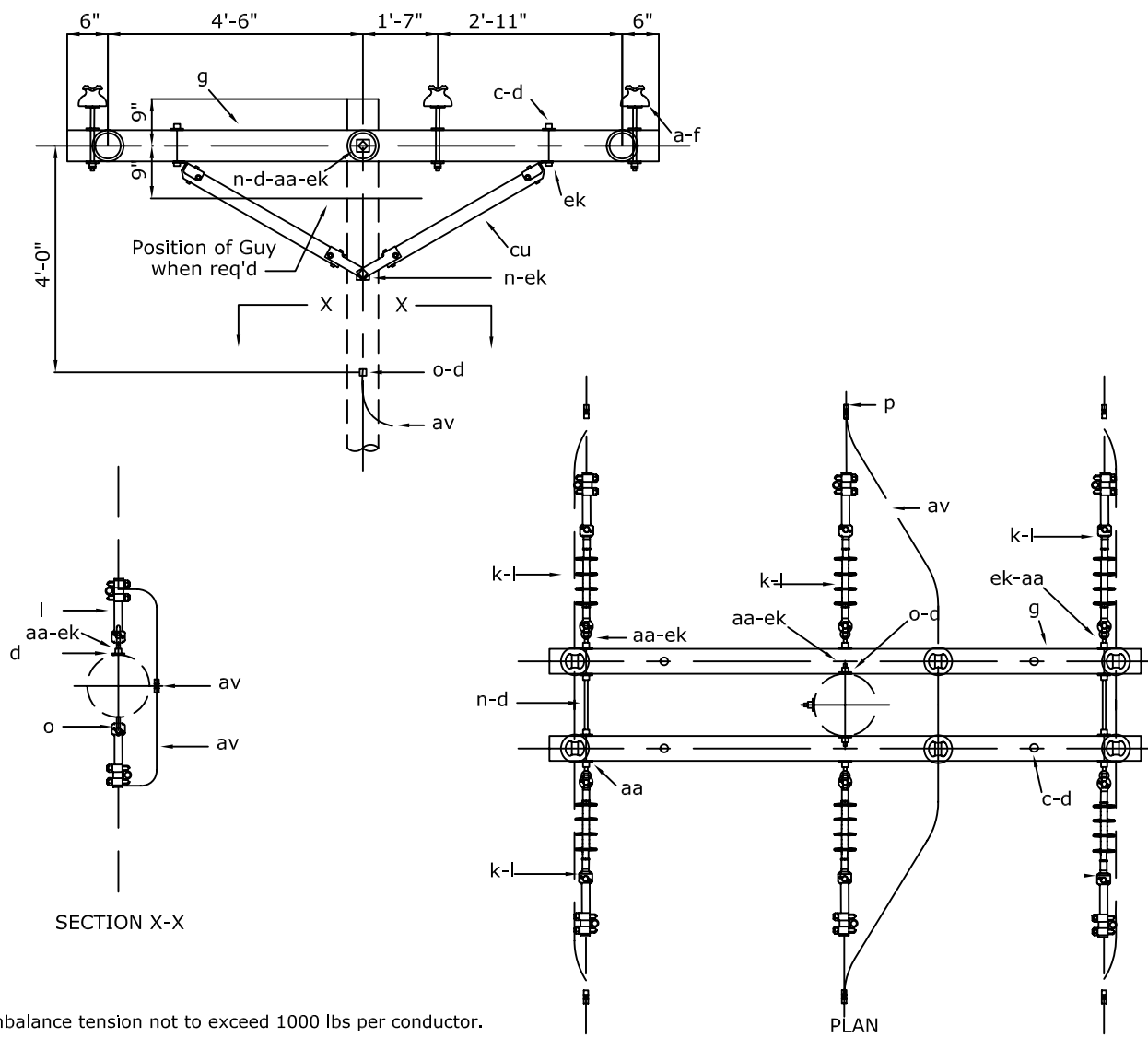
NOTES:

1- Maximum unbalance tension not to exceed 1000 lbs per conductor.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28" (Wood or Steel)
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	6	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
ek	285740XXXX	18	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND SMALL CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C8</p>



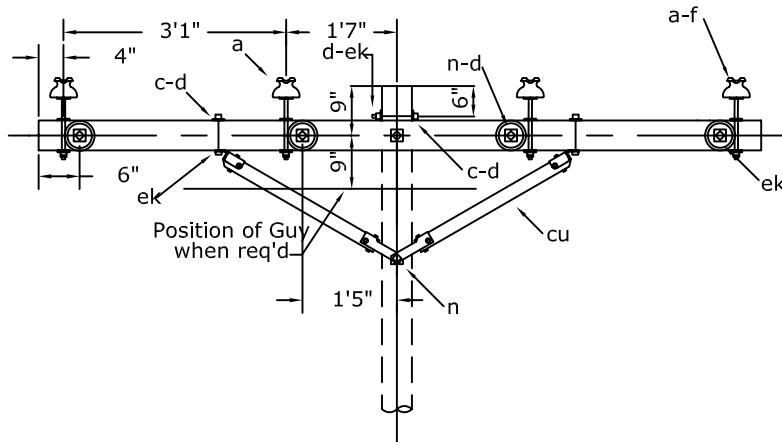
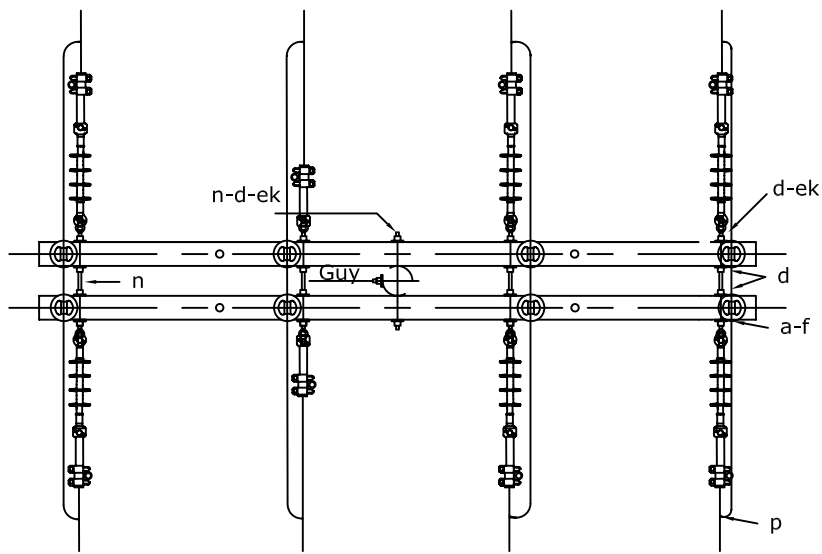
NOTES:

- 1- Maximum unbalance tension not to exceed 1000 lbs per conductor.
- 2- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	4	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	19	Locknut, 5/8"

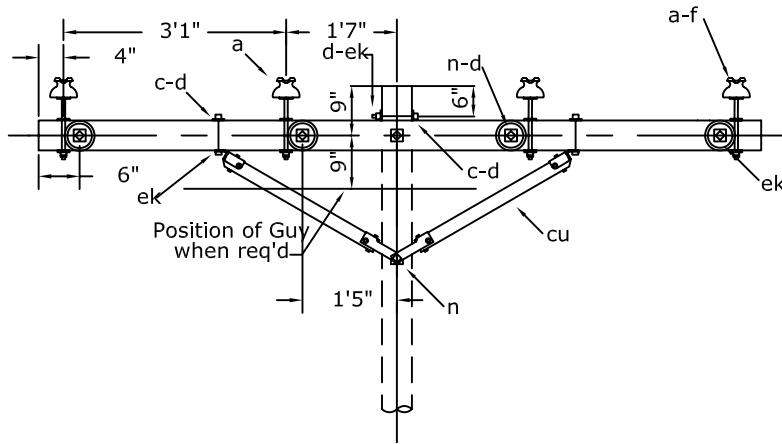
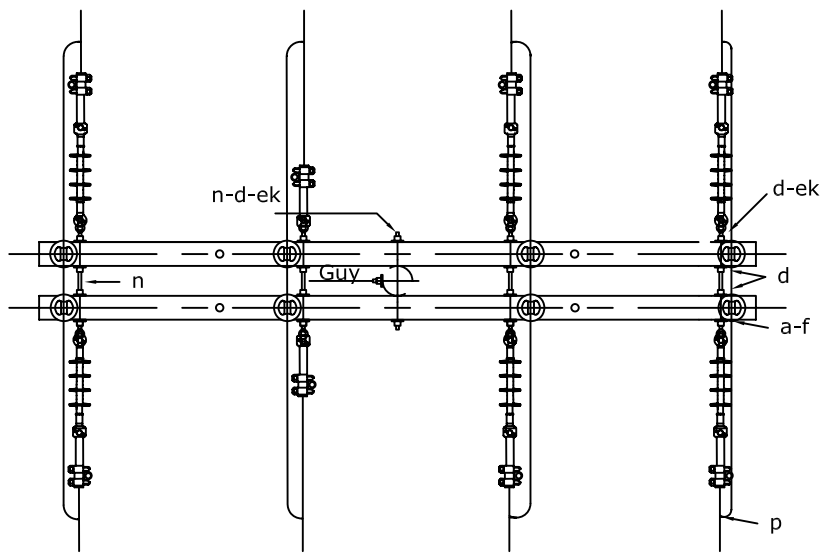
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND LARGE CONDUCTORS</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C8L</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	18	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	40	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	22	Locknut, 5/8"

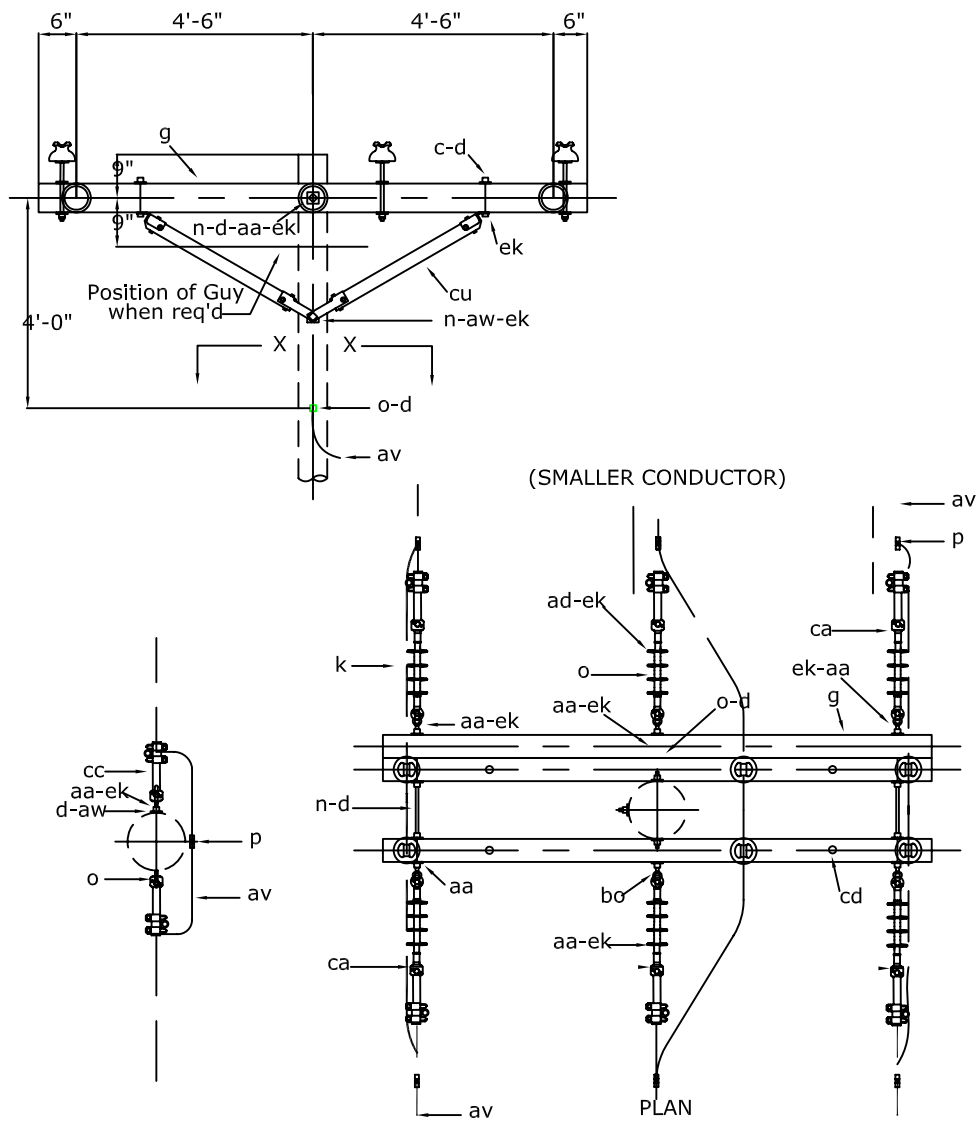
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND NEUTRAL ON ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C8-1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	18	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	40	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	22	Locknut, 5/8"

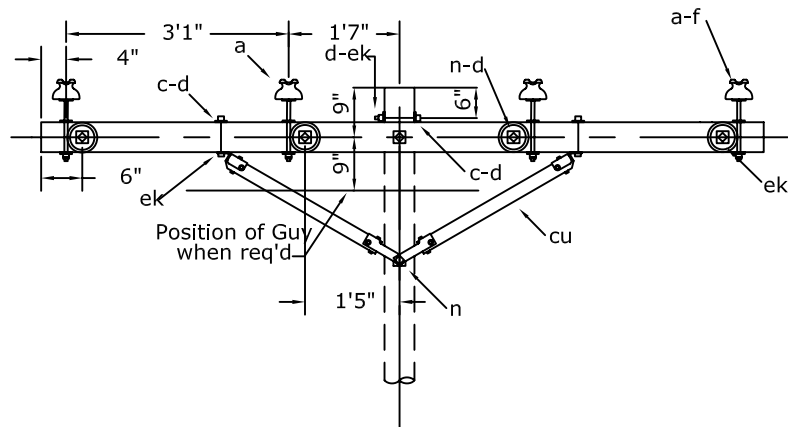
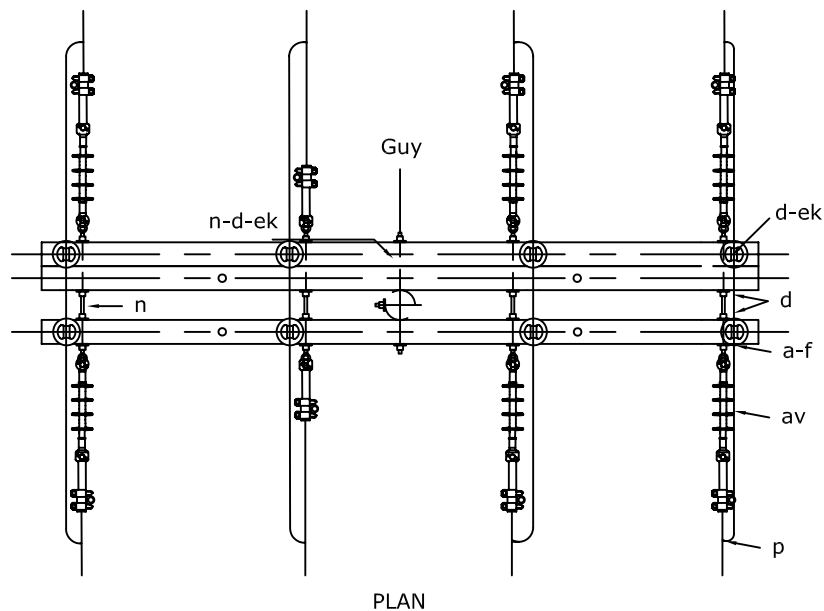
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND NEUTRAL ON ARM - LARGE CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C8-1L</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
l	2857402142	4	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	4	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	19	Locknut, 5/8"

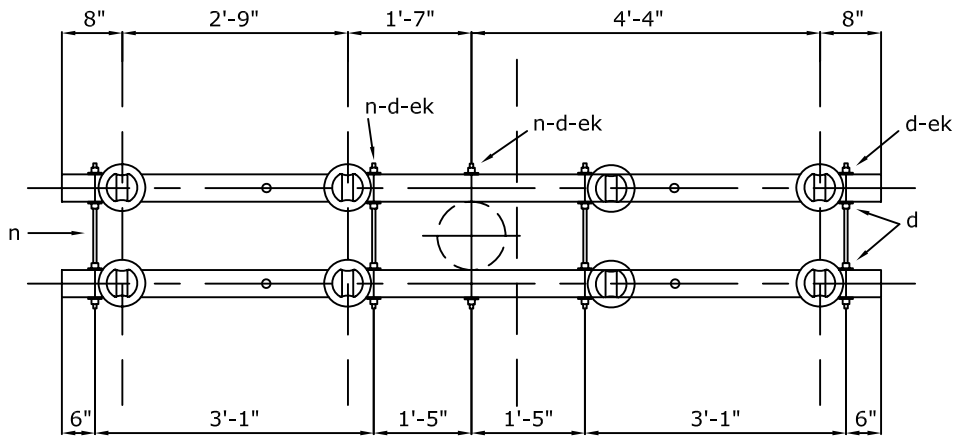
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND UNBALANCED LOADS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C8-2</p>



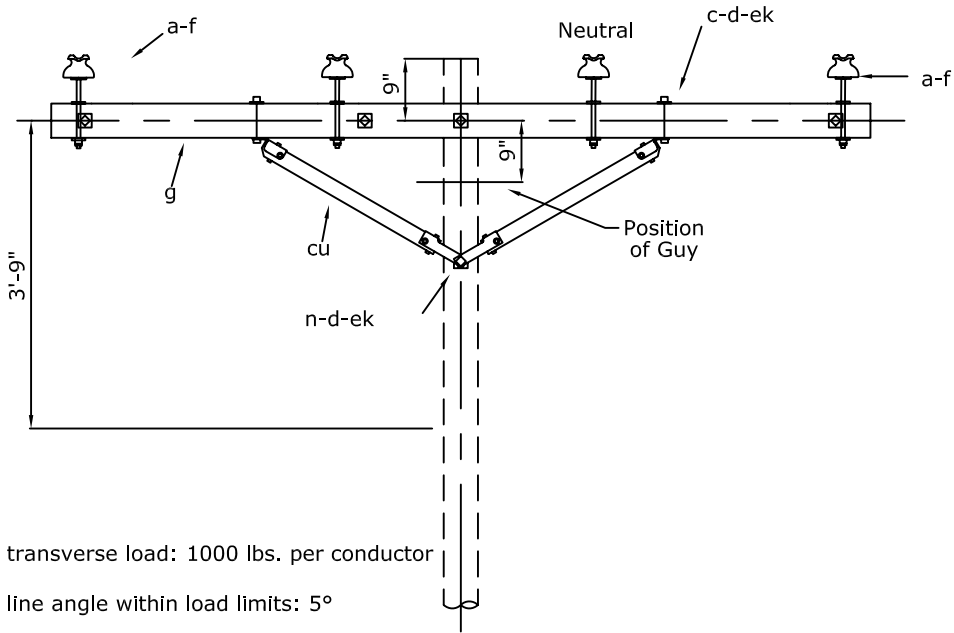
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	18	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402140	8	Clamp, Deadend
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	40	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	22	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM DOUBLE DEADEND UNBALANCED LOADS - NEUTRAL ON ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C8-3</p>



PLAN



NOTES:

1- Maximum transverse load: 1000 lbs. per conductor

2- Maximum line angle within load limits: 5°

MATERIAL LIST

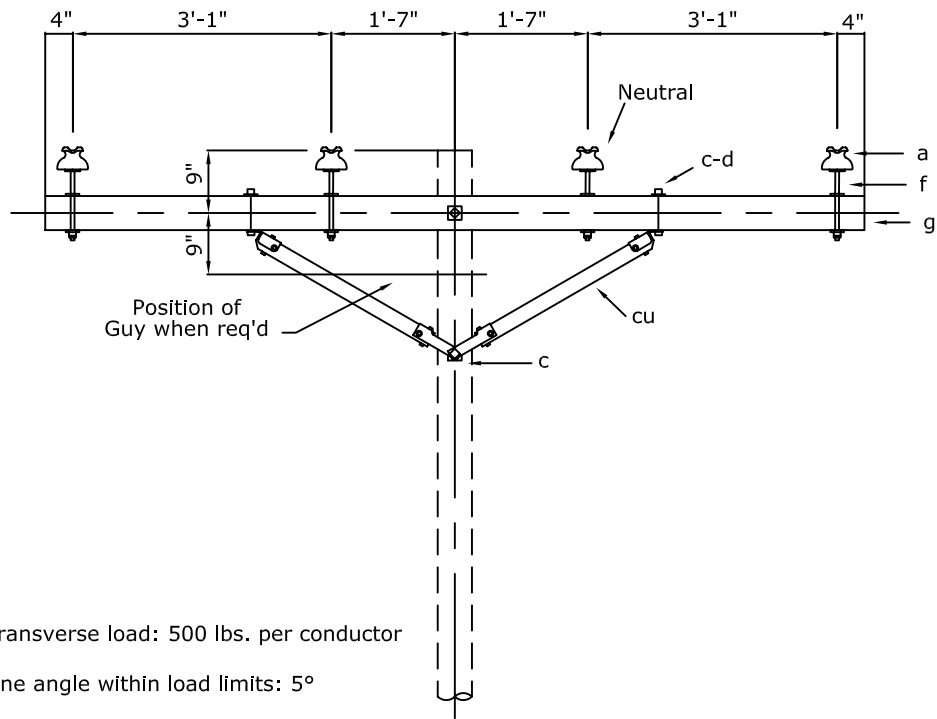
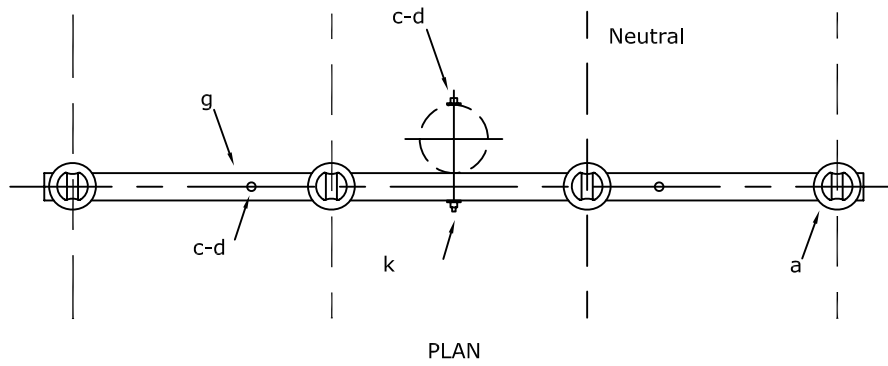
Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
c	28574020XX	4	Bolt, Machine, 1/2" x Required Length
c	28574020XX	2	Bolt, Machine, 5/8" x Required Length
d	285740232X	4	Washer, 1 3/8" Round With 9/16" Hole
d	285740232X	19	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XX	5	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	40	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	25	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV CROSSARM TANGENT STRUCTURE
DOUBLE LINE ARM - NEUTRAL ON ARM

DATE: 04-11-07
STANDARD NUMBER
C9

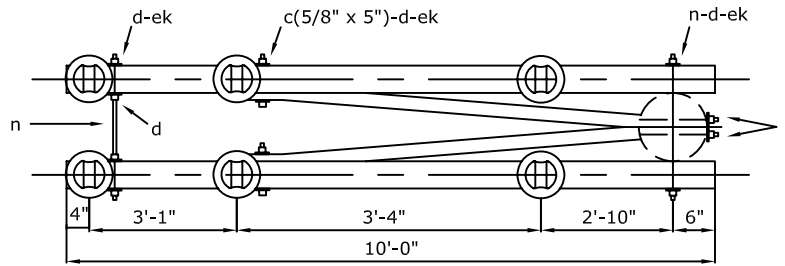


- NOTES:
- 1- Maximum transverse load: 500 lbs. per conductor
 - 2- Maximum line angle within load limits: 5°

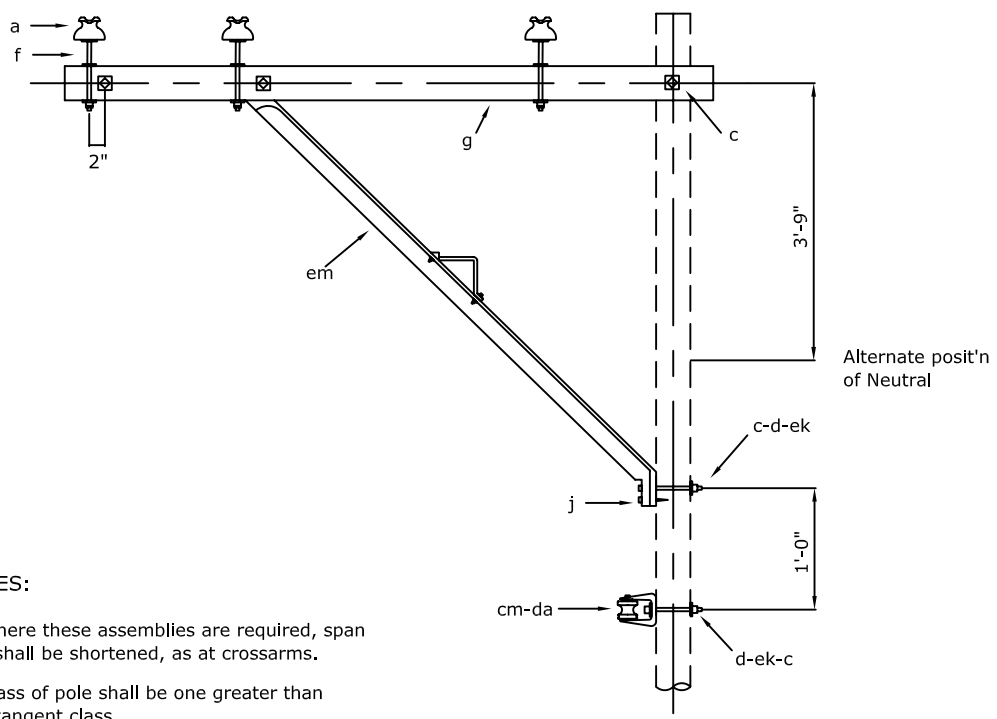
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
c	28574020XX	2	Bolt, Machine, 1/2" x Required Length
c	28574020XX	2	Bolt, Machine, 5/8" x Required Length
d	285740232X	2	Washer, 1 3/8" Round With 9/16" Hole
d	285740232X	3	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	16	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - NEUTRAL ON ARM</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C9-1</p>



PLAN



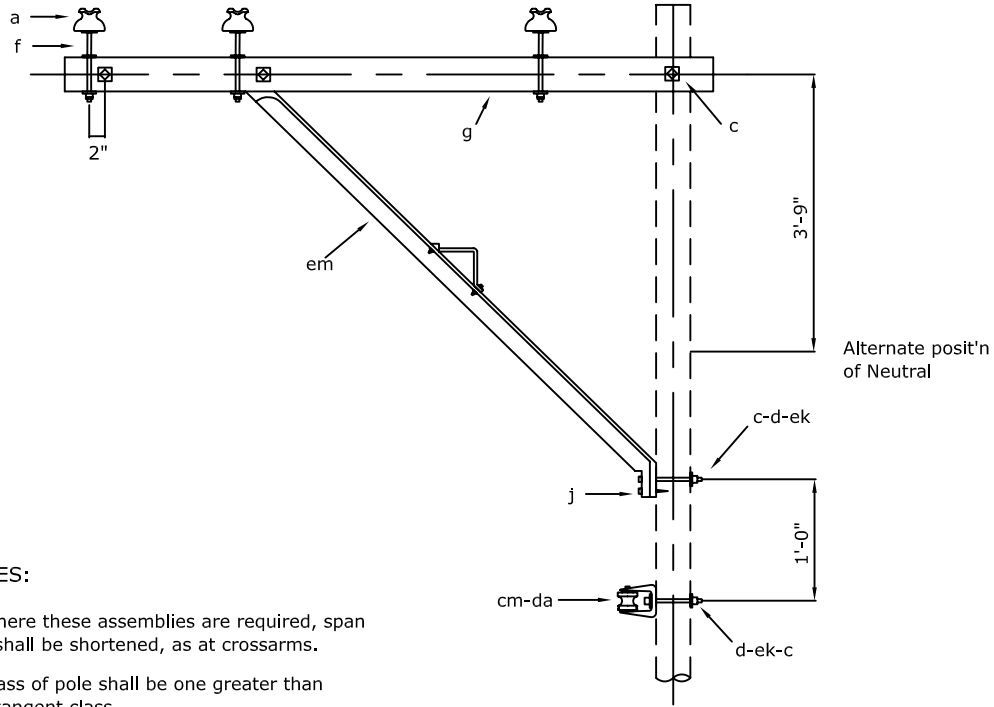
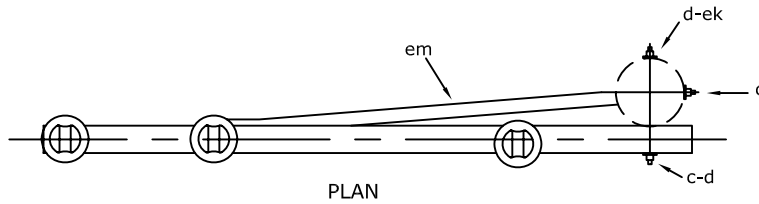
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	28574020XM	5	Bolt, Machine, 5/8" x Required Length
d	2857402322	9	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	35	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	15	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE DOUBLE ALLEY ARM</p>	<p>DATE: 04-11-07</p>
		<p>STANDARD NUMBER</p> <p>C10</p>



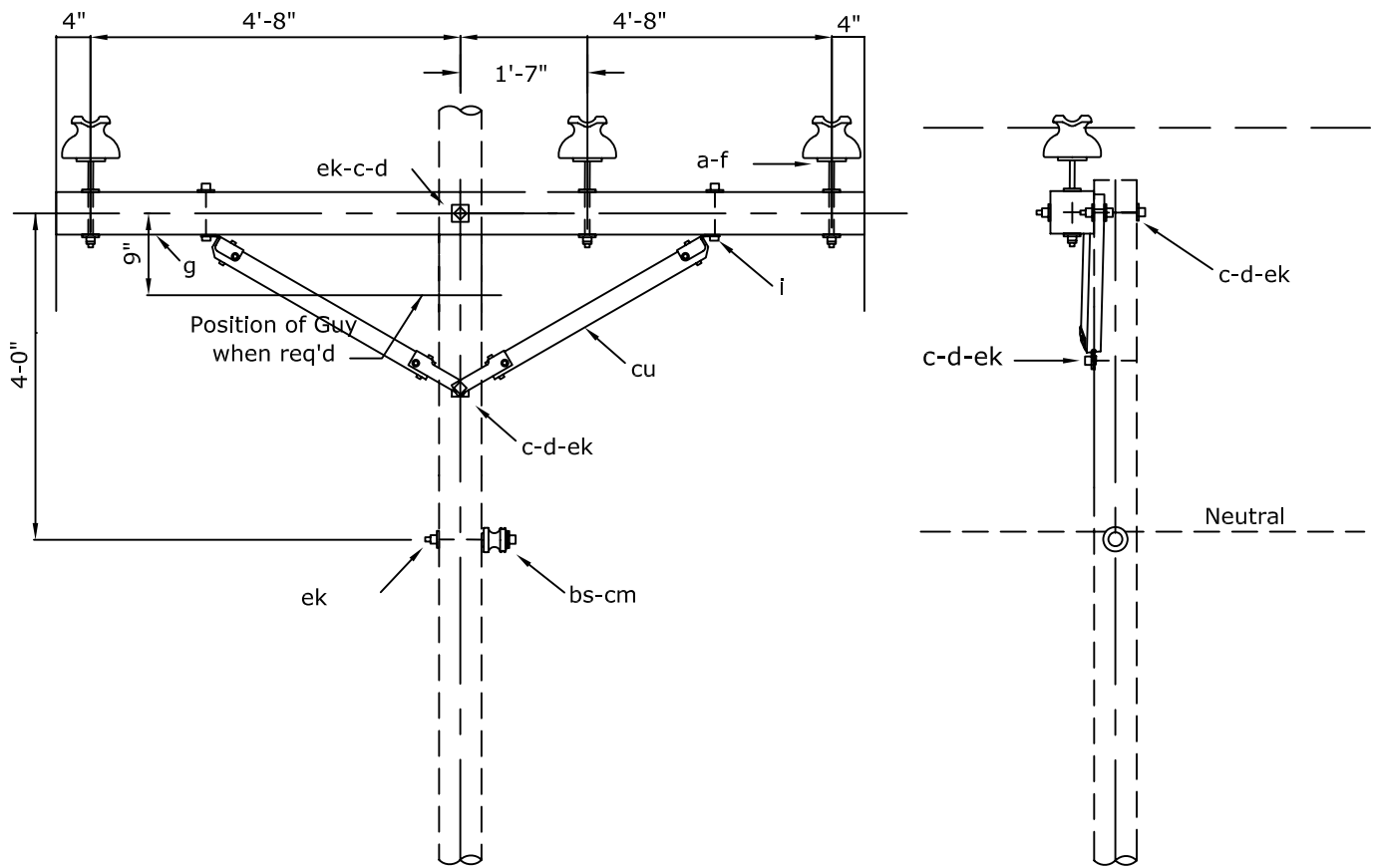
NOTES:

- 1- Where these assemblies are required, span shall be shortened, as at crossarms.
- 2- Class of pole shall be one greater than tangent class.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	5	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	3	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
em	2857802522	1	Brace, Alley Arm
ek	285740XXXX	6	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE ALLEY ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C10-1</p>



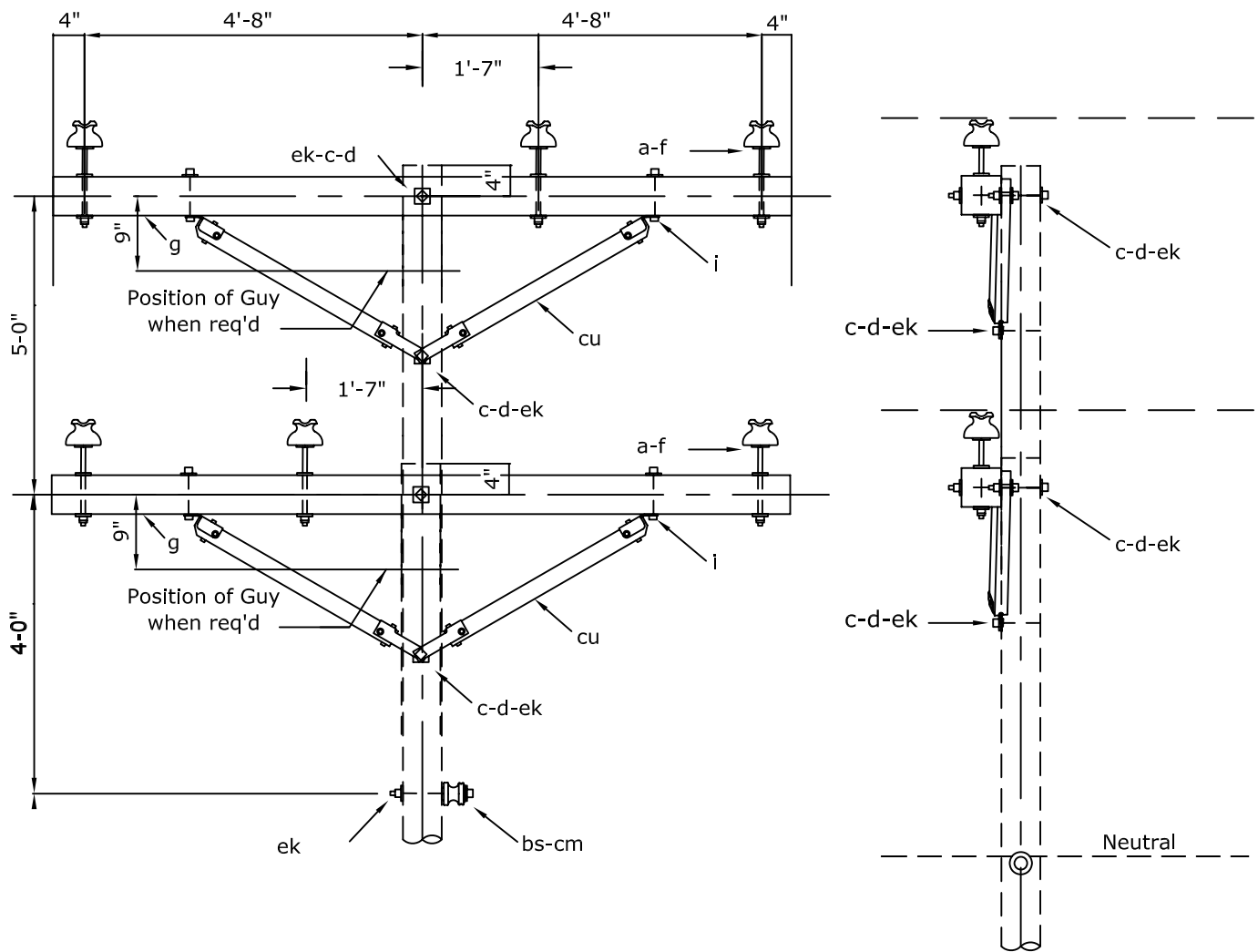
NOTES:

- 1- Install on steel poles with distribution underbuild.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
al	2857402510	3	Insulator, Pin Type, 23kV
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
fl	2857802526	3	Steel Crossarm Pin, 23kV
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	6	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - LARGE CONDUCTORS HIGH BIL FRAMING FOR STEEL POLES</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>C11</p>



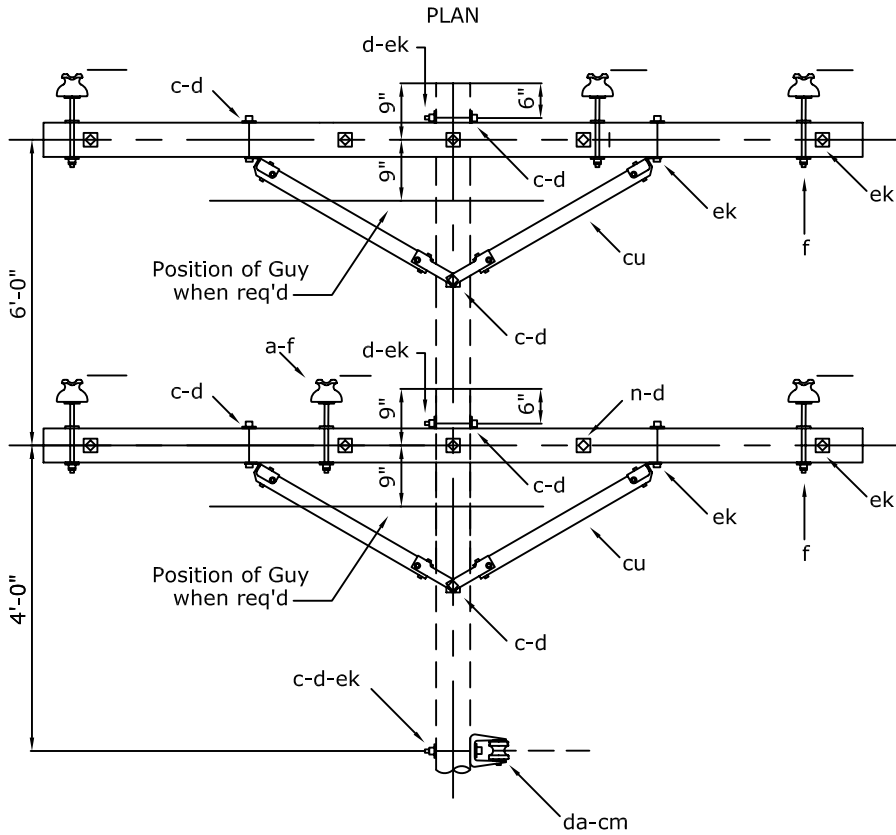
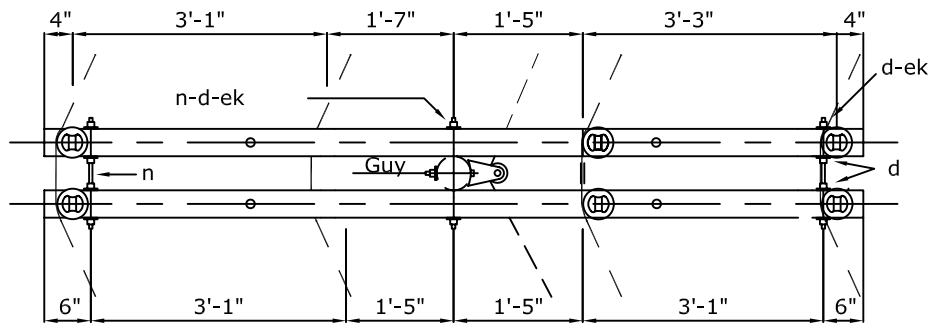
NOTES:

1- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	40	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	11	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV DOUBLE CIRCUIT CROSSARM TANGENT STRUCTURE</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-C1A</p>



MATERIAL LIST

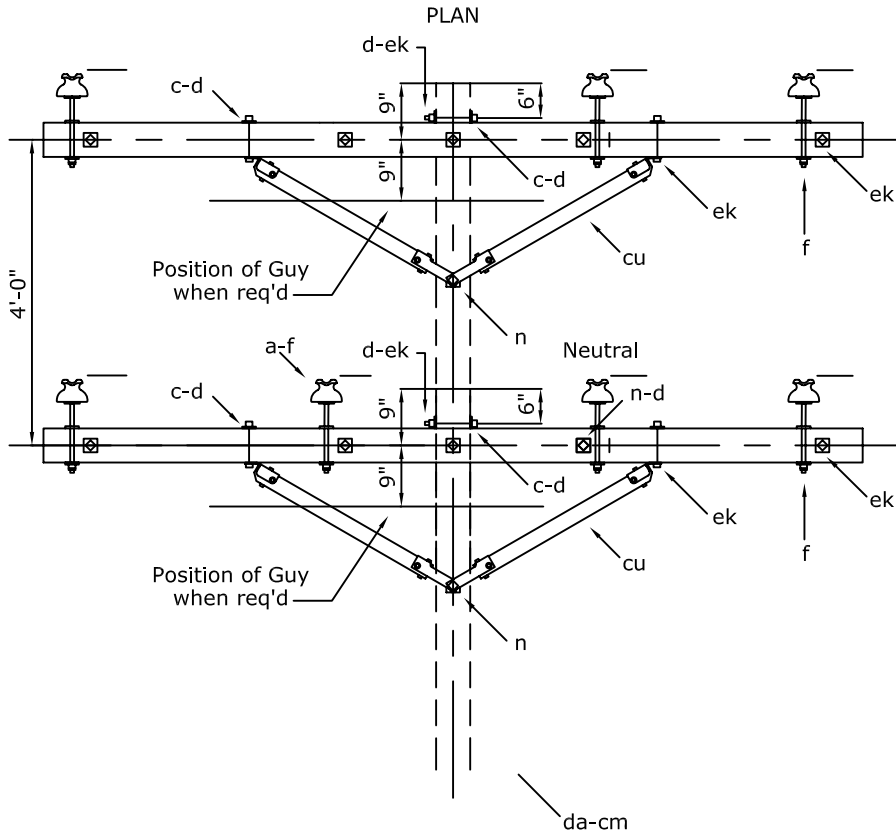
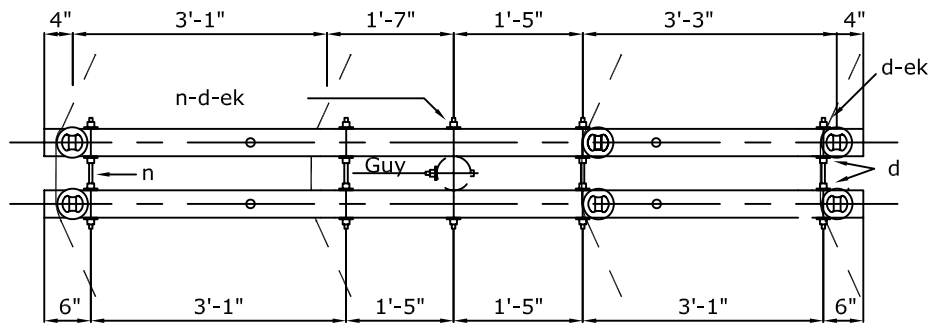
Item	COA Commodity Code	Qty.	Description
a	2857402299	12	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	14	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	70	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
cu	2857802043	4	Brace, 60" Span (Wood)
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	37	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
SMALL ANGLE STRUCTURE

DATE: 04-17-07
STANDARD NUMBER
DC-C2A



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	12	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	22	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	10	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	70	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
cu	2857802043	4	Brace, 60" Span (Wood)
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	37	Locknut, 5/8"

City of
Alexandria

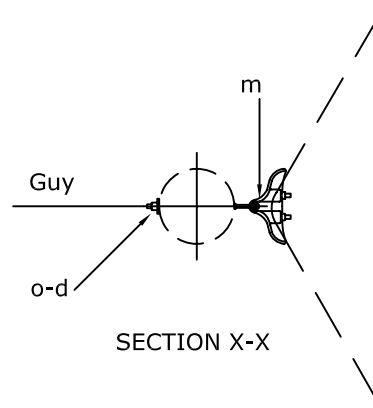
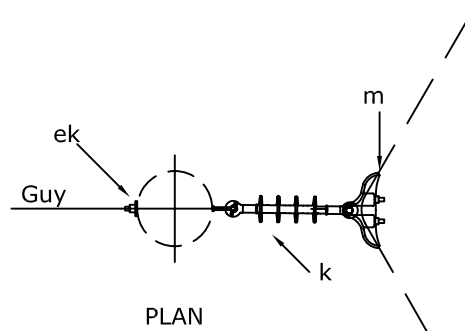
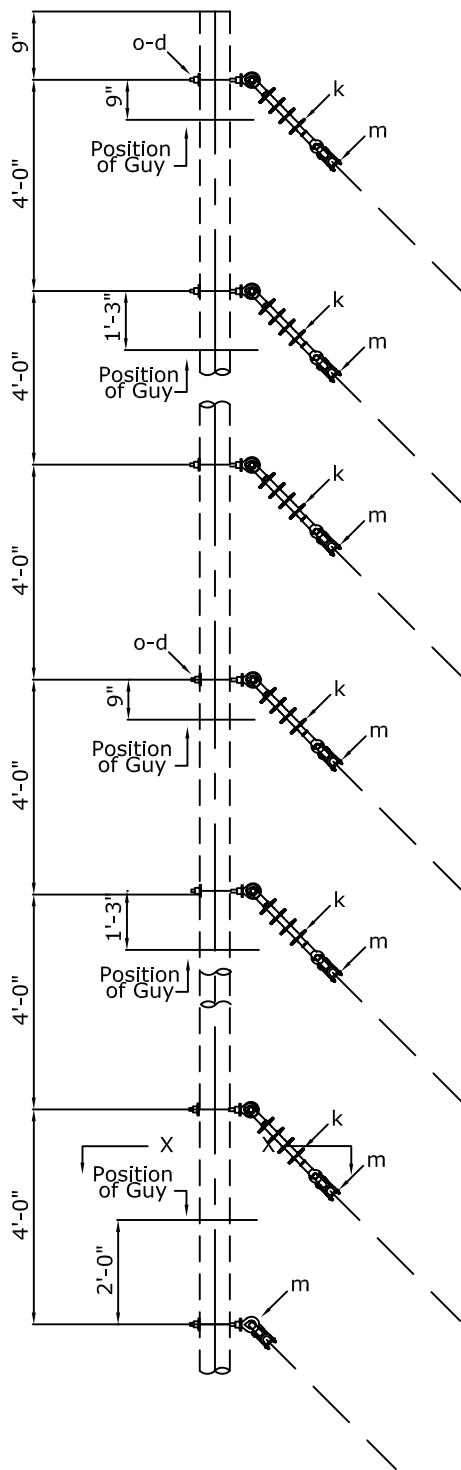
Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
SMALL ANGLE STRUCTURE - NEUTRAL ON ARM

DATE: 04-17-07

STANDARD
NUMBER

DC-C2-1

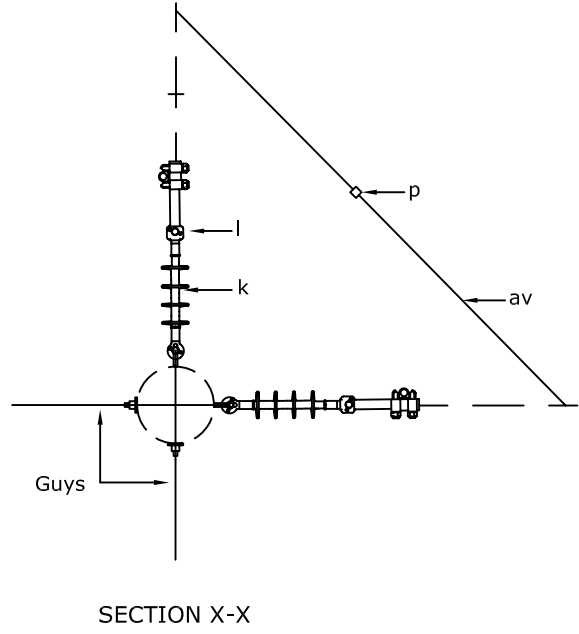
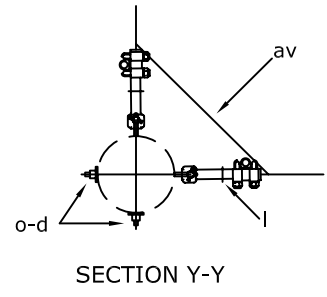
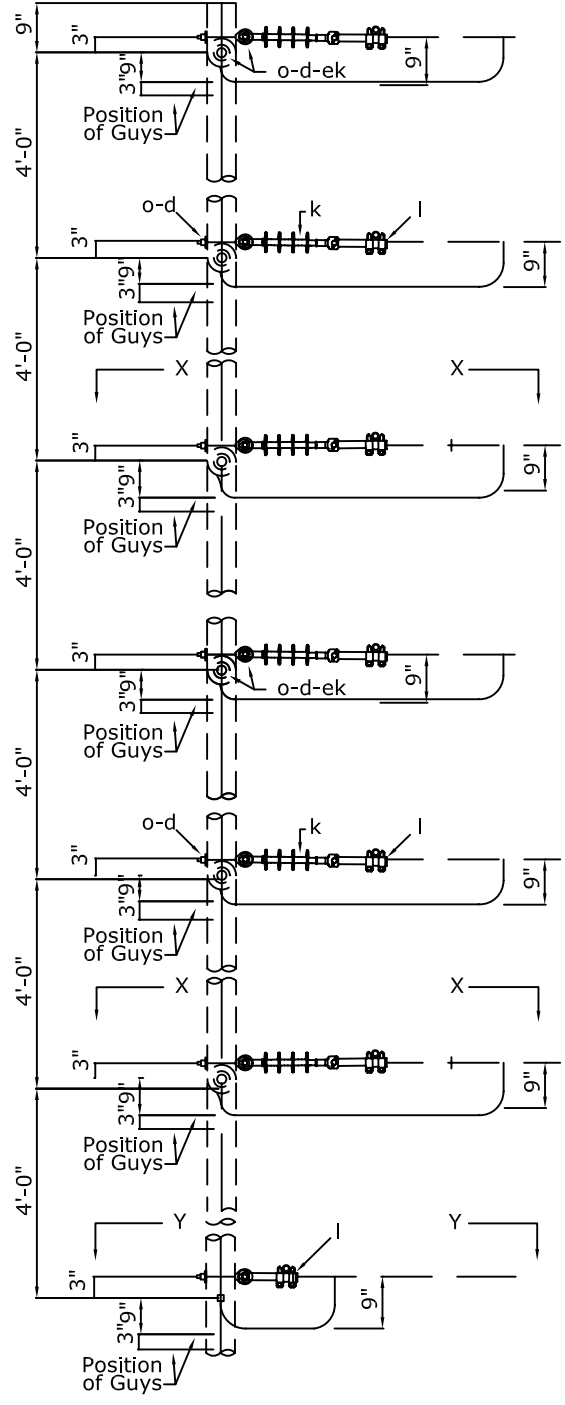


- NOTES:
 1- Maximum transverse load: 4,000 lbs. per conductor
 2- Design angle: 20° - 60°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	6	Insulator, Suspension, Polymer
m	2851002134	7	Clamp, Suspension
o	28574020XE	7	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	7	Locknut, 5/8"

City of Alexandria Electric Distribution	12.5/7.2kV DOUBLE CIRCUIT VERTICAL CONSTRUCTION - MEDIUM ANGLE STRUCTURE	DATE: 04-17-07
		STANDARD NUMBER DC-C3



NOTES:

MATERIAL LIST

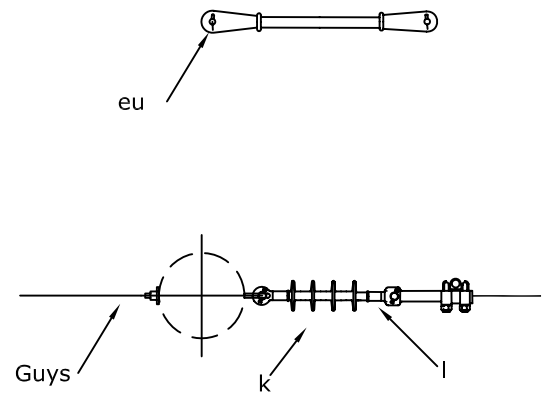
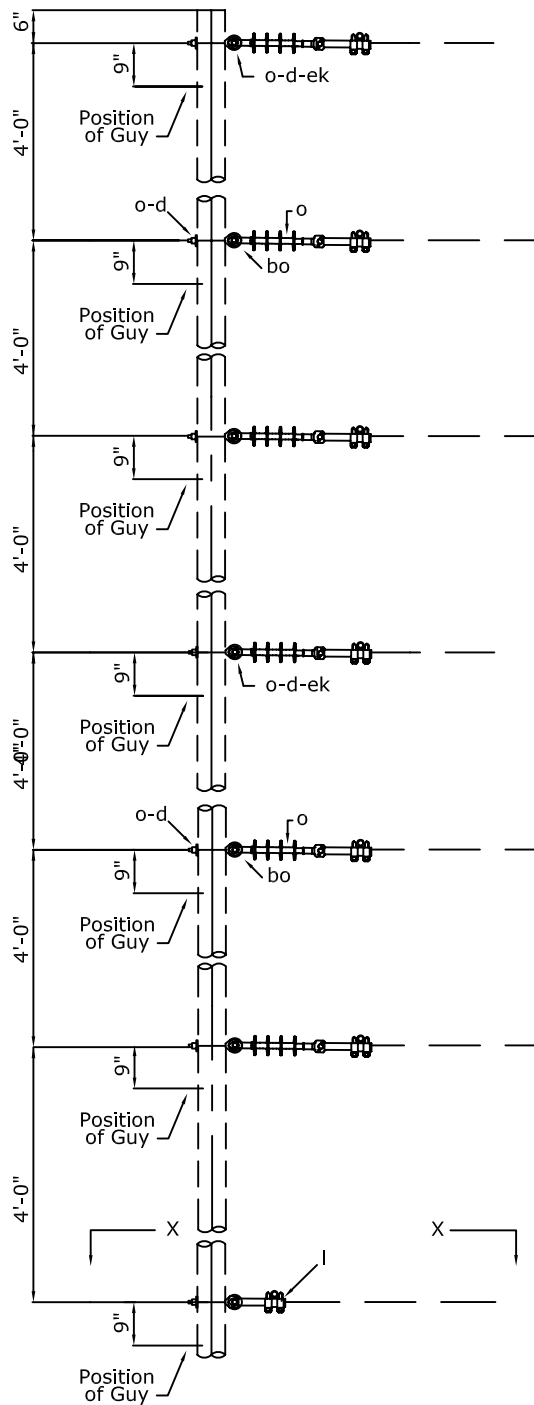
Item	COA Commodity Code	Qty.	Description
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	12	Insulator, Suspension, Polymer
l	2857402142	16	Clamp, Deadend, Large
o	28574020XE	16	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	18	Connector, Sized As Required
av	NA	8	Jumper, Sized As Required
ek	285740XXXX	16	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
VERTICAL CONSTRUCTION - DOUBLE DEADEND STRUCTURE

DATE: 04-17-07
STANDARD NUMBER
DC-C4



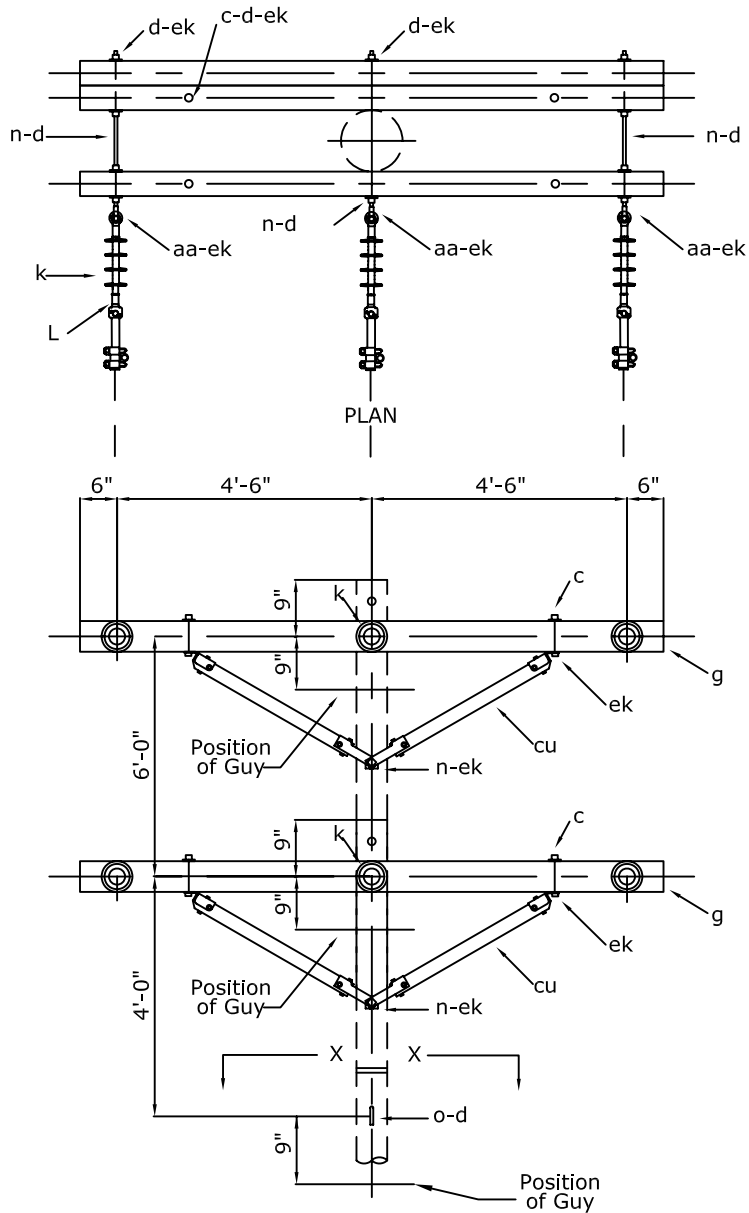
PLAN

SECTION X-X

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
o	28574020XE	8	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	8	Locknut, 5/8"
eu	2857402301	6	Extension Link, Fiberglass, As Required

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV DOUBLE CIRCUIT VERTICAL CONSTRUCTION - SINGLE DEADEND STRUCTURE</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-C5</p>



MATERIAL LIST

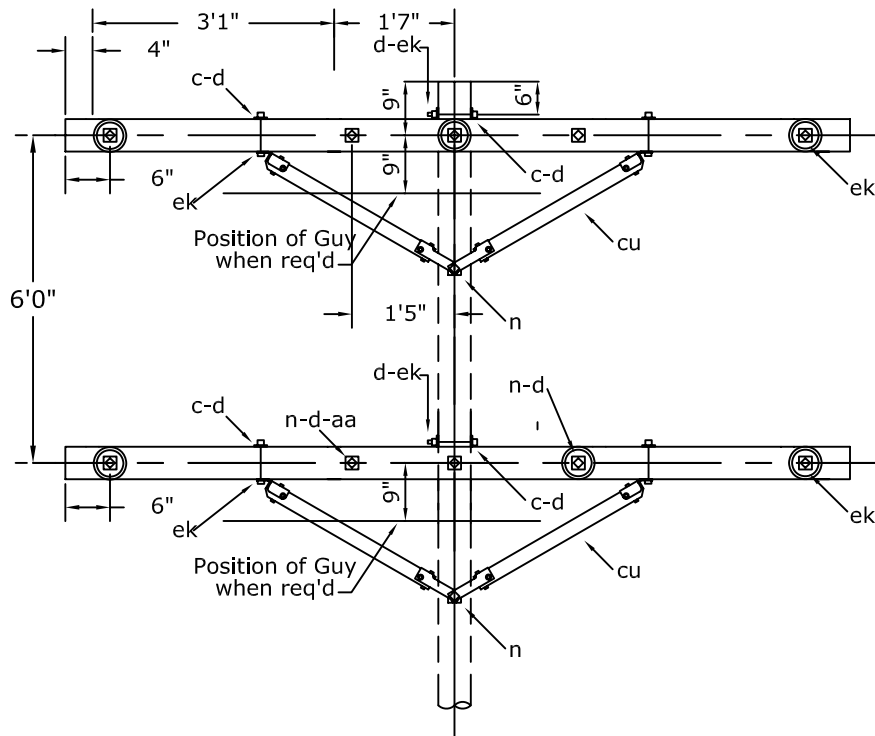
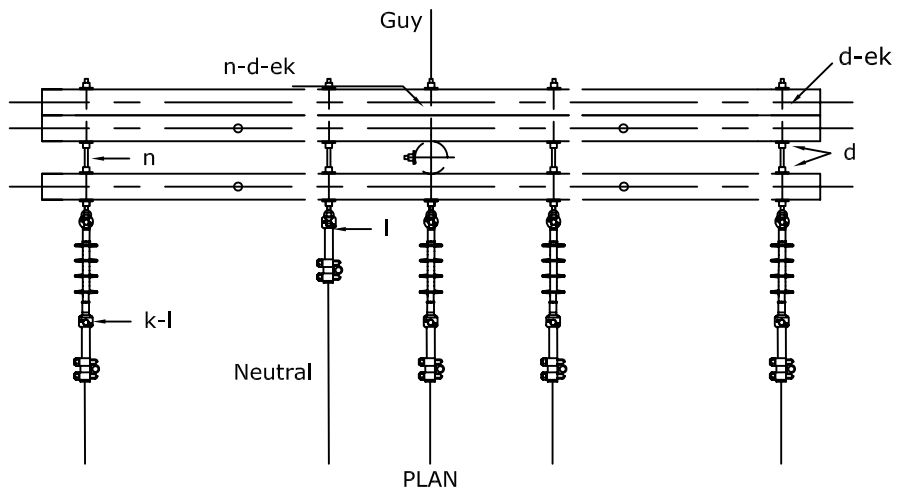
Item	COA Commodity Code	Qty.	Description
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	22	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	6	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	8	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	6	Nut, Oval Eye, 5/8"
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	25	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
CROSSARM SINGLE DEADEND

DATE: 04-17-07
STANDARD NUMBER
DC-C7



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	22	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	6	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
aa	2857402310	8	Nut, Oval Eye, 5/8"
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	25	Locknut, 5/8"

City of
Alexandria

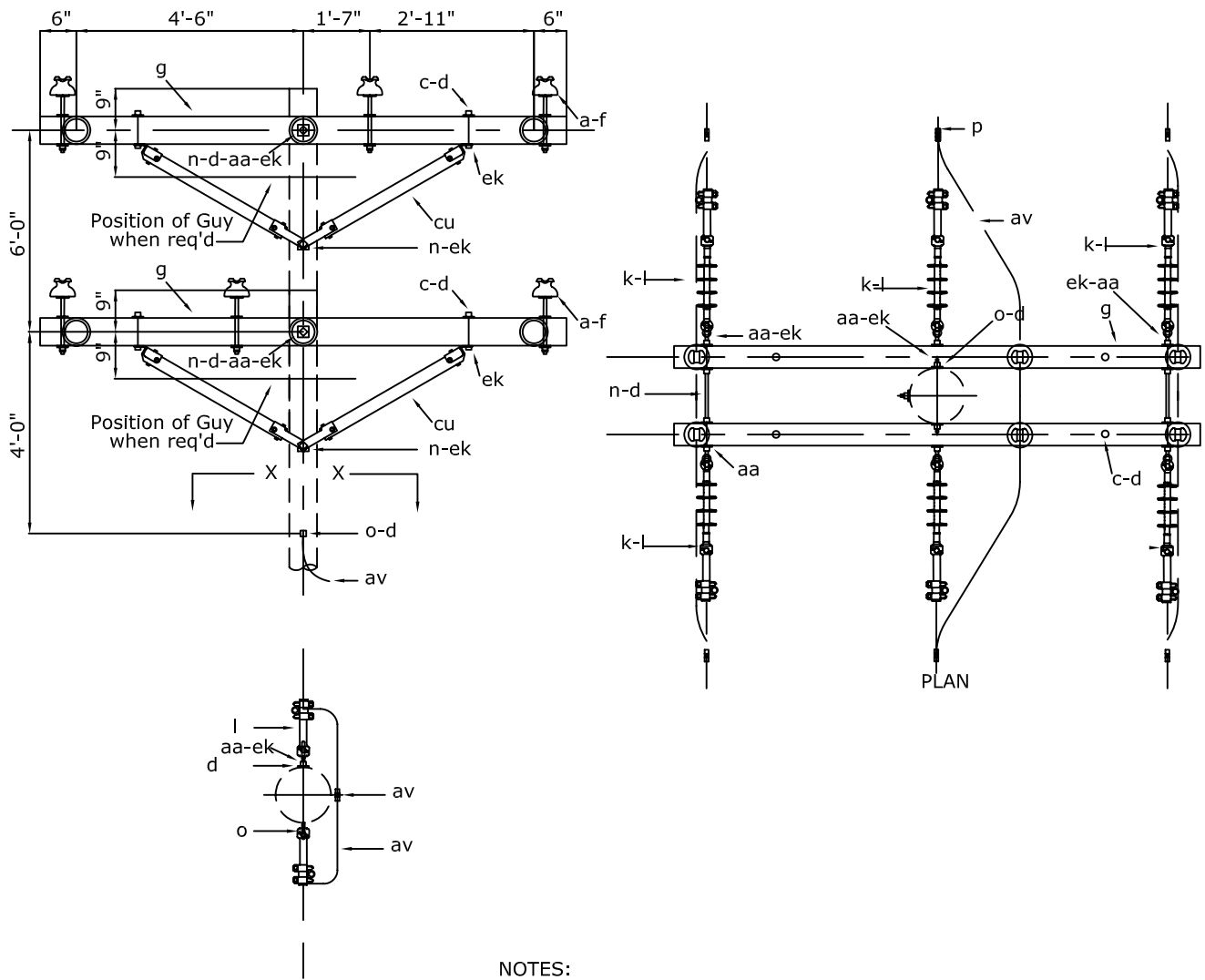
Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
CROSSARM SINGLE DEADEND - NEUTRAL ON ARM

DATE: 04-17-07

STANDARD
NUMBER

DC-C7-1



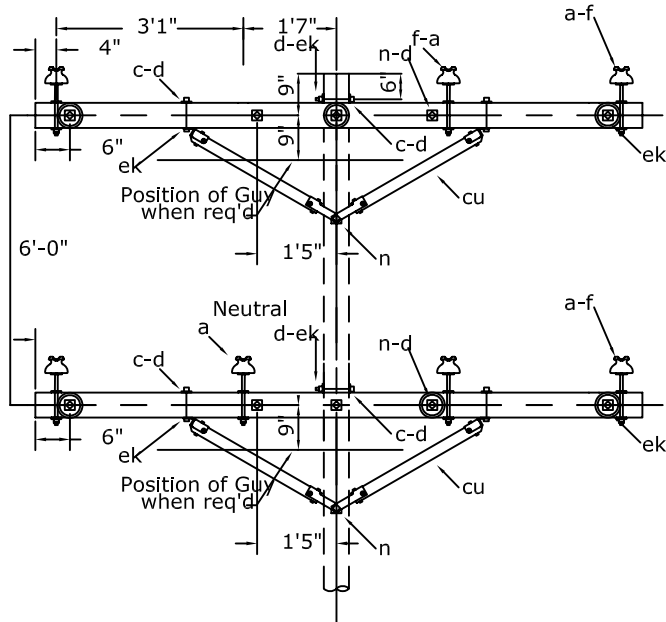
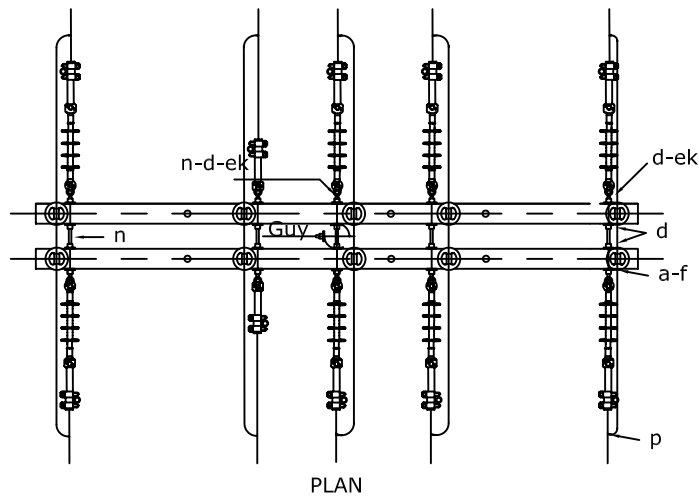
NOTES:
 1- Maximum unbalance tension not to exceed 1,000 lbs per conductor.

SECTION X-X

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	12	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	32	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	12	Insulator, Suspension, Polymer
l	2857402142	16	Clamp, Deadend, Large
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	16	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	60	Tie Wire, #4 Al (Feet)
av	NA	7	Jumper, Sized As Required
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	31	Locknut, 5/8"

City of Alexandria Electric Distribution	12.5/7.2kV DOUBLE CIRCUIT CROSSARM DOUBLE DEADEND	DATE: 04-17-07
		STANDARD NUMBER DC-C8



MATERIAL LIST

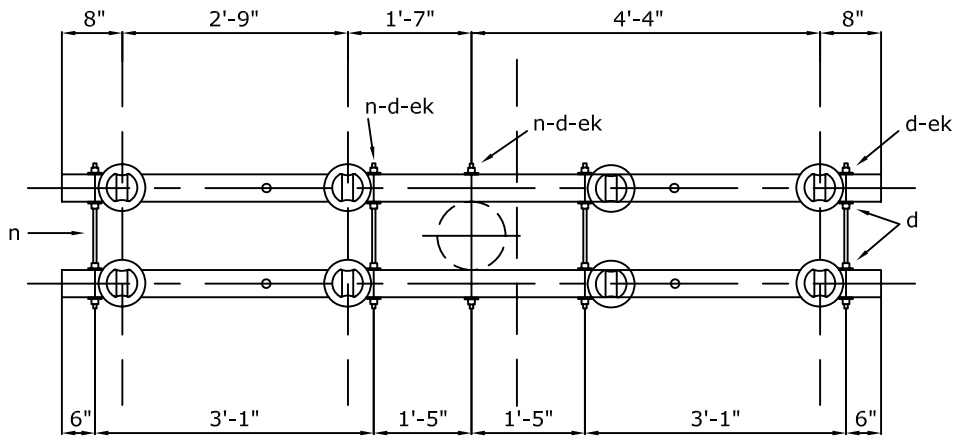
Item	COA Commodity Code	Qty.	Description
a	2857402299	14	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	36	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	14	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	12	Insulator, Suspension, Polymer
l	2857402142	16	Clamp, Deadend
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	16	Connector, Sized As Required
aa	2857402310	16	Nut, Oval Eye, 5/8"
ah	2801602124	80	Tie Wire, #4 Al (Feet)
av	NA	7	Jumper, Sized As Required
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	31	Locknut, 5/8"

City of
Alexandria

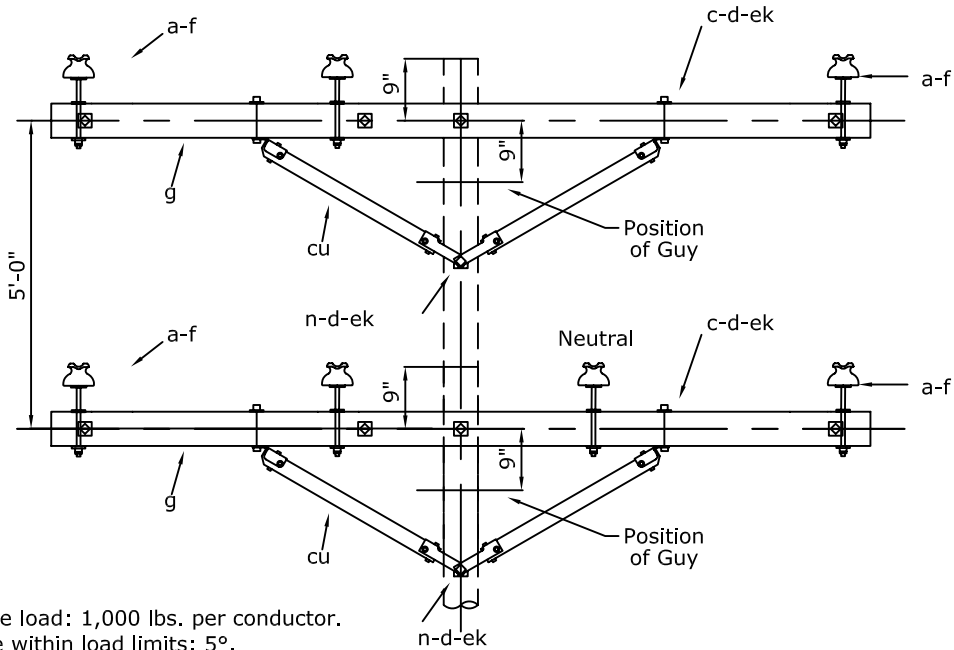
Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
CROSSARM DOUBLE DEADEND - NEUTRAL ON ARM

DATE: 04-17-07
STANDARD NUMBER
DC-C8-1



PLAN



NOTES:

- 1- Maximum transverse load: 1,000 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.
- 3- Neutral may be installed on the top crossarm as needed.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	14	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	38	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	16	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	10	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	80	Tie Wire, #4 Al (Feet)
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	26	Locknut, 5/8"

City of
Alexandria

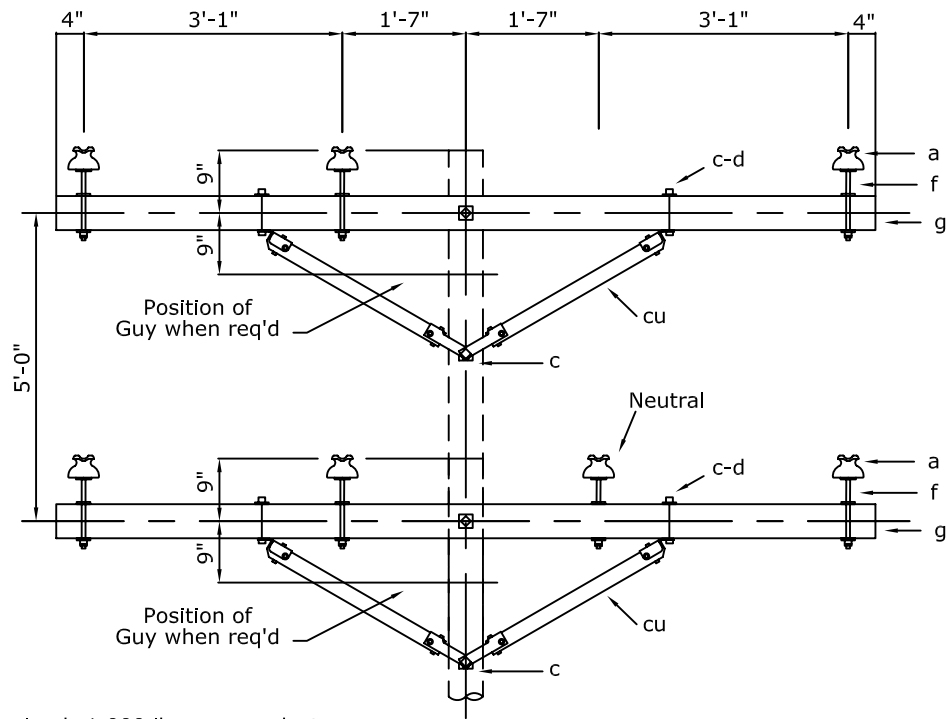
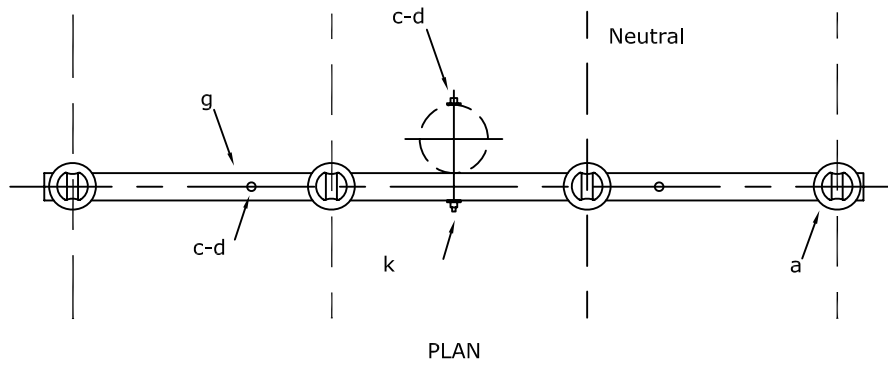
Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
DOUBLE LINE ARM - NEUTRAL ON ARM

DATE: 04-17-07

STANDARD
NUMBER

DC-C9

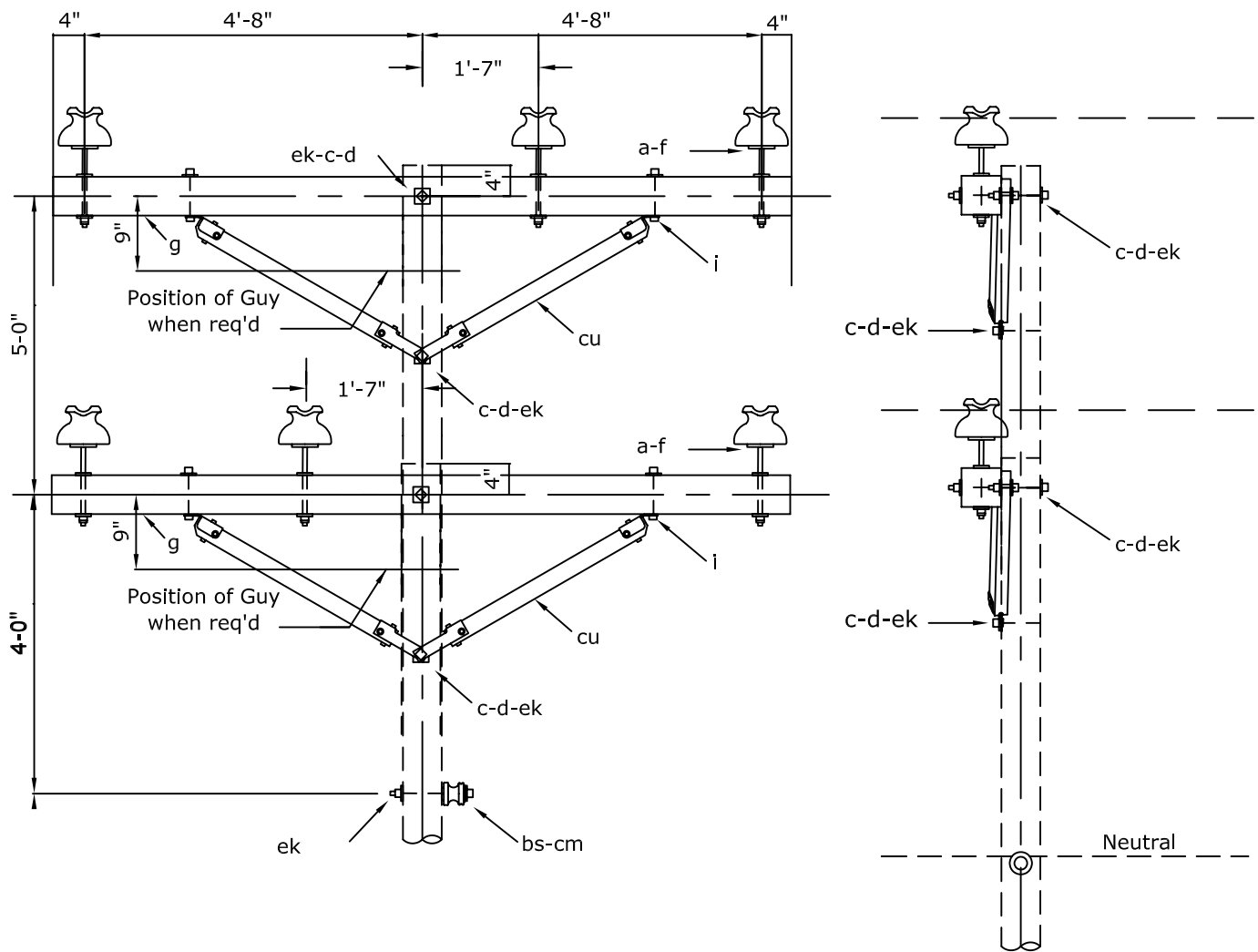


- NOTES:
- 1- Maximum transverse load: 1,000 lbs. per conductor.
 - 2- Maximum line angle within load limits: 5°.
 - 3- Neutral may be installed on the top crossarm as needed.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	7	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	8	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	42	Tie Wire, #4 Al (Feet)
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	11	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV DOUBLE CIRCUIT SINGLE LINE ARM - NEUTRAL ON ARM</p>	<p>DATE: 04-17-07</p>
		<p>STANDARD NUMBER</p> <p>DC-C9-1</p>



NOTES:

1- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402510	6	Insulator, Pin Type (Victor 11R)
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802526	6	Steel Crossarm Pin (Joslyn J206Z)
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	40	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	11	Locknut, 5/8"

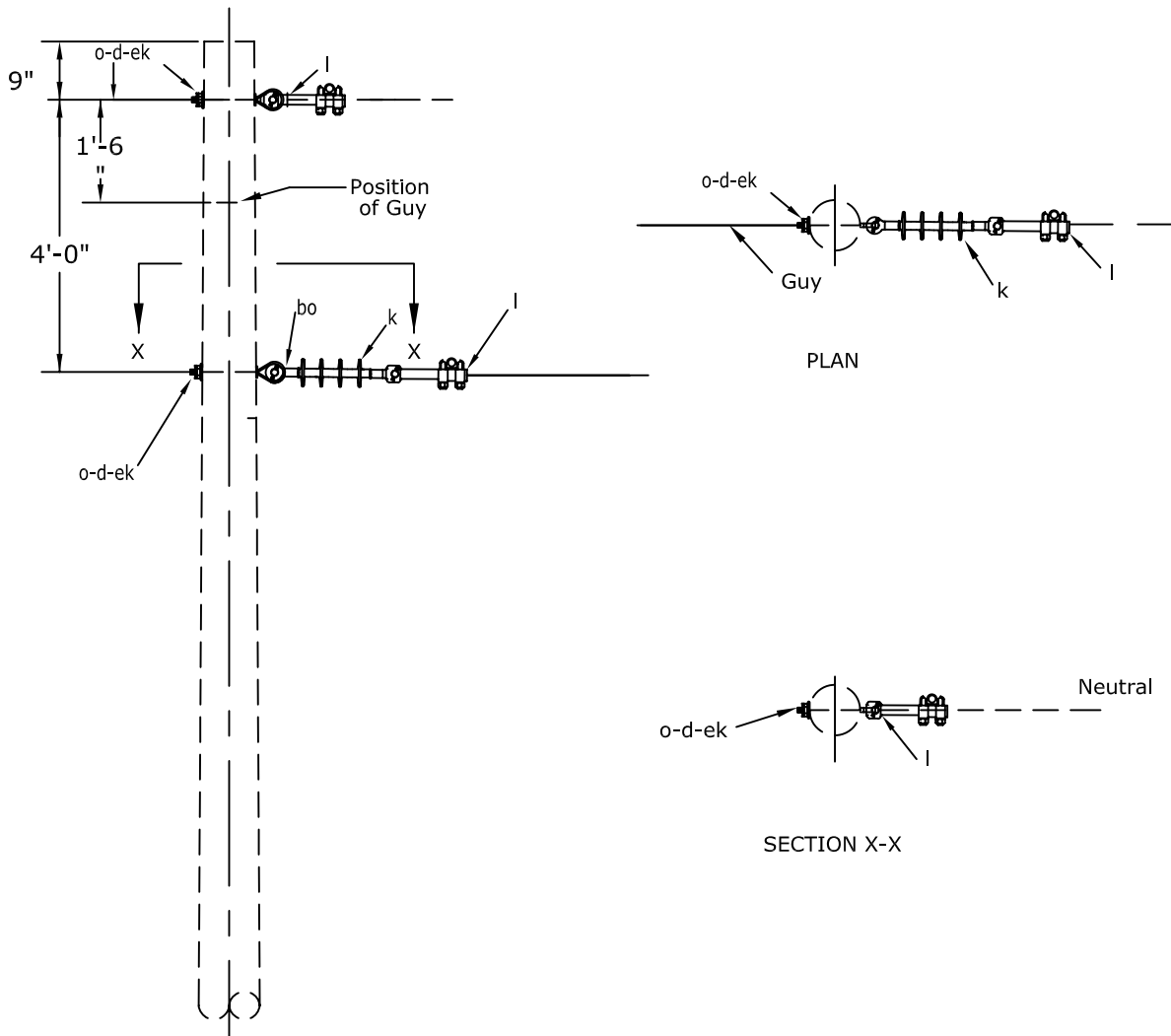
*City of
Alexandria*
Electric Distribution

12.5/7.2kV DOUBLE CIRCUIT
CROSSARM TANGENT STRUCTURE
HIGH BIL FRAMING FOR STEEL POLES

DATE: 04-17-07

STANDARD
NUMBER

DC-C11



MATERIAL LIST

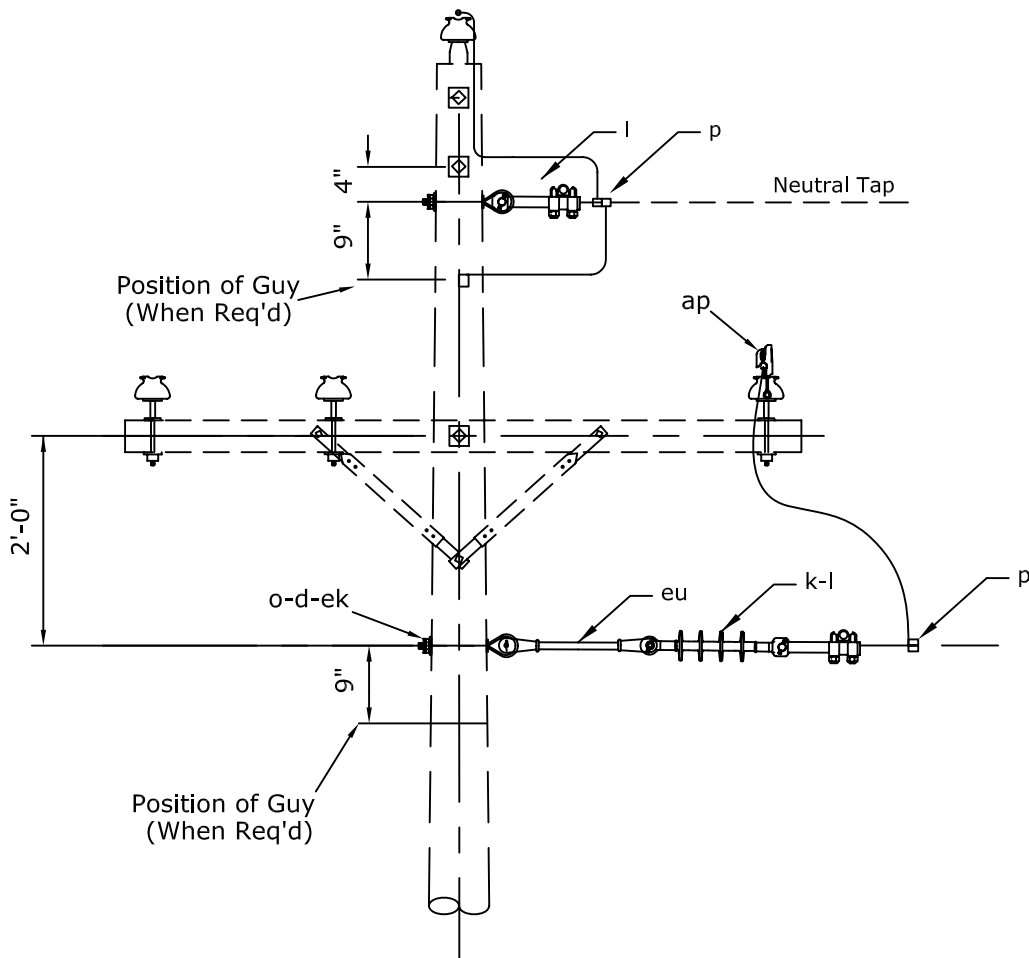
Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
bo	2857402296	1	Shackle, Anchor
ek	285740XXXX	2	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV SHIELDED SINGLE PHASE
DEADEND STRUCTURE - VERTICAL

DATE: 04-10-07
STANDARD NUMBER
AS5



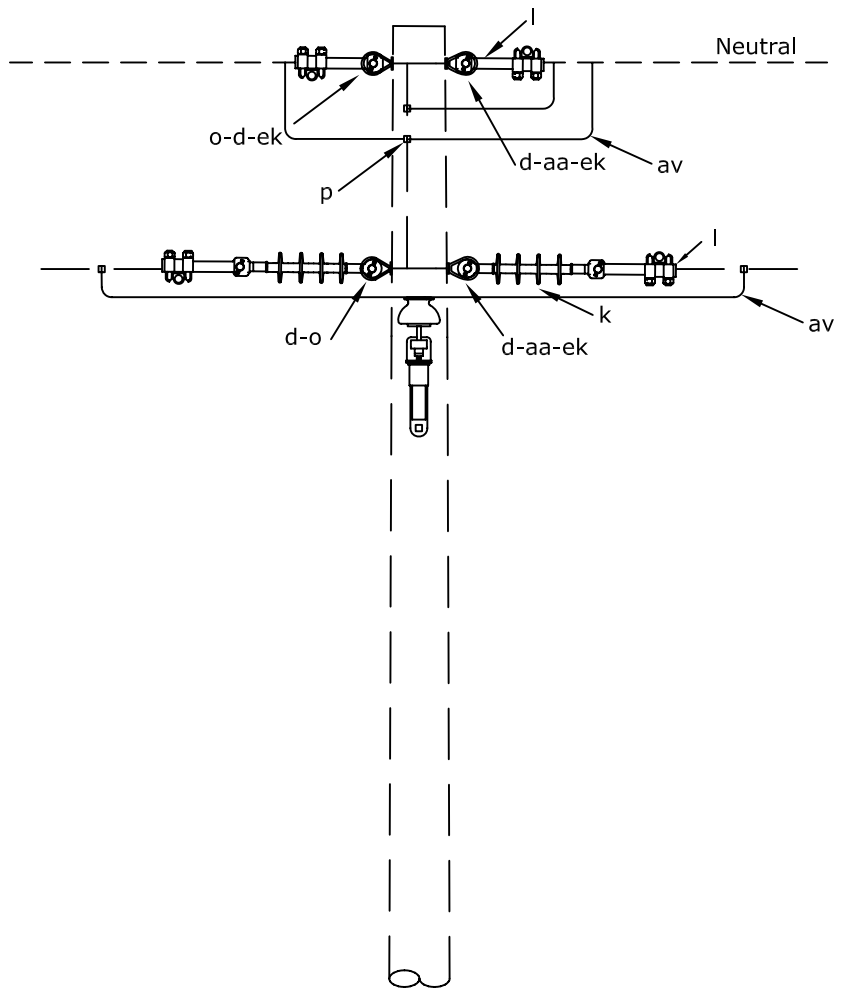
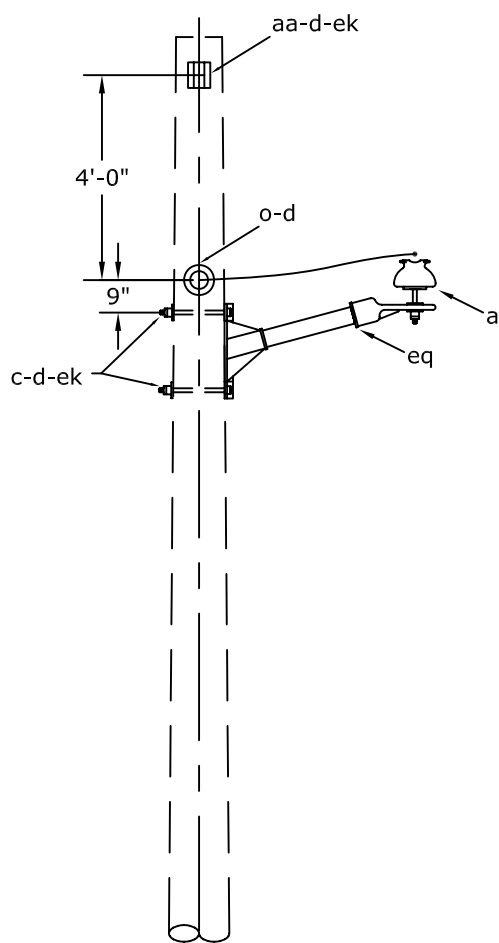
NOTES:

- 1- If needed, specify stirrup and loadbreak cutout separately.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	1	Insulator, Suspension, Polymer
l	2857402140	2	Clamp, Deadend
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	6	Connector, Sized As Required
ap	2851002131	1	Clamp, Hot Line
av	NA	2	Jumper, Sized As Required
bo	2857402296	1	Shackle, Anchor
ek	285740XXXX	2	Locknut, 5/8"
eu	2857402301	1	Extension Link, Fiberglass, 18"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED SINGLE PHASE TAP ASSEMBLY (FROM B OR C-PHASE LINE)</p>	DATE: 04-10-07
		<p>STANDARD NUMBER</p> <p>AS5-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	4	Clamp, Deadend
o	28574020XE	4	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	3	Connector, Sized As Required
aa	2857402310	2	Nut, Oval Eye, 5/8"
ah	2801602124	6	Tie Wire, #4 Al (Feet)
av	NA	2	Jumper, Sized As Required
ek	285740XXXX	4	Locknut, 5/8"
eq	2857802045	1	Narrow Profile Bracket With 1" Insulator Threads

City of
Alexandria

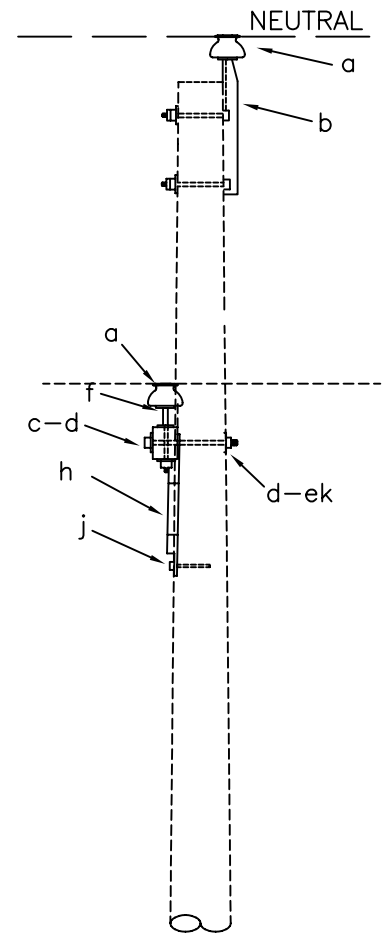
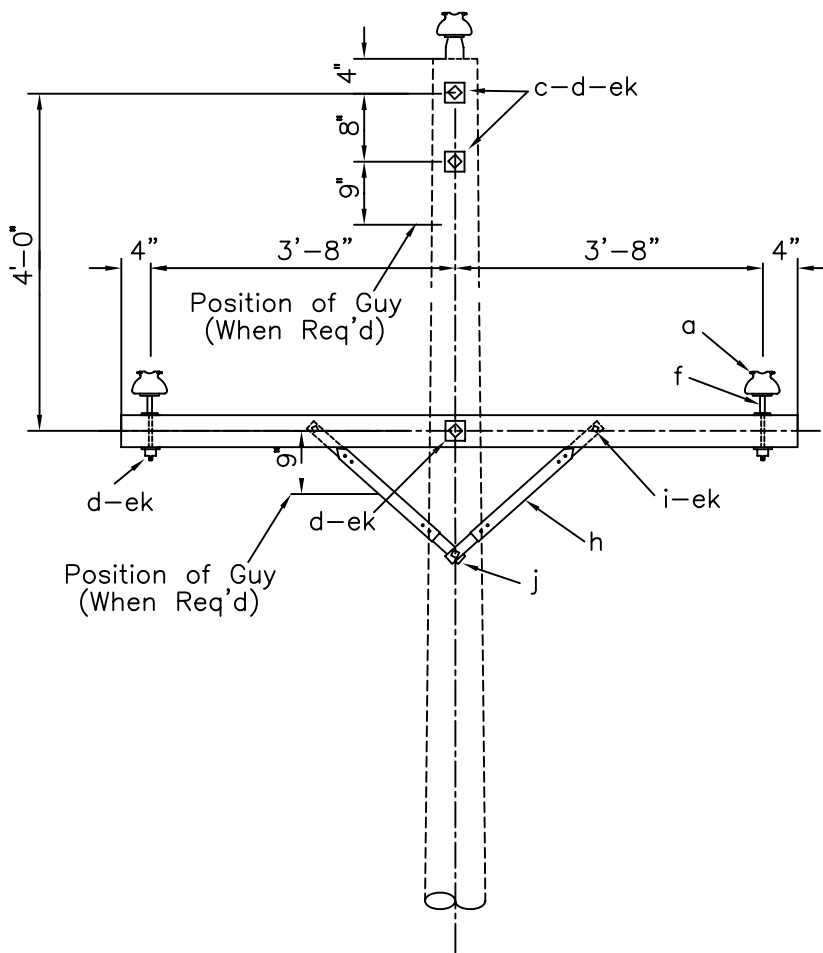
Electric Distribution

12.5/7.2kV SHIELDED SINGLE PHASE
DOUBLE-DEADEND STRUCTURE - VERTICAL

DATE: 04-10-07

STANDARD
NUMBER

AS6



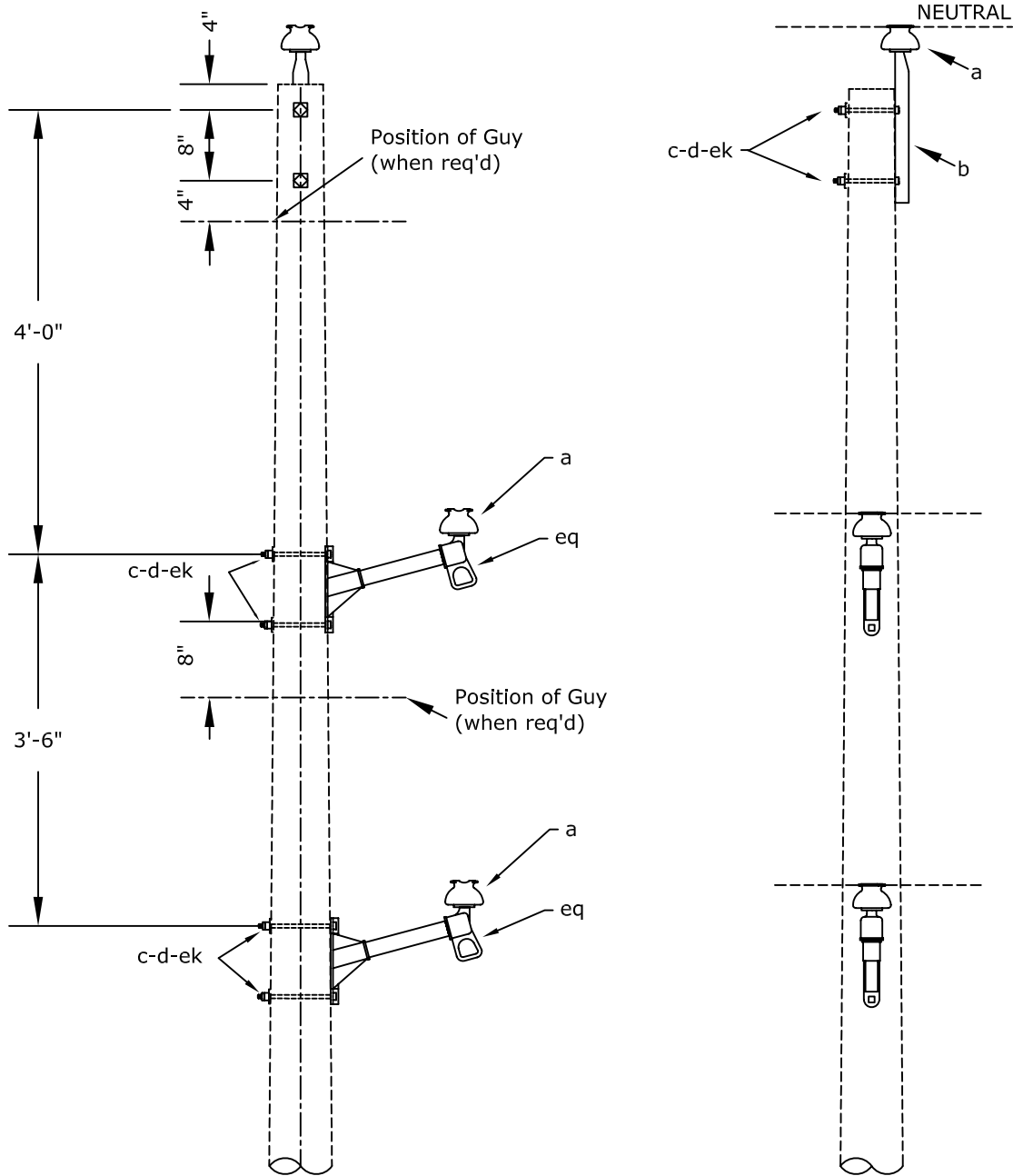
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28", Wood
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
ek	285740XXXX	5	Locknut, 5/8"

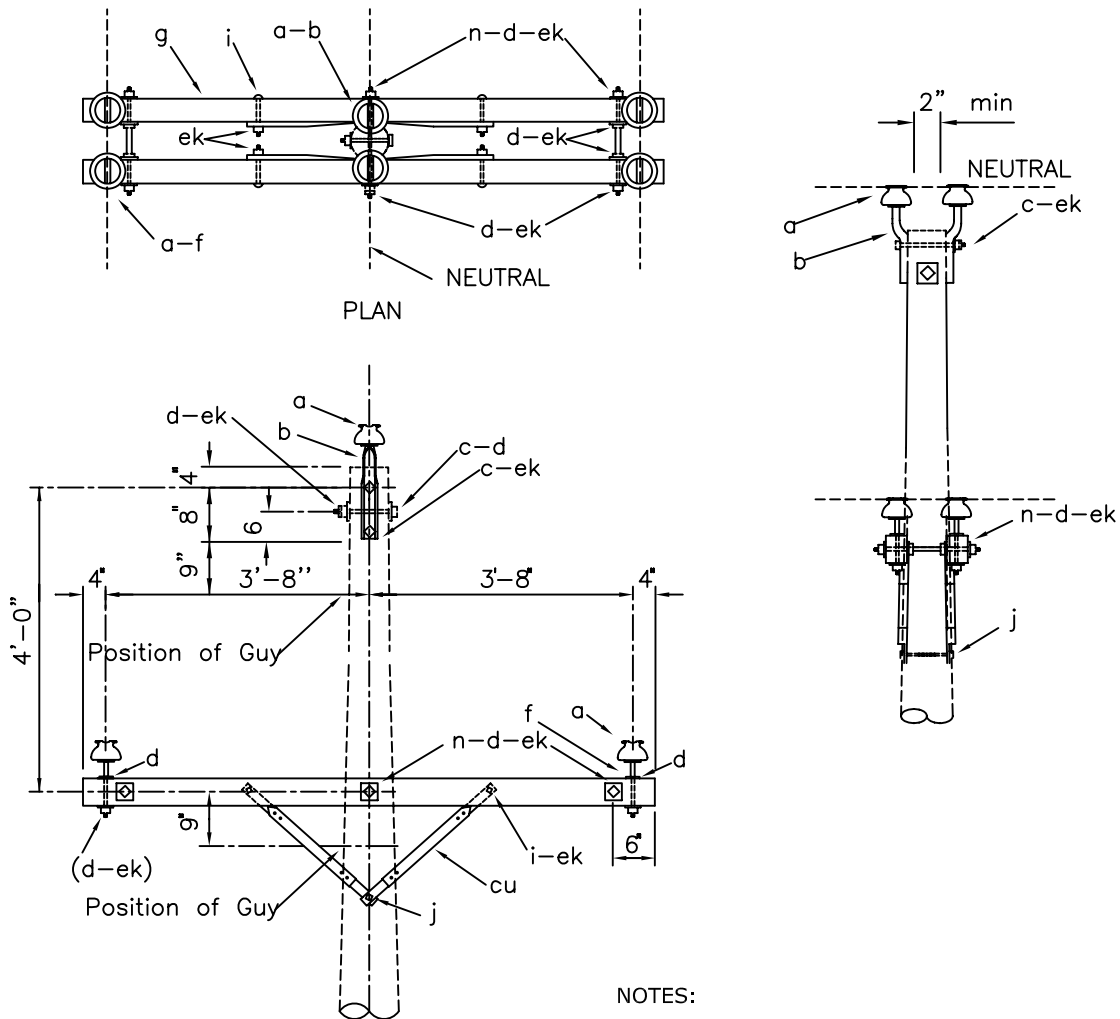
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2KV SHIELDED CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>BS1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	6	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
ah	2801602124	18	Tie Wire, #4 Al (Feet)
ek	285740XXXX	6	Locknut, 5/8"
eq	2857802045	2	Narrow Profile Bracket With 1" Insulator Threads

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED VERTICAL CONSTRUCTION TANGENT AND SMALL ANGLE STRUCTURE</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>BS1V</p>



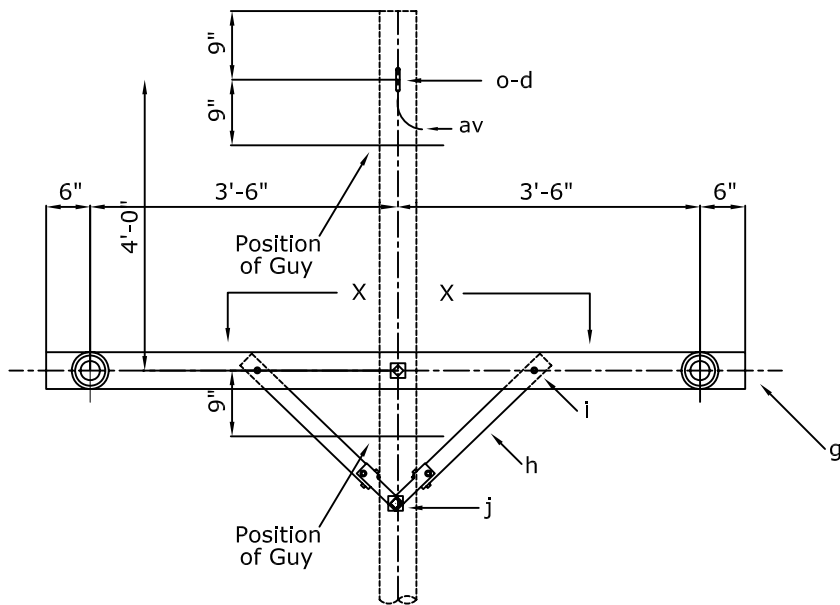
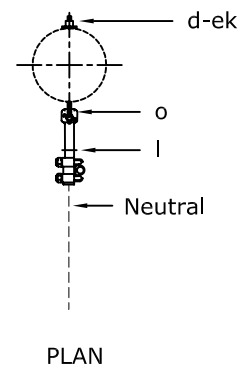
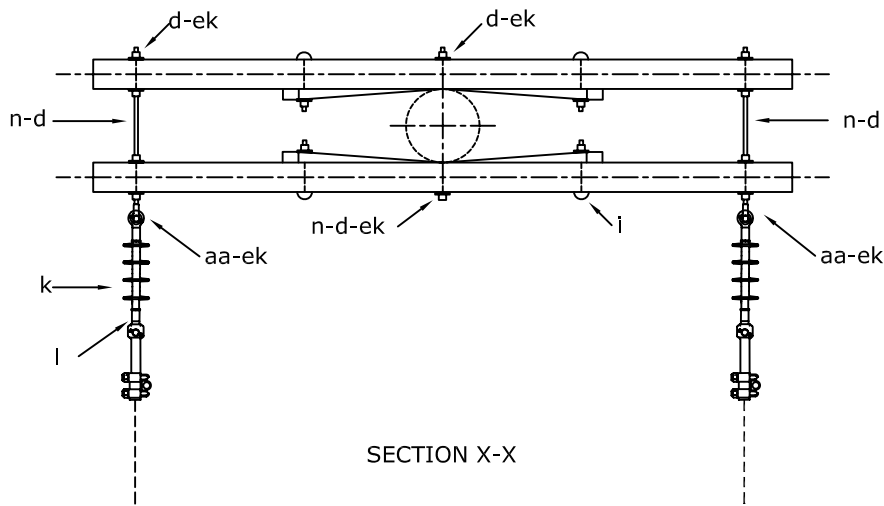
NOTES:

- 1- Maximum traverse load: 1,000 lbs. per conductor.
- 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8", Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	25	Tie Wire, #4 Al (Feet)
ek	285740XXXX	17	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>BS2</p>



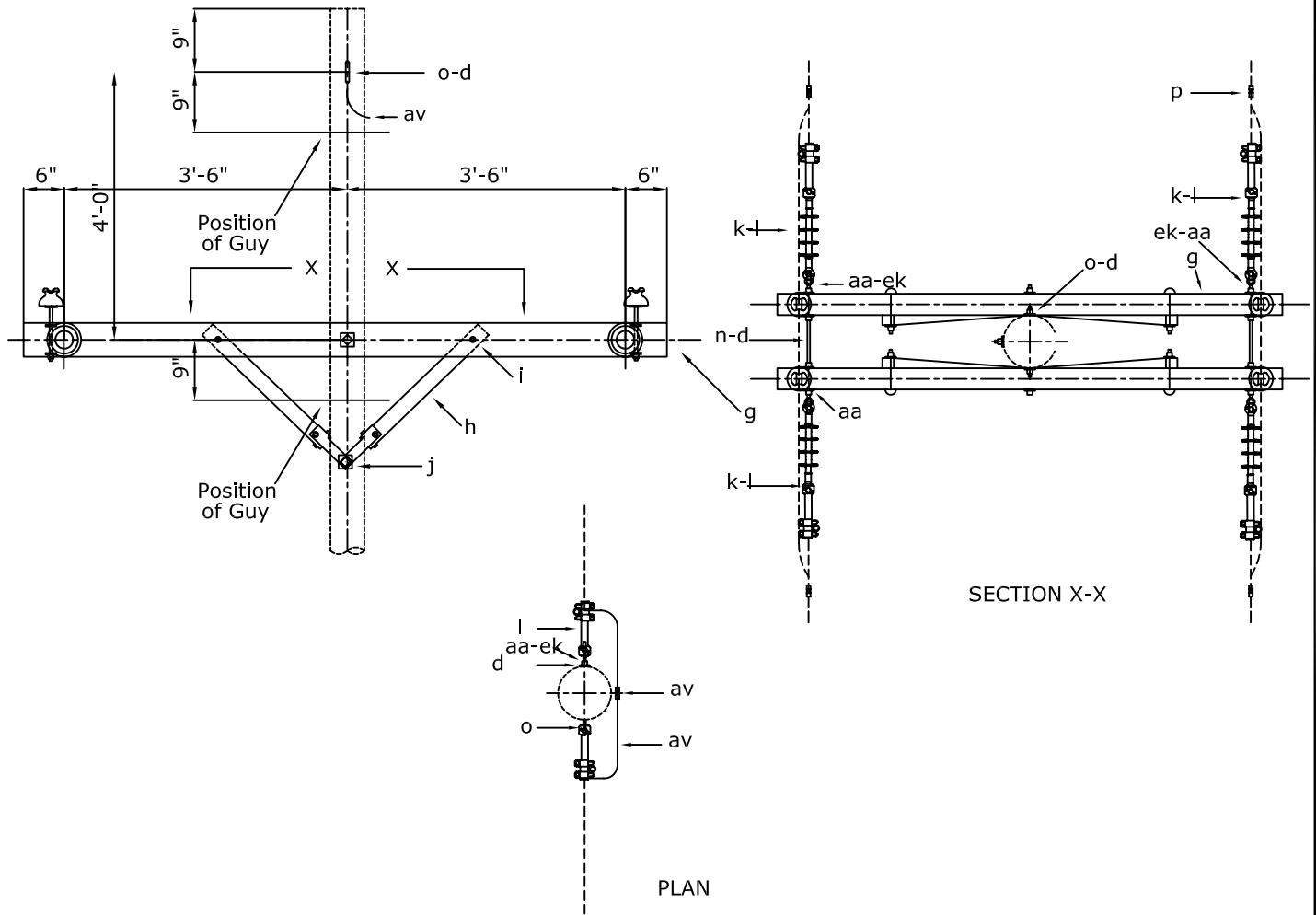
NOTES:

1- Maximum deadend tension: 1,000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	2	Insulator, Suspension, Polymer
l	2857402140	3	Clamp, Deadend
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	2	Nut, Oval Eye, 5/8"
ek	285740XXXX	11	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV SHIELDED CROSSARM SINGLE DEADEND SMALL CONDUCTORS</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>BS7</p>

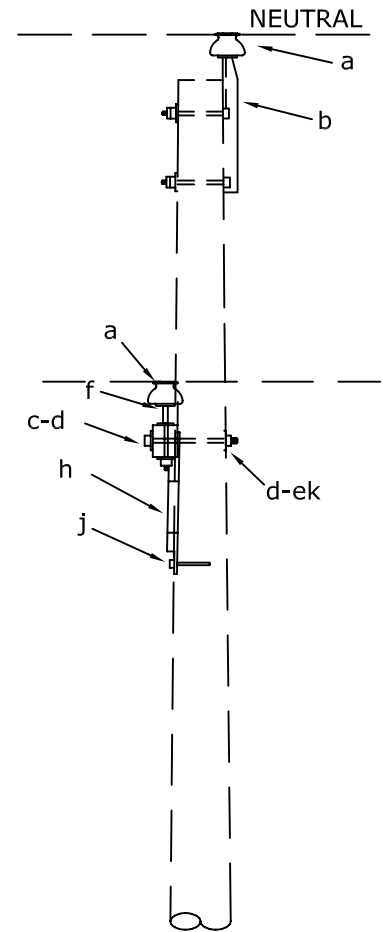
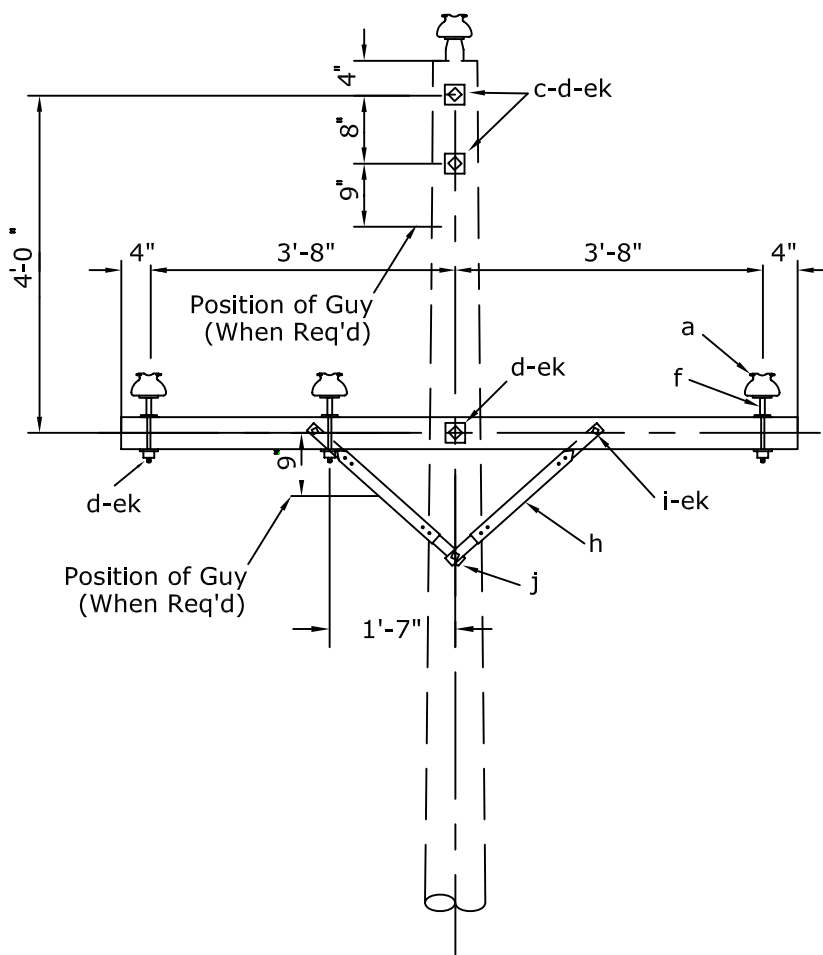


NOTES:
 1- Maximum deadend tension: 1,000 lbs. per conductor

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	4	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
k	2857402300	4	Insulator, Suspension, Polymer
l	2857402140	6	Clamp, Deadend
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	6	Connector, Sized As Required
aa	2857402310	6	Nut, Oval Eye, 5/8"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
av	NA	3	Jumper, Sized As Required
ek	285740XXXX	15	Locknut, 5/8"

City of Alexandria Electric Distribution	12.5/7.2kV SHIELDED CROSSARM DOUBLE DEADEND DOUBLE DEADEND STRUCTURE	DATE: 04-11-07
		STANDARD NUMBER BS8



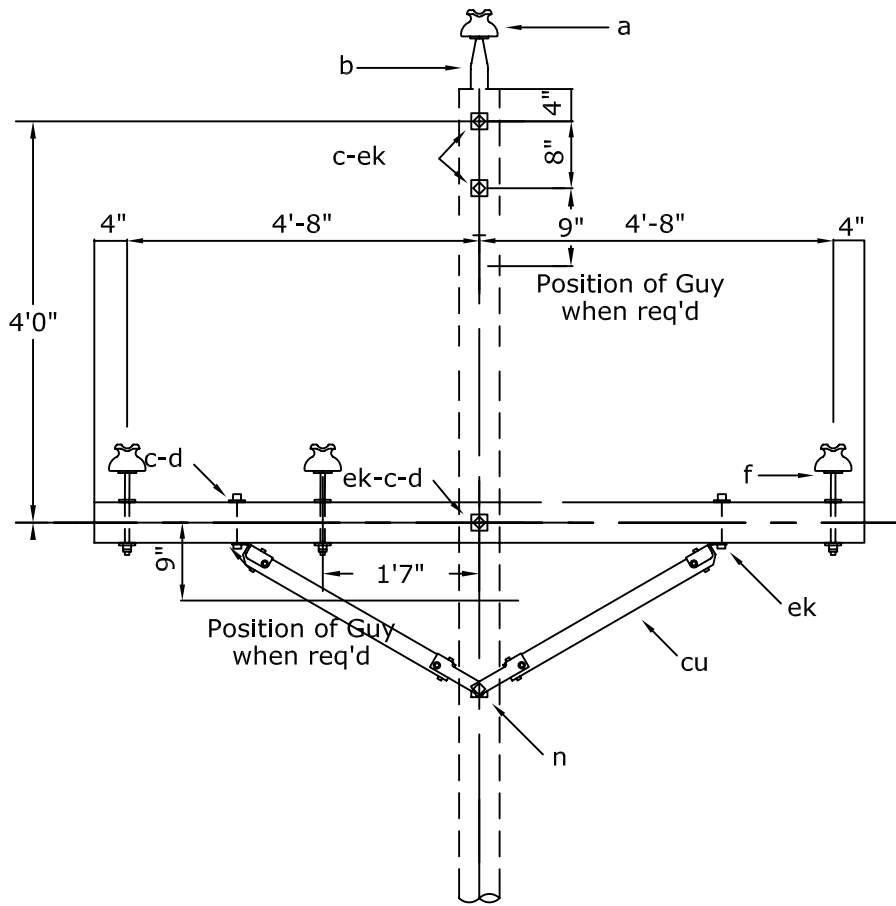
NOTES:

- 1- Maximum transverse load: 500 lbs. per conductor.
- 2- Maximum line angle within load limits: 5°.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	3	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	2	Steel Crossarm Pin
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28", Wood
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
ek	285740XXXX	6	Locknut, 5/8"

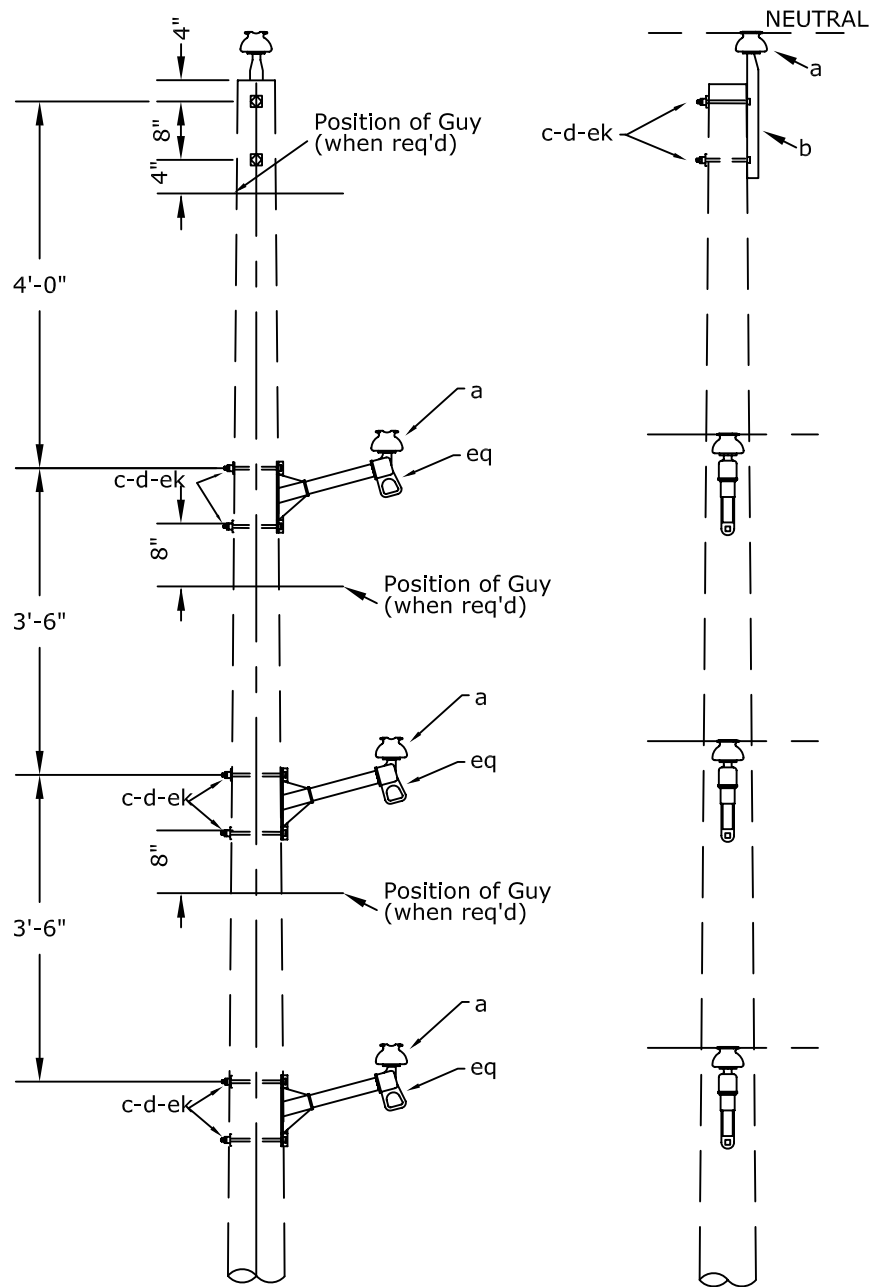
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV SHIELDED CROSSARM TANGENT STRUCTURE SINGLE LINE ARM</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	2857402008	2	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	2	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	7	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	3	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	25	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	7	Locknut, 5/8"

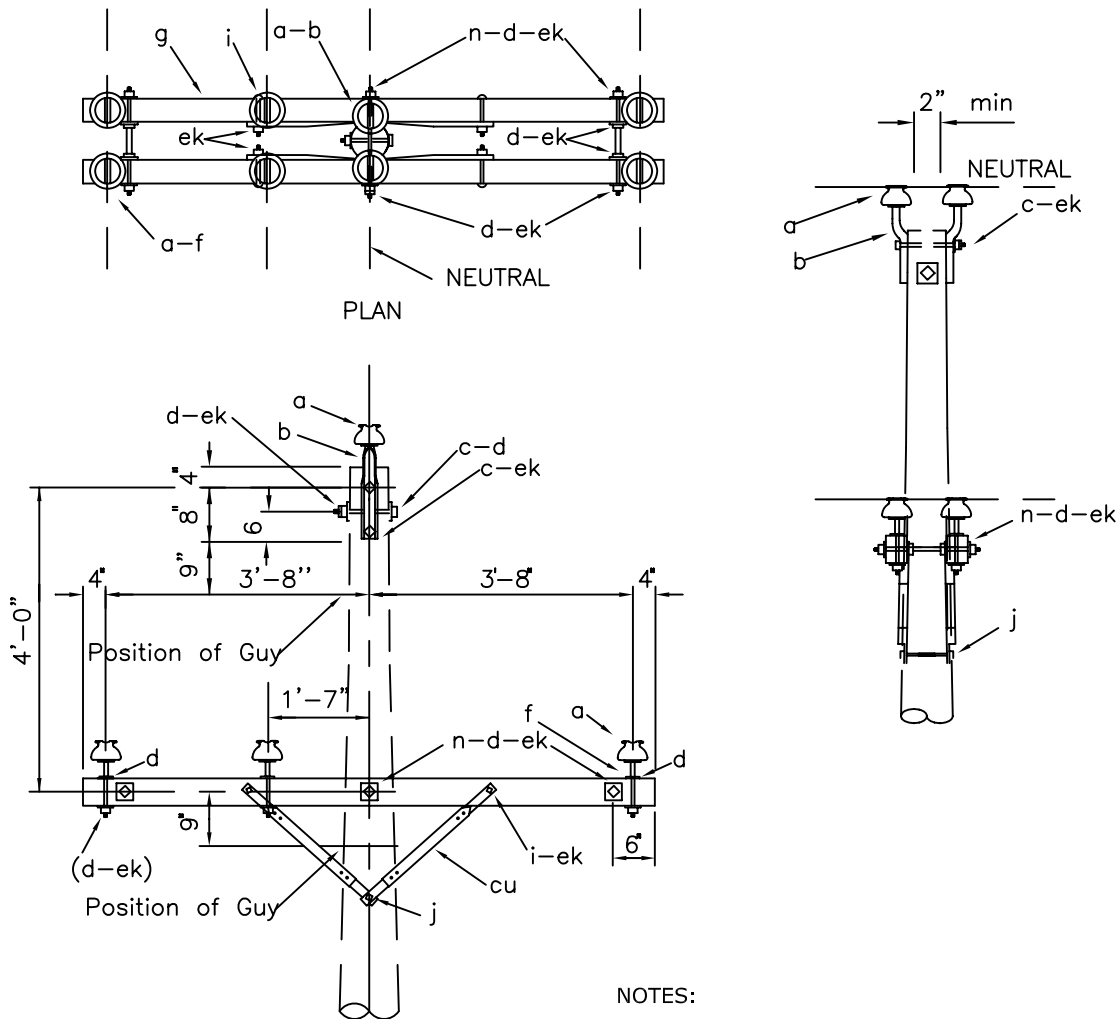
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM TANGENT STRUCTURE SINGLE LINE ARM - LARGE CONDUCTORS</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS1L</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	8	Bolt, Machine, 5/8" x Required Length
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
ah	2801602124	24	Tie Wire, #4 Al (Feet)
ek	285740XXXX	8	Locknut, 5/8"
eq	2857802045	3	Narrow Profile Bracket With 1" Insulator Threads

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED VERTICAL CONSTRUCTION TANGENT AND SMALL ANGLE STRUCTURE</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS1V</p>

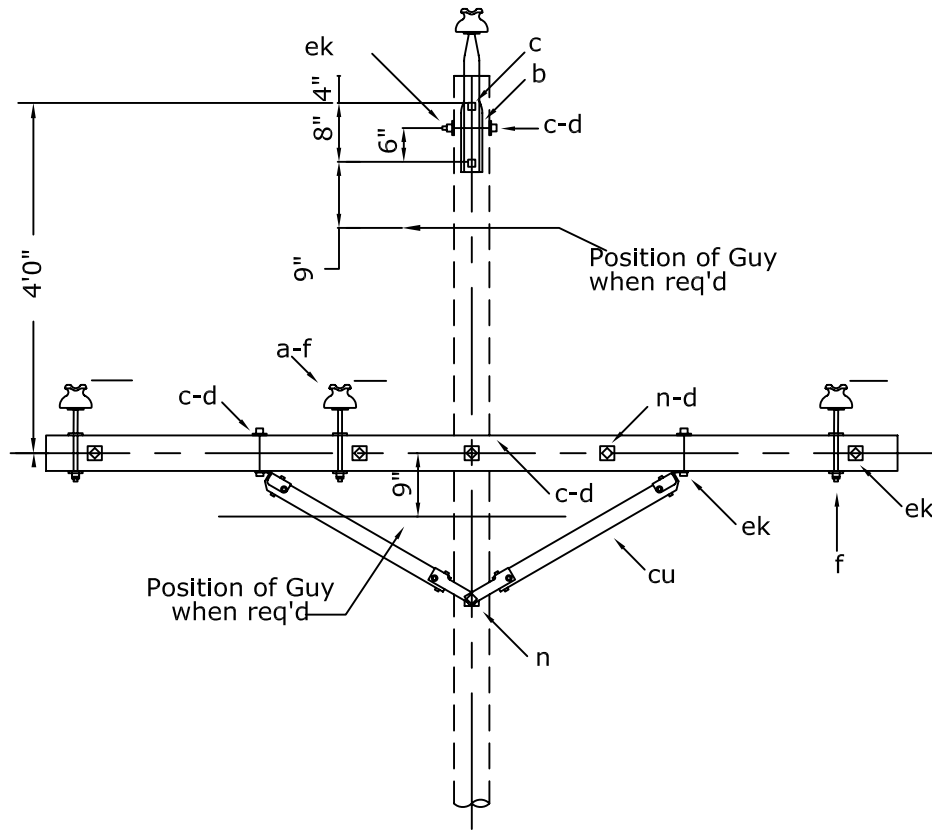
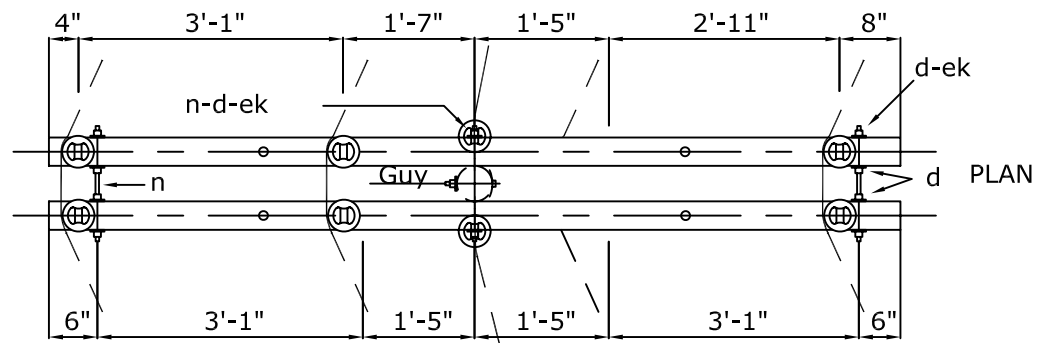


- NOTES:
- 1- Maximum traverse load: 1,000 lbs. per conductor.
 - 2- Maximum line angle within load limits: 20°

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8", Wood
h	2857802044	4	Brace, 28" (Wood or Steel)
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	5	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	25	Tie Wire, #4 Al (Feet)
ek	285740XXXX	16	Locknut, 5/8"

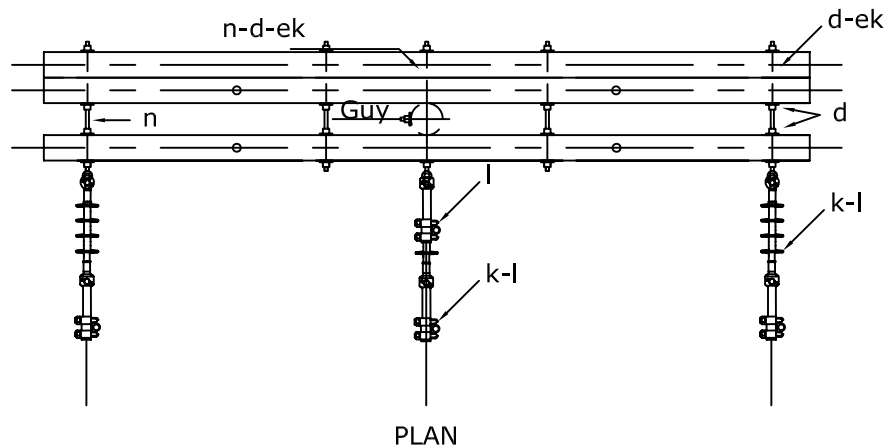
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS2</p>



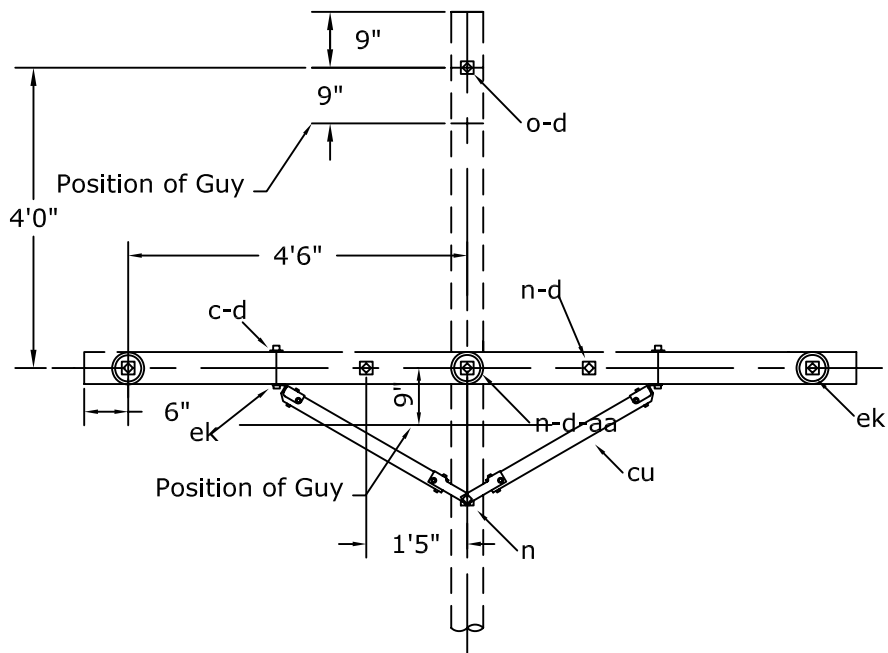
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	3	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	12	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	5	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	40	Tie Wire, #4 Al (Feet)
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	20	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM SMALL ANGLE STRUCTURE DOUBLE LINE ARM - LARGE CONDUCTORS</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS2L</p>



PLAN



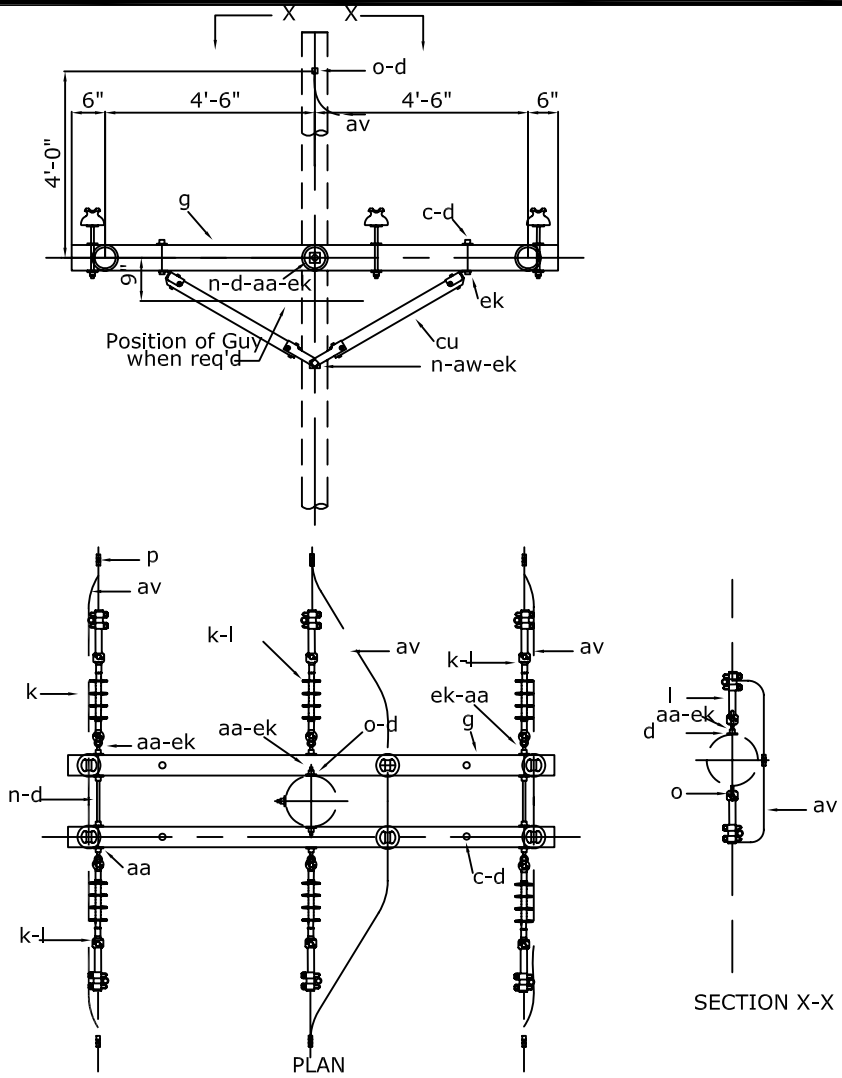
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	11	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	3	Insulator, Suspension, Polymer
l	2857402142	4	Clamp, Deadend, Large
n	28574020XD	5	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	4	Nut, Oval Eye, 5/8"
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	18	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM SINGLE DEADEND LARGE CONDUCTORS</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS7L</p>

NOTES:

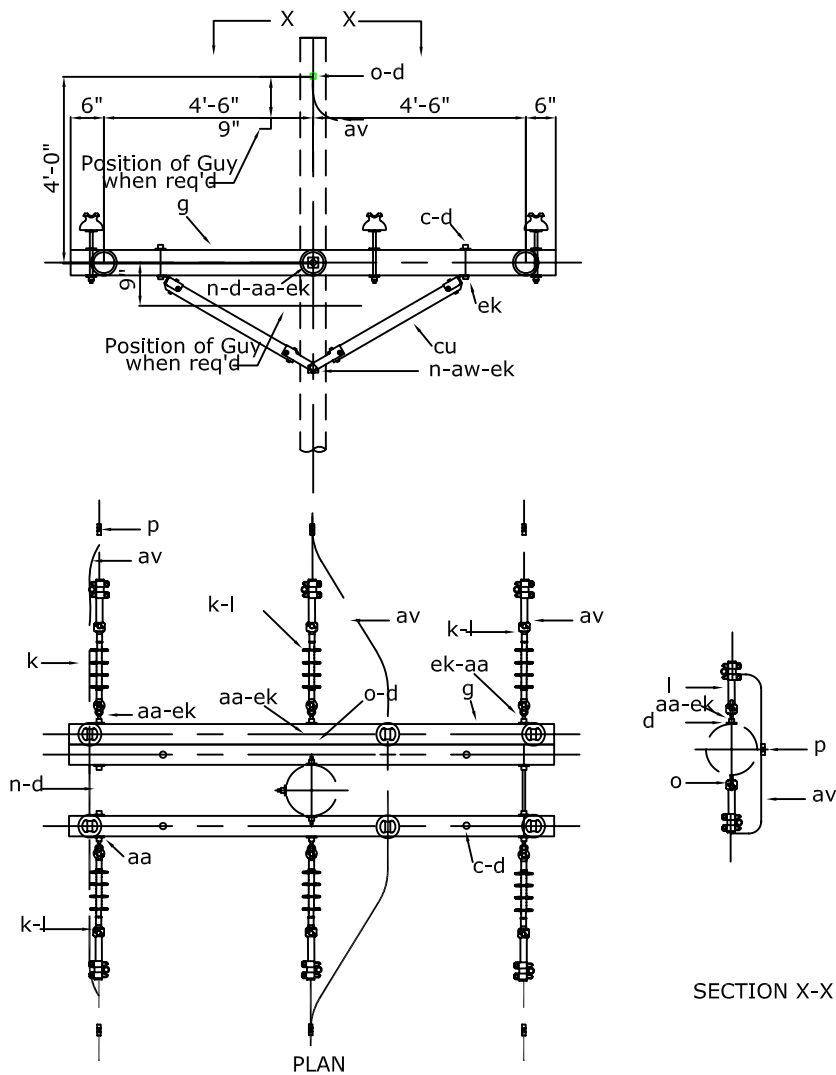
- 1- Maximum unbalance tension not to exceed 1000 lbs per conductor.
- 2- Install on poles with conductor larger than 1/0 (ACSR or Str. Cu.).



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	4	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	19	Locknut, 5/8"

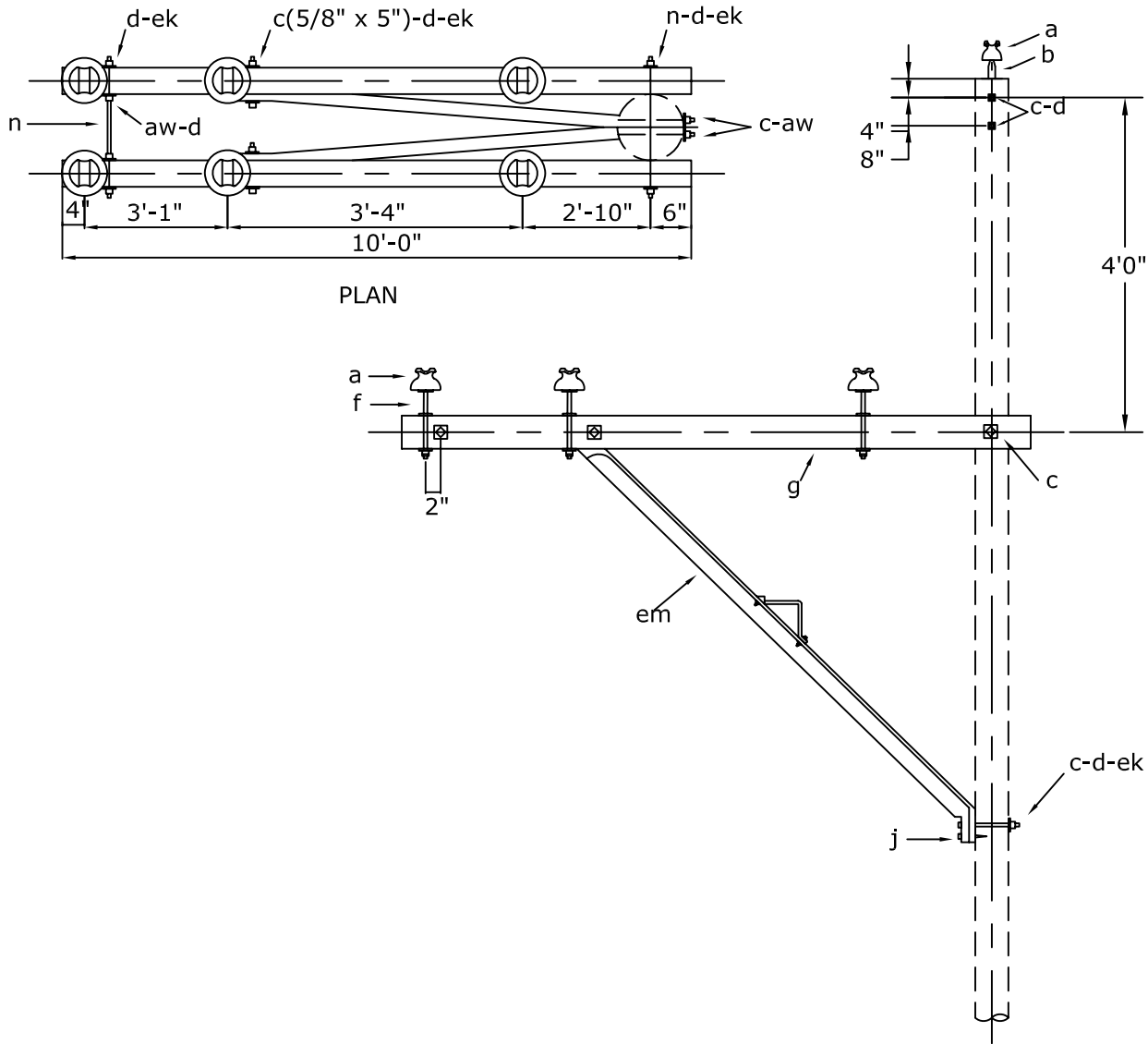
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV SHIELDED CROSSARM DOUBLE DEADEND LARGE CONDUCTORS</p>	<p>DATE: 04-16-07</p>
		<p>STANDARD NUMBER</p> <p>CS8L</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	6	Insulator, Pin Type
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	16	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required
aa	2857402310	7	Nut, Oval Eye, 5/8"
ah	2801602124	30	Tie Wire, #4 Al (Feet)
av	NA	4	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	19	Locknut, 5/8"

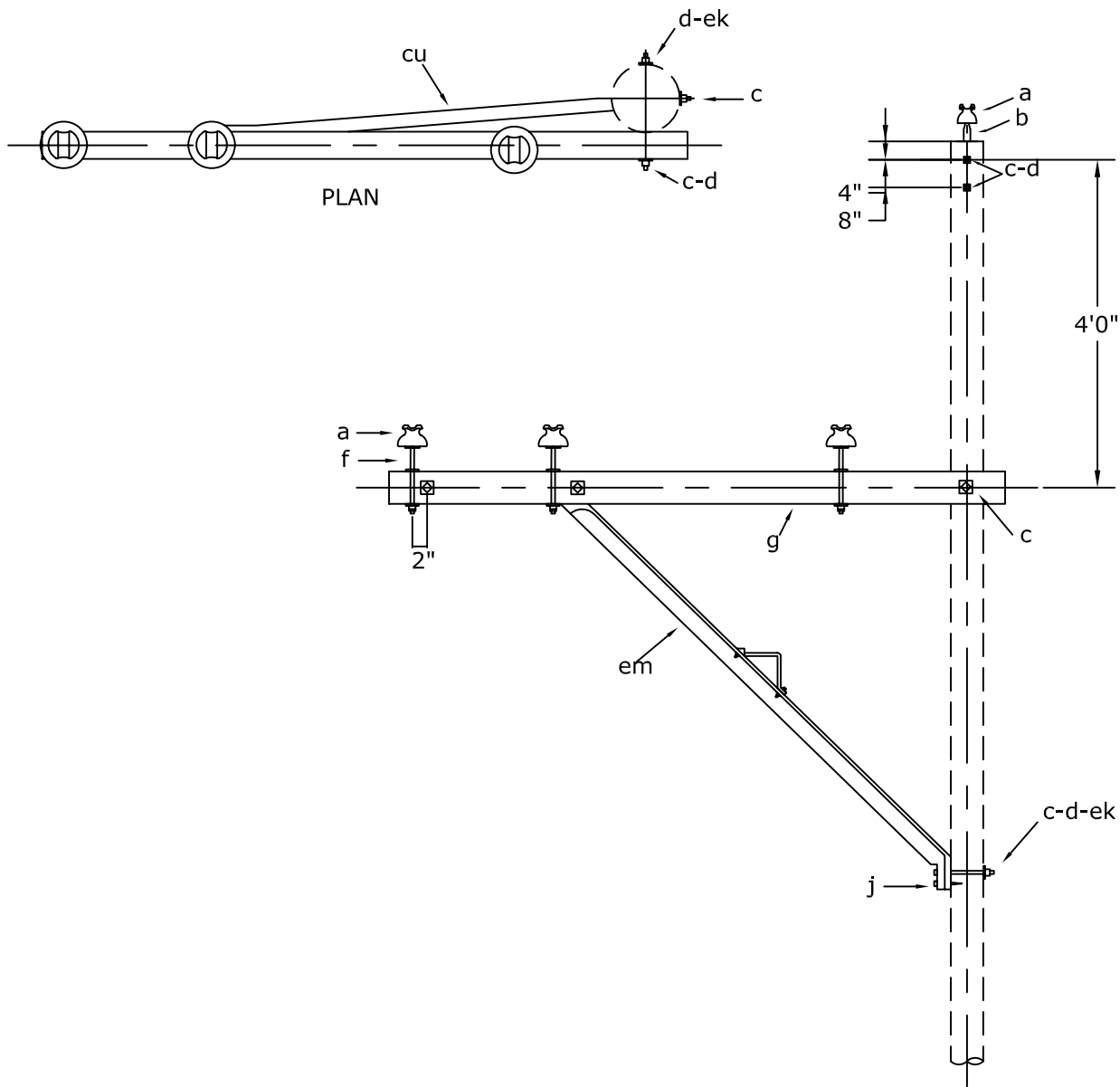
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM DOUBLE DEADEND UNBALANCED LOADS</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS8-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	8	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	6	Bolt, Machine, 5/8" x Required Length
d	2857402322	18	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	40	Tie Wire, #4 Al (Feet)
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	21	Locknut, 5/8"

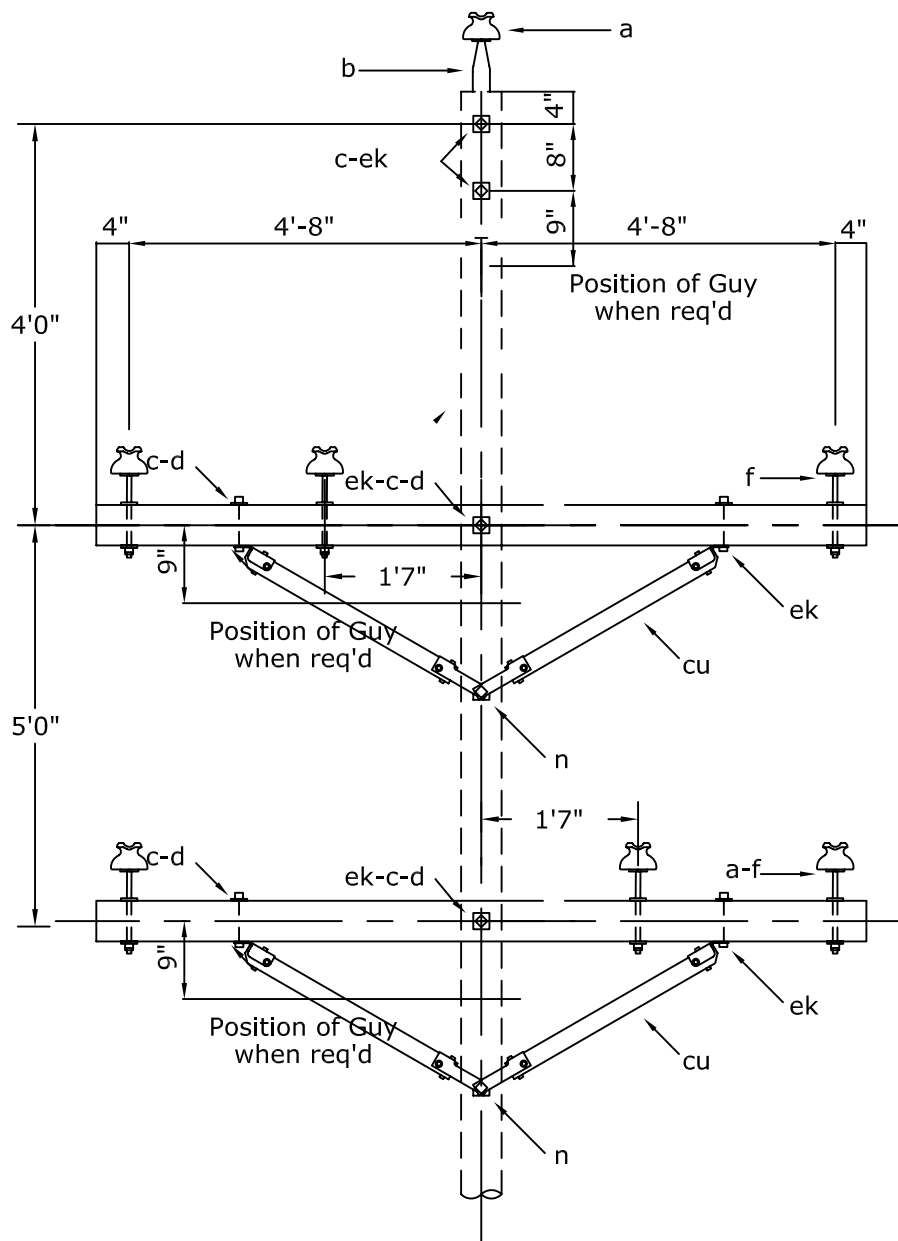
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM TANGENT STRUCTURE DOUBLE ALLEY ARM</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS10</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	4	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	8	Bolt, Machine, 5/8" x Required Length
d	2857402322	8	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	3	Steel Crossarm Pin
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	1	Lag Screw, 1/2" x 4"
ah	2801602124	24	Tie Wire, #4 Al (Feet)
em	2857802522	1	Brace, Alley Arm
ek	285740XXXX	8	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED CROSSARM TANGENT STRUCTURE SINGLE ALLEY ARM</p>	DATE: 04-16-07
		<p>STANDARD NUMBER</p> <p>CS10-1</p>



MATERIAL LIST

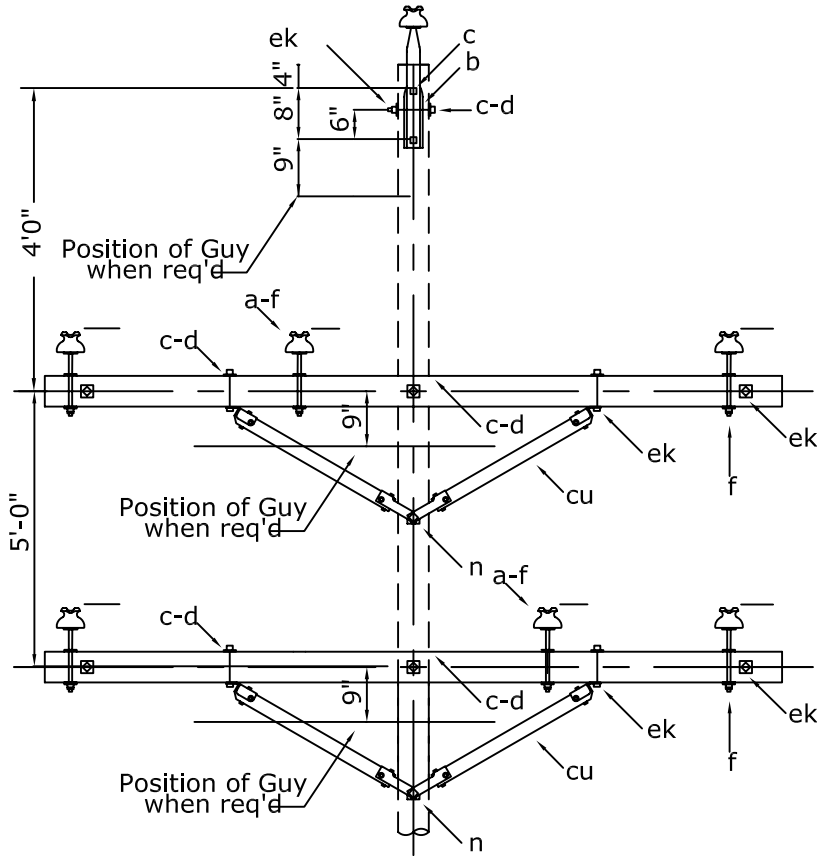
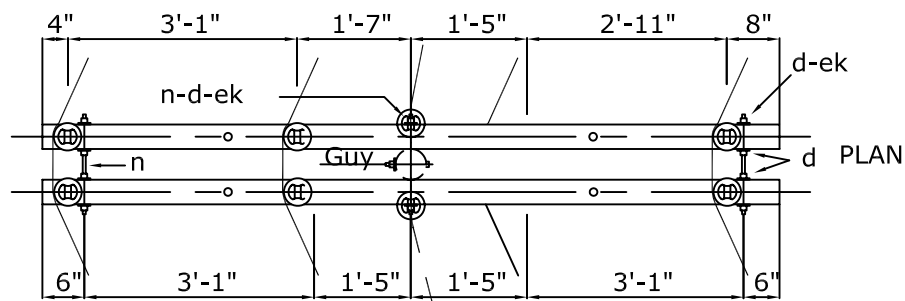
Item	COA Commodity Code	Qty.	Description
a	2857402299	7	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	14	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
ah	2801602124	50	Tie Wire, #4 Al (Feet)
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	12	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV SHIELDED DOUBLE CIRCUIT
CROSSARM TANGENT STRUCTURE

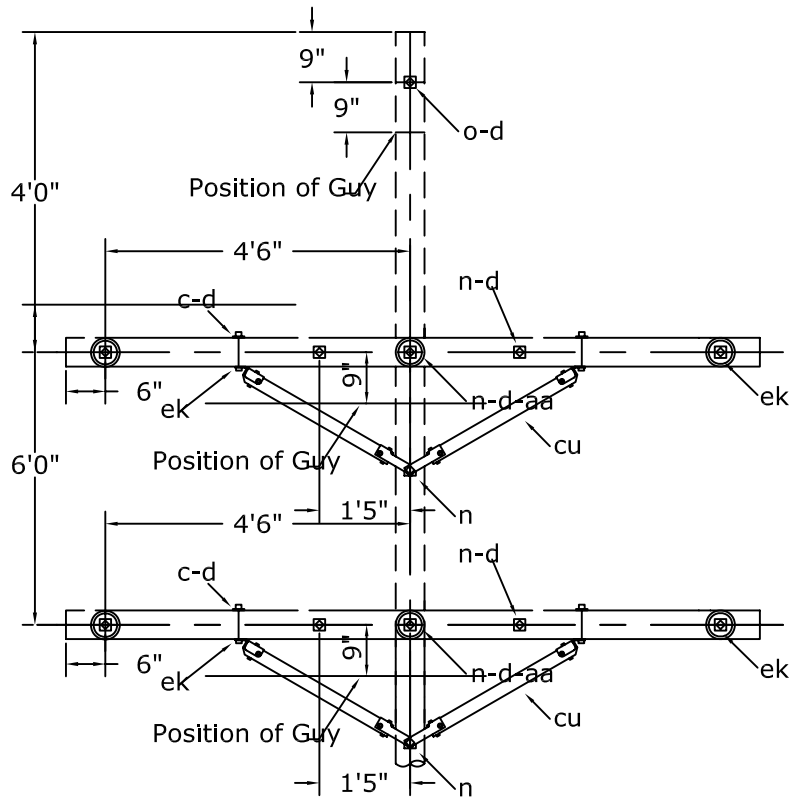
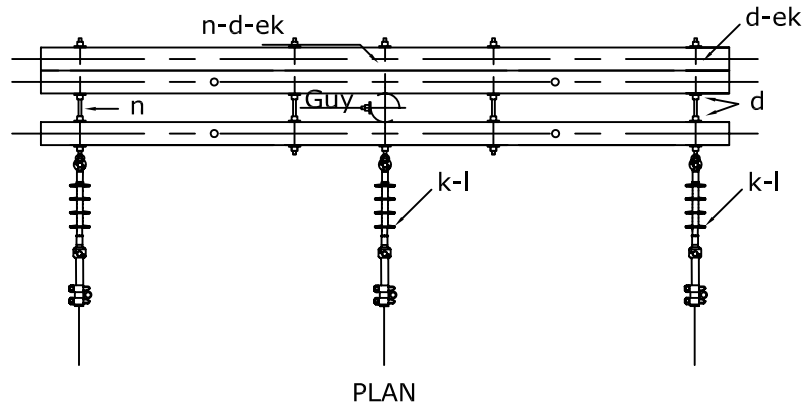
DATE: 04-17-07
STANDARD
NUMBER
DC-CS1



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	14	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
c	28574020XM	6	Bolt, Machine, 5/8" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	14	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	6	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	70	Tie Wire, #4 Al (Feet)
cu	2857802043	8	Brace, 60" Span (Wood)
ek	285740XXXX	37	Locknut, 5/8"

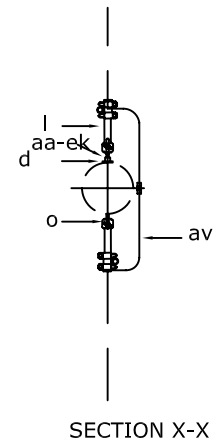
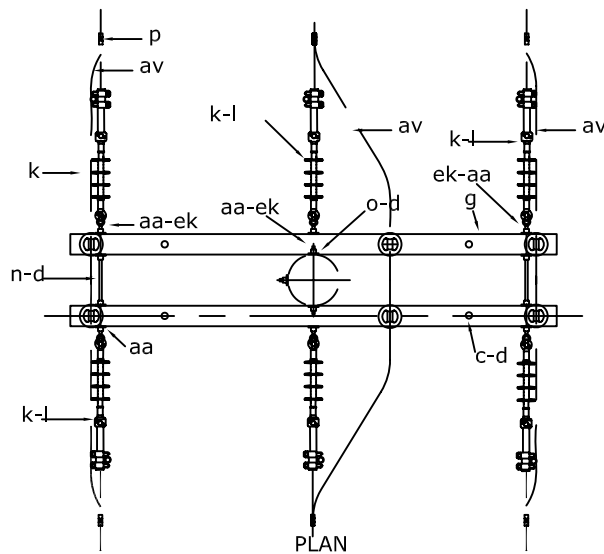
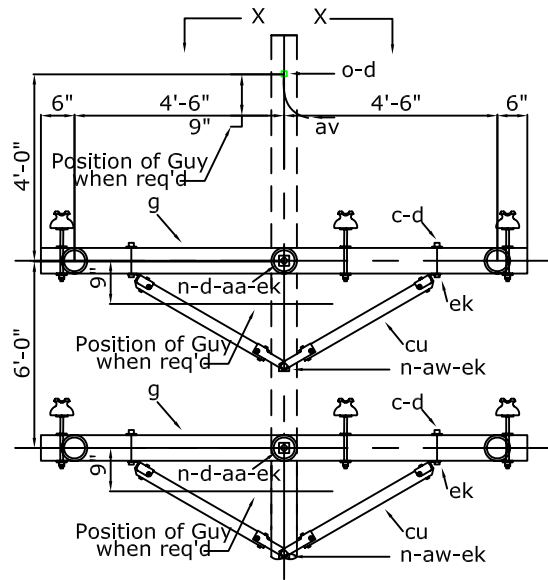
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED DOUBLE CIRCUIT SMALL ANGLE STRUCTURE</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-CS2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	22	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	6	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	6	Insulator, Suspension, Polymer
l	2857402142	8	Clamp, Deadend, Large
n	28574020XD	8	Bolt, Double Arming, 5/8" x Required Length
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	6	Nut, Oval Eye, 5/8"
cu	2857802043	8	Brace, 60" Span (Wood)
ek	285740XXXX	19	Locknut, 5/8"

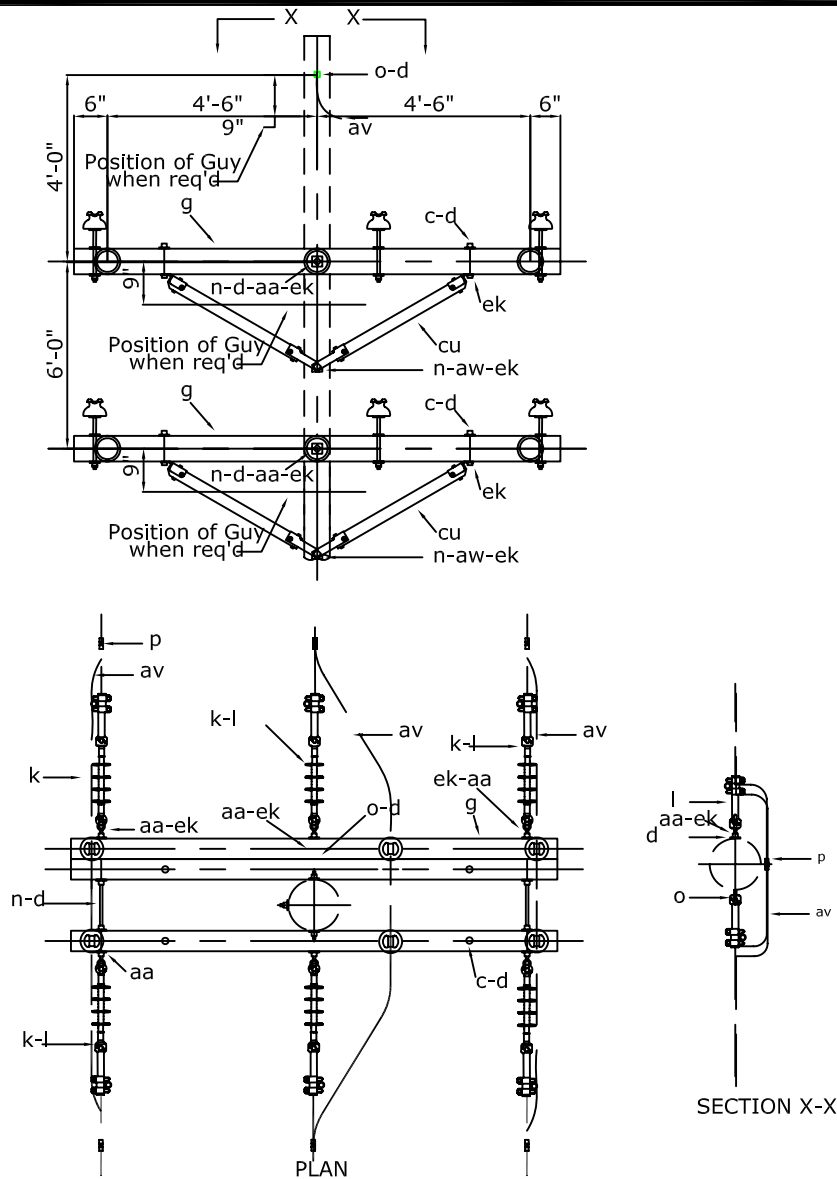
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED DOUBLE CIRCUIT CROSSARM SINGLE DEADEND - LARGE CONDUCTORS</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-CS7</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	12	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	32	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	12	Insulator, Suspension, Polymer
l	2857402142	16	Clamp, Deadend, Large
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	16	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	60	Tie Wire, #4 Al (Feet)
av	NA	7	Jumper, Sized As Required
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	32	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>12.5/7.2kV SHIELDED DOUBLE CIRCUIT CROSSARM DOUBLE DEADEND</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-CS8</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	12	Insulator, Pin Type
c	2857402008	8	Bolt, Machine, 1/2" x Required Length
d	2857402321	8	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	32	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802042	6	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
k	2857402300	12	Insulator, Suspension, Polymer
l	2857402142	16	Clamp, Deadend, Large
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	16	Connector, Sized As Required
aa	2857402310	8	Nut, Oval Eye, 5/8"
ah	2801602124	60	Tie Wire, #4 Al (Feet)
av	NA	7	Jumper, Sized As Required
cu	2857802043	4	Brace, 60" Span (Wood)
ek	285740XXXX	32	Locknut, 5/8"

City of
Alexandria

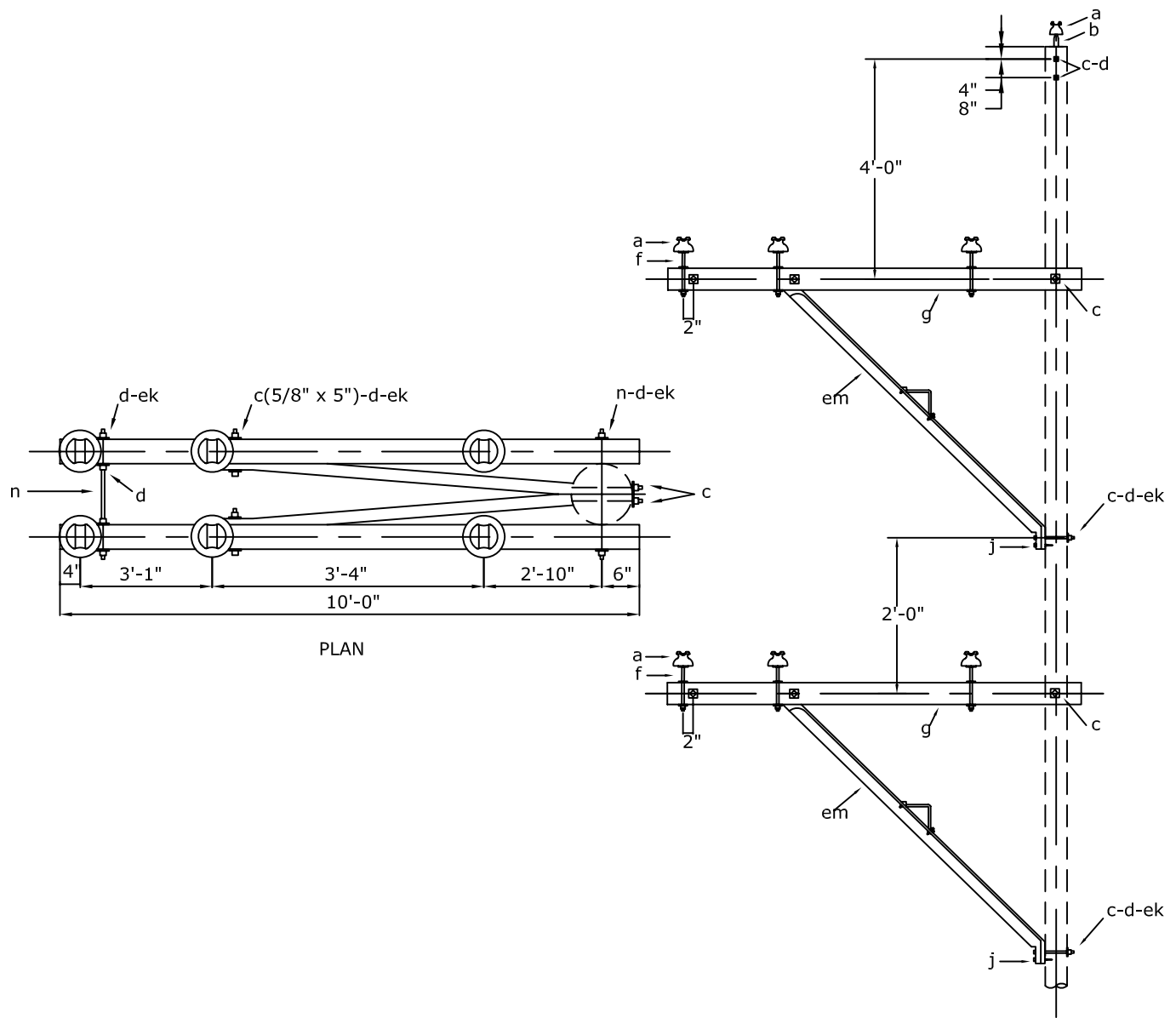
Electric Distribution

12.5/7.2kV SHIELDED DOUBLE CIRCUIT
CROSSARM DOUBLE DEADEND - UNBALANCED LOADS

DATE: 04-17-07

STANDARD
NUMBER

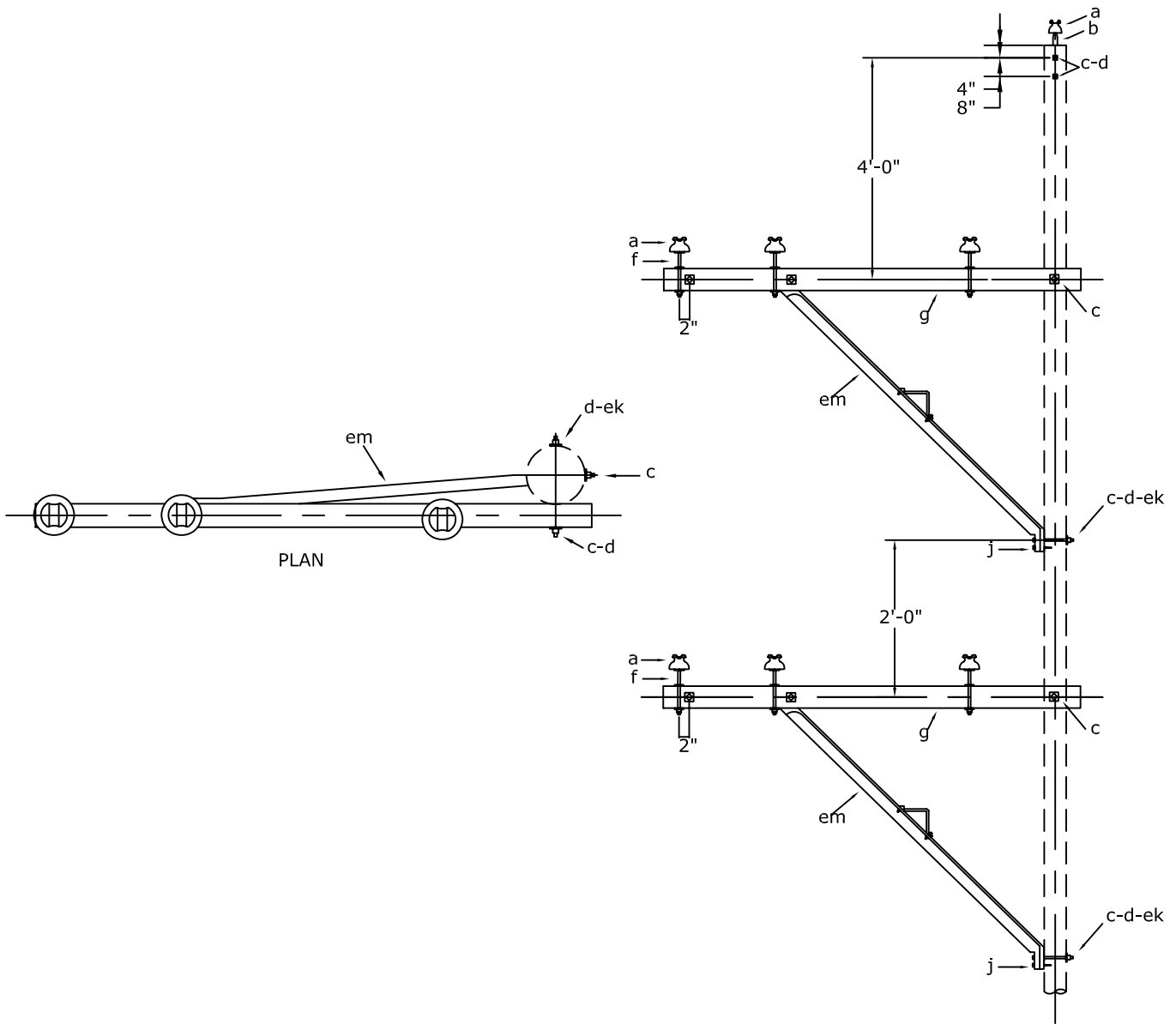
DC-CS8-2



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	14	Insulator, Pin Type
b	2857402314	2	Pin, Pole Top, 20"
c	28574020XM	6	Bolt, Machine, 5/8" x Required Length
d	2857402322	32	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	12	Steel Crossarm Pin
g	2857802041	4	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	4	Lag Screw, 1/2" x 4"
n	28574020XD	12	Bolt, Double Arming, 5/8" x Required Length
ah	2801602124	80	Tie Wire, #4 Al (Feet)
em	2857802522	4	Brace, Alley Arm
ek	285740XXXX	32	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>12.5/7.2kV SHIELDED DOUBLE CIRCUIT DOUBLE ALLEY ARM</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DC-CS10</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	7	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	8	Bolt, Machine, 5/8" x Required Length
d	2857402322	22	Washer, 2 1/4" Square With 13/16" Hole
f	2857802046	6	Steel Crossarm Pin
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
ah	2801602124	40	Tie Wire, #4 Al (Feet)
em	2857802522	2	Brace, Alley Arm
ek	285740XXXX	14	Locknut, 5/8"

City of
Alexandria

Electric Distribution

12.5/7.2kV SHIELDED DOUBLE CIRCUIT
SINGLE ALLEY ARM

DATE: 04-17-07

STANDARD
NUMBER

DC-CS10-1

PRIMARY CONDUCTORS

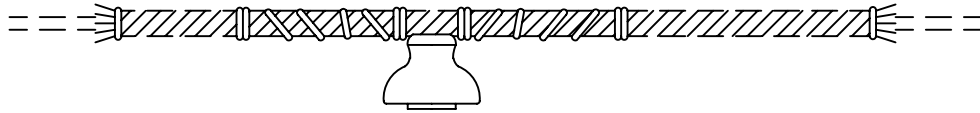
Unit #	Description	Codename	COA Commodity Code	Unit of Measure
D2ACSR	#2 ACSR	Sparrow	2801602113	Per Foot
D2TW	#2 ACSR 15kV Tree Cable	Beech	2801602114	Per Foot
D4/0ACSR	4/0 ACSR	Penguin	2801602111	Per Foot
D477AAC	477 MCM AAC	Cosmos	2801602110	Per Foot
D6CU	#6 Solid Copper	NA	Retirement Only	Per Foot
D4CU	#4 Solid Copper	NA	Retirement Only	Per Foot
D2CU	#2 Str. Copper	NA	Retirement Only	Per Foot
D1/0CU	1/0 Stranded Copper	NA	Retirement Only	Per Foot
D4/0CU	4/0 Stranded Copper	NA	Retirement Only	Per Foot

SECONDARY CONDUCTORS

Unit #	Description	Codename	COA Commodity Code	Unit of Measure
D336TPX	336 Triplex	Limpet	2808002099	Per Foot
D336QPX	336 Quadraplex	Bronco	2808002100	Per Foot
D4/0TPX	4/0 Triplex	Appaloosa	2808002101	Per Foot
D4/0QPX	4/0 Quadraplex	Zuzarra	2808002102	Per Foot
D1/0TPX	1/0 Triplex	Costena	2808002105	Per Foot
D1/0QPX	1/0 Quadraplex	Neretina	2808002106	Per Foot
D2TPX	#2 Triplex	Conch	2808002107	Per Foot
D2QPX	#2 Quadraplex	Palomino	2808002108	Per Foot
D6DPX	#6 Duplex	Shepherd	2808002109	Per Foot

<p align="center"><i>City of Alexandria</i></p> <p align="center"><i>Electric Distribution</i></p>	<p align="center">PRIMARY AND SECONDARY CONDUCTORS</p>	DATE: 04-17-07
		<p align="center">STANDARD NUMBER</p> <p align="center">D-GUIDE</p>

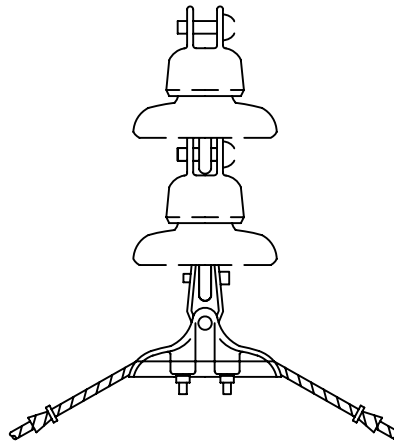
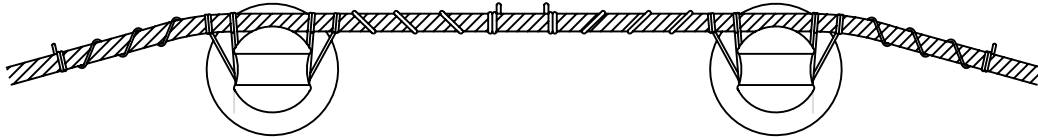
LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment.

<p><i>City of Alexandria</i> <i>Electric Distribution</i></p>	<p>RELOCATE OR SPREAD ENERGIZED CONDUCTOR TANGENT - 2.4 OR 7.2kV</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>D2.4TH D7.2TH</p>
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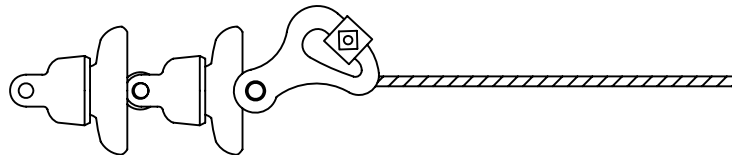
LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment.

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>RELOCATE OR SPREAD ENERGIZED CONDUCTOR LIGHT OR MEDIUM ANGLE - 2.4 OR 7.2kV</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>D2.4AH D7.2AH</p>
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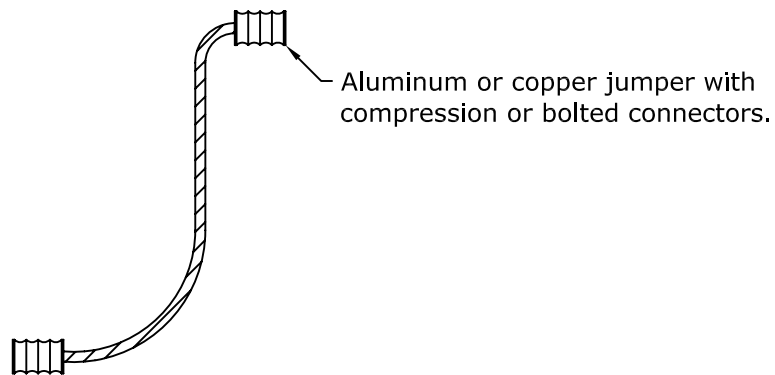
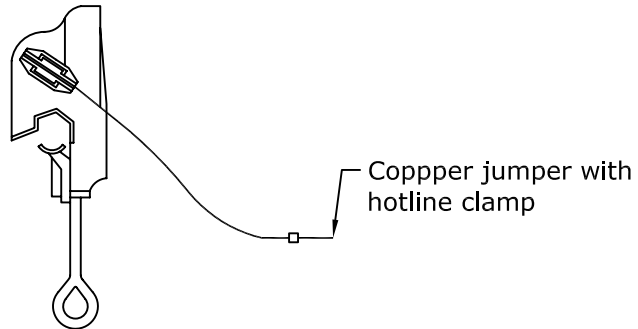
LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment. Does not include extending existing jumpers or installing temporary jumpers. Specify necessary jumper relocations with DRJMPR unit.

<p><i>City of Alexandria</i> <i>Electric Distribution</i></p>	<p>RELOCATE OR SPREAD ENERGIZED CONDUCTOR DEADEND - 2.4 OR 7.2kV</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>D2.4DH D7.2DH</p>
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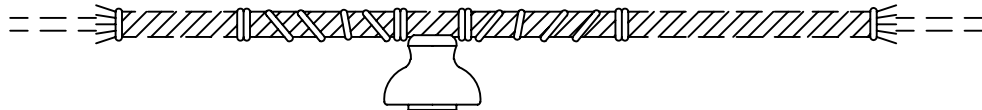
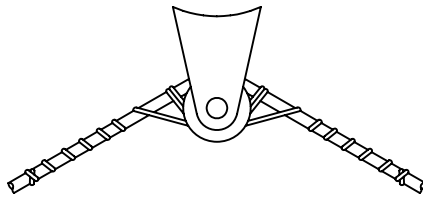
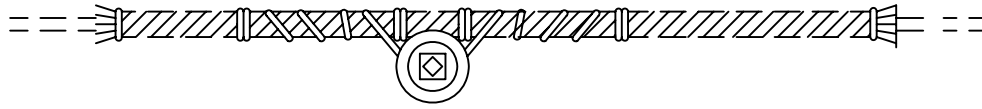
LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating or extending existing jumpers or installing temporary jumpers. This unit will be specified on reconductor projects only. Do not apply this unit to the same jumper more than once.

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>RELOCATE OR EXTEND EXISTING JUMPER 2.4 OR 7.2kV</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>DRJMPR</p>
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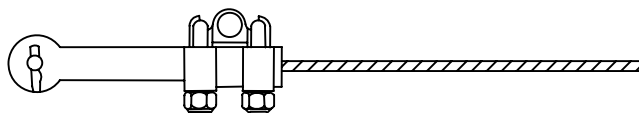
LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment.

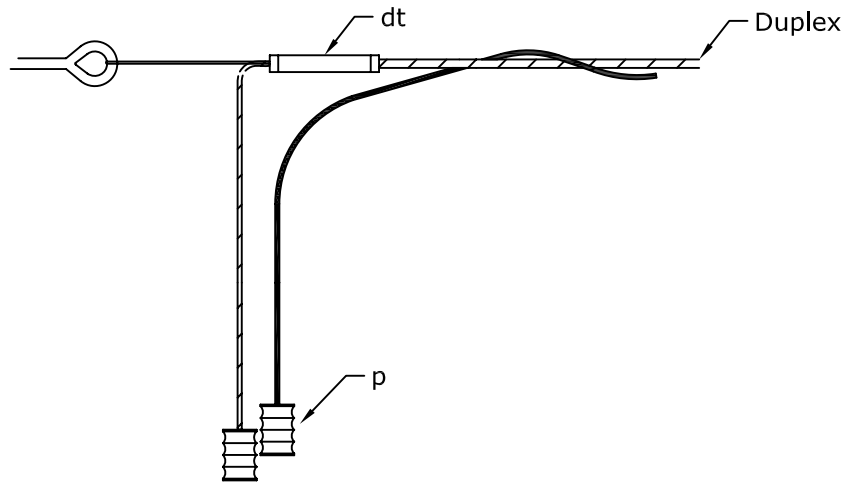
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>RELOCATE OR SPREAD NEUTRAL OR SHIELD WIRE TANGENT OR ANGLE</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>DRS5H</p>
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LABOR ONLY UNIT

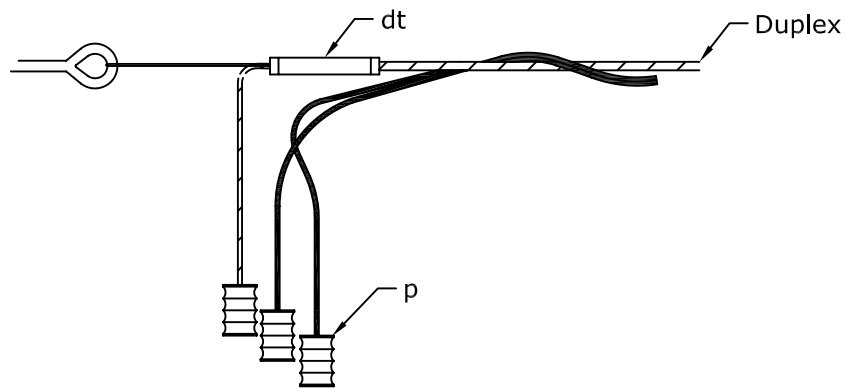


<p><i>City of Alexandria</i> <i>Electric Distribution</i></p>	<p>RELOCATE OR SPREAD NEUTRAL OR SHIELD WIRE DEADEND</p>	<p>DATE: 12-21-04 STANDARD NUMBER DRS6H</p>
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LABOR ONLY UNIT



LABOR ONLY UNIT



City of
Alexandria

Electric Distribution

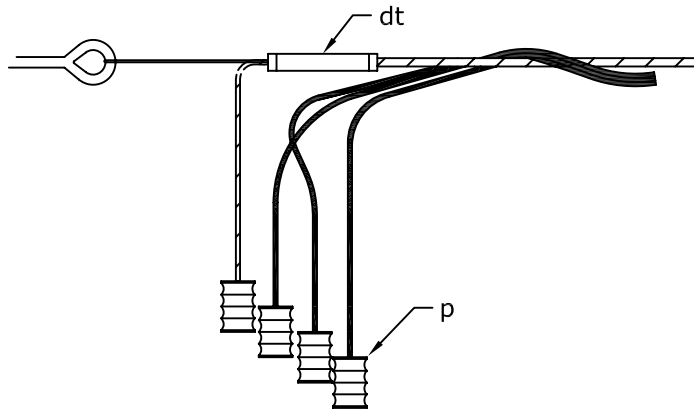
RELOCATE EXISTING DUPLEX OR TRIPLEX SERVICE

DATE: 12-21-04

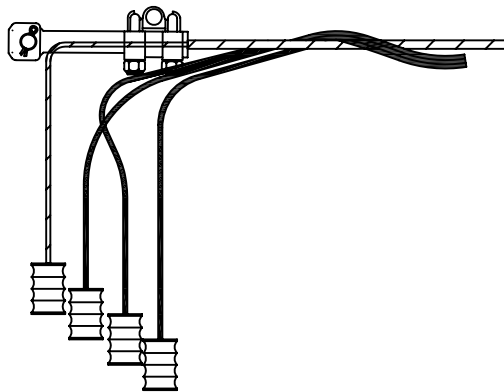
STANDARD
NUMBER

DRS8H

LABOR ONLY UNIT



LABOR ONLY UNIT

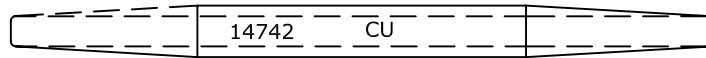


City of
Alexandria

Electric Distribution

RELOCATE EXISTING QUADRAPLEX SERVICE

DATE: 12-21-04
STANDARD
NUMBER
DRS9H

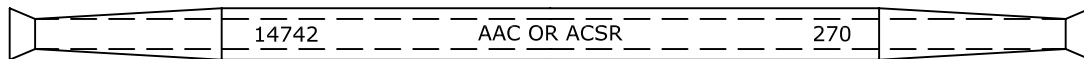


COPPER AUTOMATIC SLEEVE

NOTE: Install sleeves a minimum 8' from any crossarm or deadend assembly.

MATERIAL LIST

COA Commodity Code	Description	DSPA8CU	DSPA6CU	DSPA4CU	DSPA2CU	DSPA2ST	DSPA40CU
2857402187	Splice, Automatic, #8 Copper, Solid	1					
2857402188	Splice, Automatic, #6 Copper, Solid		1				
2857402189	Splice, Automatic, #4 Copper, Solid			1			
2857402190	Splice, Automatic, #2 Copper, Solid				1		
2857402191	Splice, Automatic, #2 Copper, Stranded					1	
2857402196	Splice, Automatic, 4/0 Copper, Stranded						1



AAC OR ACSR AUTOMATIC SLEEVE



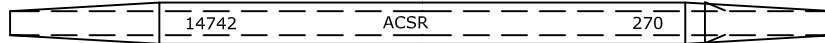
AAC OR ACSR READY FOR SPLICING

NOTE: Install sleeves a minimum 8' from any crossarm or deadend assembly.

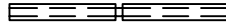
MATERIAL LIST

COA Commodity Code	Description	DSPA2ACSR	DSPA40ACSR	DSPA477AAC
2857402198	Splice, Automatic, #2 ACSR	1		
2857402199	Splice, Automatic, 4/0 ACSR		1	
2857402208	Splice, Automatic, 477 AAC			1

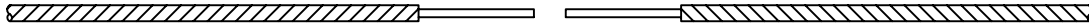
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>AUTOMATIC SPLICE FULL TENSION SPANS ONLY</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DSPA</p>



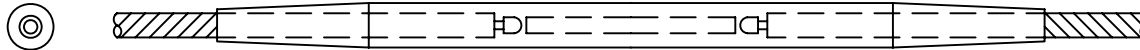
TUBULAR ALUMINUM SLEEVE



TUBULAR STEEL SLEEVE



A.C.S.R. READY FOR SPLICING



BEFORE COMPRESSION - TUBULAR COMPRESSION JOINT FOR A.C.S.R.



AFTER COMPRESSION - TUBULAR COMPRESSION JOINT FOR A.C.S.R.

METHOD OF APPLYING TUBULAR COMPRESSION JOINT

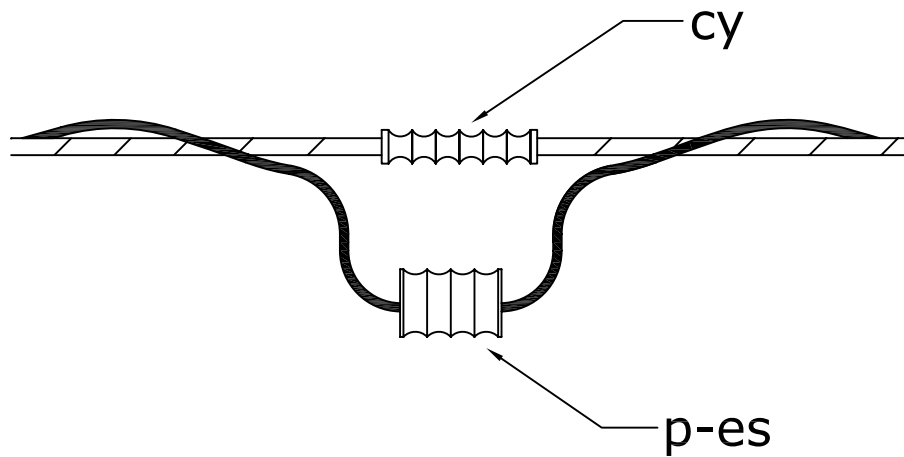
Caution: Before applying make sure the bores are thoroughly clean.

- 1- Slip the aluminum compression sleeve over one cable end and back it out of the way along the cable.
- 2- Using a hack saw, cut off the aluminum strands from each cable end, exposing the steel core for a distance of about 3/8" more than half the length of the steel compression sleeve. Use care not to nick the steel core with the saw. Before cutting serve the cable with wire just back of the cut.
- 3- Insert the steel core ends into the steel compression sleeve, making sure that the ends are jammed against the stop in the middle of the sleeve.
- 4- Compress the steel sleeve over its entire length, using the proper compression dies, making the first compression at the center and working out to the ends, allowing dies to always overlap their previous position.
- 5- Remove serving from the cable, clean conductor by wirebrushing and slip the aluminum sleeve over the steel joint. Center the aluminum sleeve by sighting the ends of the steel joint through the filler holes provided in the aluminum sleeve.
- 6- Using pressure gun equipped with tapered nozzle, inject corrosion inhibitor through both holes in the aluminum sleeve until the space between it and the steel joint is completely filled. This can be observed through the filler holes. The nozzle of the pressure gun should be jammed tightly in the filler holes to prevent the paste from oozing back during injection.
- 7- Insert the plugs in the filler holes and hammer them firmly in place. They will be securely locked in, compressing the aluminum joint.
- 8- Compress the aluminum sleeve, using the proper size dies. Make the first two compressions with the inner edges of the dies matching the positions stencilled on the aluminum sleeve. Make additional compressions advancing to ends, allowing dies to always overlap previous position.
- 9- Install sleeves a minimum 8' from any crossarm or deadend assembly.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
cy	SO-DH-DSPC	1	Splice, Compression, Sized As Required

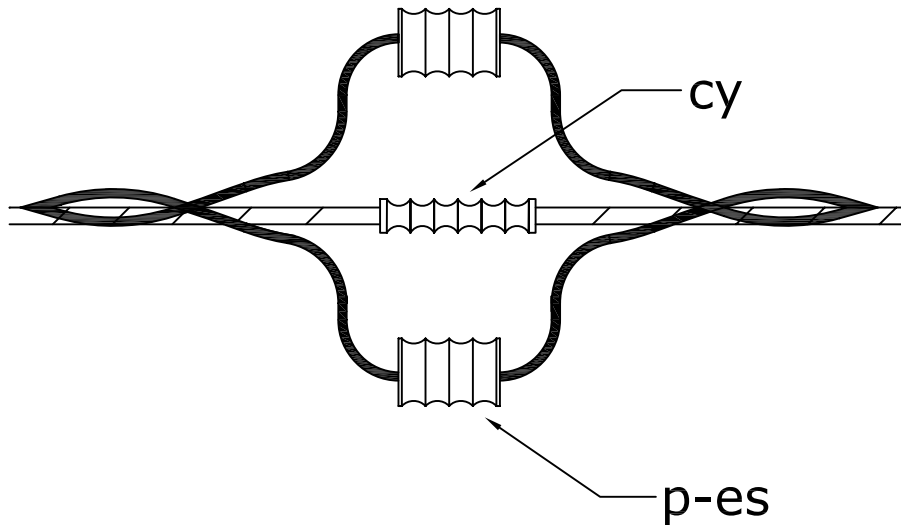
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>COMPRESSION SPLICE PARTIAL TENSION AND SLACK SPANS</p>	DATE: 04-17-07
		<p>STANDARD NUMBER</p> <p>DSPC</p>



DSPD - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	2857402237	1	Connector, Compression, YH0-100
cy	2857402513	1	Splice, Compression, Secondary, #6 ACSR
es	2857402511	1	Splice Cover, Small

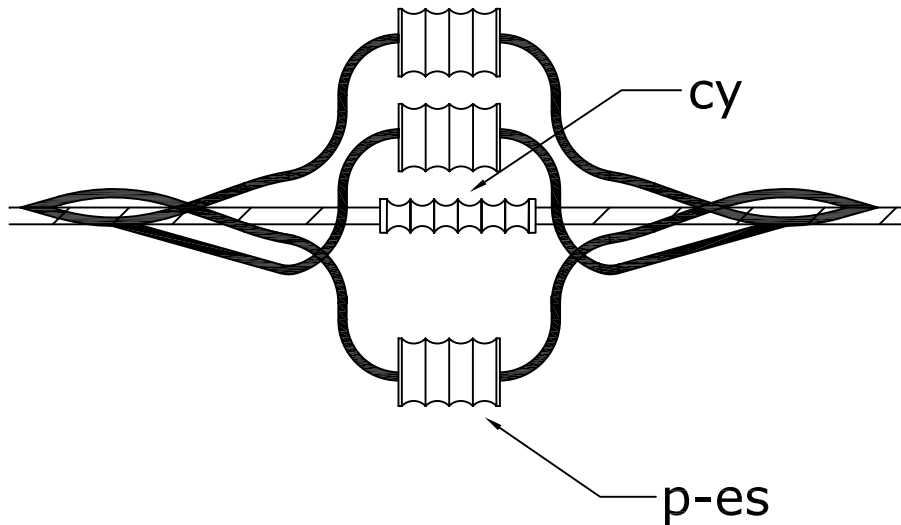
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SPLICE AND RELOCATE DUPLEX SERVICE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>DSPD</p>



MATERIAL LIST

Item	COA Commodity Code	Description	DSPT2	DSPT10	DSPT40	DSPT336
p	2857402237	Connector, Compression, YH0-150	2			
p	2857402234	Connector, Compression, YHD-300		2		
p	2857402232	Connector, Compression, YHD-400			2	
p	2857402231	Connector, Compression, YHN-450				2
cy	2857402514	Splice, Compression, Secondary, #2 ACSR	1			
cy	2857402515	Splice, Compression, Secondary, 1/0 ACSR		1		
cy	2857402516	Splice, Compression, Secondary, 4/0 ACSR			1	
cy	2857402517	Splice, Compression, Secondary, 336 ACSR				1
es	2857402511	Splice Cover, Small	2			
es	2857402327	Splice Cover, Medium		2	2	
es	2857402512	Splice Cover, Large				2

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SPLICE AND RELOCATE TRIPLEX SERVICE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>DSPT</p>

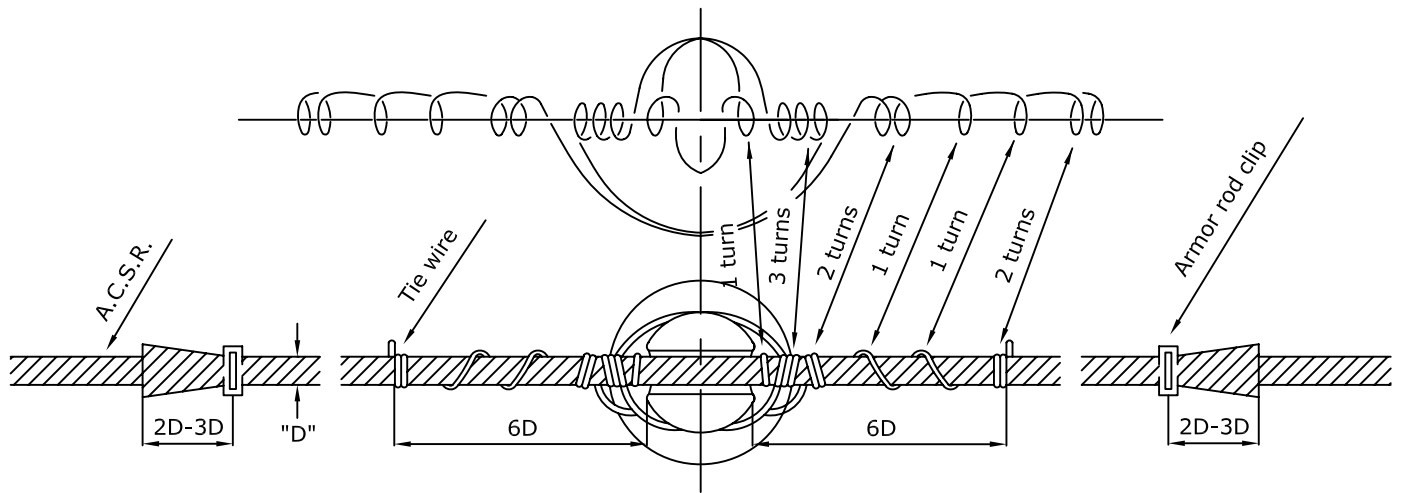


MATERIAL LIST

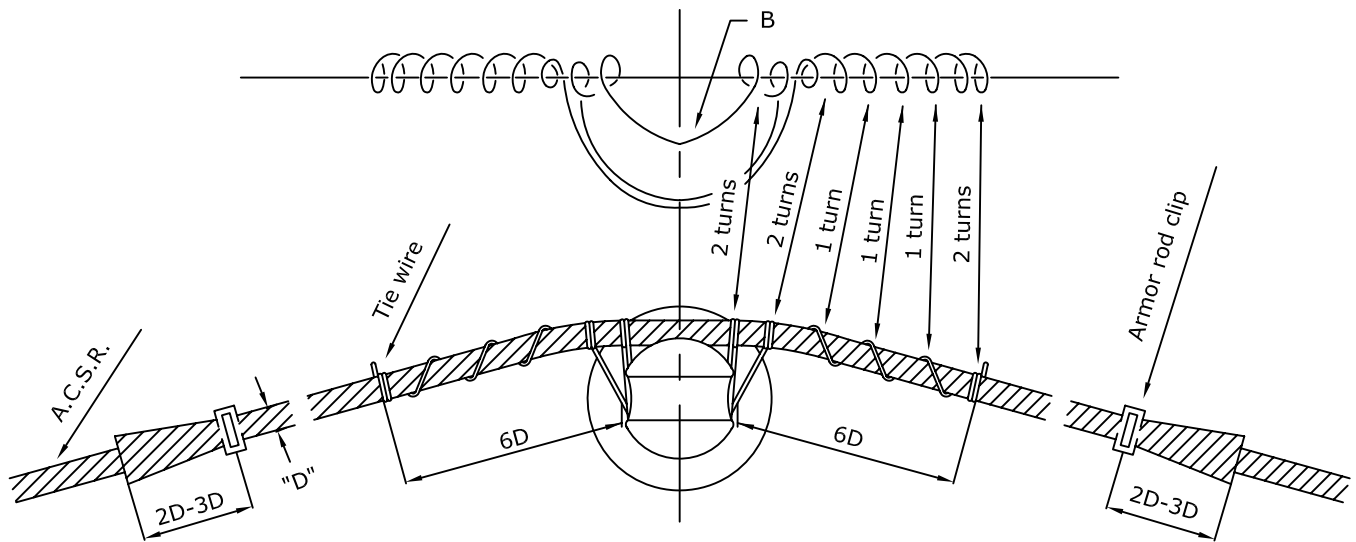
Item	COA Commodity Code	Description	DSPQ2	DSPQ10	DSPQ40	DSPQ336
p	2857402237	Connector, Compression, YH0-150	3			
p	2857402234	Connector, Compression, YHD-300		3		
p	2857402232	Connector, Compression, YHD-400			3	
p	2857402231	Connector, Compression, YHN-450				3
cy	2857402514	Splice, Compression, Secondary, #2 ACSR	1			
cy	2857402515	Splice, Compression, Secondary, 1/0 ACSR		1		
cy	2857402516	Splice, Compression, Secondary, 4/0 ACSR			1	
cy	2857402517	Splice, Compression, Secondary, 336 ACSR				1
es	2857402511	Splice Cover, Small	3			
es	2857402327	Splice Cover, Medium		3	3	
es	2857402512	Splice Cover, Large				3

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SPLICE AND RELOCATE QUADRAPLEX SERVICE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>DSPQ</p>

FOR ILLUSTRATION PURPOSES ONLY



TOP GROOVE DOUBLE TIE



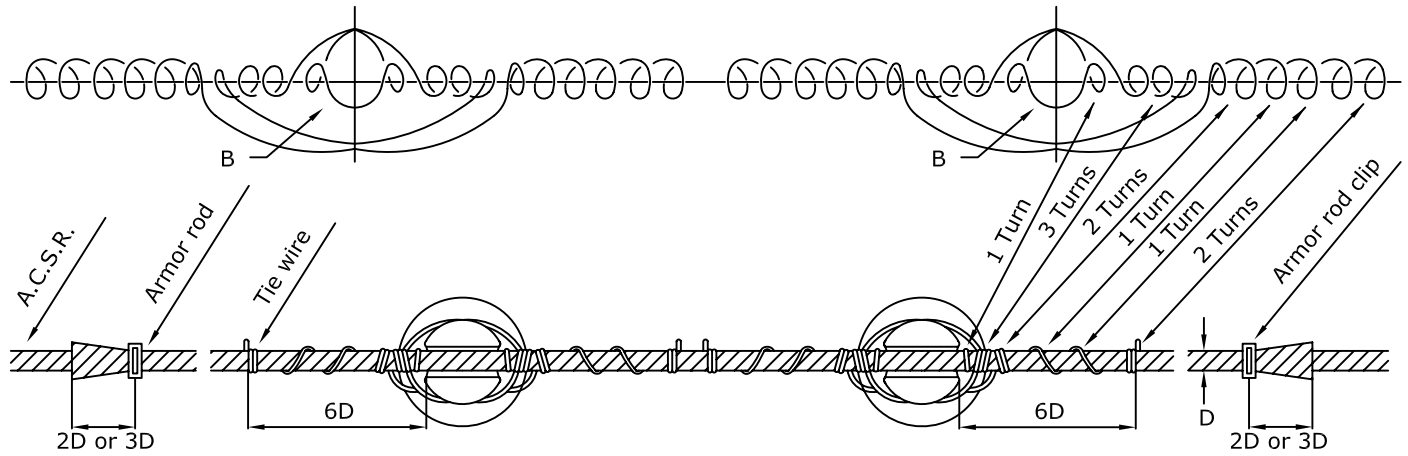
SIDE GROOVE TIE

NOTES:

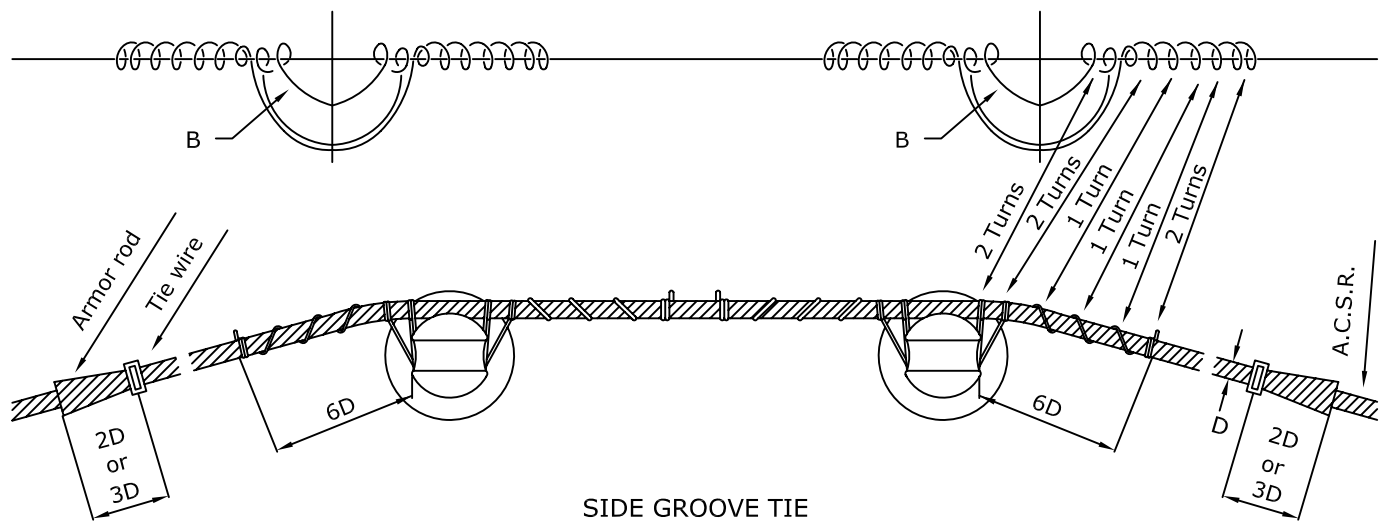
- 1- In making ties, start with middle of length of tie wire at position marked "B".
- 2- To complete tie, cinch up last two turns at each end with pliers until tie wire is snug and tight.

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>CONDUCTOR TYING GUIDE SINGLE INSULATOR</p>	<p>DATE: 04-17-07</p> <p>STANDARD NUMBER</p> <p>DTIE-1</p>
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FOR ILLUSTRATION PURPOSES ONLY



TOP GROOVE DOUBLE TIE

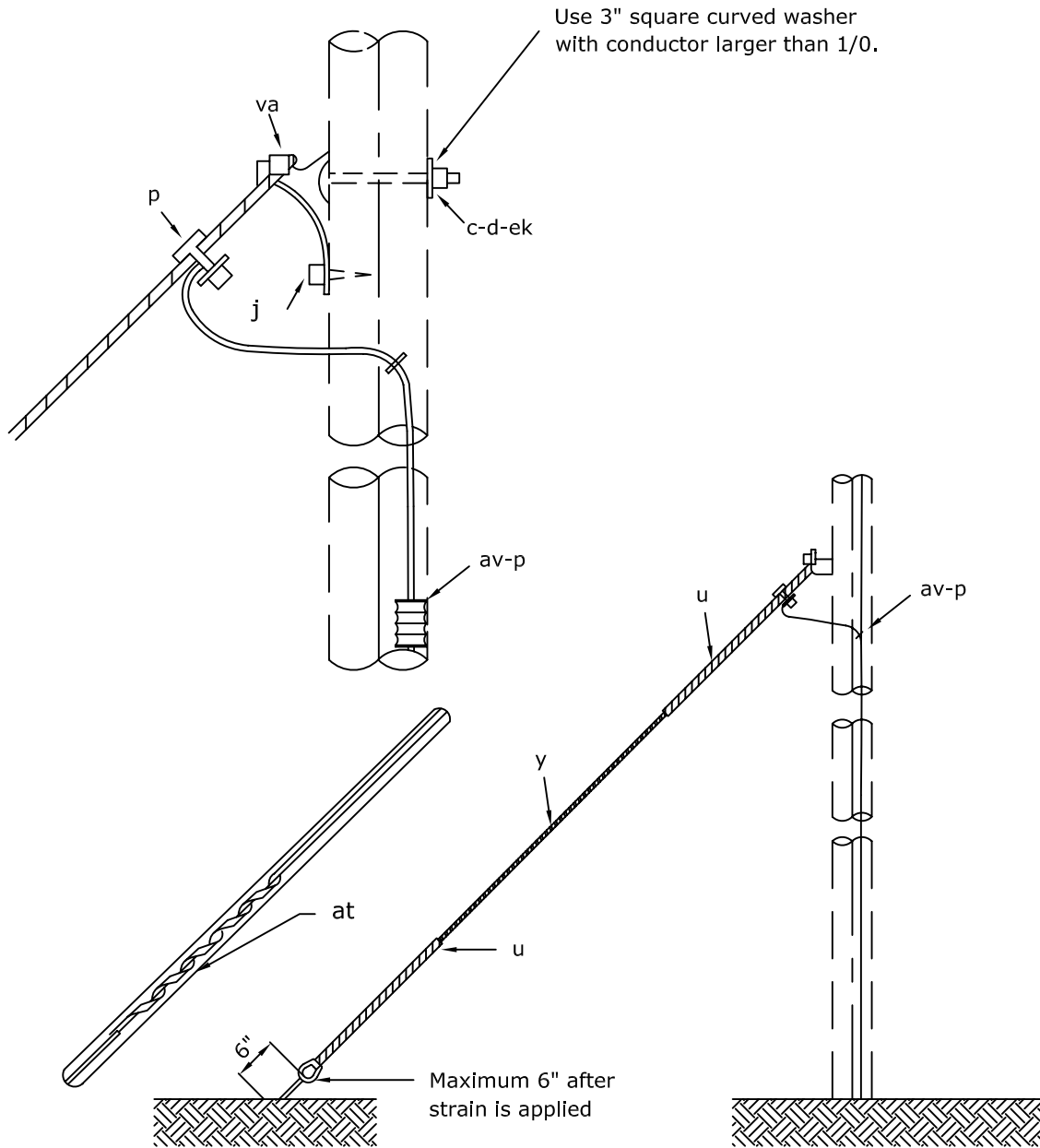


SIDE GROOVE TIE

NOTES:

- 1- In making ties, start with middle of length of tie wire at position marked "B".
- 2- To complete tie, cinch up last two turns at each end with pliers until tie wire is snug and tight.
- 3- Use the flat face of the pliers against the armor rods.

<p>City of Alexandria Electric Distribution</p>	<p>CONDUCTOR TYING GUIDE DOUBLE INSULATOR</p>	<p>DATE: 04-17-07</p>
		<p>STANDARD NUMBER DTIE-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" or 3" Square With 13/16" Hole
j	2857402320	1	Lag Screw, 1/2" x 4"
p	28574022XX	2	Connector, Compression, Sized as Required
u	2857402213	2	Deadend for Galvanized Steel Strand, 3/8"
y	2804002116	60	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
av	NA	1	Jumper, #6 Cu
ek	285740XXXX	1	Locknut, 5/8"
va	2857402471	1	Guy Attachment

City of
Alexandria

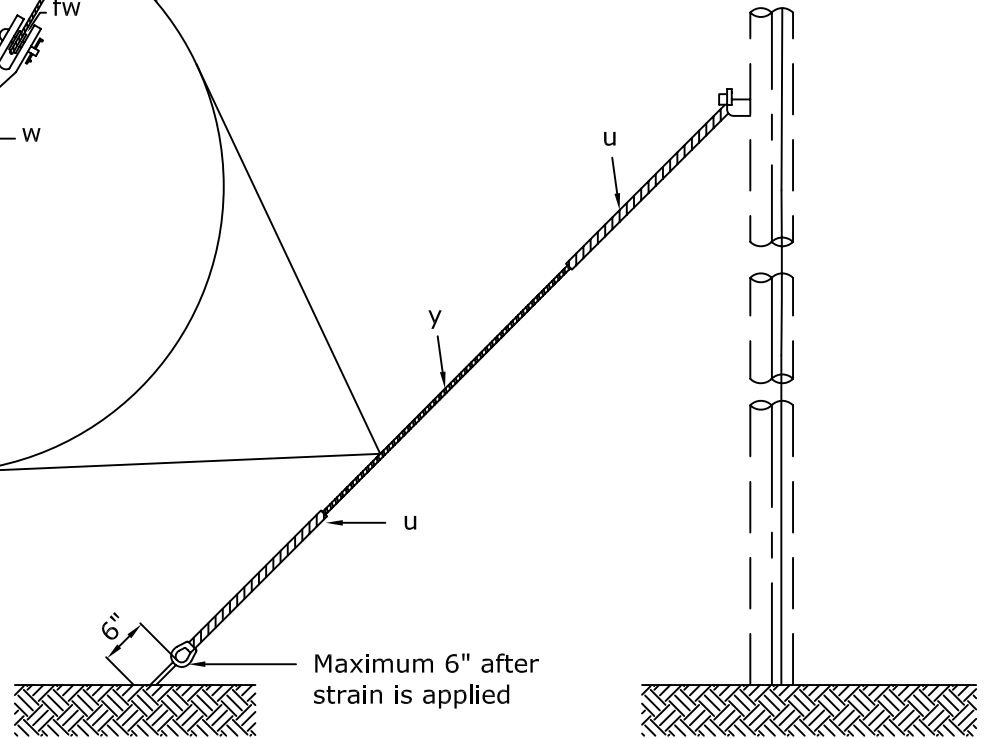
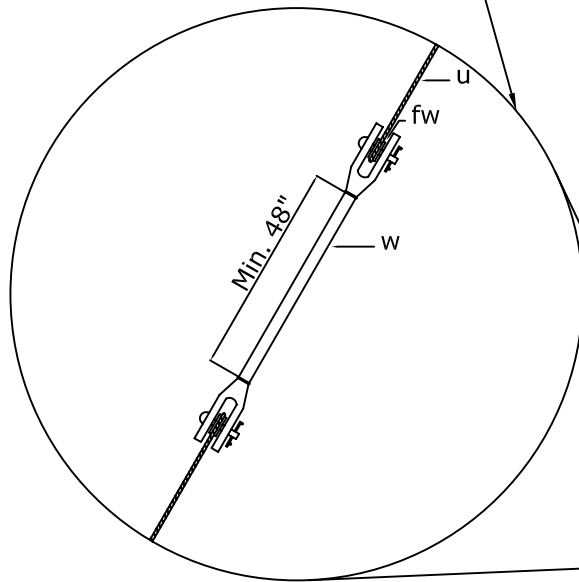
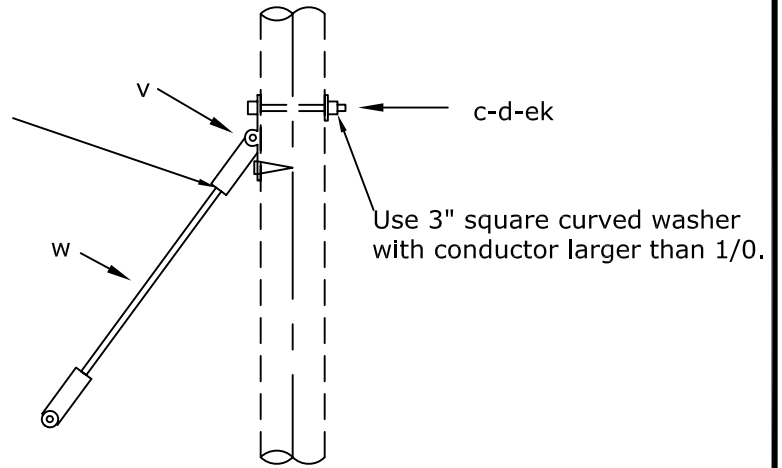
Electric Distribution

SINGLE DOWN GUY
THROUGH BOLT TYPE

DATE: 04-18-07
STANDARD NUMBER
E1-2

Attach Guy Strain Insulator to Guy Attachment only when all energized conductors are above the Guy Attachment.

For guys adjacent to energized conductors: position Guy Strain Insulator centered along energized conductor.



MATERIAL LIST

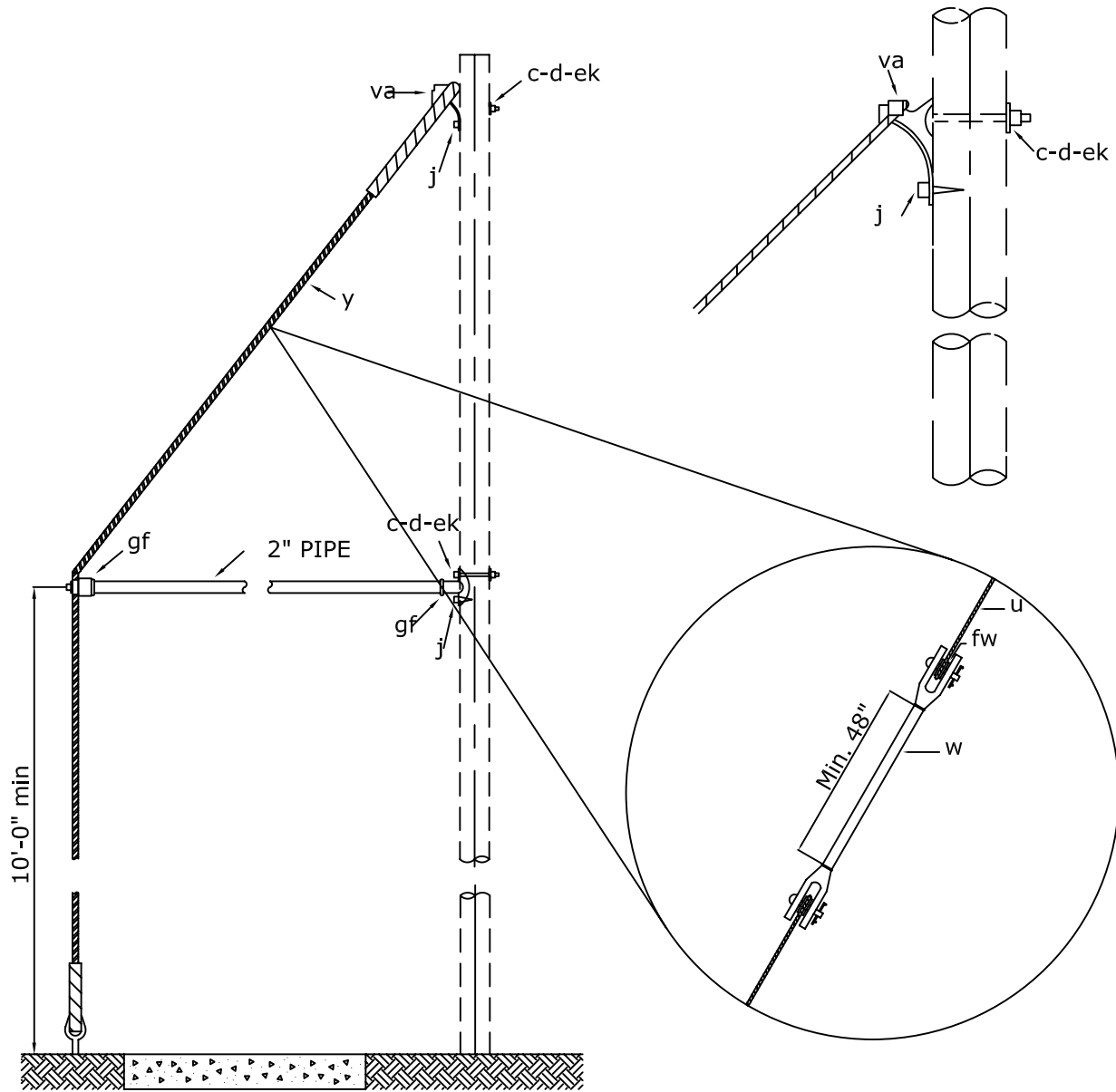
Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" or 3" Square With 13/16" Hole
j	2857402320	1	Lag Screw, 1/2" x 4"
u	2857402213	4	Deadend for Galvanized Steel Strand, 3/8"
w	2857402492	1	Guy Strain Insulator, 54"
y	2804002116	60	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
ek	285740XXXX	1	Locknut, 5/8"
va	2857402471	1	Guy Attachment (For Guy Strain Insulator, If Required)

City of
Alexandria

Electric Distribution

INSULATED SINGLE DOWN GUY
THROUGH BOLT TYPE

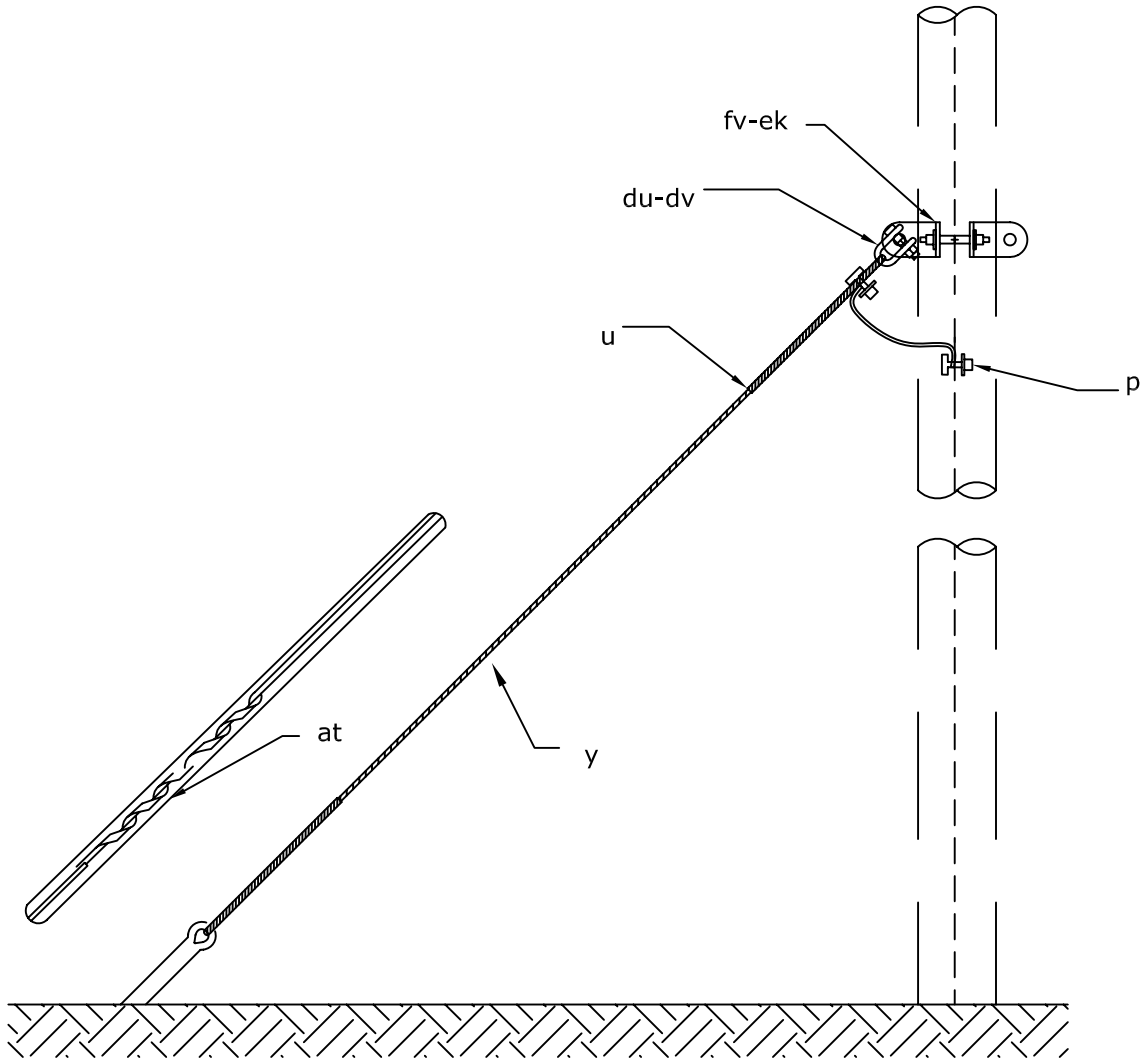
DATE: 04-18-07
STANDARD NUMBER
E1-2S



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" or 3" Square With 13/16" Hole
j	2857402320	2	Lag Screw, 1/2" x 4"
u	2857402213	4	Deadend for Galvanized Steel Strand, 3/8"
w	2857402492	1	Guy Strain Insulator, 54"
y	2804002116	60	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
gf	2857802317	1	Plate, Pole
gf	2857802528	1	Clamp, End Fitting
-	2851902487	1	Strut Pipe Assembly, 2" Rigid Galvanized
ek	285740XXXX	2	Locknut, 5/8"
va	2857402471	1	Guy Attachment (For Guy Strain Insulator, If Required)

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>INSULATED SIDEWALK GUY THROUGH BOLT TYPE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E1-2SW</p>

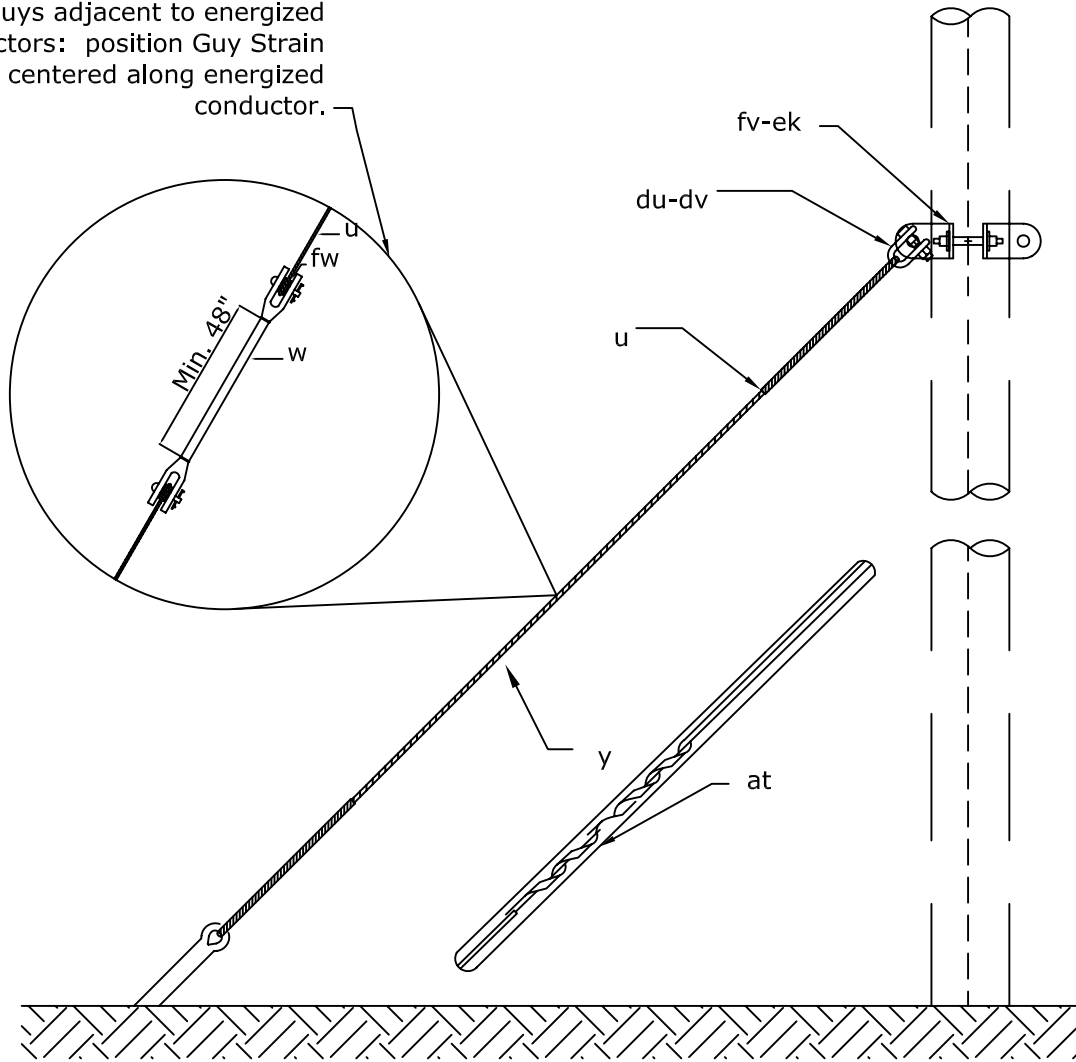


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	SO-TH-PB	2	Connector, Bolted, Sized As Required
u	SO-TH-U	2	Deadend for Galvanized Steel Strand, 1/2"
y	SO-TH-Y	75	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
av	NA	1	Bonding Jumper, #4 Cu
du	SO-TH-DU	2	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes
dv	2857802525	1	Clevis, Thimble
ek	SO-TH-EK78	8	Locknut, 7/8"
fv	SO-TH-FV	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE DOWN GUY POLE BAND TYPE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>E1-3</p>

For guys adjacent to energized conductors: position Guy Strain Insulator centered along energized conductor.



MATERIAL LIST

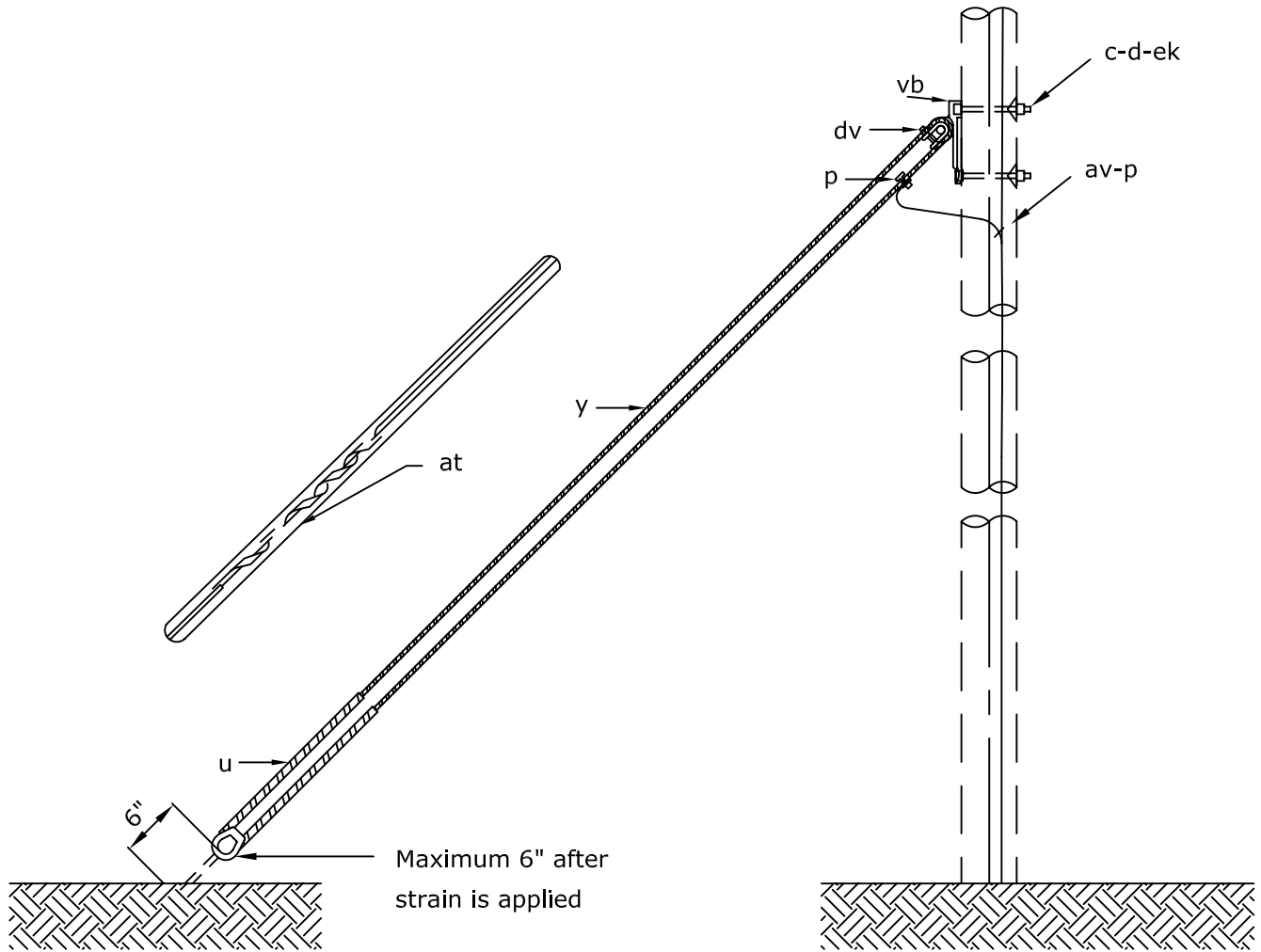
Item	COA Commodity Code	Qty.	Description
u	SO-TH-U	4	Deadend for Galvanized Steel Strand, 1/2"
y	SO-TH-Y	75	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
w	SO-TH-W	1	Guy Strain Insulator, 54", 30,000# Rating
du	SO-TH-DU	2	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes
dv	2857802525	1	Clevis, Thimble
ek	SO-TH-EK78	8	Locknut, 7/8"
fv	SO-TH-FV	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs

City of
Alexandria

Electric Distribution

INSULATED SINGLE DOWN GUY
POLE BAND TYPE

DATE: 04-19-07
STANDARD NUMBER
E1-3S

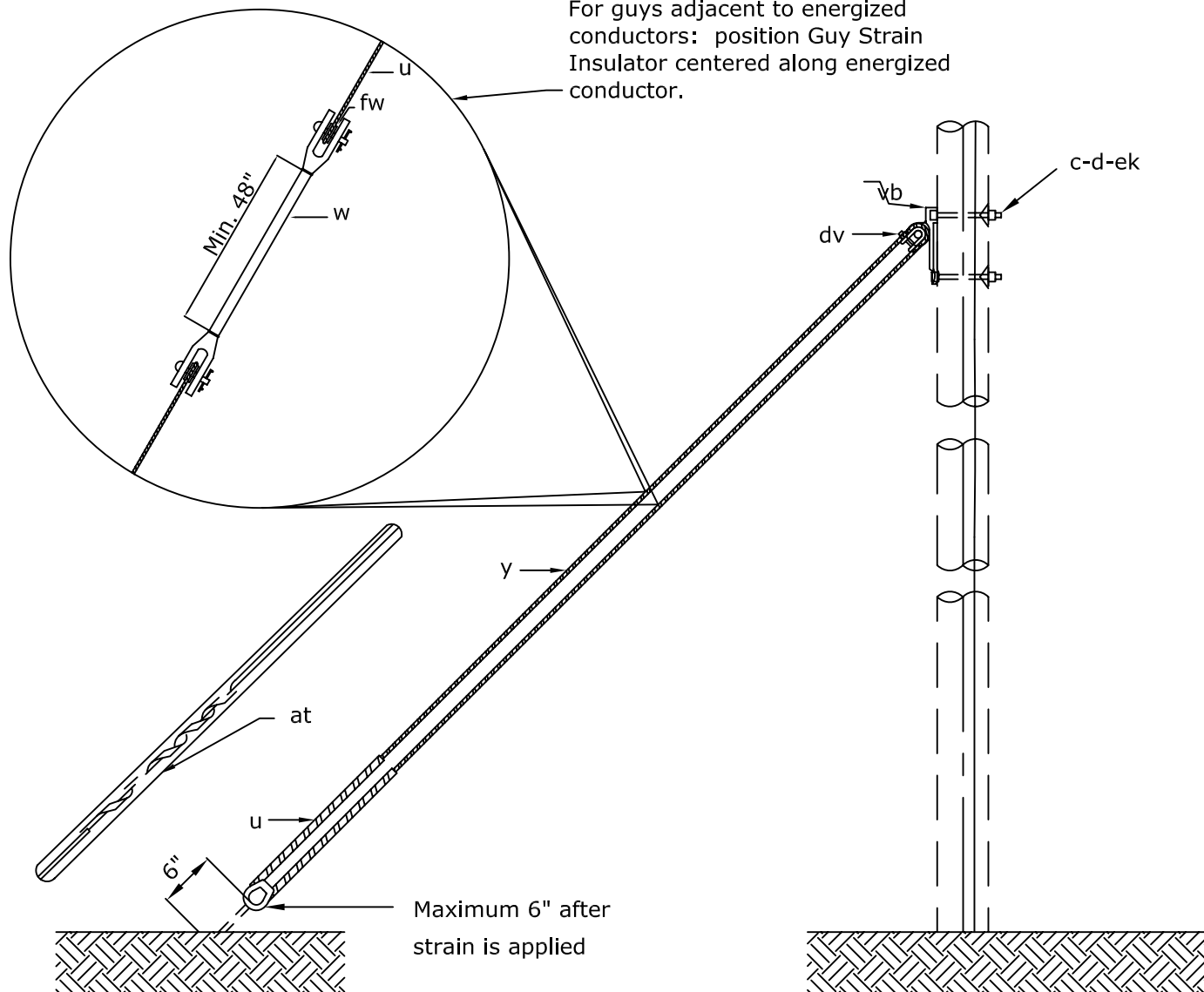


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" or 3" Square With 13/16" Hole
p	28574022XX	2	Connector, Compression, Sized as Required
u	2857402213	2	Deadend for Galvanized Steel Strand, 3/8"
y	2804002116	120	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
av	NA	1	Jumper, #6 Cu
dv	2857802525	1	Clevis, Thimble
ek	285740XXXX	2	Locknut, 5/8"
vb	2857802527	1	Plate, Pole Eye

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>DOUBLE DOWN GUY HEAVY DUTY THROUGH BOLT TYPE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E1-4</p>

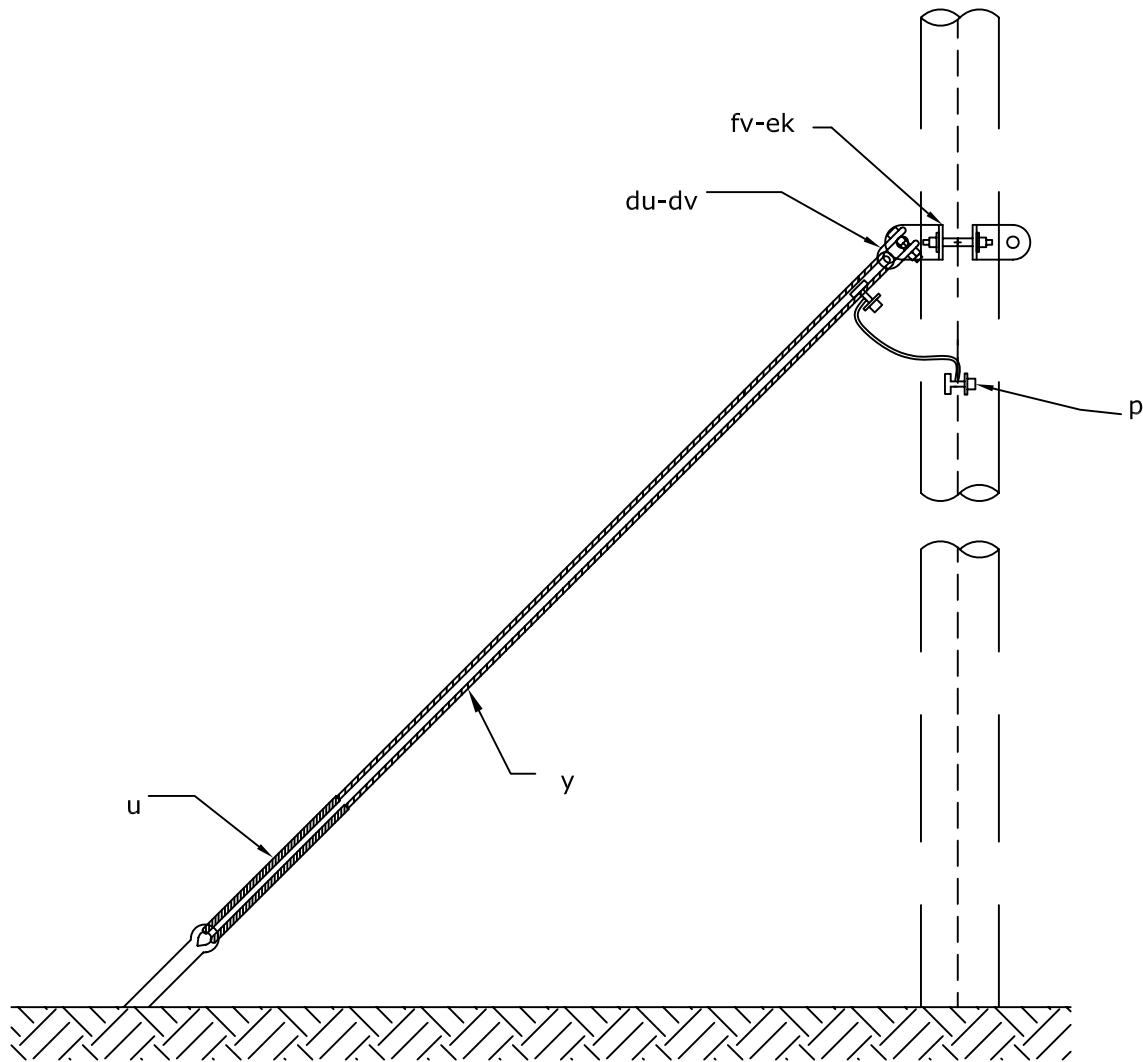
For guys adjacent to energized conductors: position Guy Strain Insulator centered along energized conductor.



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XX	2	Bolt, Machine, 5/8" x Required Length
d	285740232X	2	Washer, 2 1/4" or 3" Square With 13/16" Hole
u	2857402213	6	Deadend for Galvanized Steel Strand, 3/8"
w	2857402492	2	Guy Strain Insulator, 54"
y	2804002116	120	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
dv	2857802525	1	Clevis, Thimble
ek	285740XXXX	2	Locknut, 5/8"
vb	2857802527	1	Plate, Pole Eye

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>INSULATED DOUBLE DOWN GUY HEAVY DUTY THROUGH BOLT TYPE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E1-4S</p>

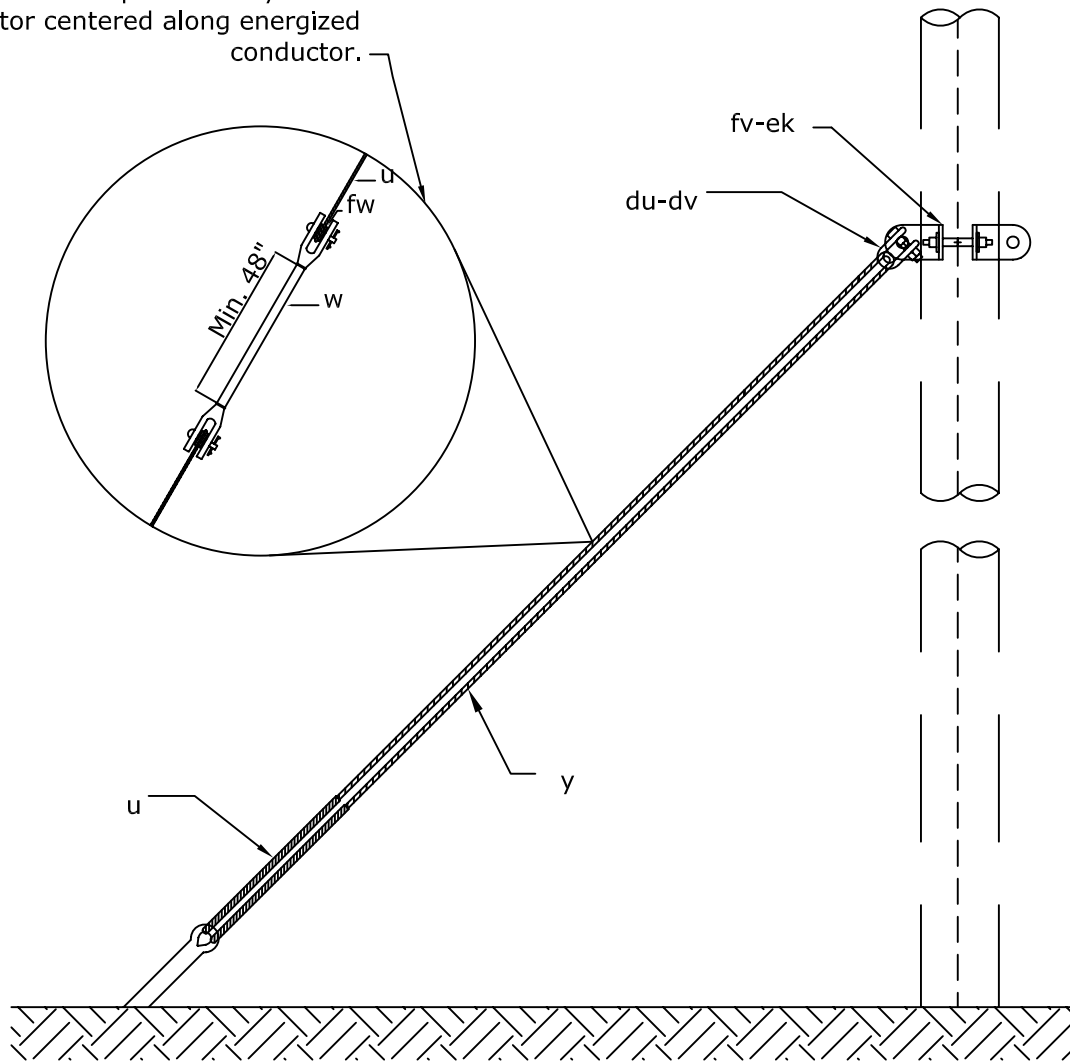


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	SO-TH-PB	2	Connector, Bolted, Sized As Required
u	SO-TH-U	2	Deadend for Galvanized Steel Strand, 1/2"
y	SO-TH-Y	150	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
av	NA	1	Bonding Jumper, #4 Cu
du	SO-TH-DU	2	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes
dv	2857802525	1	Clevis, Thimble
ek	SO-TH-EK78	8	Locknut, 7/8"
fv	SO-TH-FV	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>DOUBLE DOWN GUY POLE BAND TYPE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>E1-5</p>

For guys adjacent to energized conductors: position Guy Strain Insulator centered along energized conductor.



MATERIAL LIST

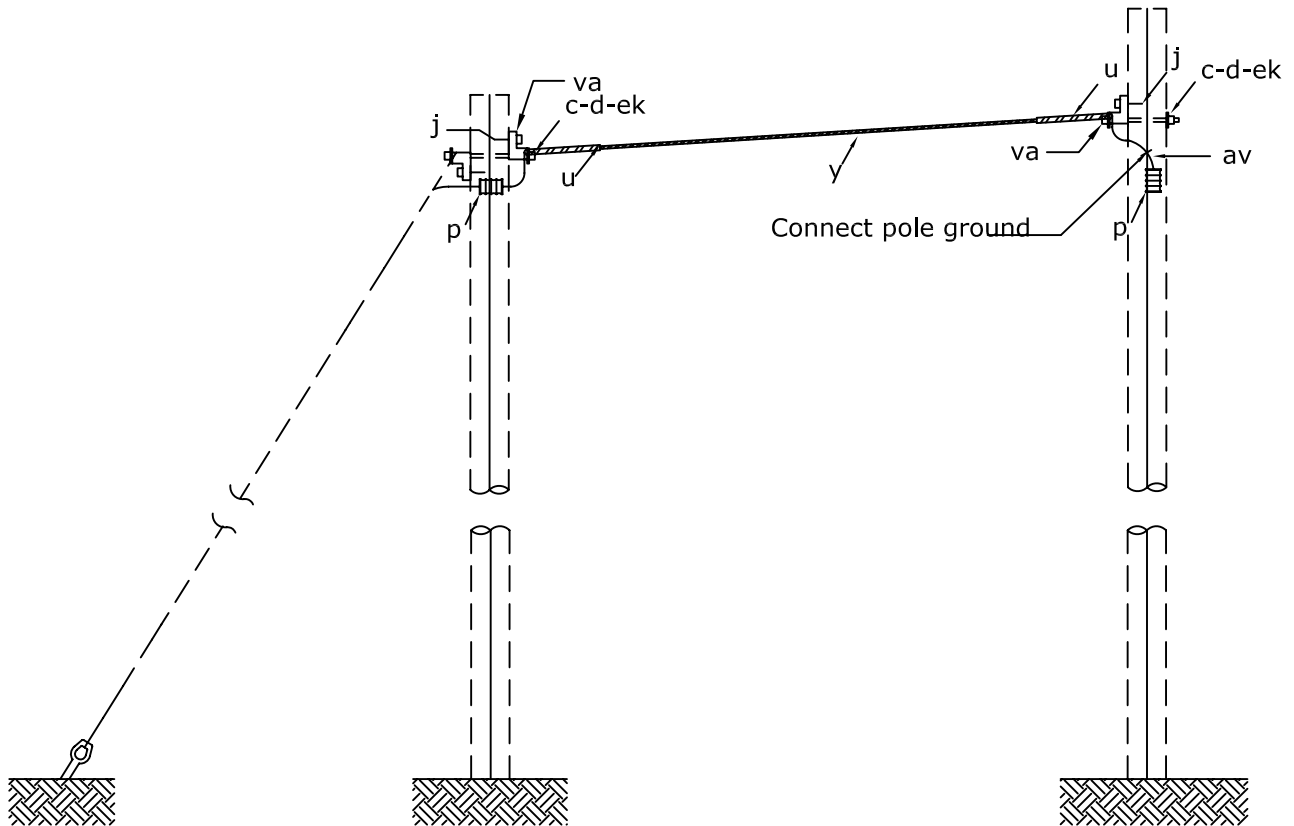
Item	COA Commodity Code	Qty.	Description
u	SO-TH-U	6	Deadend for Galvanized Steel Strand, 1/2"
y	SO-TH-Y	150	Galvanized Steel Strand, 3/8" EHS
at	2859902328	1	Guy Guard, 8', Yellow
w	SO-TH-W	2	Guy Strain Insulator, 54", 30,000# Rating
du	SO-TH-DU	2	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes
dv	2857802525	1	Clevis, Thimble
ek	SO-TH-EK78	8	Locknut, 7/8"
fv	SO-TH-FV	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs

City of Alexandria
Electric Distribution

INSULATED DOUBLE DOWN GUY
POLE BAND TYPE

DATE: 04-19-07
STANDARD NUMBER
E1-5S

NOTE: Use 3" washer behind Guy Attachment for conductors larger than 1/0.

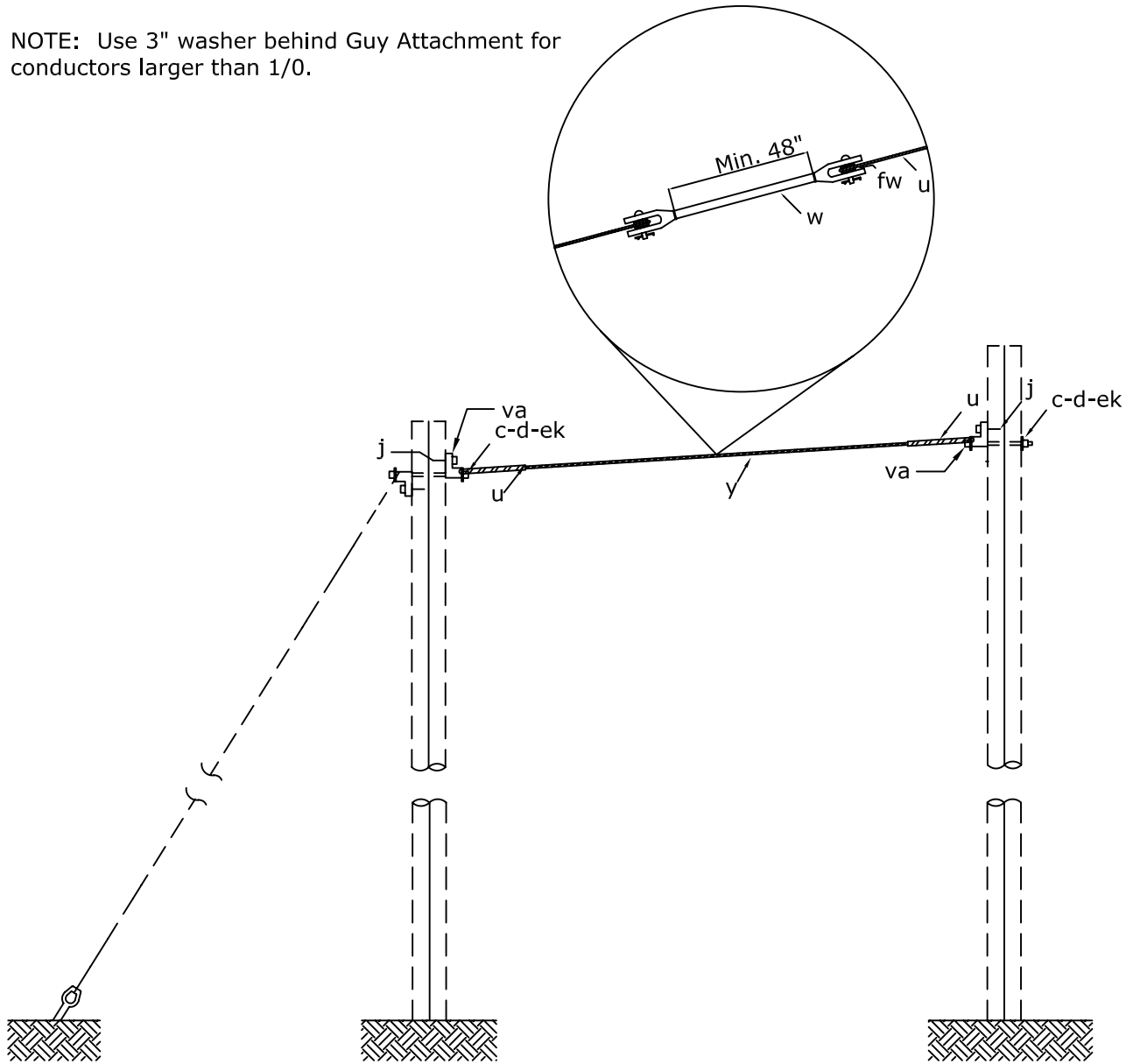


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" or 3" Square With 13/16" Hole
j	2857402320	2	Lag Screw, 1/2" x 4"
p	28574022XX	2	Connector, Compression, Sized as Required
u	2857402213	2	Deadend for Galvanized Steel Strand, 3/8"
y	2804002116	75	Galvanized Steel Strand, 3/8" EHS
av	NA	1	Jumper, #6 Cu
ek	285740XXXX	2	Locknut, 5/8"
va	2857402471	2	Guy Attachment (For Guy Strain Insulator, If Required)

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE OVERHEAD GUY THROUGH BOLT TYPE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E2-2</p>

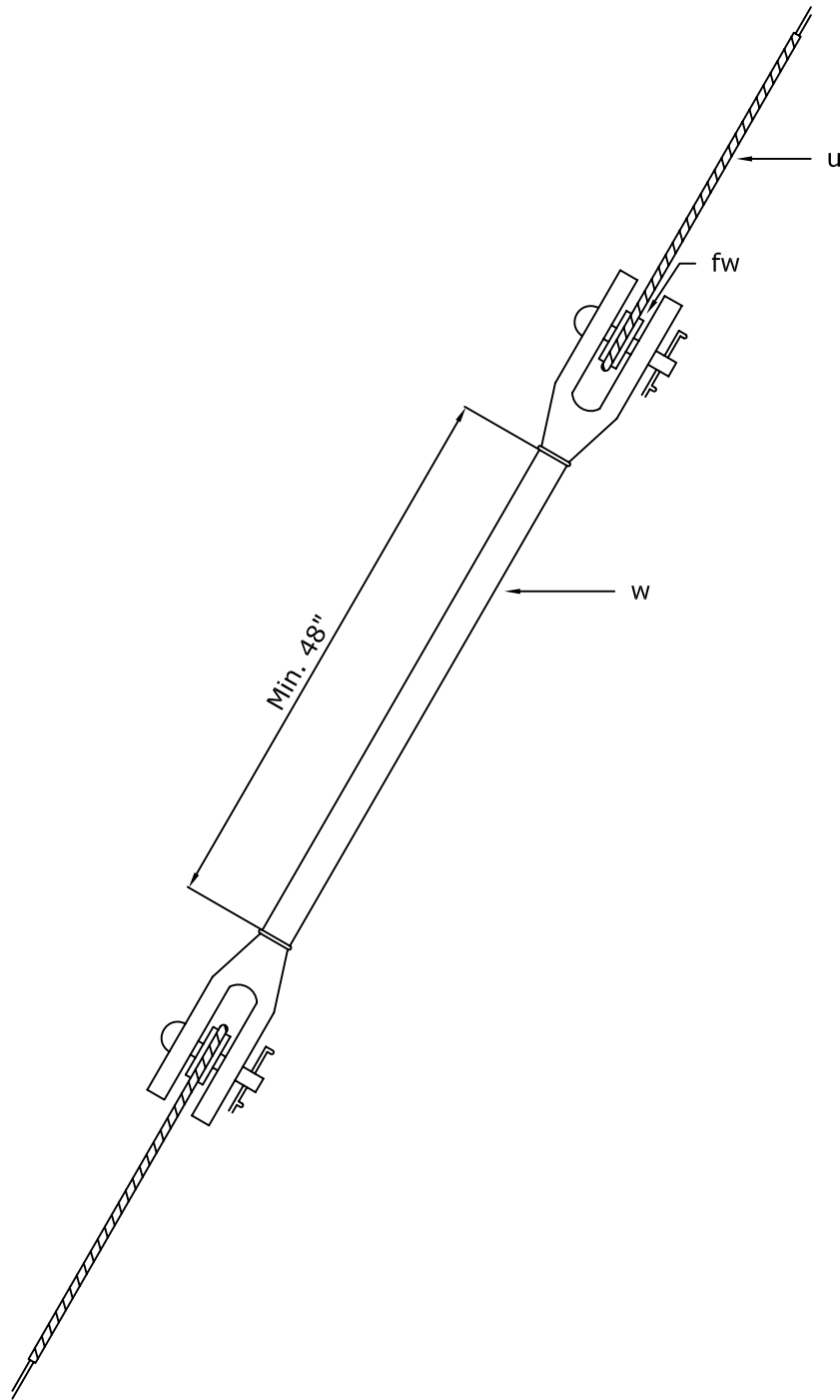
NOTE: Use 3" washer behind Guy Attachment for conductors larger than 1/0.



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" or 3" Square With 13/16" Hole
j	2857402320	2	Lag Screw, 1/2" x 4"
va	2857402471	2	Guy Attachment (For Guy Strain Insulator, If Required)
u	2857402213	4	Deadend for Galvanized Steel Strand, 3/8"
w	2857402492	1	Guy Strain Insulator, 54"
y	2804002116	70	Galvanized Steel Strand, 3/8" EHS
ek	285740XXXX	2	Locknut, 5/8"

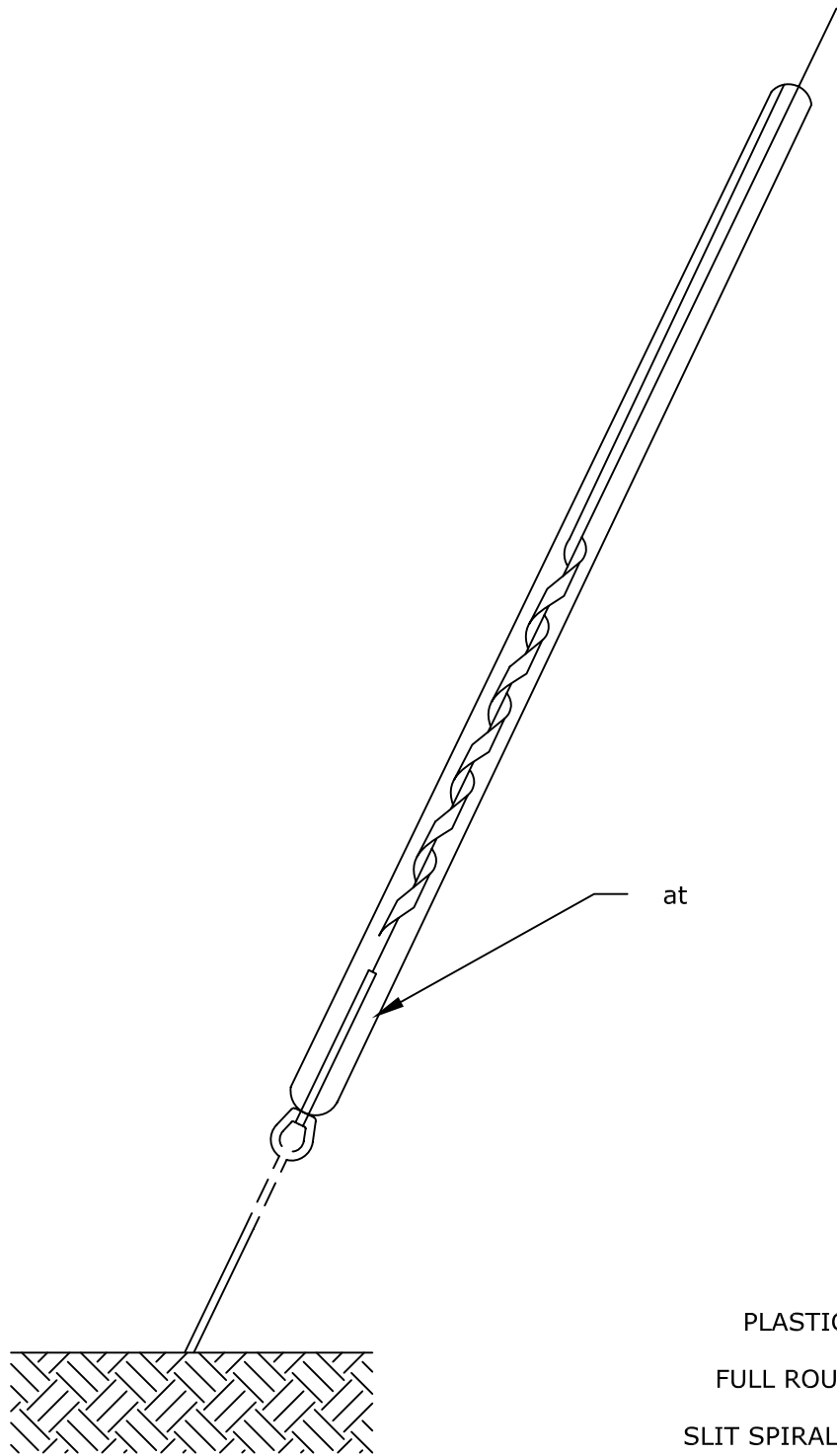
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>INSUALTED SINGLE OVERHEAD GUY THROUGH BOLT TYPE</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E2-2S</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
u	2857402213	2	Deadend for Galvanized Steel Strand, 3/8"
w	2857402492	1	Guy Strain Insulator, 54"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>GUY STRAIN INSULATOR</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>E-INS</p>

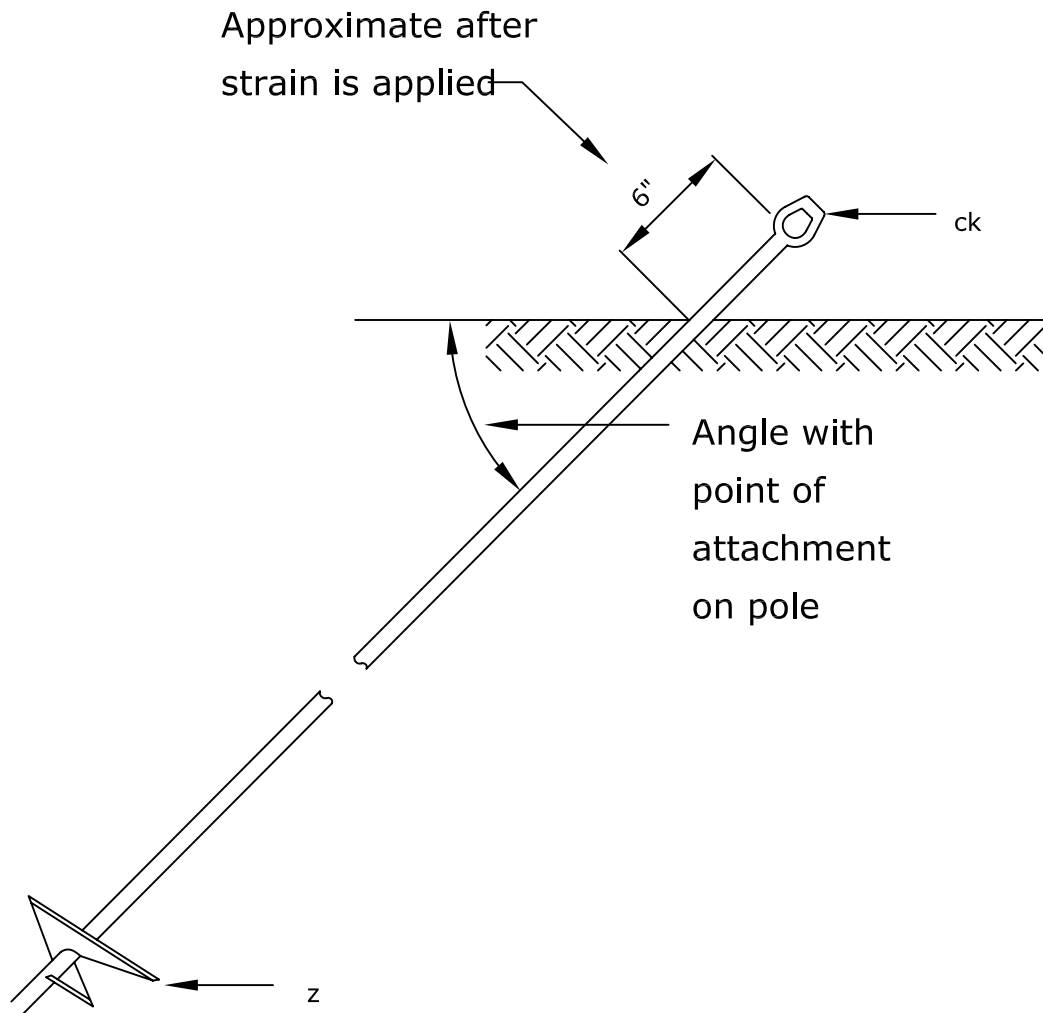


PLASTIC
 FULL ROUND
 SLIT SPIRAL TYPE

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
at	2859902328	1	Guy Guard, 8', Yellow

<p><i>City of Alexandria</i> <i>Electric Distribution</i></p>	<p>GUY MARKER</p>	<p>DATE: 04-18-07</p>
		<p>STANDARD NUMBER E-M</p>

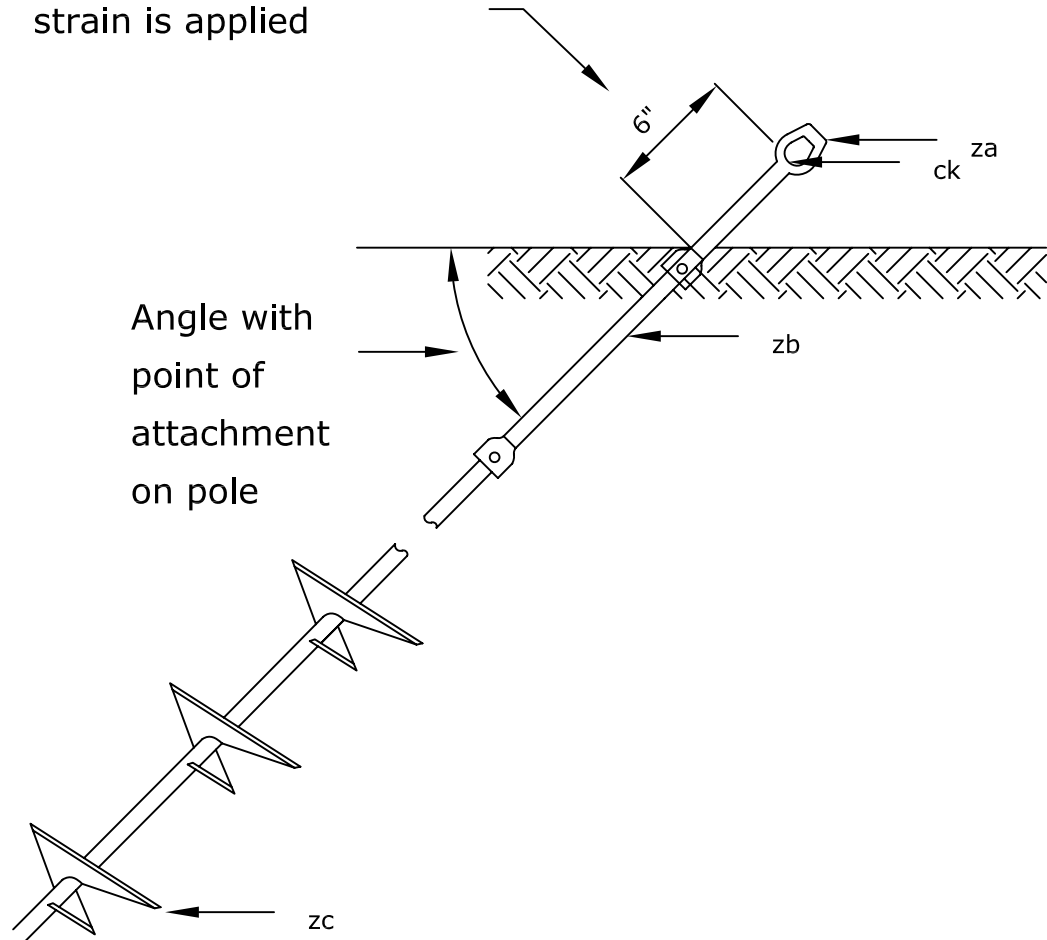


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
z	2807502297	1	Anchor, PISA, 8" Helix
ck	2851002503	1	Clamp, Anchor Rod Bonding

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>POWER INSTALLED ANCHOR 8" SINGLE HELIX</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>FP-1</p>

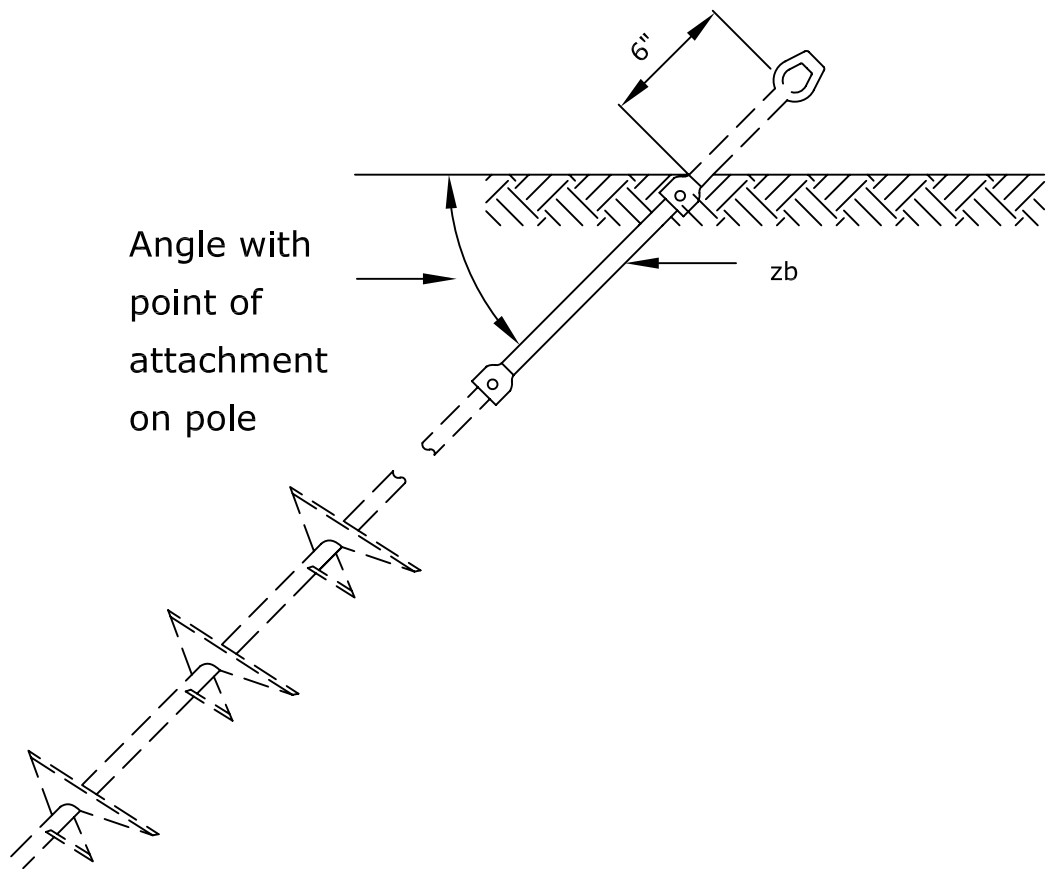
Approximate after strain is applied



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
za	2807502324	1	Anchor, Guy Adapter, 1.5" Shaft
zb	2807502325	1	Anchor, Extension 1.5" x 5'
zc	2807502323	1	Anchor, Triple Helix, 1.5" Shaft
ck	2851002503	1	Clamp, Anchor Rod Bonding

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>TRIPLE HELIX ANCHOR WITH 5' EXTENSION AND GUY ADAPTER</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>FP-3</p>



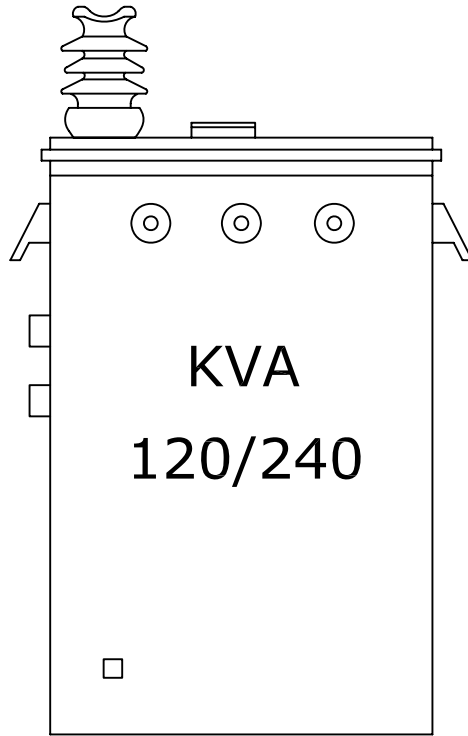
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
zb	2807502325	1	Anchor, Extension 1.5" x 5'

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>ANCHOR ROD EXTENSION 1.5" X 5'</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>FP-EXT</p>

TRANSFORMER FUSING CHART		
KVA	Fuse Size	COA Commodity Code
5	2	2853402365
10	3	2853402366
15	5	2853402069
25	8	2853402489
37.5	12	2853402490
50	15	2853402071
75	25	2853402072
100	30	2853402073
167	50	2853402075
250	80	2853402078
333	100	2853402079

SECONDARY LEADS SIZING CHART		
KVA	150% Full Load Amps	Lead Size (Cu, THW)
5	31	1/0
10	63	1/0
15	94	1/0
25	156	1/0
37.5	234	4/0
50	313	4/0
75	469	4/0
100	625	500
167	1,044	500
250	1,562	2-500
333	2,081	3-500

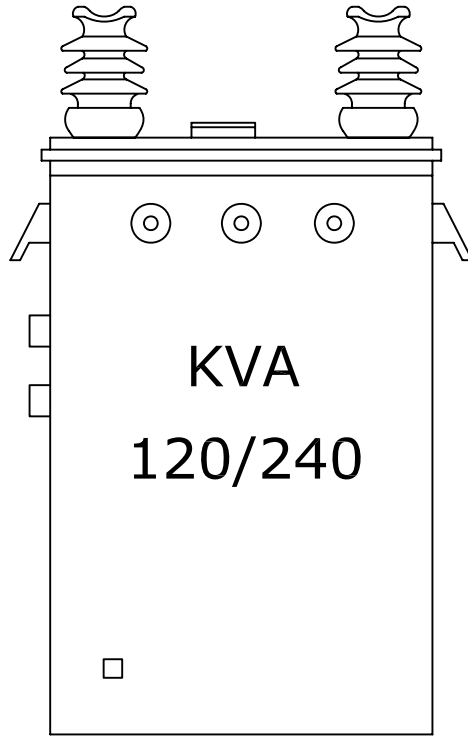


NOTE: All secondary leads shall be THHN or THW insulated.

MATERIAL LIST

Transformer Information		Material Commodity Codes			
Unit Name	Transformer	Tank Ground #2851002136	1/0 Cu Sec. Leads #2801602500	4/0 Cu Sec. Leads #2802402121	500 Cu Sec. Leads #2802402122
G1B72-120-5	G1B721205	1	12 Feet		
G1B72-120-10	G1B7212010	1	12 Feet		
G1B72-120-15	G1B7212015	1	12 Feet		
G1B72-120-25	G1B7212025	1	12 Feet		
G1B72-120-37	G1B7212037	1		12 Feet	
G1B72-120-50	G1B7212050	1		15 Feet	
G1B72-120-75	G1B7212075	1		15 Feet	
G1B72-120-100	G1B72120100	1			18 Feet
G1B72-120-167	G1B72120167	1			18 Feet

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>TRANSFORMER, ONE BUSHING, 7200V PRIMARY 120/240V SECONDARY</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>G1B72-120-KVA</p>

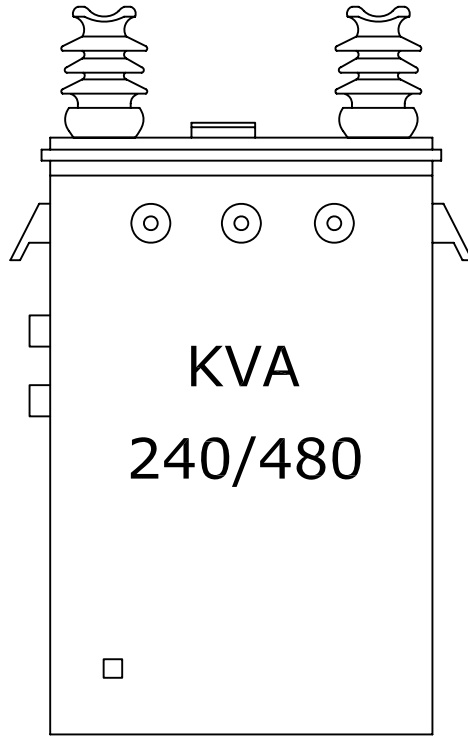


NOTE: All secondary leads shall be THHN or THW insulated.

MATERIAL LIST

Transformer Information		Material Commodity Codes			
Unit Name	Transformer	Tank Ground #2851002136	1/0 Cu Sec. Leads #2801602500	4/0 Cu Sec. Leads #2802402121	500 Cu Sec. Leads #2802402122
G2B72-120-5	G2B721205	1	12 Feet		
G2B72-120-10	G2B7212010	1	12 Feet		
G2B72-120-15	G2B7212015	1	12 Feet		
G2B72-120-25	G2B7212025	1	12 Feet		
G2B72-120-37	G2B7212037	1		12 Feet	
G2B72-120-50	G2B7212050	1		15 Feet	
G2B72-120-75	G2B7212075	1		15 Feet	
G2B72-120-100	G2B72120100	1			18 Feet
G2B72-120-167	G2B72120167	1			18 Feet

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>TRANSFORMER, TWO BUSHING, 7200V PRIMARY 120/240V SECONDARY</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>G2B72-120-KVA</p>

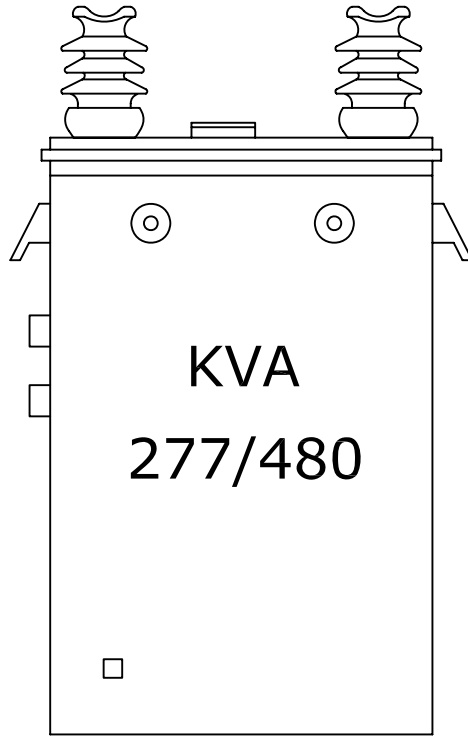


NOTE: All secondary leads shall be THHN or THW insulated.

MATERIAL LIST

Transformer Information		Material Commodity Codes			
Unit Name	Transformer	Tank Ground #2851002136	1/0 Cu Sec. Leads #2801602500	4/0 Cu Sec. Leads #2802402121	500 Cu Sec. Leads #2802402122
G2B72-240-5	G2B722405	1	12 Feet		
G2B72-240-10	G2B7224010	1	12 Feet		
G2B72-240-15	G2B7224015	1	12 Feet		
G2B72-240-25	G2B7224025	1	12 Feet		
G2B72-240-37	G2B7224037	1		12 Feet	
G2B72-240-50	G2B7224050	1		15 Feet	
G2B72-240-75	G2B7224075	1		15 Feet	
G2B72-240-100	G2B72240100	1			18 Feet
G2B72-240-167	G2B72240167	1			18 Feet

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>TRANSFORMER, TWO BUSHING, 7200V PRIMARY 240/480V SECONDARY</p>	DATE: 04-11-07
		<p>STANDARD NUMBER</p> <p>G2B72-240-KVA</p>

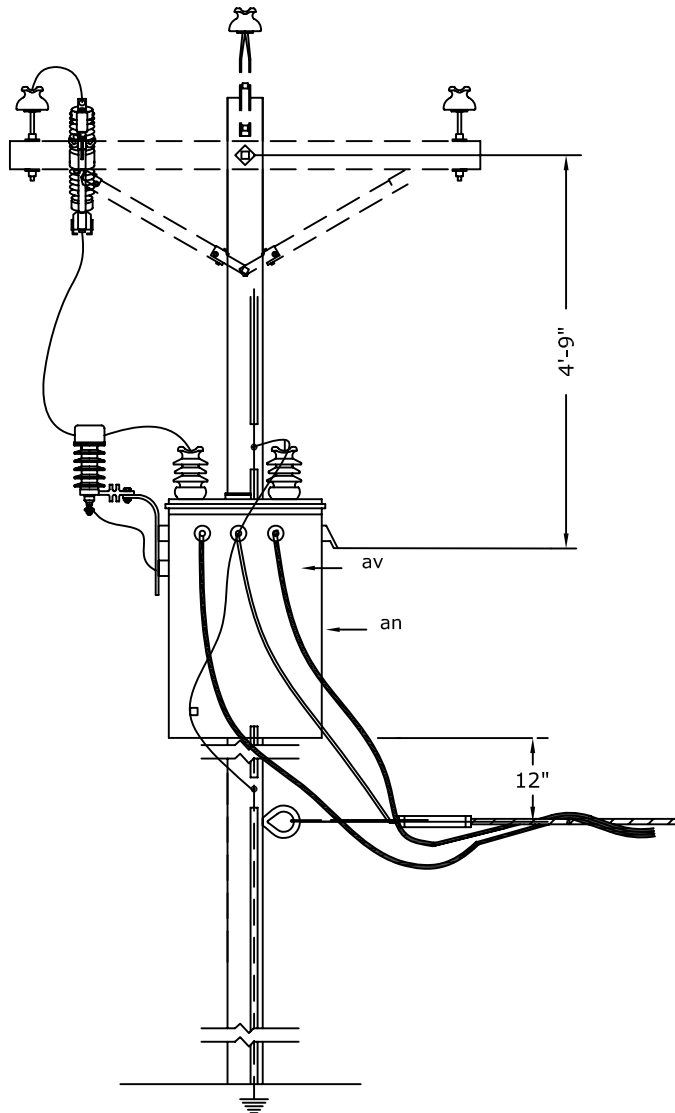


NOTE: All secondary leads shall be THHN or THW insulated.

MATERIAL LIST

Transformer Information		Material Commodity Codes			
Unit Name	Transformer	Tank Ground #2851002136	1/0 Cu Sec. Leads #2801602500	4/0 Cu Sec. Leads #2802402121	500 Cu Sec. Leads #2802402122
G2B72-277-5	G2B722775	1	12 Feet		
G2B72-277-10	G2B7227710	1	12 Feet		
G2B72-277-15	G2B7227715	1	12 Feet		
G2B72-277-25	G2B7227725	1	12 Feet		
G2B72-277-37	G2B7227737	1		12 Feet	
G2B72-277-50	G2B7227750	1		15 Feet	
G2B72-277-75	G2B7227775	1		15 Feet	
G2B72-277-100	G2B72277100	1			18 Feet
G2B72-277-167	G2B72277167	1			18 Feet

City of Alexandria <i>Electric Distribution</i>	TRANSFORMER, TWO BUSHING, 7200V PRIMARY 277/480V SECONDARY	DATE: 04-11-07
		STANDARD NUMBER G2B72-277-KVA



NOTES:

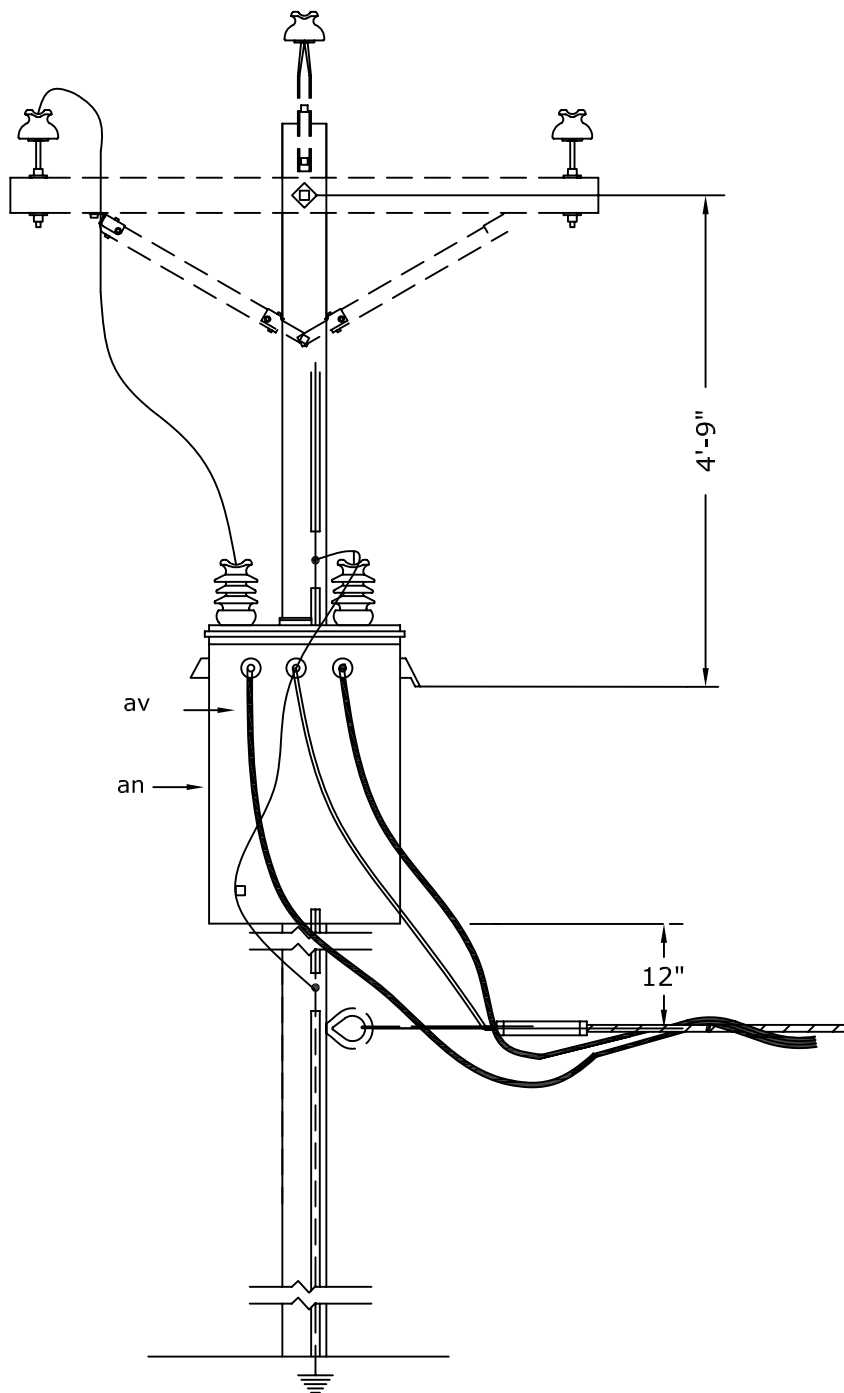
- 1- Connect transformer neutral to system ground.
- 2- Install M-AG assembly on all installed or relocated transformers.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
p	28574022XX	4	Connector, Compression or Bolted, Sized as Required
ae	2850302004	1	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	1	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	1	Clamp, Hot Line
av	2801602118	10	Jumper, #6 Solid Copper
av	2801602475	6	Jumper, #6 Solid Copper, 5kV Coated
ek	285740XXXX	2	Locknut, 5/8"
wg	2859902329	1	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>SINGLE PHASE TRANSFORMER 120/240V SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G11</p>

RETIREMENT ONLY



City of
Alexandria

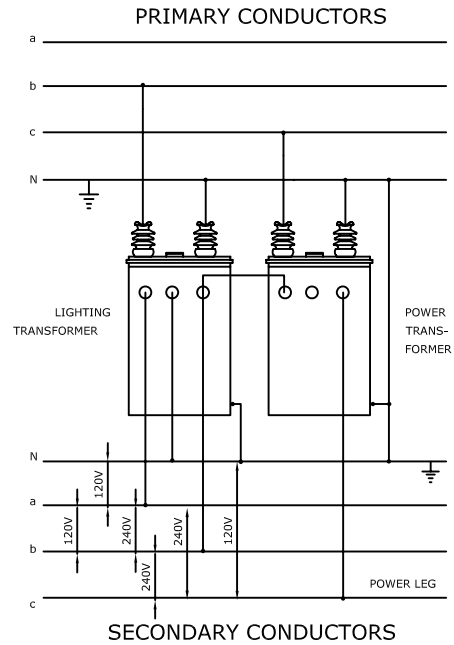
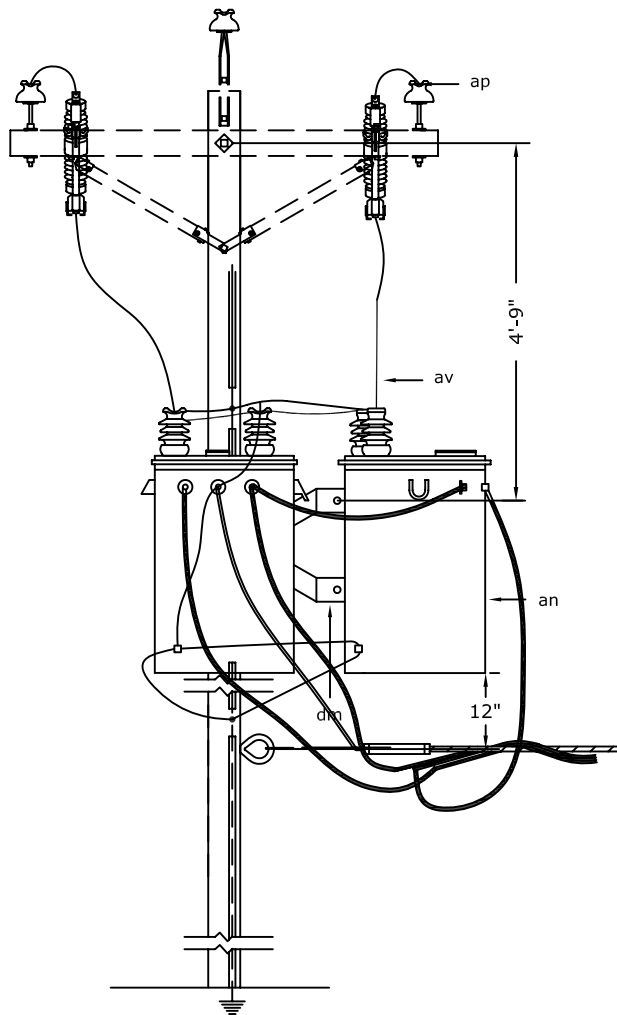
Electric Distribution

SINGLE PHASE CSP TRANSFORMER
120/240V SERVICE

DATE: 11-22-05

STANDARD
NUMBER

G136



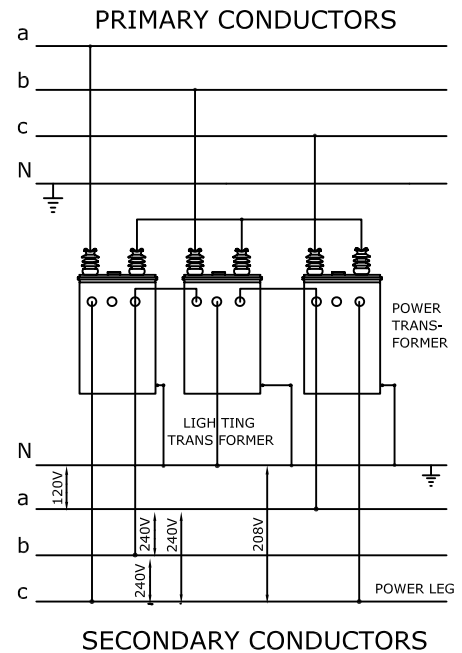
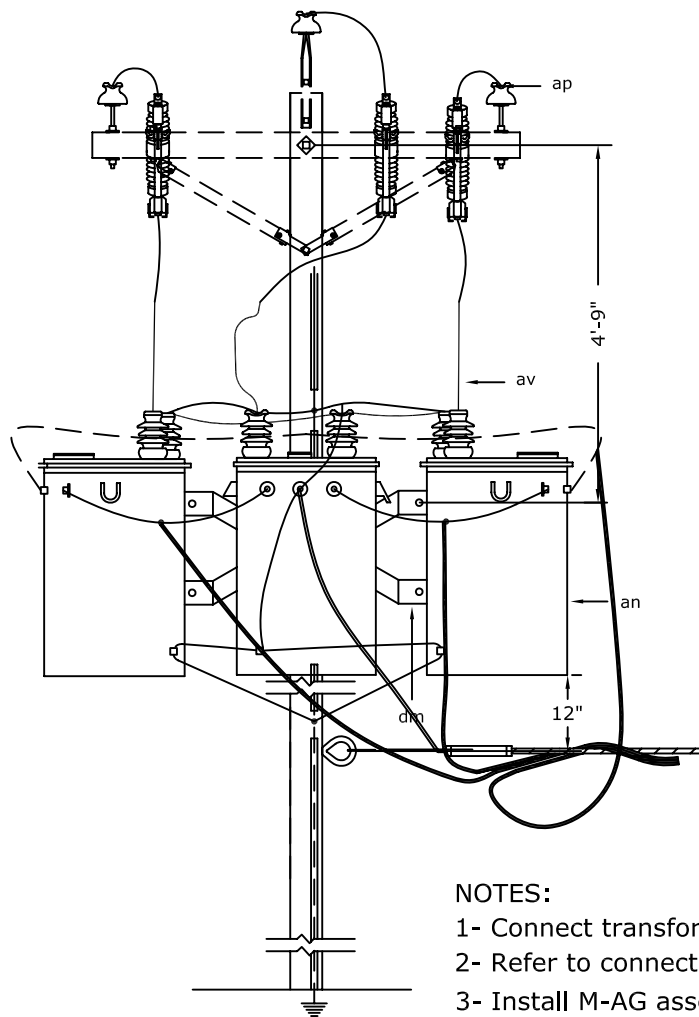
NOTES:

- 1- Connect transformer neutral to system ground.
- 2- Refer to connection details for transformer wiring schematics.
- 3- Increase spacing for cluster mount to 5'-9" for transformers over 50KVA.
- 4- Install M-AG assembly on all installed or relocated transformers.
- 5- All lightning arresters shall be mounted on the transformer tank.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
p	28574022XX	5	Connector, Compression or Bolted, Sized as Required
ae	2850302004	2	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	2	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	2	Clamp, Hot Line
av	2801602118	20	Jumper, #6 Solid Copper
av	2801602475	12	Jumper, #6 Solid Copper, 5kV Coated
dm	2857402308	1	Bracket, Transformer Cluster Mount
ek	285740XXXX	2	Locknut, 5/8"
wg	2859902329	2	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE PHASE TRANSFORMER BANK</p> <p>120/240V OPEN-DELTA SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G21</p>



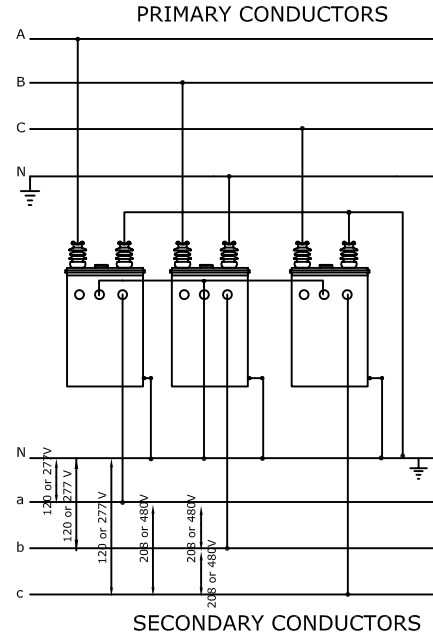
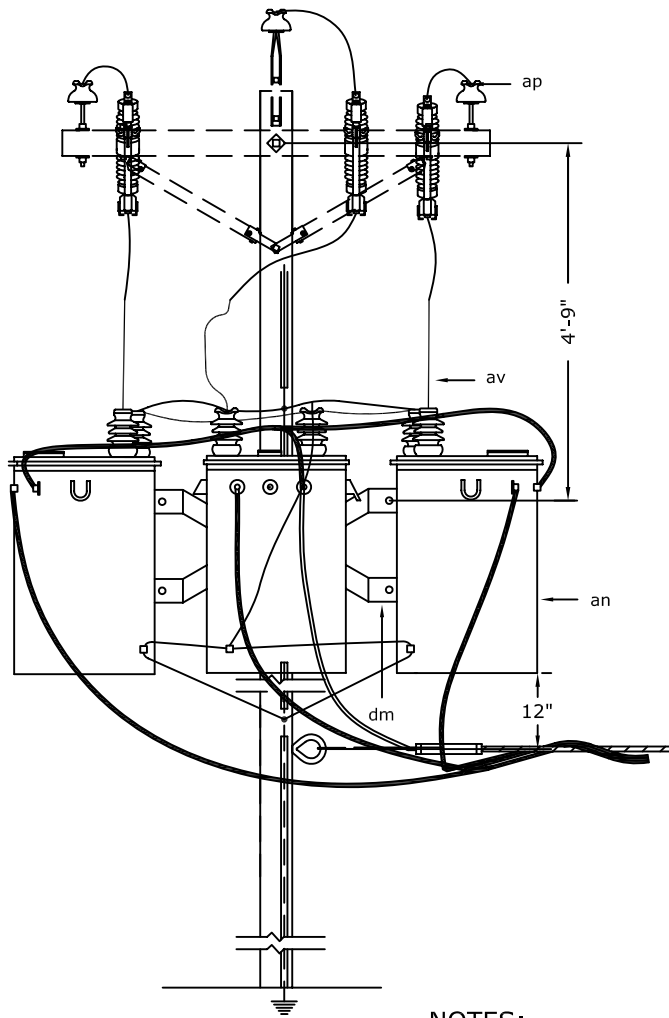
NOTES:

- 1- Connect transformer neutral to system ground.
- 2- Refer to connection details for transformer wiring schematics.
- 3- Install M-AG assembly on all installed or relocated transformers.
- 4- All lightning arresters shall be mounted on the transformer tank.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
n	28574020XD	1	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	5	Connector, Compression or Bolted, Sized as Required
ae	2850302004	3	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	3	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	3	Clamp, Hot Line
av	2801602118	30	Jumper, #6 Solid Copper
av	2801602475	18	Jumper, #6 Solid Copper, 5kV Coated
dm	2857402308	1	Bracket, Transformer Cluster Mount, Small
ek	285740XXXX	3	Locknut, 5/8"
pa	2857402316	1	Adapter Pin
wg	2859902329	3	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE PHASE TRANSFORMER BANK (SMALL)</p> <p>120/240V OR 240/480V DELTA SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G31</p>



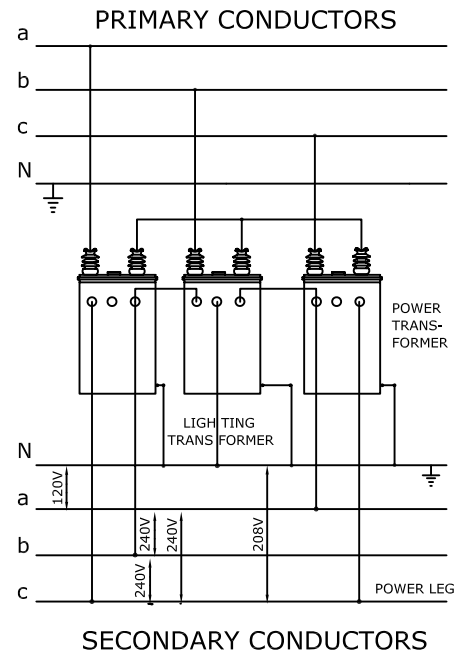
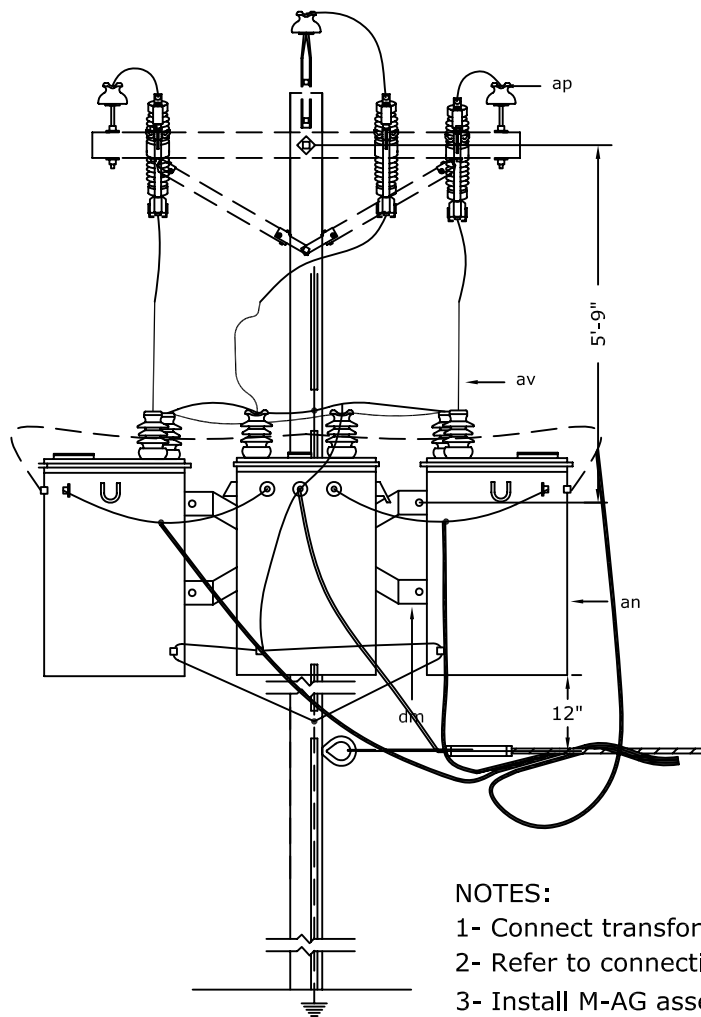
NOTES:

- 1- Connect transformer neutral to system ground.
- 2- Refer to connection details for transformer wiring schematics.
- 3- Install M-AG assembly on all installed or relocated transformers.
- 4- All lightning arresters shall be mounted on the transformer tank.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
p	28574022XX	5	Connector, Compression or Bolted, Sized as Required
ae	2850302004	3	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	3	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	3	Clamp, Hot Line
av	2801602118	30	Jumper, #6 Solid Copper
av	2801602475	18	Jumper, #6 Solid Copper, 5kV Coated
dm	2857402308	1	Bracket, Transformer Cluster Mount, Small
ek	285740XXXX	3	Locknut, 5/8"
wg	2859902329	3	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE PHASE TRANSFORMER BANK (SMALL)</p> <p>120/208V OR 277/480V WYE SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G32</p>



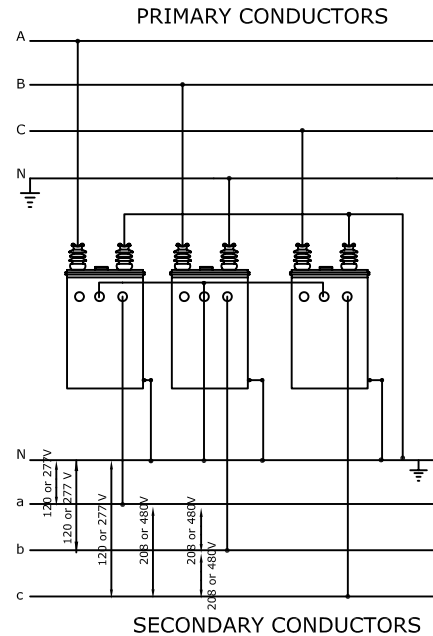
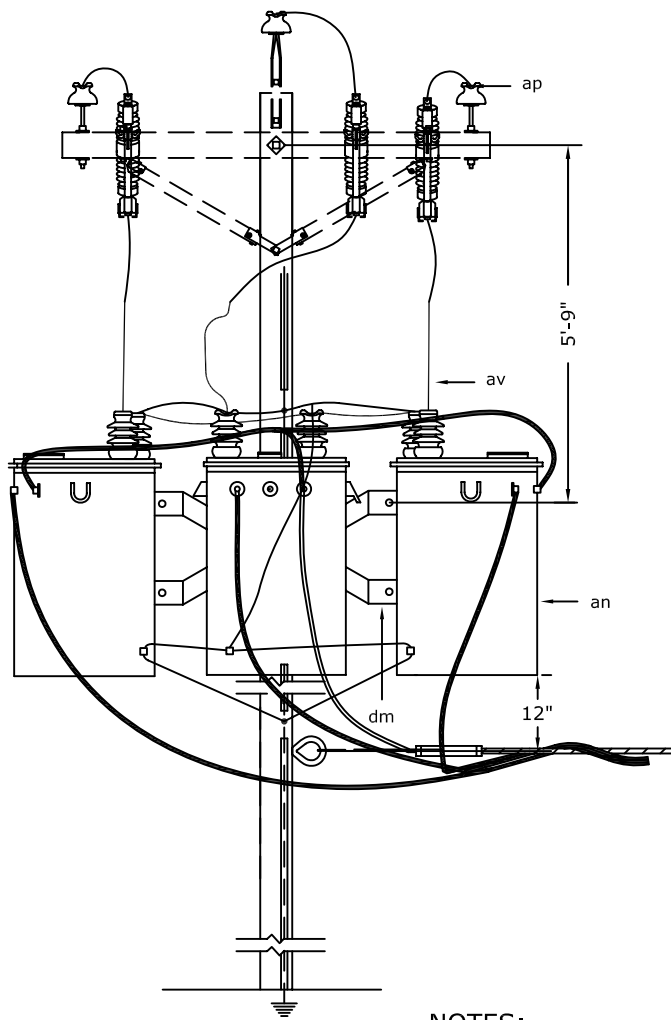
NOTES:

- 1- Connect transformer neutral to system ground.
- 2- Refer to connection details for transformer wiring schematics.
- 3- Install M-AG assembly on all installed or relocated transformers.
- 4- All lightning arresters shall be mounted on the transformer tank.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
n	28574020XD	1	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	5	Connector, Compression or Bolted, Sized as Required
ae	2850302004	3	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	3	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	3	Clamp, Hot Line
av	2801602118	30	Jumper, #6 Solid Copper
av	2801602475	18	Jumper, #6 Solid Copper, 5kV Coated
dm	2857402309	1	Bracket, Transformer Cluster Mount, Large
ek	285740XXXX	3	Locknut, 5/8"
pa	2857402316	1	Adapter Pin
wg	2859902329	3	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE PHASE TRANSFORMER BANK (LARGE)</p> <p>120/240V OR 240/480V DELTA SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G33</p>



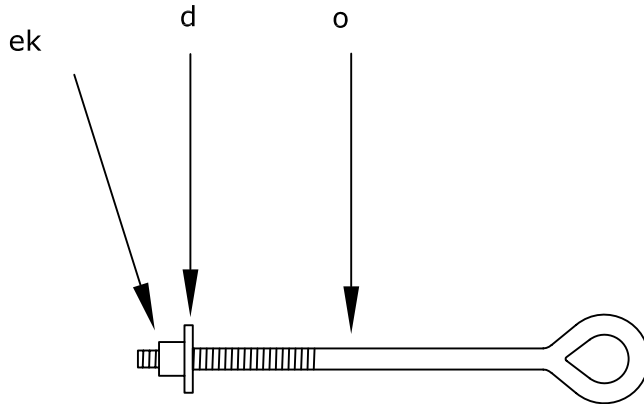
NOTES:

- 1- Connect transformer neutral to system ground.
- 2- Refer to connection details for transformer wiring schematics.
- 3- Install M-AG assembly on all installed or relocated transformers.
- 4- All lightning arresters shall be mounted on the transformer tank.

MATERIAL LIST

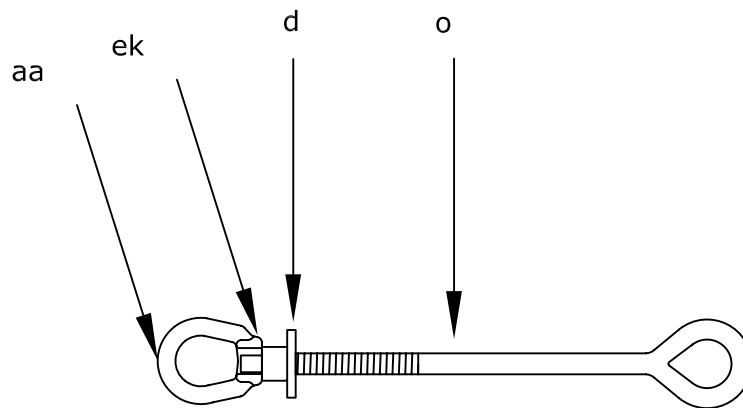
Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 1/2" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
p	28574022XX	5	Connector, Compression or Bolted, Sized as Required
ae	2850302004	3	Lightning Arrester, Distribution Class, 10kV (Tank Mounted)
af	2852820010	3	Cutout, 15kV Single Shot with Mounting Bracket
ap	2851002131	3	Clamp, Hot Line
av	2801602118	30	Jumper, #6 Solid Copper
av	2801602475	18	Jumper, #6 Solid Copper, 5kV Coated
dm	2857402309	1	Bracket, Transformer Cluster Mount, Large
ek	285740XXXX	3	Locknut, 5/8"
wg	2859902329	3	Wildlife Guard, 5.5"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE PHASE TRANSFORMER BANK (LARGE)</p> <p>120/208V OR 277/480V WYE SERVICE</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>G34</p>



J1 - MATERIAL LIST

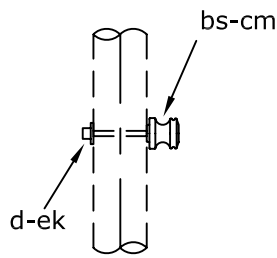
Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"



J2 - MATERIAL LIST

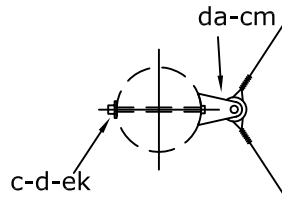
Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole, As Required
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
aa	2857402310	1	Nut, Oval Eye, 5/8"
ek	285740XXXX	1	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>MISCELLANEOUS SECONDARY ASSEMBLIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>J1</p> <p>J2</p>



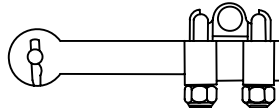
J5 - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole, As Required
ah	2801602124	5	Tie Wire, #4 Al (Feet)
bs	28574020XU	1	Bolt, Single Upset, 5/8" x Required Length
cm	2857402304	1	Insulator, Spool
ek	285740XXXX	1	Locknut, 5/8"



J6 - MATERIAL LIST

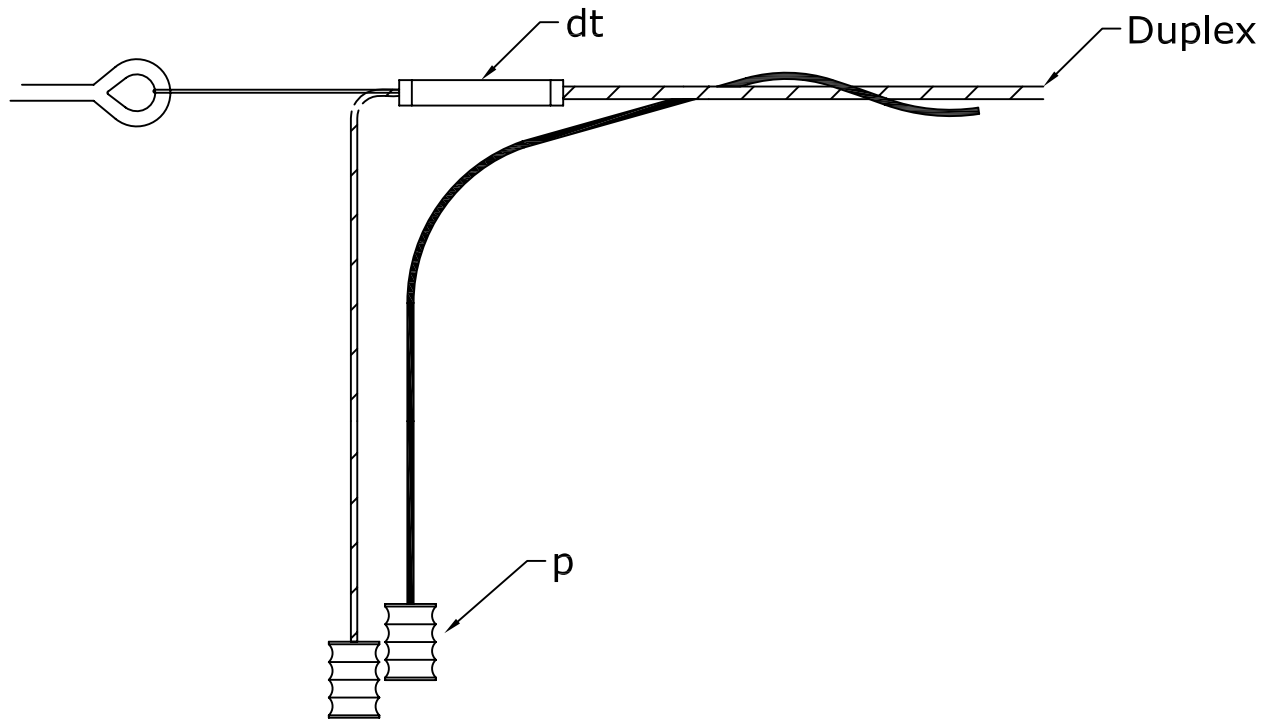
Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole, As Required
ah	2801602124	6	Tie Wire, #4 Al (Feet)
cm	2857402304	1	Insulator, Spool
da	2857402307	1	Bracket, Rigid Clevis
ek	285740XXXX	1	Locknut, 5/8"



J8 & J8L MATERIAL LIST

Item	COA Commodity Code	Description	J8	J8L
l	2857402140	Clamp, Deadend, Small	1	
l	2857402142	Clamp, Deadend, Large		1

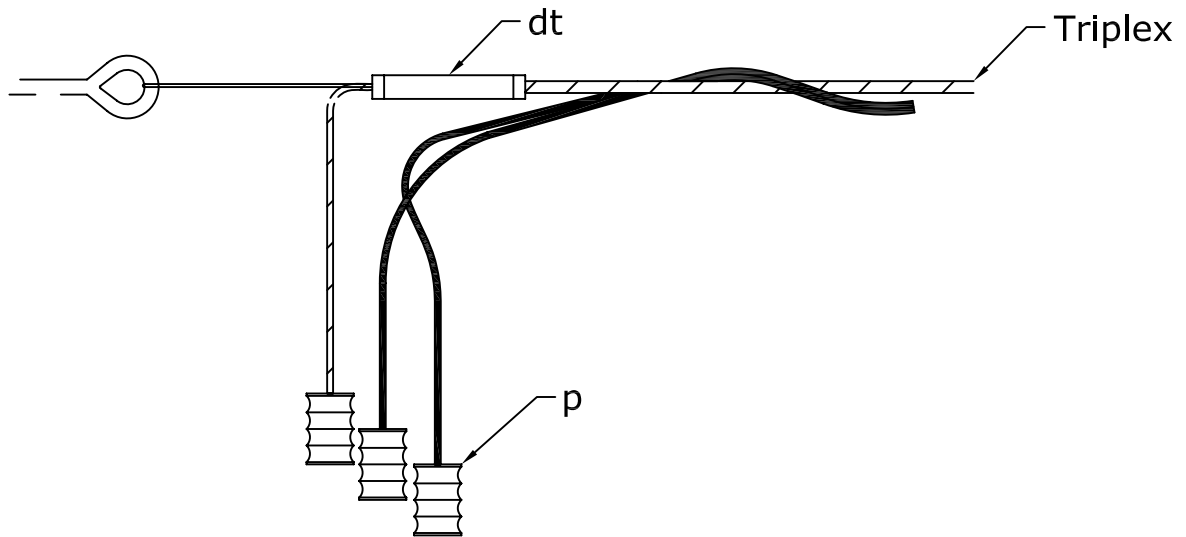
City of Alexandria <i>Electric Distribution</i>	MISCELLANEOUS SECONDARY ASSEMBLIES	DATE: 04-20-07
		STANDARD NUMBER J5 J6 J8, J8L



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	2857402237	2	Connector, Compression, YHO-150
dt	2851002129	1	Service Deadend, Wedge Type, Small

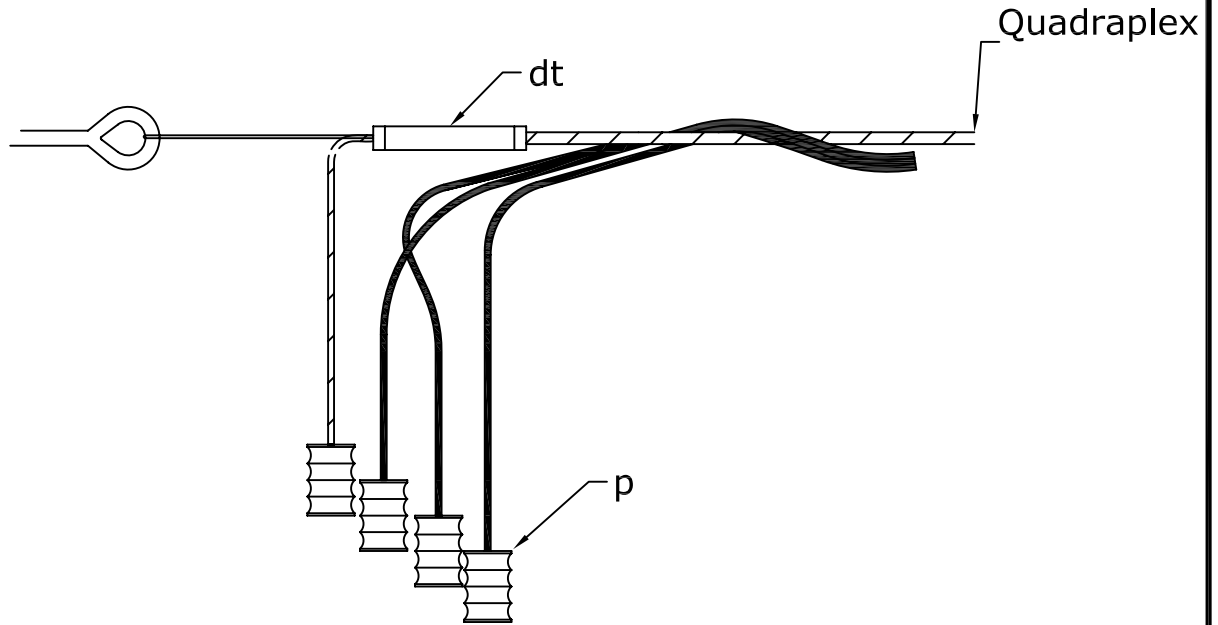
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>DUPLEX SERVICE DEADEND</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>K1</p>



MATERIAL LIST

Item	COA Commodity Code	Description	K2-2	K2-1/0	K2-4/0	K2-336
l	2857402142	Clamp, Deadend, Large				1
p	2857402237	Connector, Compression, YH0-150	3			
p	2857402234	Connector, Compression, YHD-300		3		
p	2857402232	Connector, Compression, YHD-400			3	
p	2857402231	Connector, Compression, YHN-450				3
dt	2851002129	Service Deadend, Wedge Type, Small	1			
dt	2851002130	Service Deadend, Wedge Type, Large		1	1	

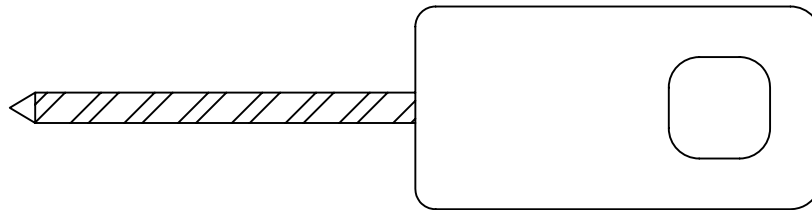
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>TRIPLEX SERVICE DEADEND</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>K2</p>



MATERIAL LIST

Item	COA Commodity Code	Description	K3-2	K3-1/0	K3-4/0	K3-336
l	2857402142	Clamp, Deadend, Large				1
p	2857402237	Connector, Compression, YH0-150	4			
p	2857402234	Connector, Compression, YHD-300		4		
p	2857402232	Connector, Compression, YHD-400			4	
p	2857402231	Connector, Compression, YHN-450				4
dt	2851002129	Service Deadend, Wedge Type, Small	1			
dt	2851002130	Service Deadend, Wedge Type, Large		1	1	

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>QUADRAPLEX SERVICE DEADEND</p>	DATE: 04-18-07
		<p>STANDARD NUMBER</p> <p>K3</p>

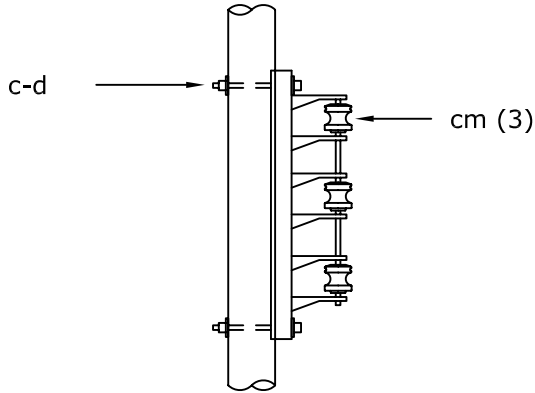


K10 - MATERIAL LIST

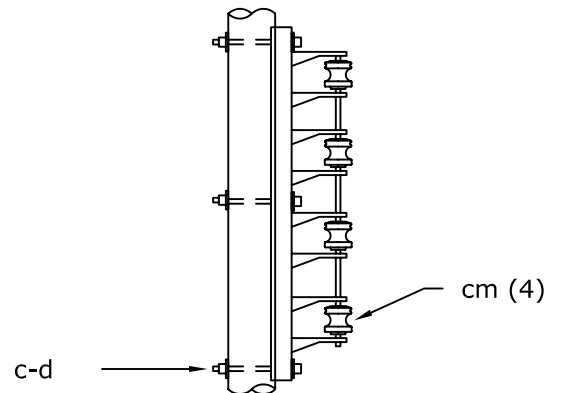
Item	COA Commodity Code	Qty.	Description
ar	2857402298	1	Wireholder (House Knob)

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>MISCELLANEOUS SECONDARY ASSEMBLIES</p>	<p>DATE: 04-20-07</p>
		<p>STANDARD NUMBER</p> <p>K10</p>

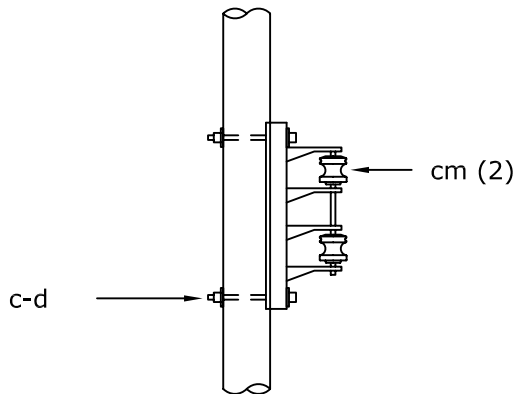
RETIREMENT ONLY



SR-3

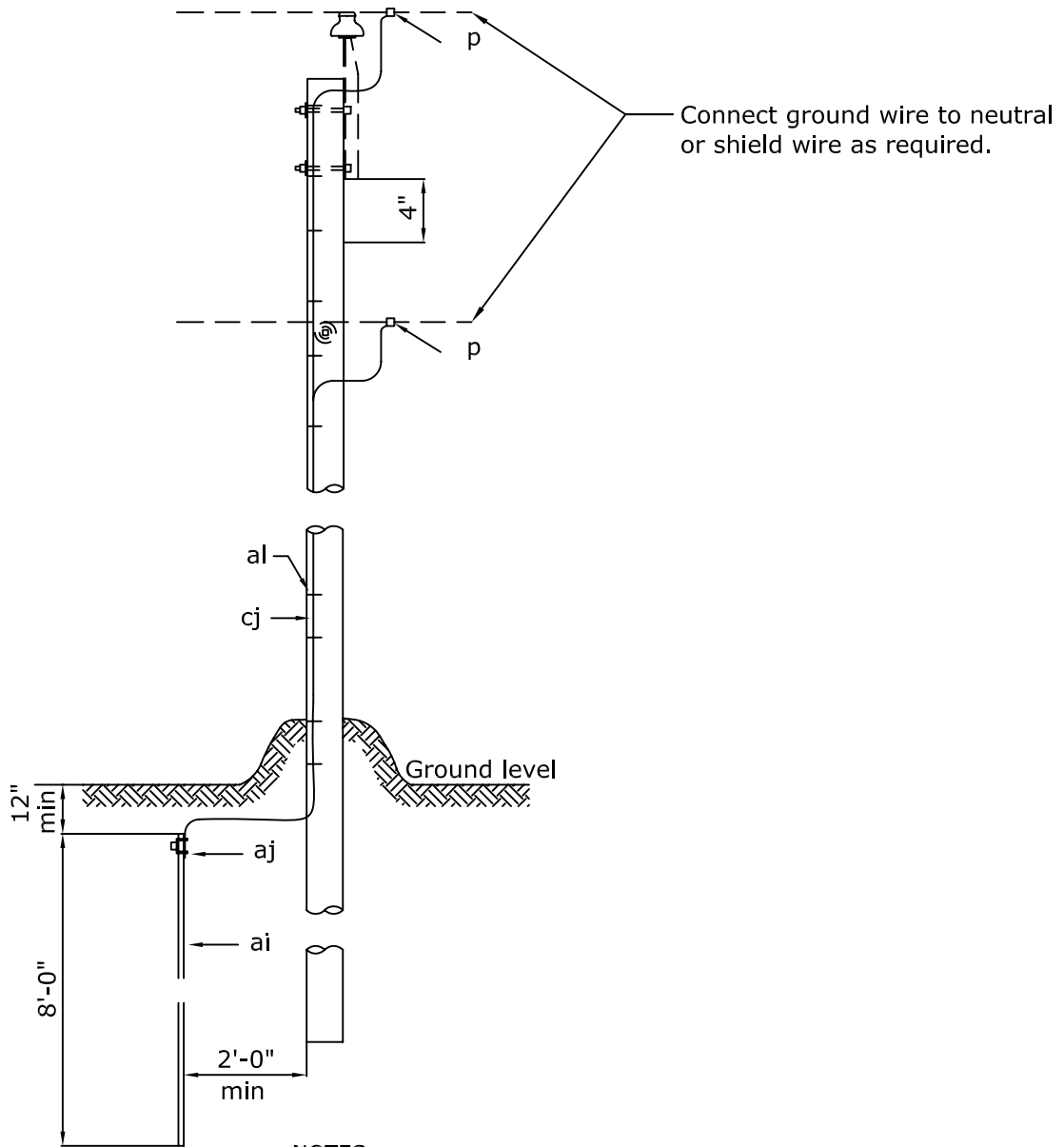


SR-4



SR-2

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SECONDARY RACKS</p>	<p>DATE: 12-21-04</p> <p>STANDARD NUMBER</p> <p>SR</p>
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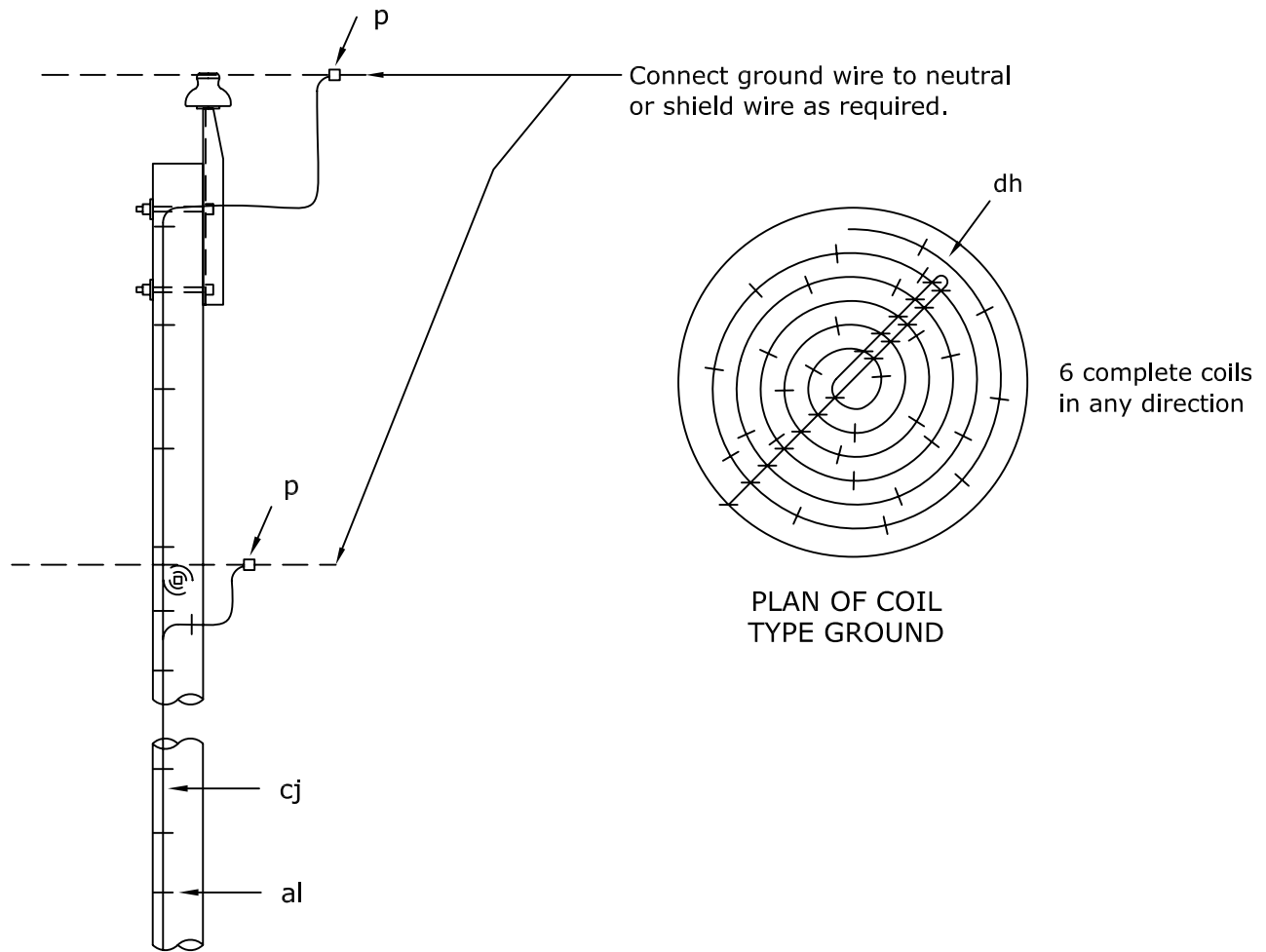
NOTES:

- 1- Ground wire to be located on same side as neutral conductor and in quadrant opposite climbing space or pole top pin.
- 2- Staples on ground wire shall be 2'-0" apart. Except for a distance of 8'-0" above ground and 8'-0" from top of pole, where they shall be 6" apart.
- 3- Ground wire to clear all hardware by 2" minimum, and shall be stapled to maintain this position.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	1	Connector, Sized As Required
ai	2854002319	1	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	1	Clamp, Ground Rod
al	2857402330	1	Staples, Ground Wire (per pound)
cj	2801602118	60	Ground Wire, #6 Soft Drawn Copper (or equal)

City of Alexandria Electric Distribution	GROUNDING ASSEMBLY GROUND ROD TYPE	DATE: 04-20-07
		STANDARD NUMBER M2-1



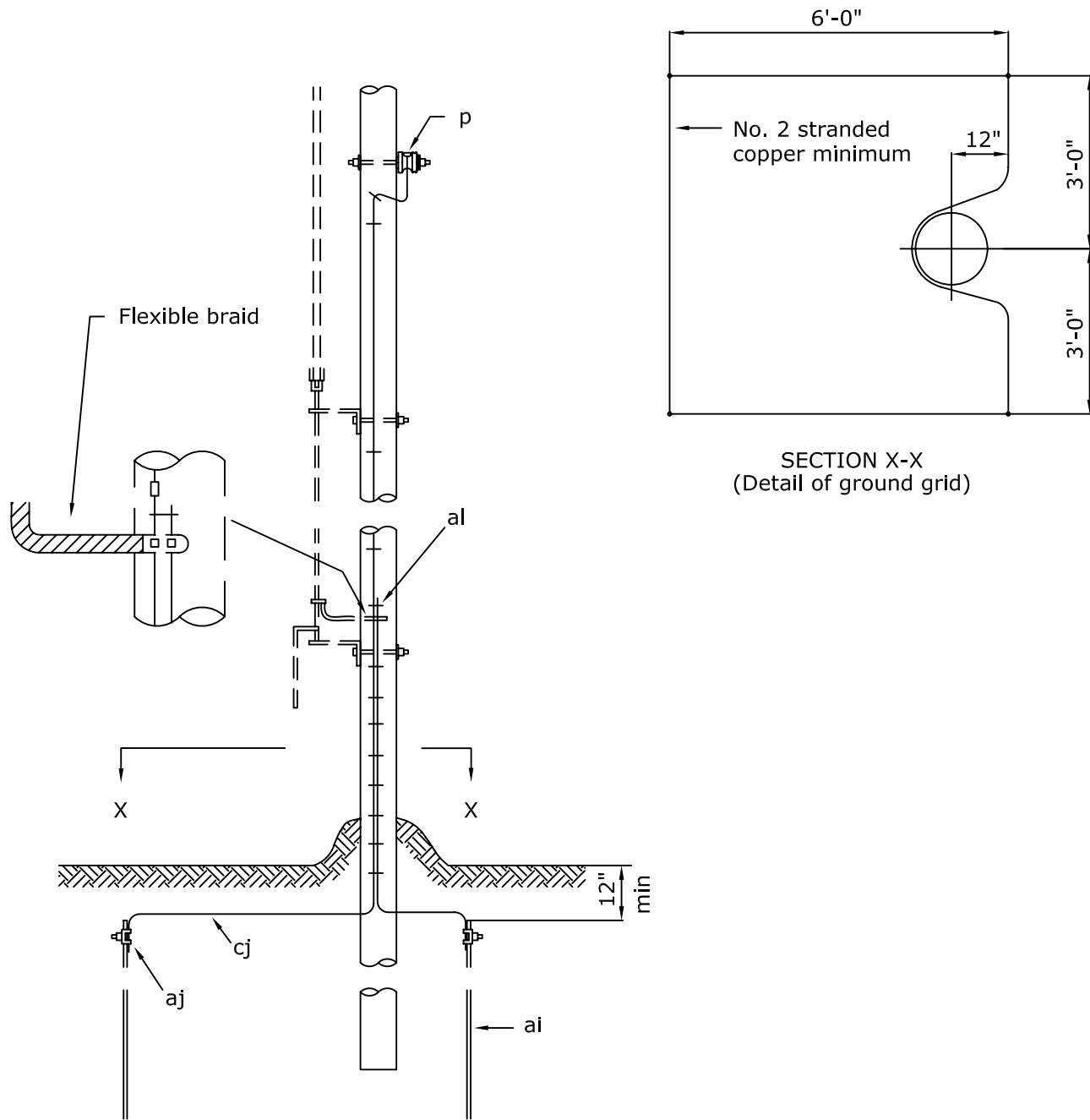
NOTES:

- 1- Ground wire to be located on same side as neutral conductor and in quadrant opposite climbing space or pole top pin.
- 2- Staples on ground wire shall be 2'-0" apart. Except for a distance of 8'-0" above ground and 8'-0" from top of pole, where they shall be 6" apart.
- 3- Ground wire to clear all hardware by 2" minimum, and shall be stapled to maintain this position.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	1	Connector, Sized As Required
al	2857402330	1	Staples, Ground Wire (per pound)
cj	2801602118	60	Ground Wire, #6 Soft Drawn Copper (or equal)

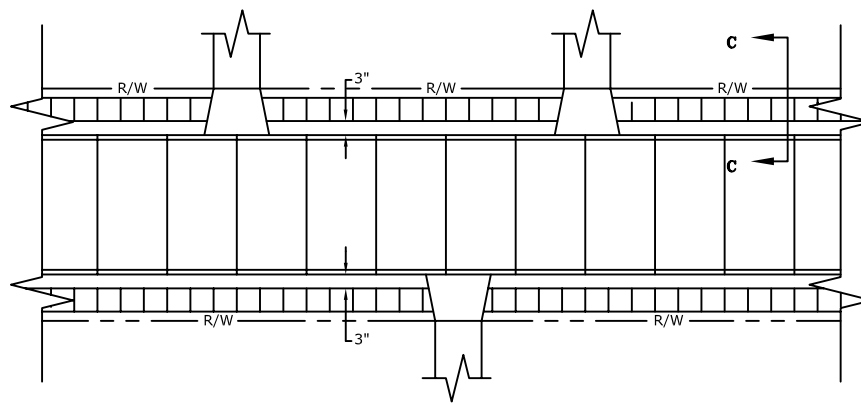
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>GROUNDING ASSEMBLY</p> <p>BUTT WRAP TYPE</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M2-2</p>



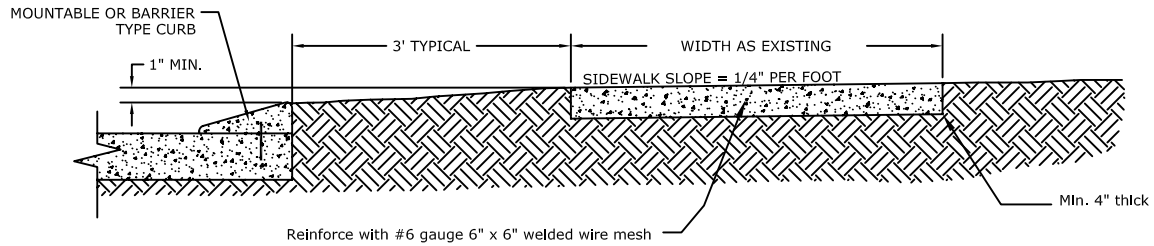
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required
ai	2854002319	4	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	4	Clamp, Ground Rod
al	2857402330	1	Staples, Ground Wire (per pound)
cj	2801602119	90	Ground Wire, #2 Stranded Bare Copper

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>GROUNDING ASSEMBLY SECTIONALIZING AIR BREAK SWITCH</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M2-15</p>



PLAN



SECTION C-C

NOTES

- 1.) Expansion joints and dummy joints for sidewalk construction should align with street joint layout.
- 2.) Sidewalk expansion joints shall be provided at 60' on centers.
- 3.) Sidewalk dummy joints shall be provided at 5' on centers.
- 4.) Concrete for sidewalk and driveway construction shall be a minimum 6.0 sack portland cement mix and shall achieve a minimum of 3500 p.s.i. in 28 days.
- 5.) $\frac{3}{4}$ " redwood of $\frac{1}{2}$ " premolded expansion material shall be installed between sidewalk and driveway construction:
 - A.) New sidewalk and driveway construction.
 - B.) New sidewalk and existing sidewalks.
 - C.) New sidewalk and barrier curbs.
- 6.) Longitudinal slope of sidewalk shall not exceed 1:20.
- 7.) Longitudinal and cross slopes of driveways shall not exceed 1:20.
- 8.) Longitudinal construction joints required for driveways 16' wide or wider.
- 9.) Trench back fill material under sidewalks and driveways to be A-2-4 sand-clay material (Red dirt).
- 10.) Extend repair to nearest dummy joint beyond the removed section.
- 11.) All repairs will be inspected and approved by the City of Alexandria Engineering Department.
- 12.) Unit of pay is "Per Square Foot" for each unit.

City of
Alexandria

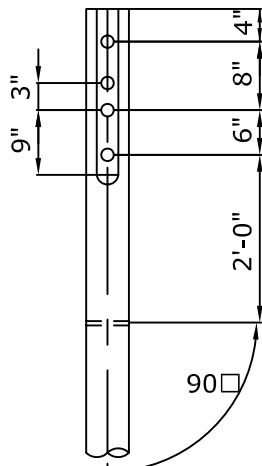
Electric Distribution

BREAK AND REPAIR EXISTING SIDEWALK

DATE: 04-20-07

STANDARD
NUMBER

BRKCNC
RPRCNC



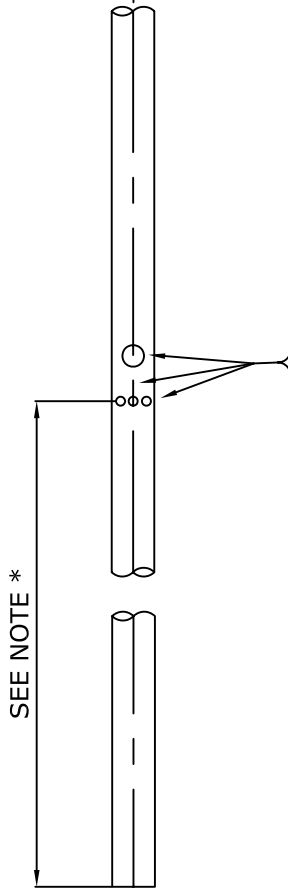
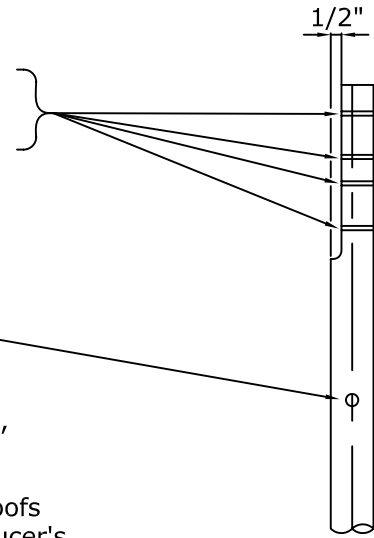
Through-bolt holes must be parallel and in the same plane.

Holes: Drill 11/16" diameter.

Gains: Gains are to be flat with plane at right angles to bolt hole.

Neutral bolt hole must be at 90° angle with through-bolt holes.

All poles treated full-length must be bored, roofed and gained before treatment, that class 7 and smaller poles need not be gained unless requested by purchaser. Roofs may be flat or at a 15° angle at the producer's option.



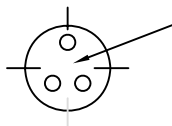
* Bottom of brand or center of metaldisk shall be 10±1" from pole butt; 14'±1" mark for poles 55' and longer.

If insured warranted pole, brand "IW".

Manufacturer's mark and date of treatment, (month and year).

Brand with proper length and class.

Brand with species, preservative code and retention.



Brand butt with proper length and class



<p>City of Alexandria Electric Distribution</p>	<p>POLE DRILLING GUIDE</p>	<p>DATE: 04-20-07</p>
		<p>STANDARD NUMBER DG-1</p>

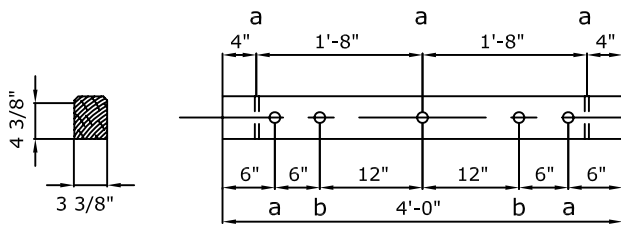


FIG. 1

BOLT HOLE TOLERANCES		
NOMINAL	GO	NO GO
a	11/16"	5/8"
b	7/16"	3/8"
c	9/16"	1/2"

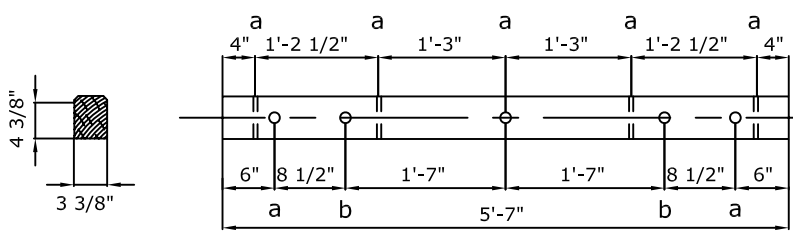
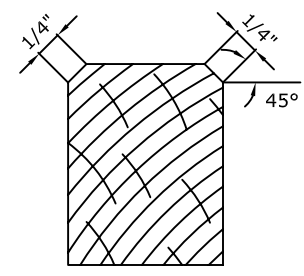


FIG. 2



TYPICAL ENLARGED SECTION

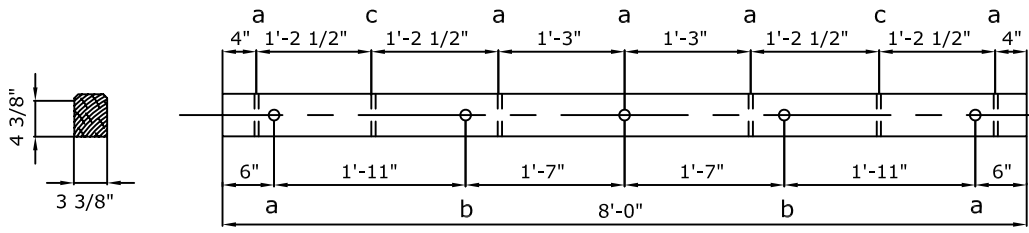


FIG. 3

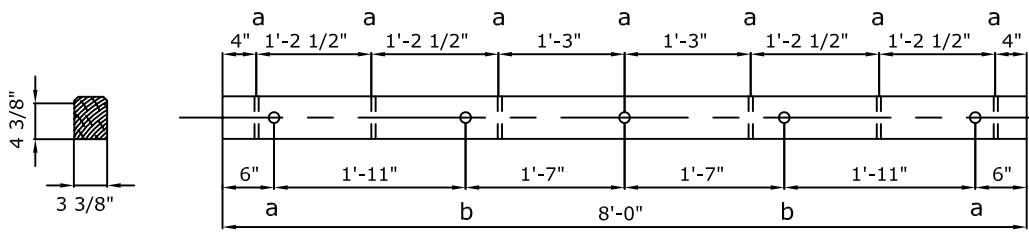


FIG. 4

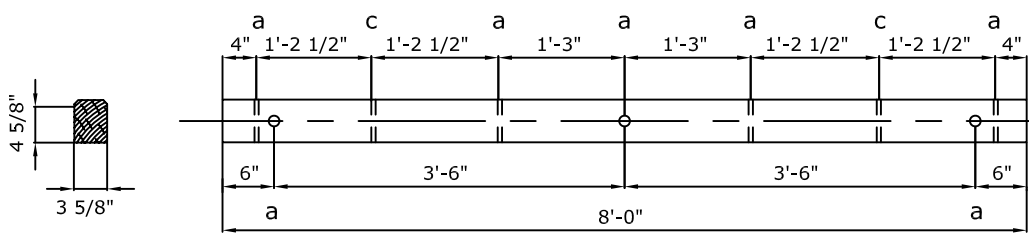


FIG. 5

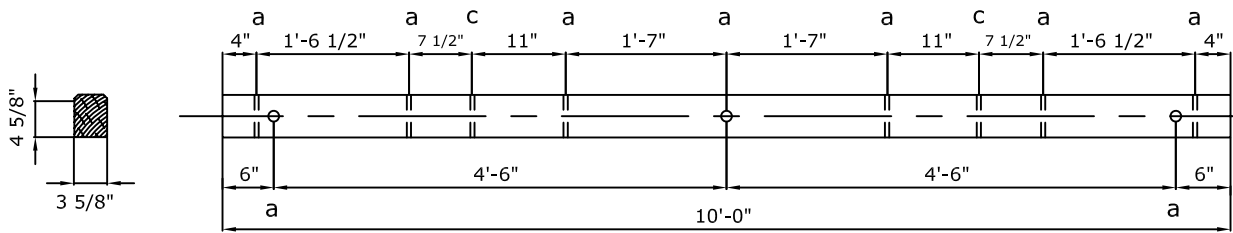
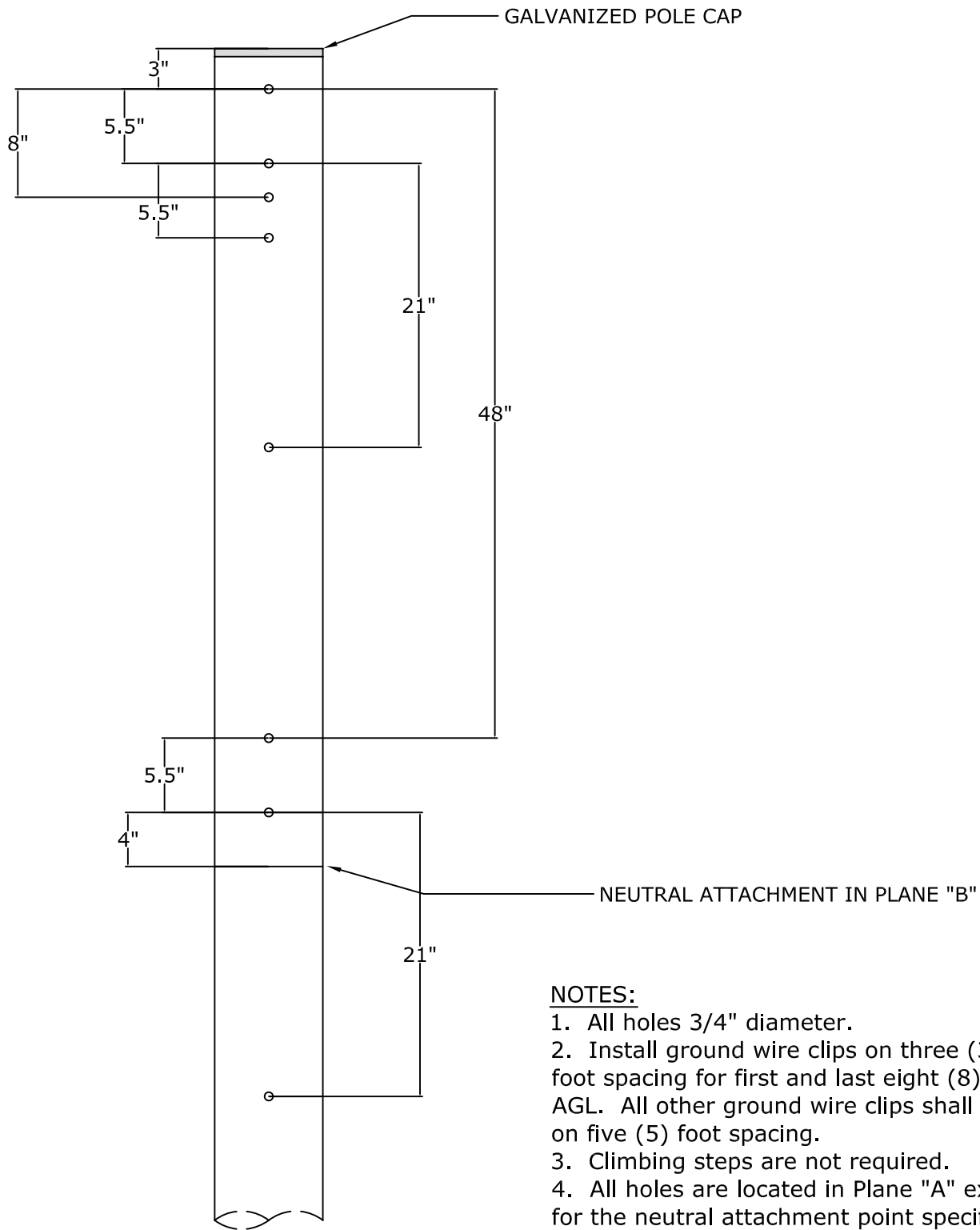


FIG. 6

NOTES:

- 1- Eight-foot crossarms must be drilled for small and large crossarm braces.
- 2- All lengths are to be within +1/4" tolerance.
- 3- All widths and bolt hole tolerances to be +1/8".



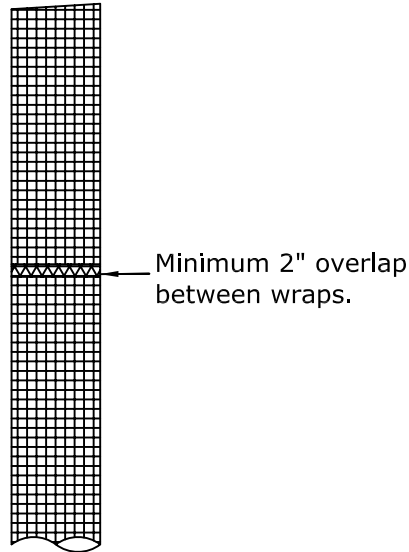
NOTES:

1. All holes 3/4" diameter.
2. Install ground wire clips on three (3) foot spacing for first and last eight (8) feet AGL. All other ground wire clips shall be on five (5) foot spacing.
3. Climbing steps are not required.
4. All holes are located in Plane "A" except for the neutral attachment point specified in the drawings to be in Plane "B". Planes A and B shall be 90° apart.
5. Up to four (4) additional holes may be spec'ed before manufacture.

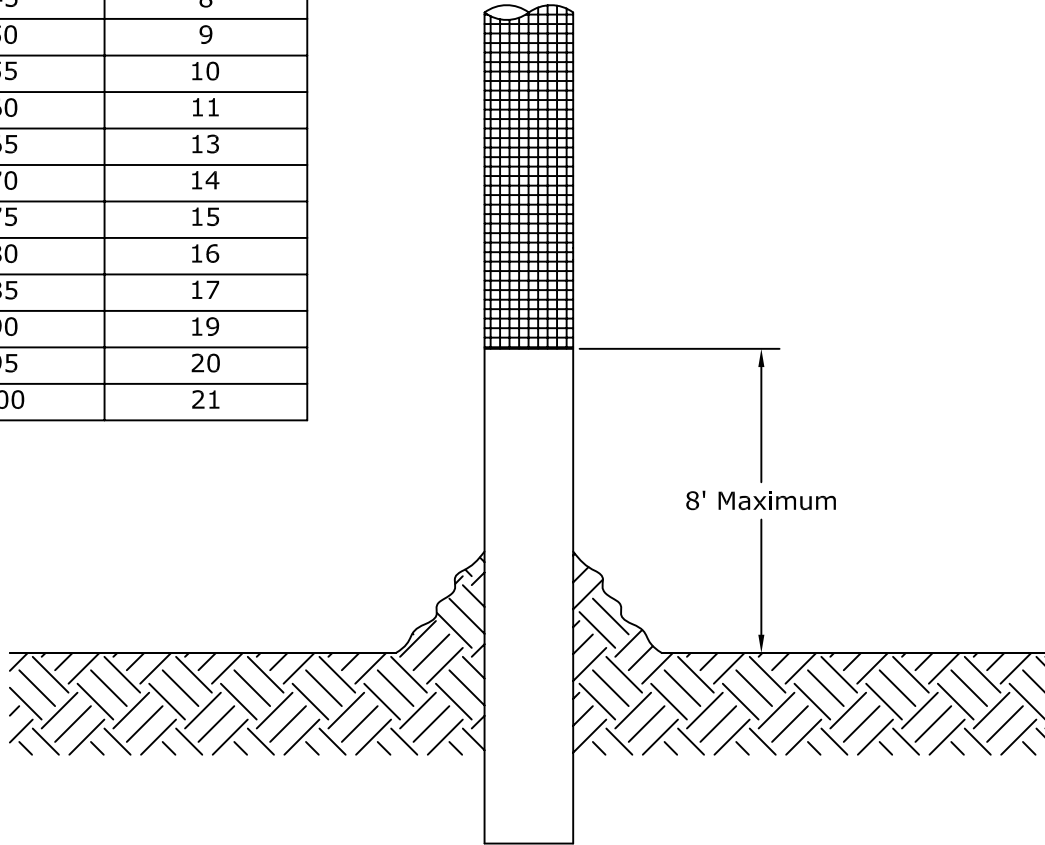
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>CONCRETE POLE DRILLING GUIDE SHIELDED OR UNSHIELDED DISTRIBUTION</p>	<p>DATE: 04-20-07</p> <p>STANDARD NUMBER</p> <p>DG-3</p>
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NOTES:

1. Unit of measure is "Per Wrap."
2. Specify number of wraps needed for pole to be installed. See Table below.
3. Staple around the circumference and at each overlap on a maximum 4" spacing.
4. Staple every 18" along vertical seam.
5. Install pole ground assembly on the outside of the hardware cloth.



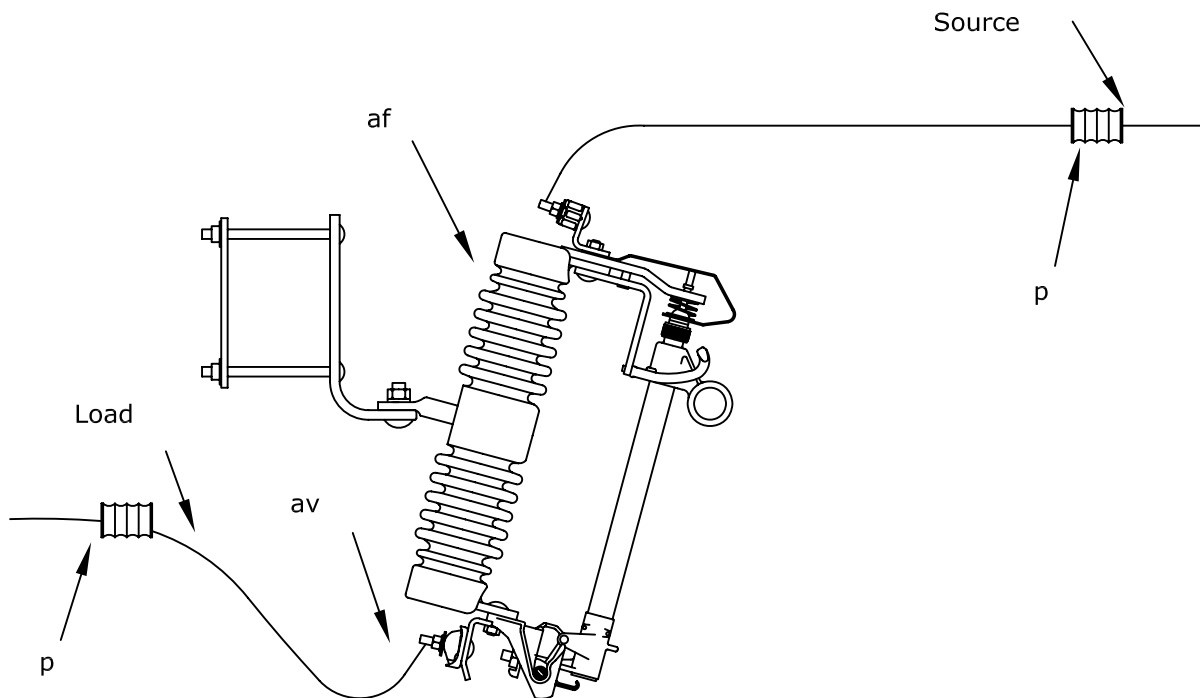
Wraps Table	
Height (Ft.)	Wraps
45	8
50	9
55	10
60	11
65	13
70	14
75	15
80	16
85	17
90	19
95	20
100	21



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
hwc	2859902533	6	Hardware Cloth, Hot Dip Galvanized, 1/2" x 1/2" x 4' x 1'

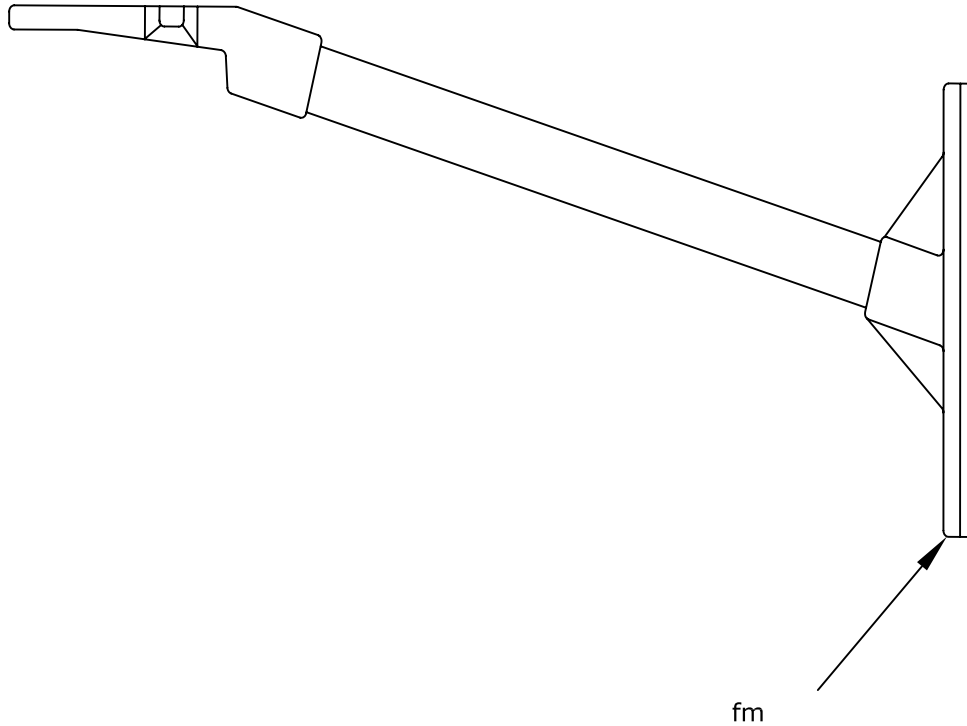
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>POLE PROTECTION ASSEMBLY (BIRD WIRE)</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>HWC</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required (if required)
af	2852820010	1	Cutout, 15kV Single Shot with Mounting Bracket
av	2801602118	8	Jumper, #6 Solid Copper

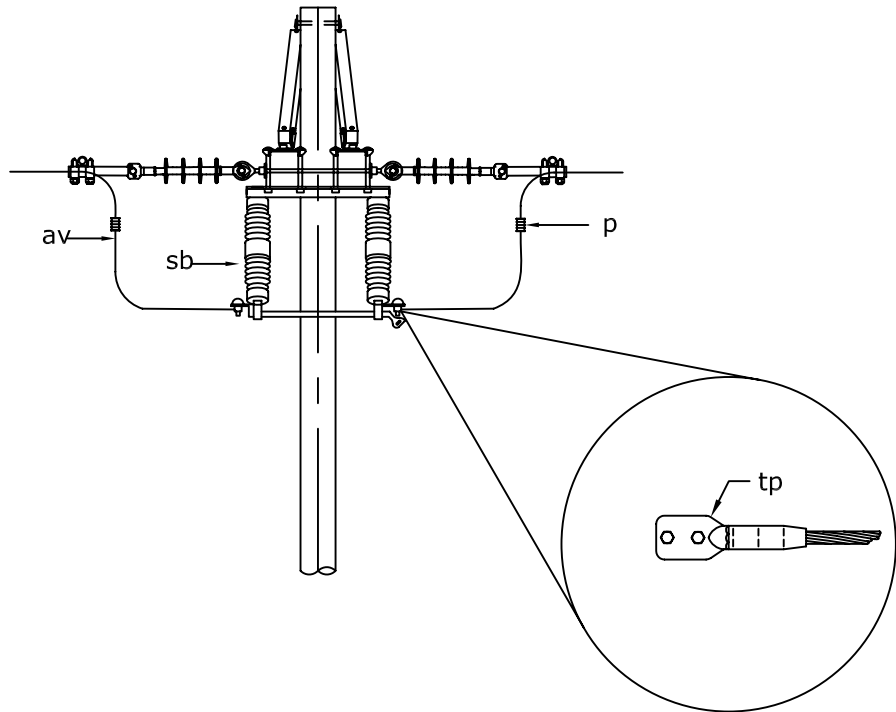
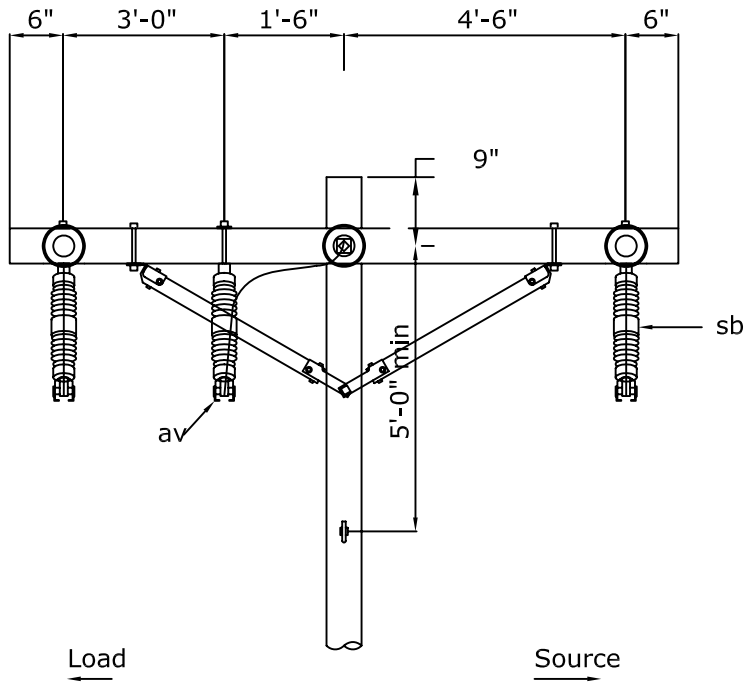
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>FUSED CUTOUT WITH MOUNTING BRACKET</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M3-1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole, As Required
fm	2857802474	1	Cutout and Arrester Mounting Bracket, Fiberglass
ek	285740XXXX	2	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>FIBERGLASS CUTOUT AND ARRESTER MOUNTING BRACKET SINGLE PHASE AND NARROW PROFILE CONSTRUCTION</p>	DATE: 02-20-2006
		<p>STANDARD NUMBER</p> <p>M3-2</p>



MATERIAL LIST

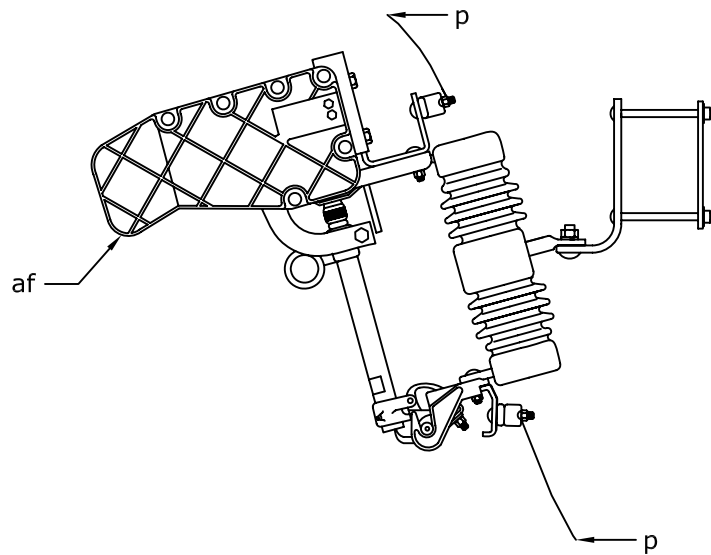
Item	COA Commodity Code	Qty.	Description
p	2857402239	6	Connector, YHN-525
av	NA	6	Jumper, Sized As Required
sb	2857902006	3	Disconnect Switch with Mounting Hardware, 15kV
tp	2857402248	6	Compression Terminal Pad, 477 AAC

City of
Alexandria

Electric Distribution

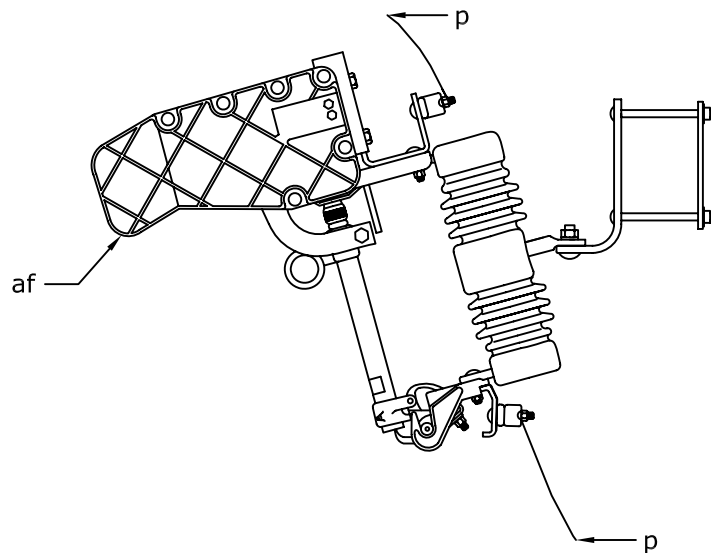
UNDERSLUNG DISCONNECT SWITCHES

DATE: 04-20-07
STANDARD NUMBER
M3-3



MATERIAL LIST

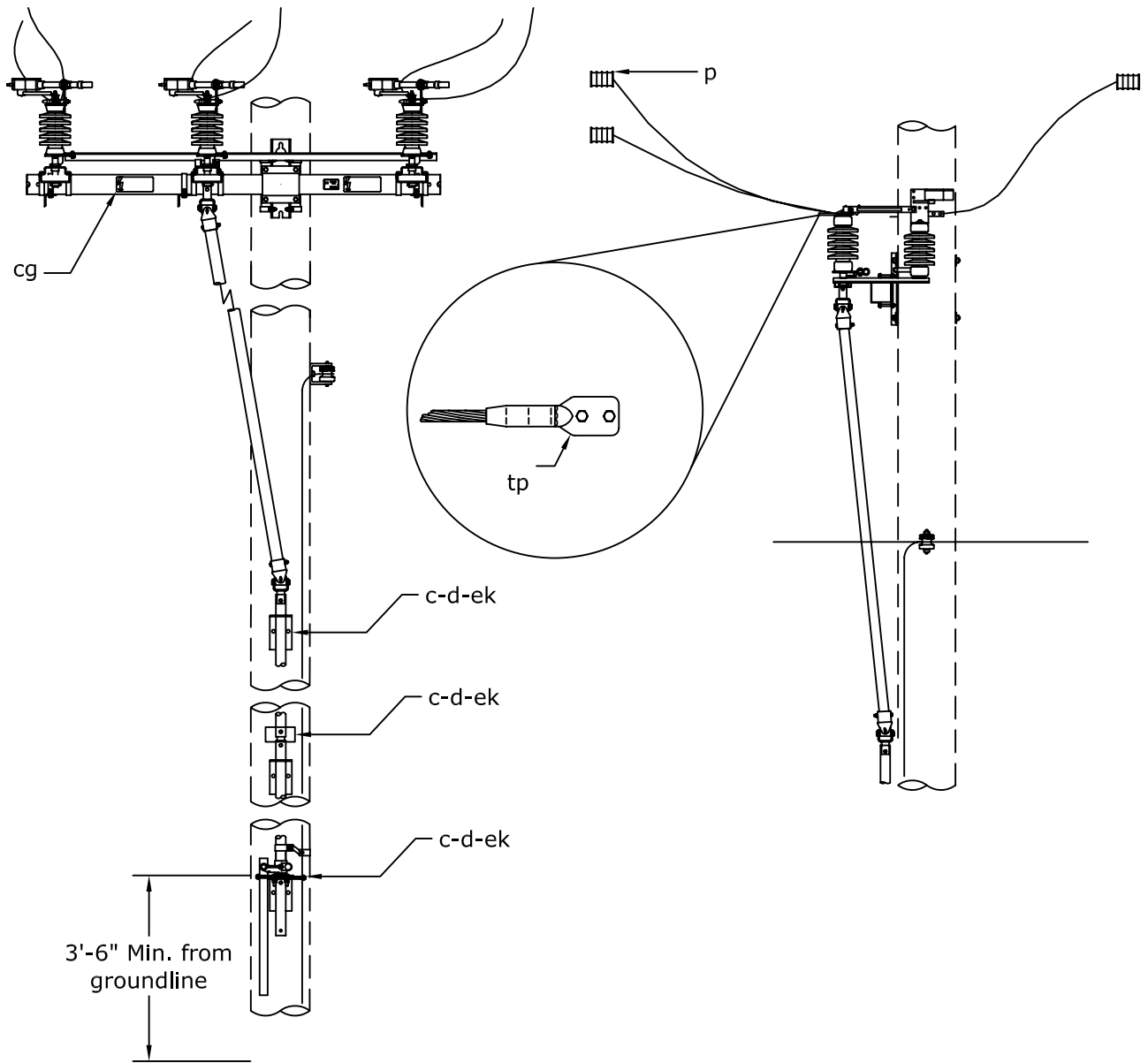
Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required (if required)
af	2852820002	1	Cutout, 15kV 100A Loadbreak, with Mounting Bracket



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required (If Required)
af	2852820003	1	Cutout, 15kV 200A Loadbreak, with Mounting Bracket

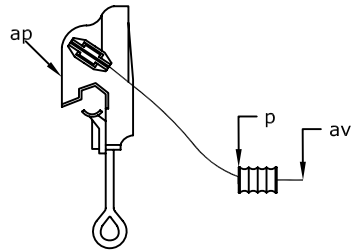
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>100A LOADBREAK CUTOUT</p> <p>200A LOADBREAK CUTOUT</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M3-5A</p> <p>M3-5B</p>



MATERIAL LIST

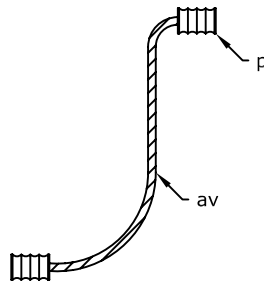
Item	COA Commodity Code	Qty.	Description
c	28574020XX	6	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
p	2857402239	6	Connector, YHN-525
av	NA	6	Jumper, Sized As Required
cg	2857802333	1	Switch, Gang Operated Air Break With Insulated Handle Spacer
ek	285740XXXX	5	Locknut, 5/8"
tp	2857402248	6	Compression Terminal Pad, 477 AAC

City of Alexandria Electric Distribution	SECTIONALIZING AIR BREAK SWITCH	DATE: 04-20-07
		STANDARD NUMBER M3-15



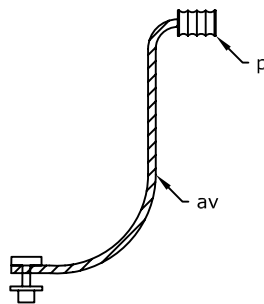
M5-1 - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	1	Connector, Compression, Sized as Required
ap	2851002131	1	Clamp, Hot Line
av	2801602118	6	Jumper, #6 Soft Drawn Copper



M5-1A - MATERIAL LIST

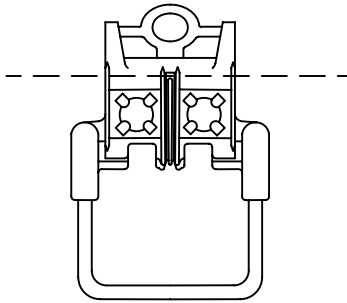
Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Compression, Sized as Required
av	NA	1	Jumper, Sized As Required



M5-1CU - MATERIAL LIST

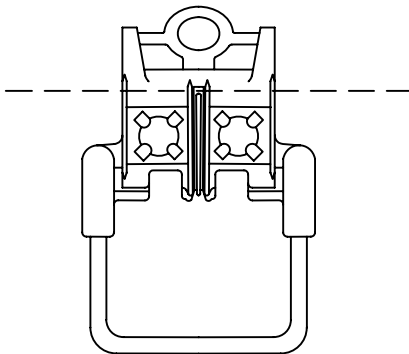
Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Compression or Bolted, Sized as Required
av	NA	1	Jumper, Sized As Required

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>PRIMARY AND SECONDARY JUMPERS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-1</p> <p>M5-1A</p> <p>M5-1CU</p>



M5-1KS - MATERIAL LIST

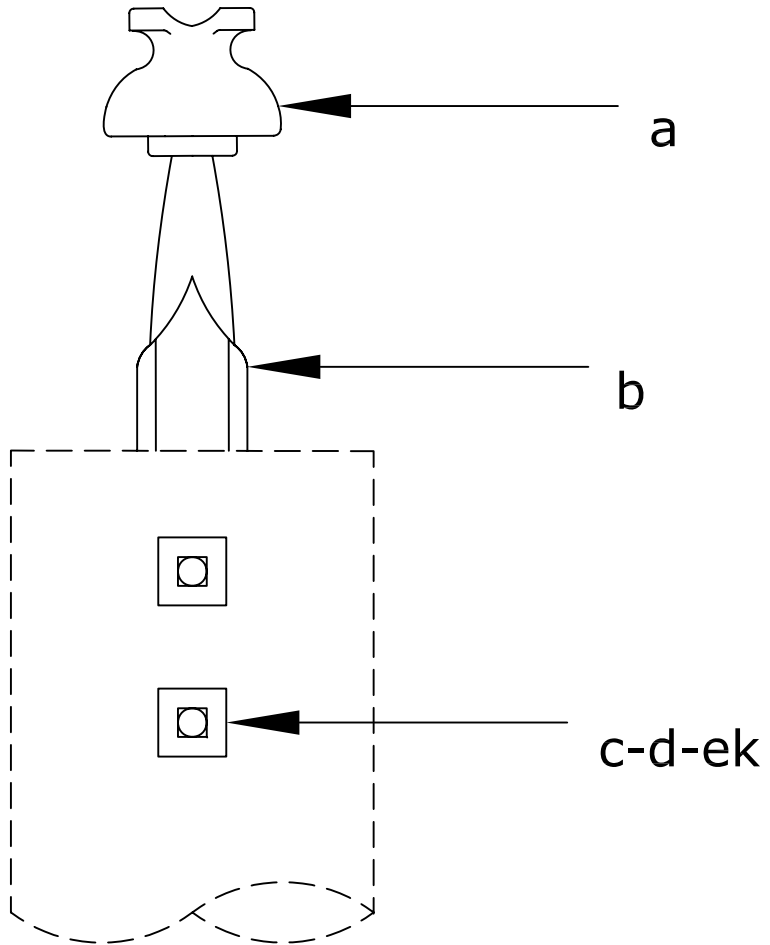
Item	COA Commodity Code	Qty.	Description
-	2851002128	1	Bolted Stirrup, 477 AAC



M5-1KS - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
-	285100213_	1	Compression Stirrup

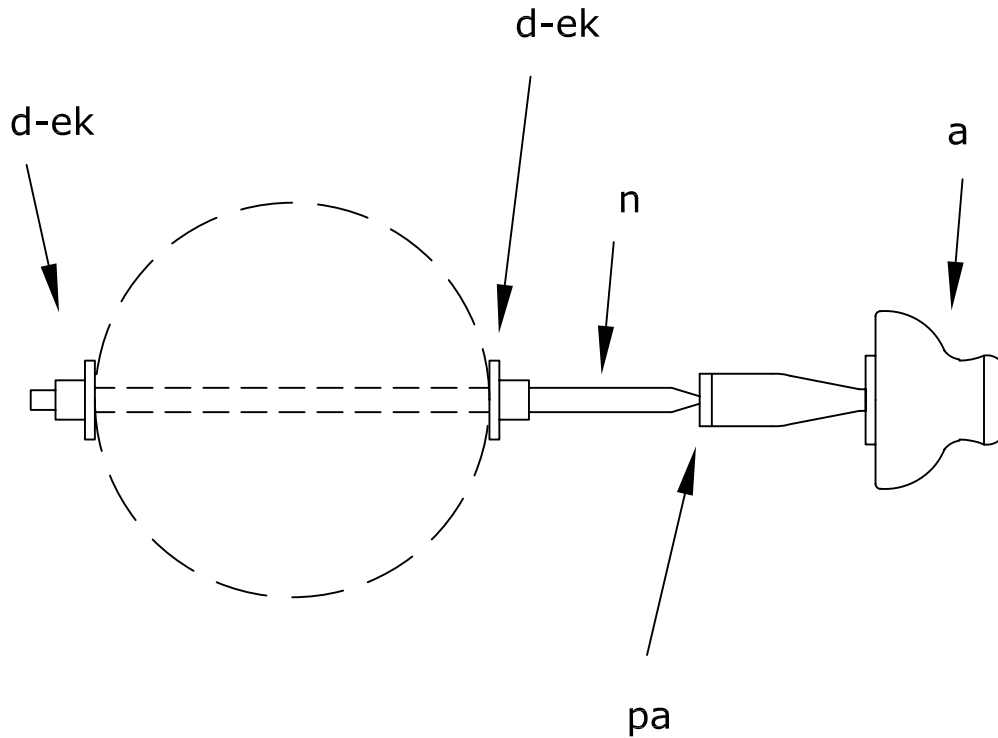
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>SMALL CONDUCTOR BOLTED STIRRUP</p> <p>LARGE CONDUCTOR BOLTED STIRRUP</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-1X</p> <p>M5-1XL</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
b	2857402314	1	Pin, Pole Top, 20"
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
ek	285740XXXX	2	Locknut, 5/8"

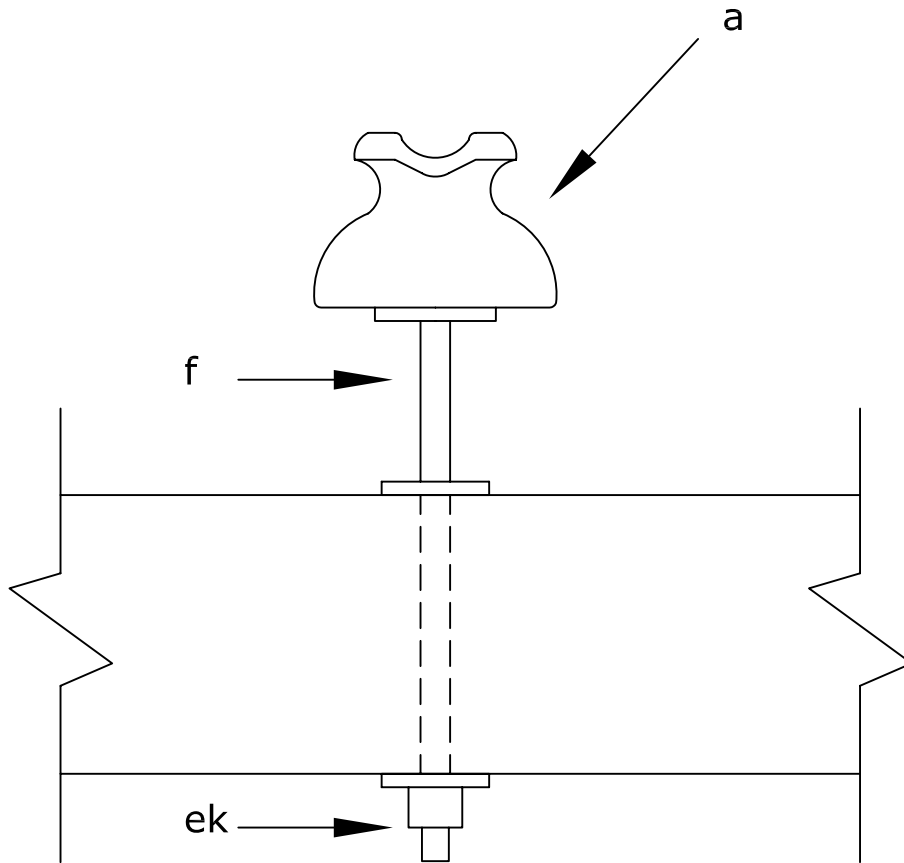
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>INSULATOR ASSEMBLIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
n	28574020XD	1	Bolt, Double Arming, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
pa	2857402316	1	Adapter Pin

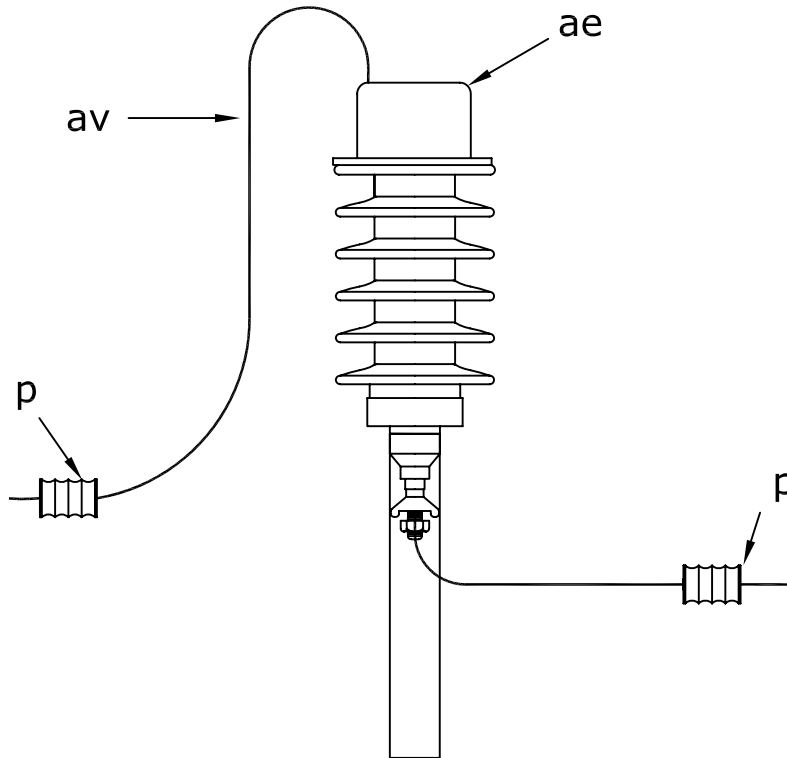
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>INSULATOR ASSEMBLIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-4</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
f	2857802046	1	Steel Crossarm Pin
ek	285740XXXX	1	Locknut, 5/8"

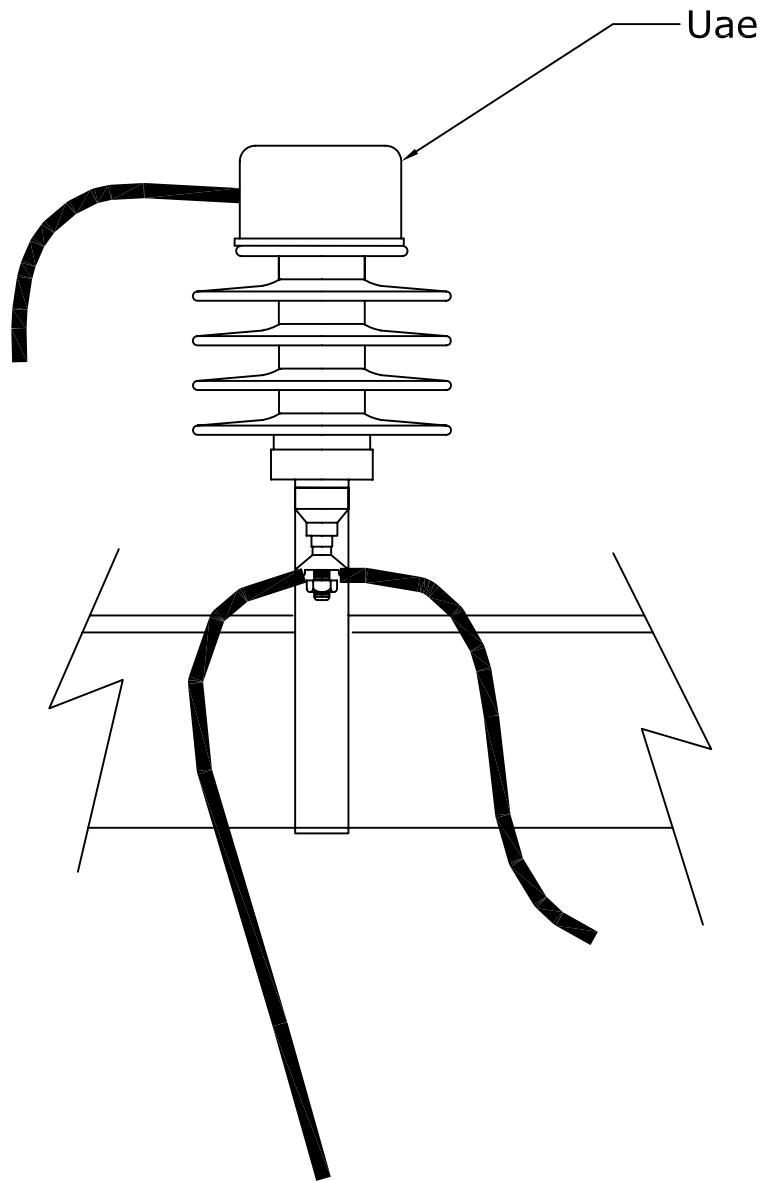
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>INSULATOR ASSEMBLIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-5</p>



MATERIAL LIST

Item	COA Commodity Code	Description	M5-6A	M5-6B
p	28574022XX	Connector, Compression or Bolted, Sized as Required	2	2
ae	2850302005	Lightning Arrester, Distribution Class, 3kV (With Bracket)	1	
ae	2850302004	Lightning Arrester, Distribution Class, 10kV (With Bracket)		1
av	2801602118	Jumper, #6 Solid Copper	8	8

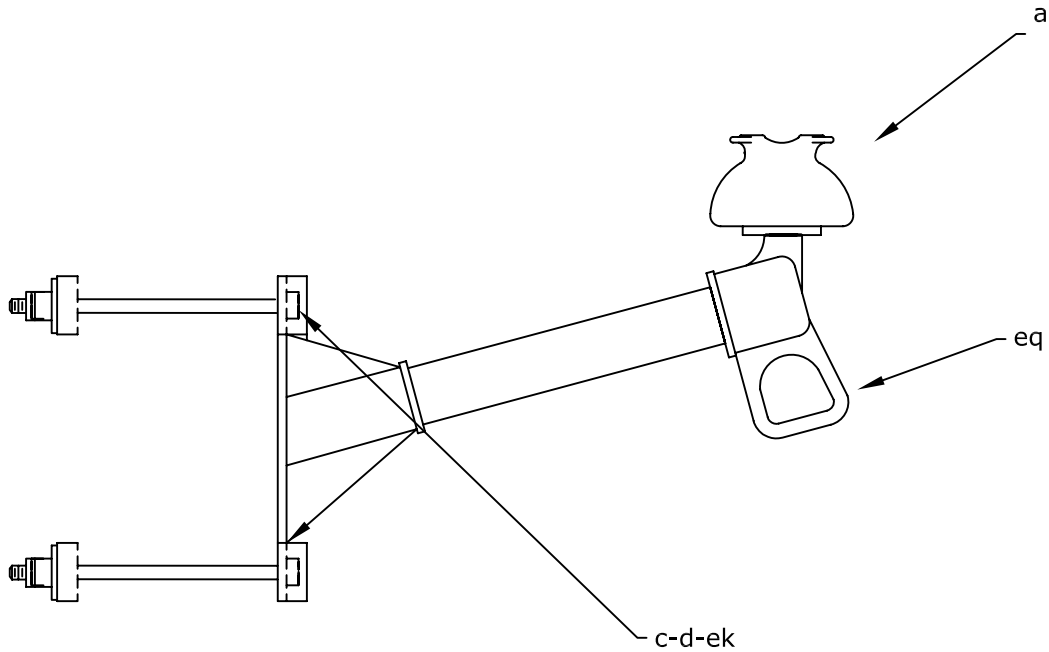
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>LIGHTNING ARRESTERS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-6A</p> <p>M5-6B</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Compression, Sized as Required
Uae	2850302502	1	Lightning Arrester, Station Class, 9kV (With Bracket)
av	2801602119	8	Jumper, #2 Stranded Copper

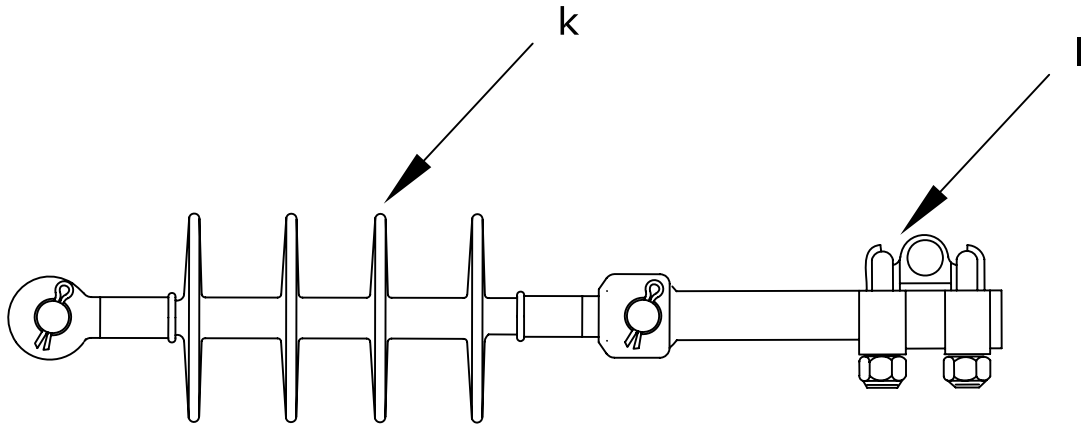
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>STATION CLASS SURGE ARRESTER</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-6S</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
a	2857402299	1	Insulator, Pin Type
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	285740232X	2	Washer, 2 1/4" Square With 13/16" Hole
ah	2801602124	12	Tie Wire, #4 Al (Feet)
ek	285740XXXX	0	Locknut, 5/8"
eq	2857802045	1	Narrow Profile Bracket With 1" Insulator Threads

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>INSULATOR ASSEMBLIES</p>	DATE: 12-19-06
		<p>STANDARD NUMBER</p> <p>M5-7</p>

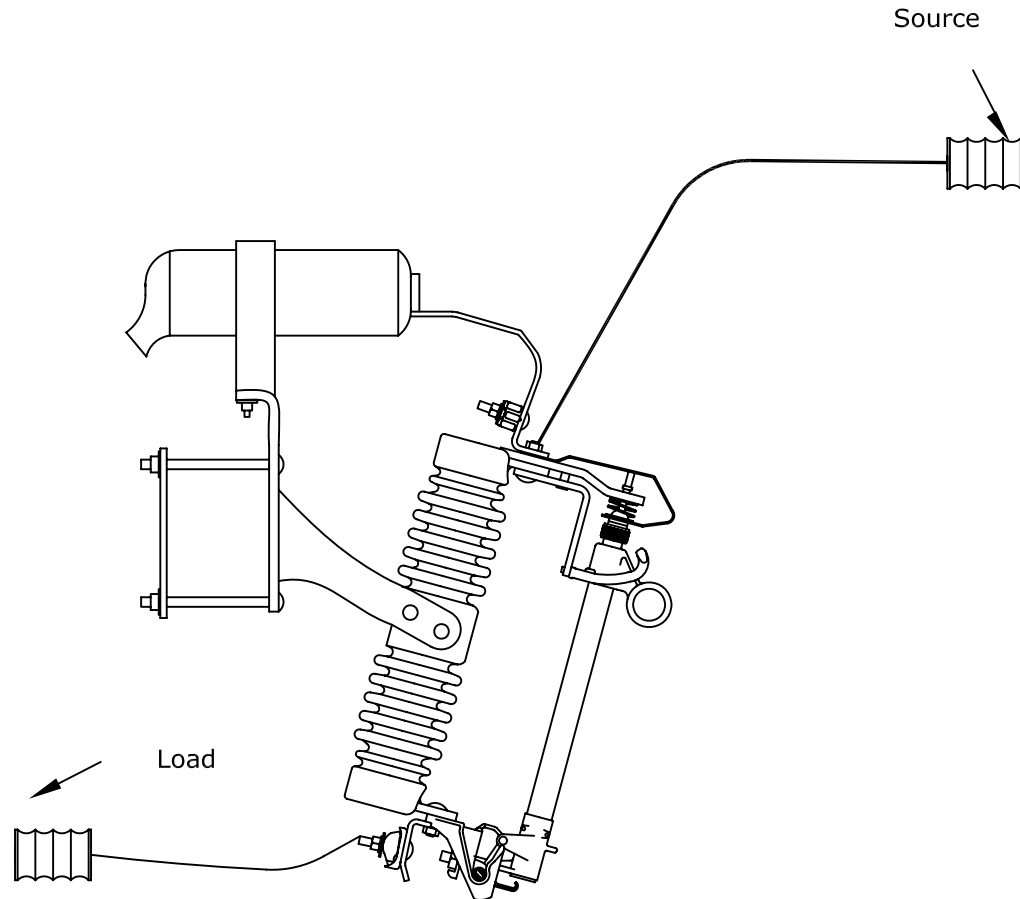


MATERIAL LIST

Item	COA Commodity Code	Description	M5-8	M5-8L
k	2857402300	Insulator, Suspension, Polymer	1	1
l	2857402140	Clamp, Deadend, Small	1	
l	2857402142	Clamp, Deadend, Large		1

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>DEADEND INSULATOR ASSEMBLIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M5-8</p> <p>M5-8L</p>

RETIREMENT ONLY



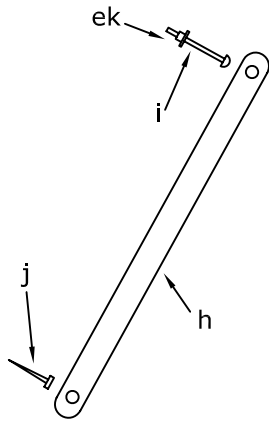
City of
Alexandria
Electric Distribution

COMBINATION CUTOUT AND ARRESTER
(WITH MOUNTING BRACKETS)

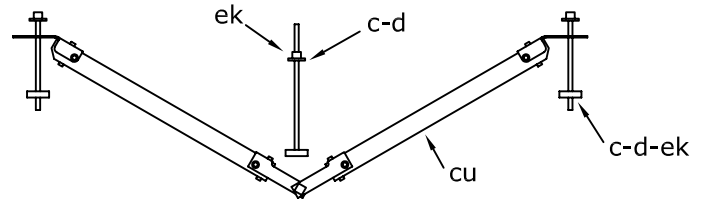
DATE: 04-20-07

STANDARD
NUMBER

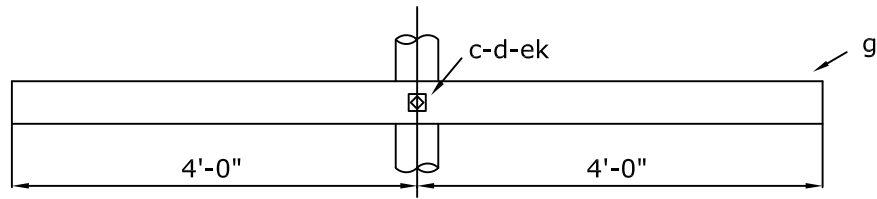
M5-10



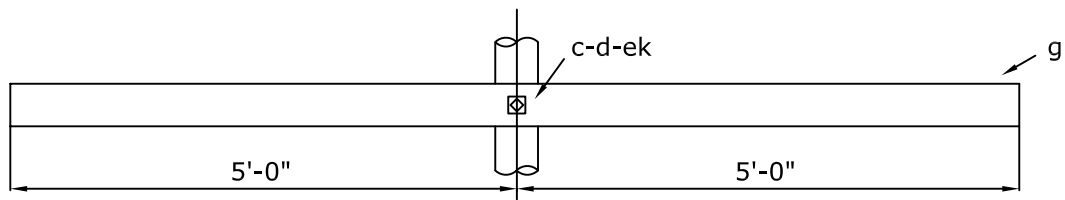
M5-11



M5-13



M5-14



M5-16

MATERIAL LIST

Item	COA Commodity Code	Description	M5-11	M5-13	M5-14	M5-16
c	2857402008	Bolt, Machine, 1/2" x Required Length		2		
c	28574020XM	Bolt, Machine, 5/8" x Required Length		1	1	1
d	2857402321	Washer, 1 3/8" Round With 9/16" Hole		2		
d	2857402322	Washer, 2 1/4" Square With 13/16" Hole		1	2	2
g	2857802041	Crossarm, 3 3/4" x 4 3/4" x 8", Wood			1	
g	2857802042	Crossarm, 3 3/4" x 4 3/4" x 10", Wood				1
h	2857802044	Brace, 28", Wood	2			
i	2857402021	Carriage Bolt, 3/8" x 4 1/2"	2			
j	2857402320	Lag Screw, 1/2" x 4"	1			
cu	2857802043	Brace, 60" Span, Wood		2		
ek	285740XXXX	Locknut, 5/8"		1	1	1

City of Alexandria

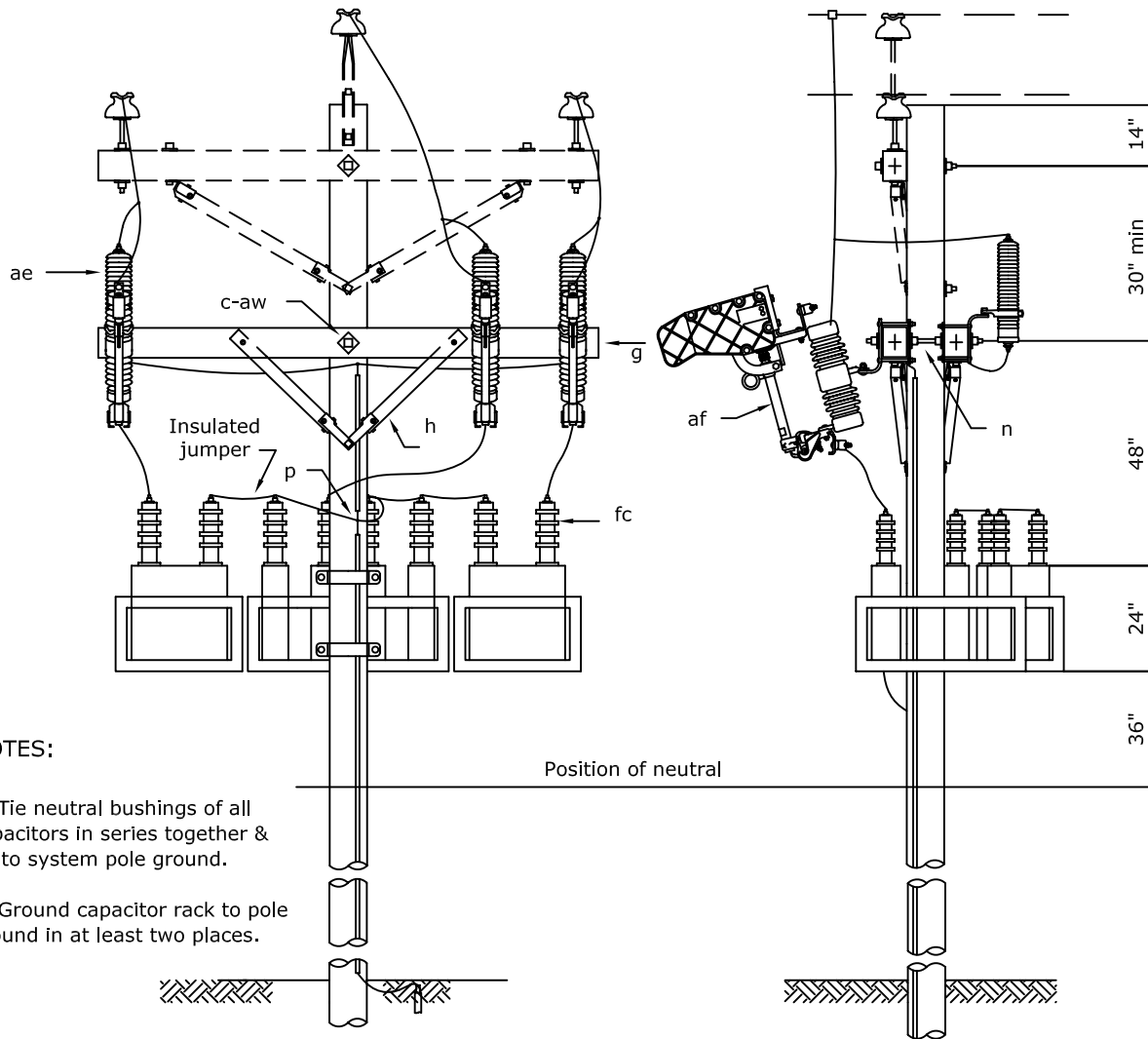
Electric Distribution

CROSSARMS AND BRACES

DATE: 04-20-07

STANDARD NUMBER

M5-11 M5-13
M5-14 M5-16



NOTES:

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

2- Ground capacitor rack to pole ground in at least two places.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
c	2857402008	4	Bolt, Machine, 1/2" x Required Length
c	28574020XM	6	Bolt, Machine, 5/8" x Required Length
d	2857402322	6	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8' or 10', Wood
h	2857802044	4	Brace, 28", Wood
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	4	Bolt, Double Arming, 5/8" x Required Length
p	28574022XX	8	Connector, Sized As Required (If Required)
ae	2850302004	3	Lightning Arrester, Distribution Class, 10kV (With Bracket)
af	2852820010	3	Cutout, 15kV, 100A Loadbreak with Mounting Bracket
fc	SO-DH-FC	1	Capacitor Assembly, Sized as Specified

City of
Alexandria

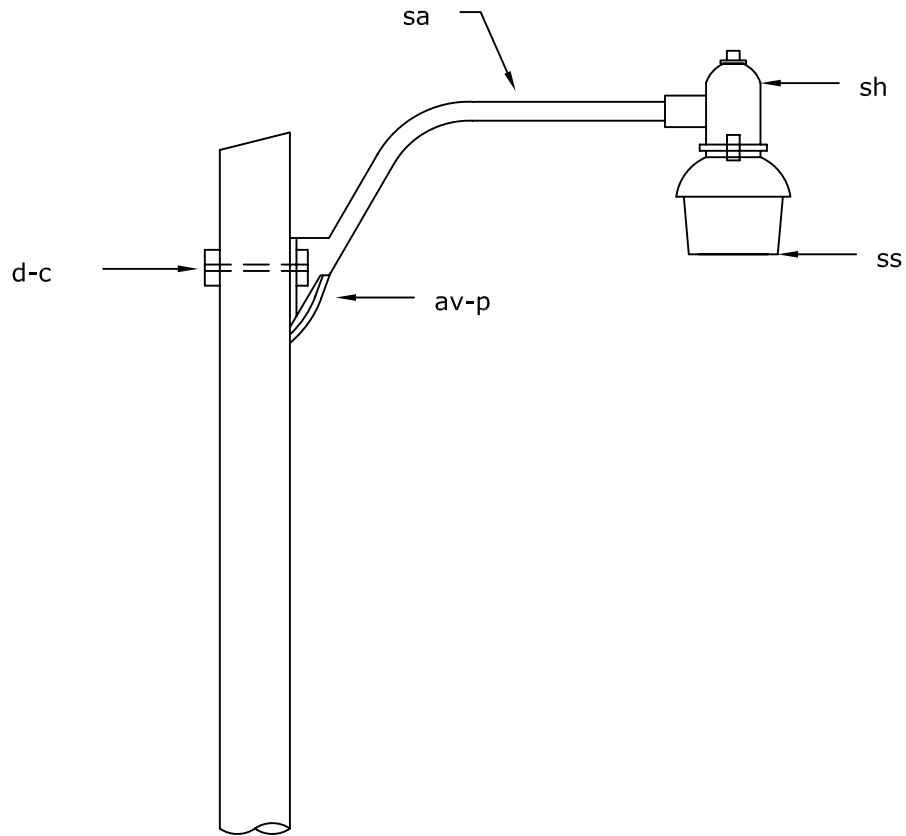
Electric Distribution

CAPACITOR ASSEMBLY

DATE: 04-20-07

STANDARD
NUMBER

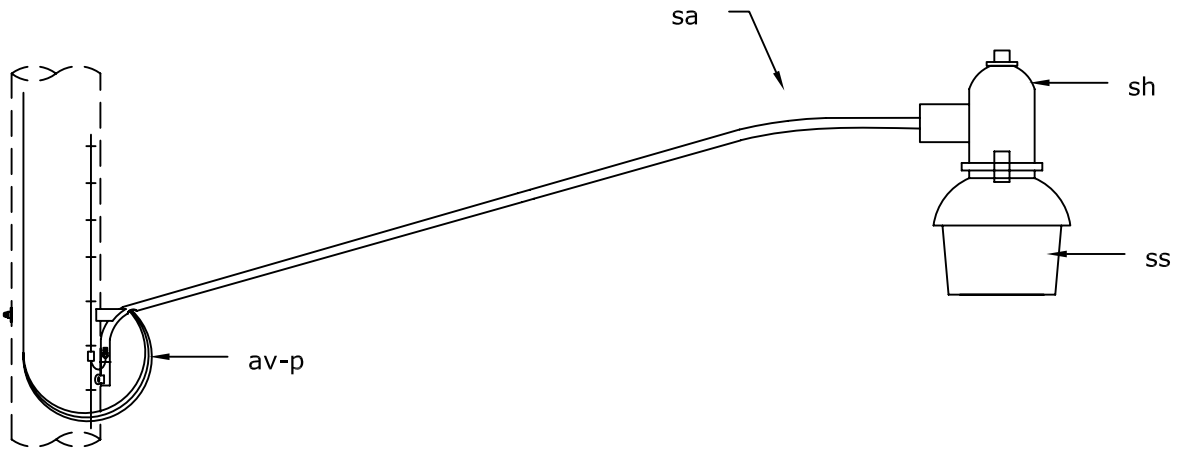
M9-13



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required
av	2802402115	10	Jumper, #12 THHN, Black
av	2802402117	10	Jumper, #12 THHN, White
sa	2857602050	1	Street Light Arm, 30"
sh	2857602047	1	Street Light Head, 100W HPS
ss	2857602048	1	Shade, Acrylic
-	2855002370	1	Lamp, 100W High Pressure Sodium
-	2852702052	1	Photo Cell

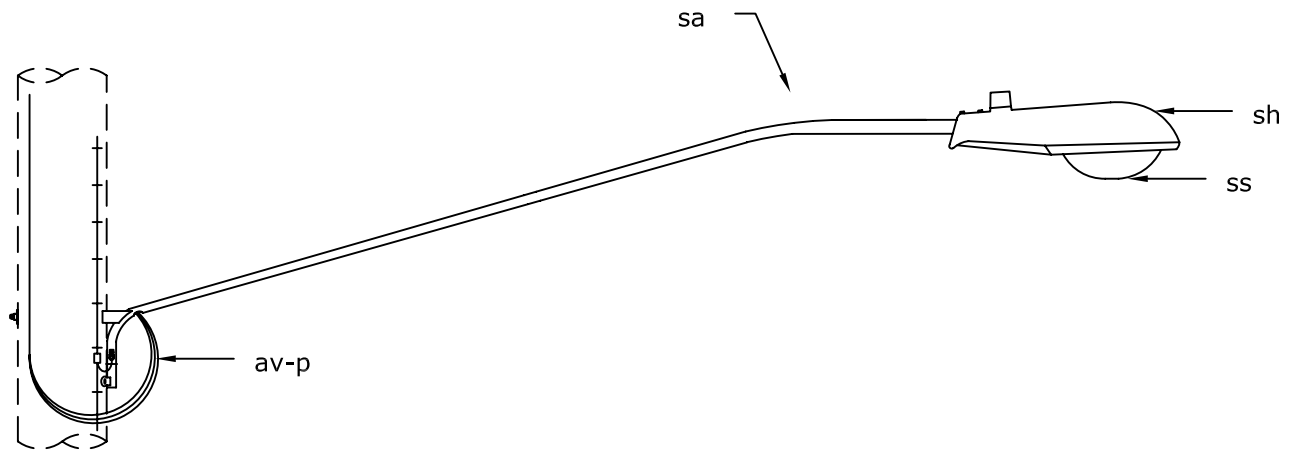
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SECURITY LIGHT 100W HIGH PRESSURE SODIUM</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M26-1</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required
av	2802402115	12	Jumper, #12 THHN, Black
av	2802402117	12	Jumper, #12 THHN, White
sa	2857602051	1	Street Light Arm, 6'
sh	2857602047	1	Street Light Head, 100W HPS
ss	2857602048	1	Shade, Acrylic
-	2855002370	1	Lamp, 100W High Pressure Sodium
-	2852702052	1	Photo Cell

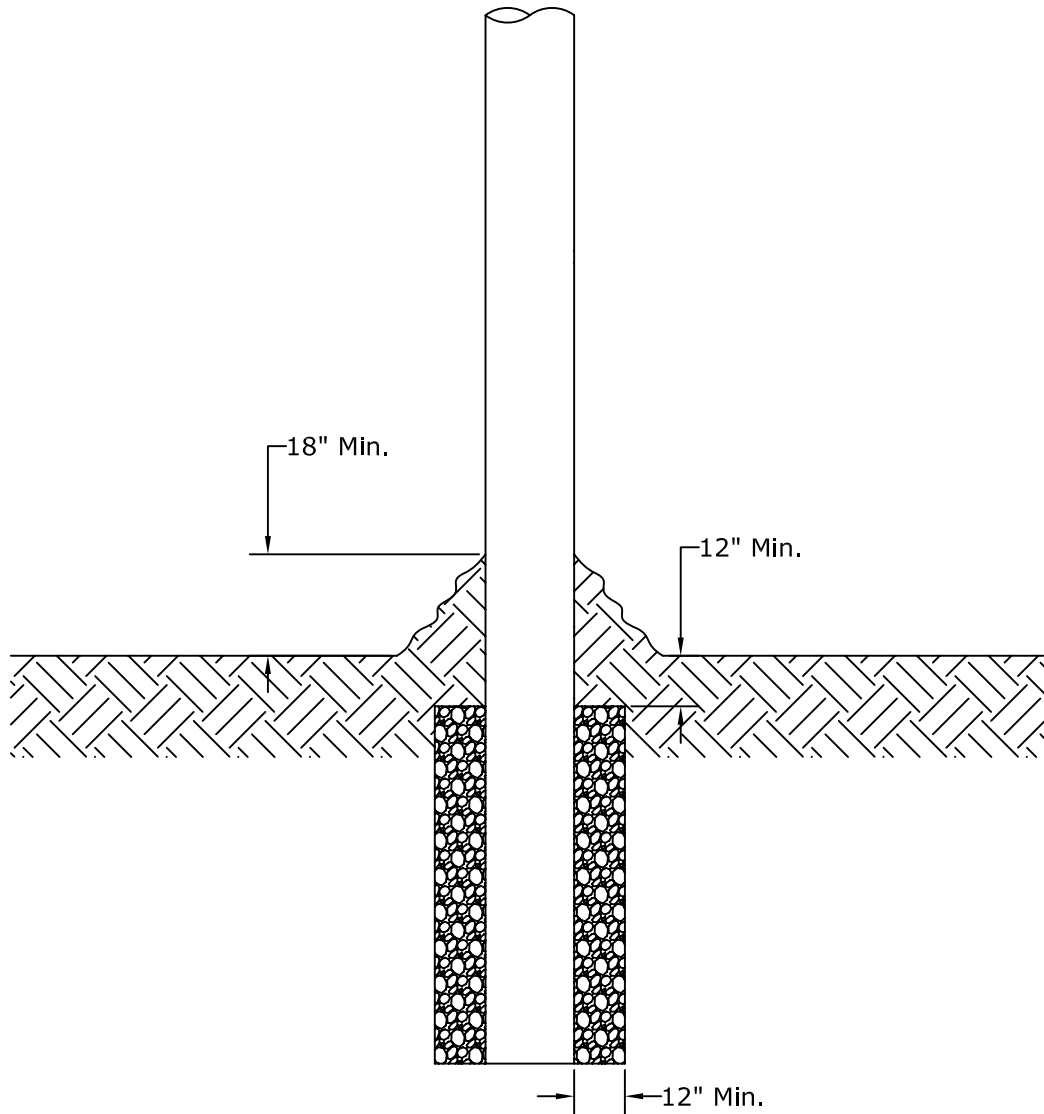
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>NEIGHBORHOOD LIGHT 100W HIGH PRESSURE SODIUM</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M26-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Sized As Required
av	2802402115	12	Jumper, #12 THHN, Black
av	2802402117	12	Jumper, #12 THHN, White
sa	2857602051	1	Street Light Arm, 6'
sh	2857602047	1	Street Light Head, 250W HPS
ss	2857602048	1	Shade, Acrylic
-	2855002465	1	Lamp, 250W High Pressure Sodium
-	2852702052	1	Photo Cell

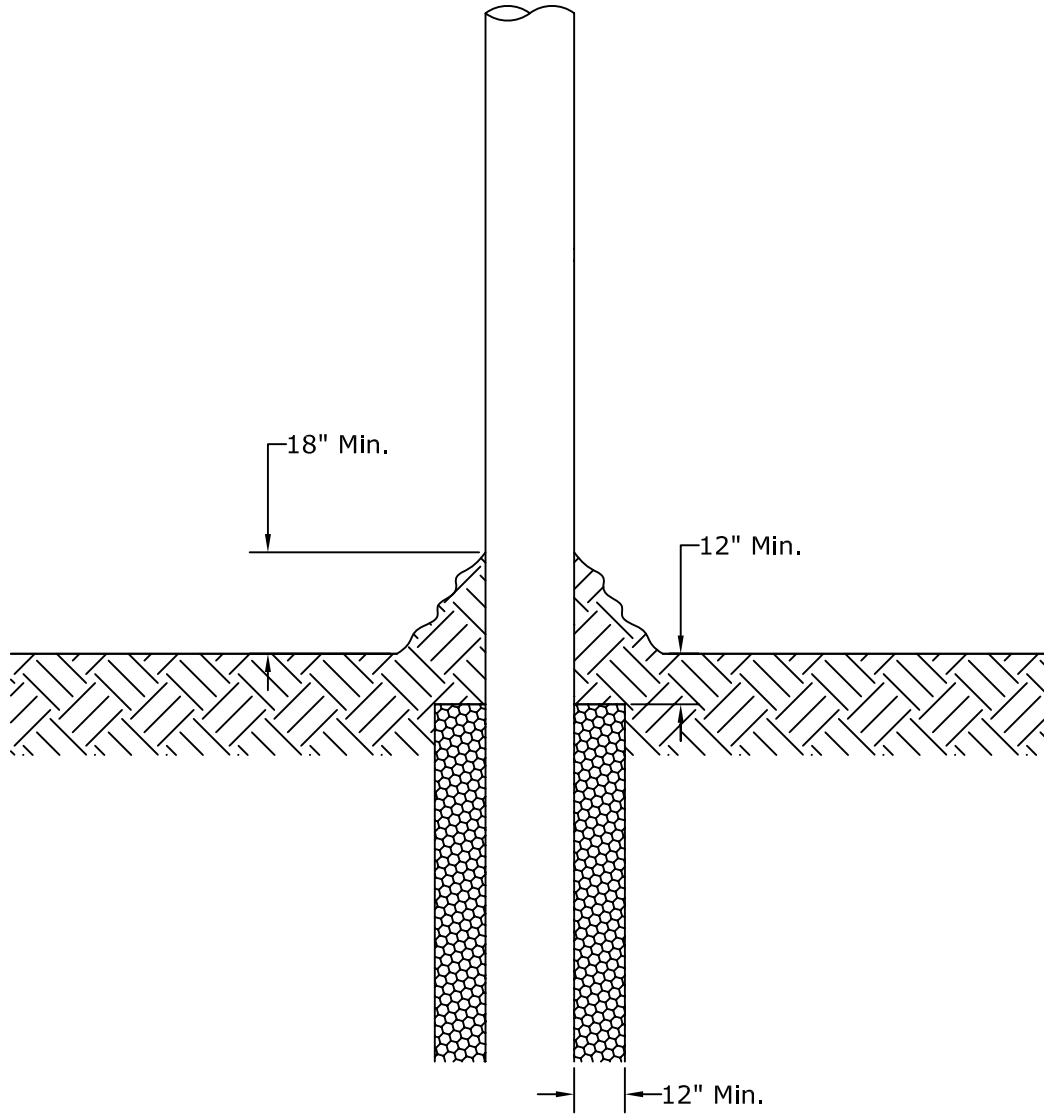
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>STREET LIGHT</p> <p>250W HIGH PRESSURE SODIUM</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M26-3</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
-	SO-MISC-LA610	2	Crushed Rock Backfill, DGA or Better (Per Cubic Yard)

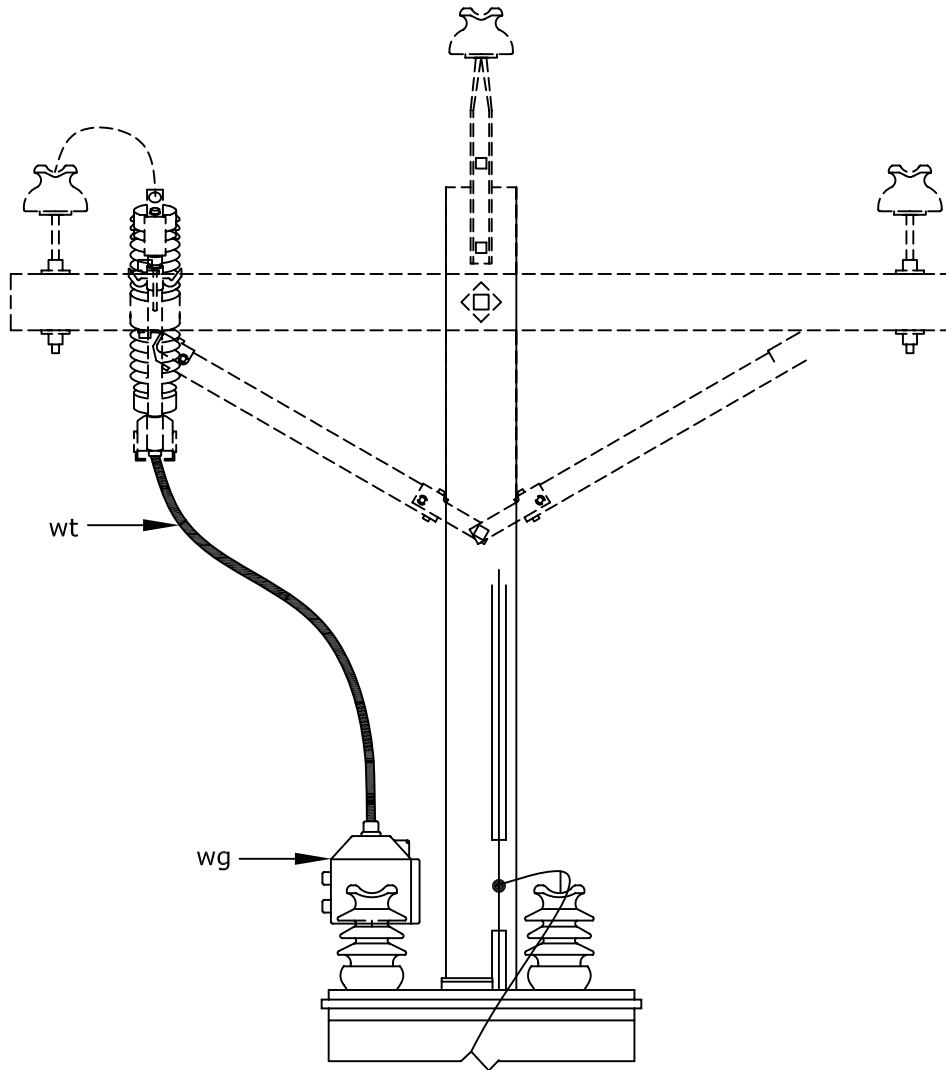
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>CRUSHED ROCK BACKFILL</p>	DATE: 02-07-05
		<p>STANDARD NUMBER</p> <p>M-101</p>



MATERIAL LIST

Item	COA Commodity Code	Description	M-102	M-102L
-	2851502496	Polecrete Stabilizer, 1 Gallon Kit	1	
-	2851502497	Polecrete Stabilizer, 3 Gallon Kit		1

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>EXPANDING FOAM BACKFILL</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M-102</p>

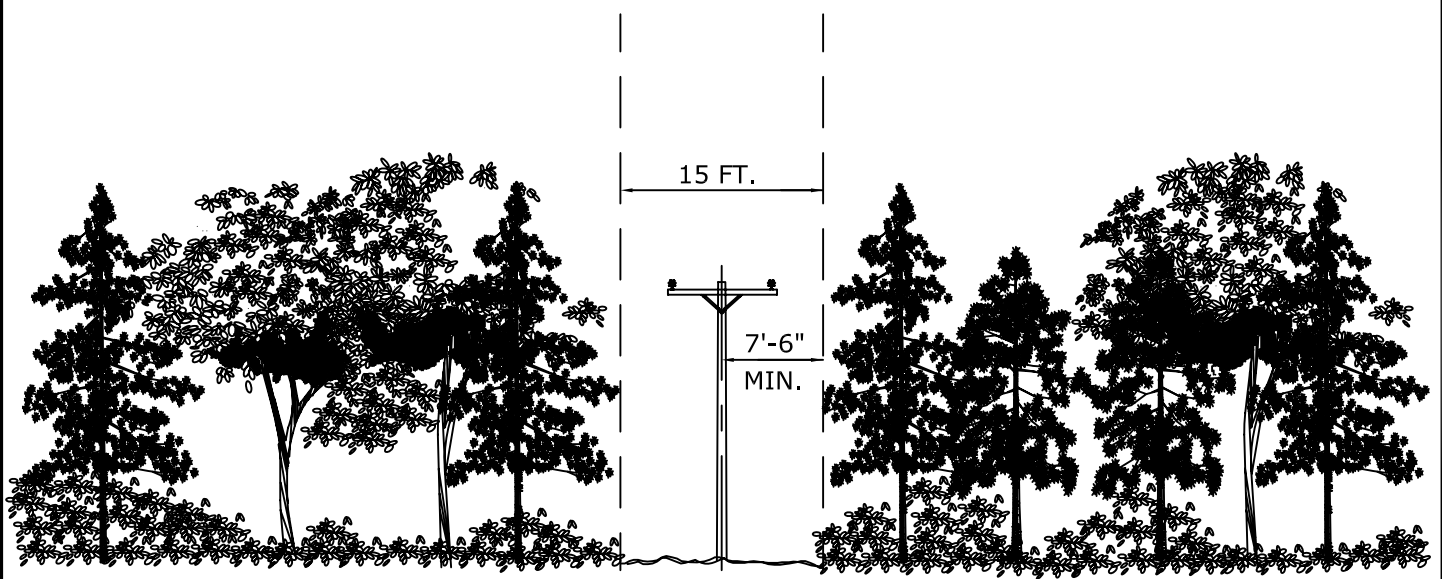


NOTE: Install wildlife guard over connector and first skirt of transformer bushing.
Do not install guard lower than first bushing!

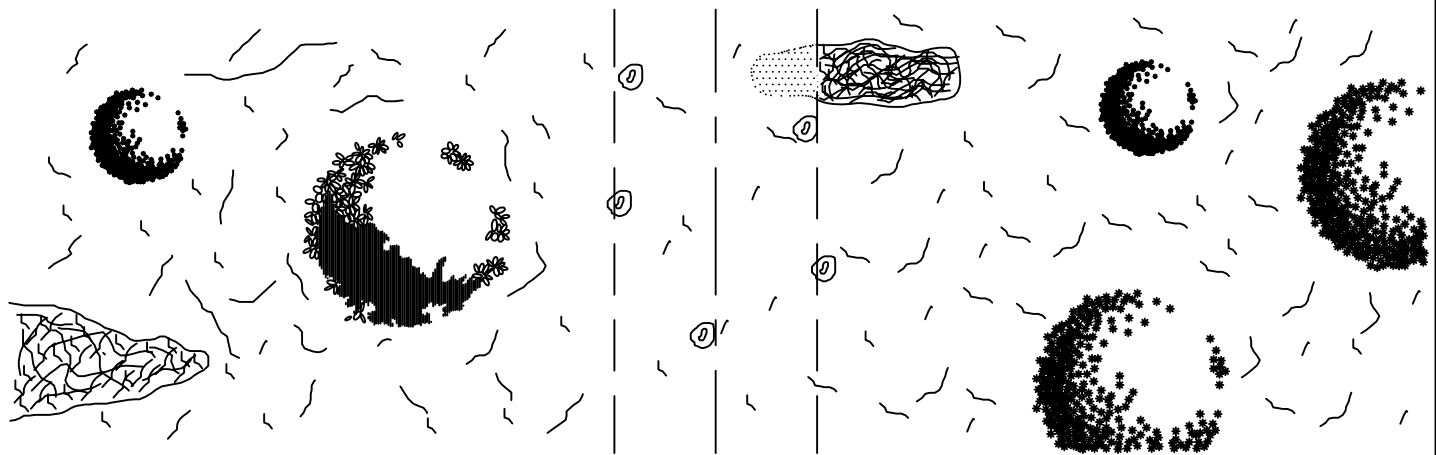
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
av	2801602475	6	Jumper, #6 Solid Copper, 5kV Coated
wg	2859902329	1	Wildlife Guard, 5.5"

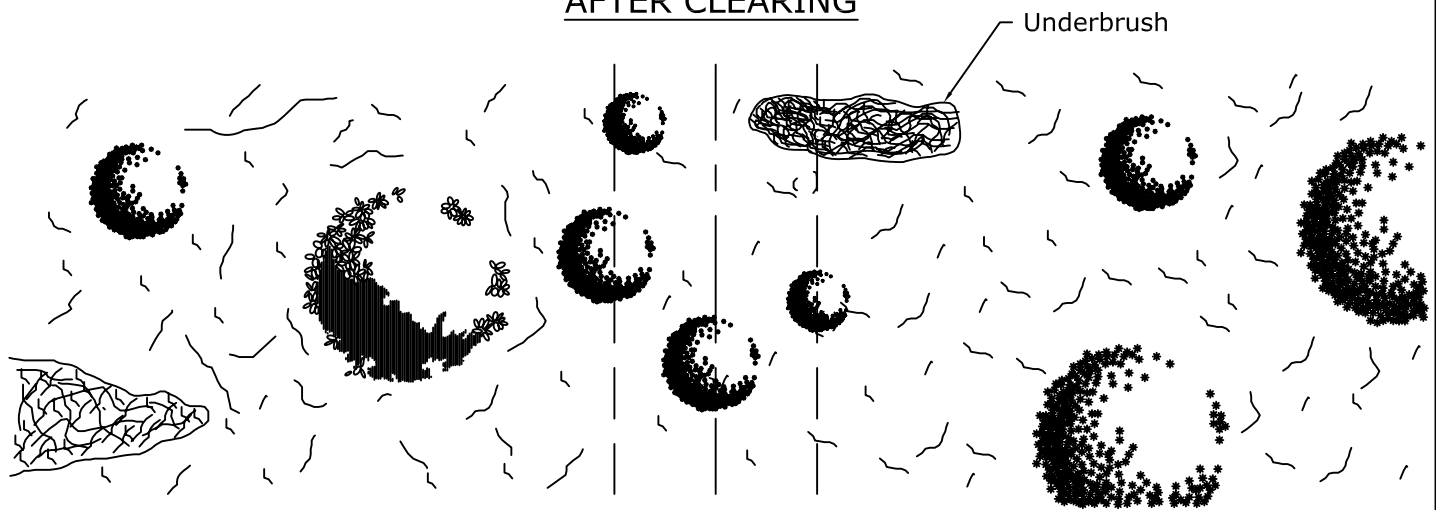
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>WILDLIFE PROTECTION ASSEMBLY</p>	DATE: 04-19-07
		<p>STANDARD NUMBER</p> <p>M-AG</p>



ELEVATION



AFTER CLEARING



BEFORE CLEARING

NOTES:

- 1- Right-of-way shall be truck accessible when clearing and grubbing is complete.
- 2- Right-of-way shall be left free of debris to accomodate future bush hogging operations.

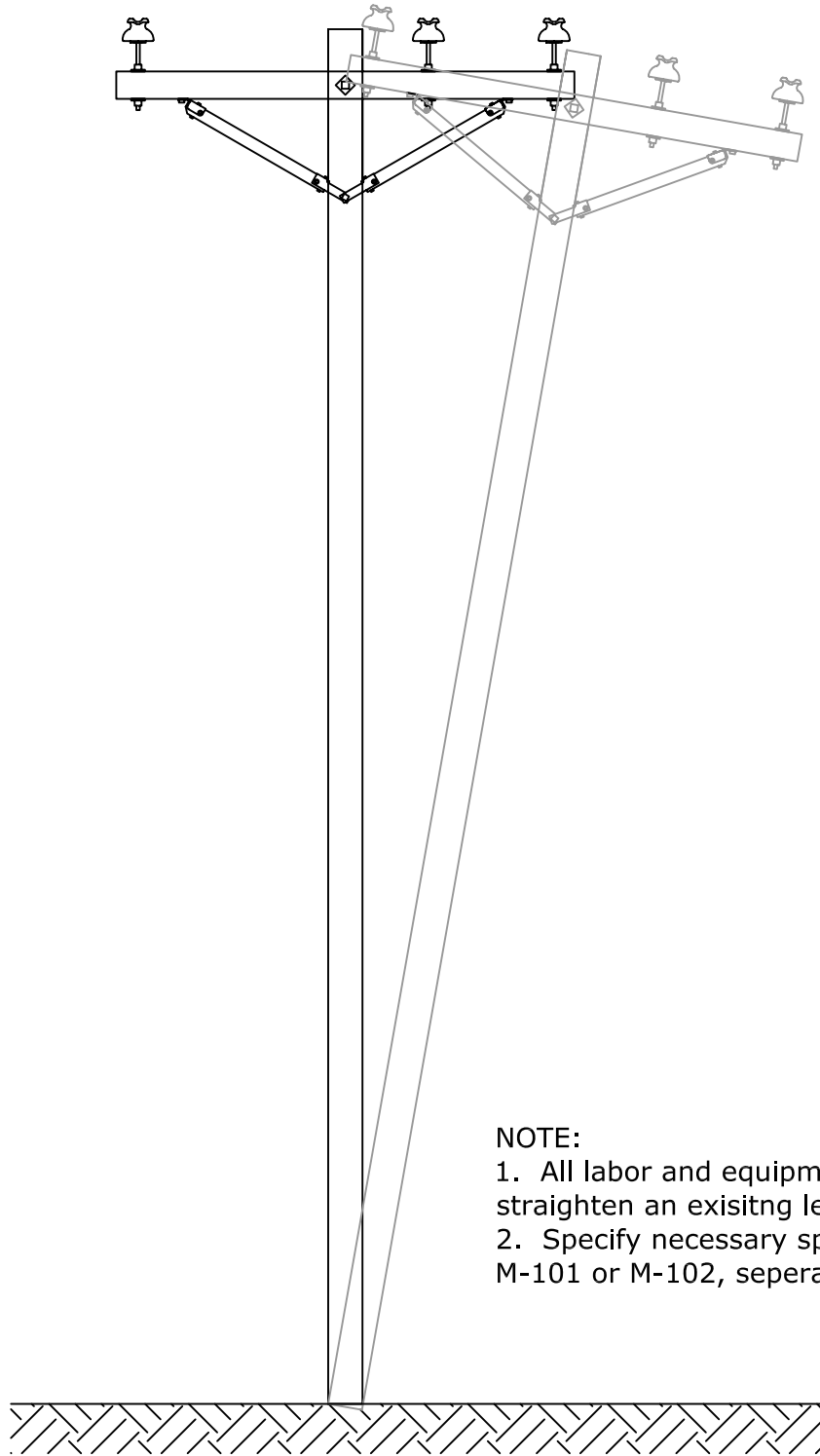
City of
Alexandria

Electric Distribution

RIGHT-OF-WAY CLEARING GUIDE
DISTRIBUTION RIGHTS-OF-WAY

DATE: 04-20-07
STANDARD NUMBER
R1-15

LABOR ONLY UNIT



NOTE:

1. All labor and equipment necessary to straighten an existing leaning pole.
2. Specify necessary specialized backfill, M-101 or M-102, separately.

City of
Alexandria

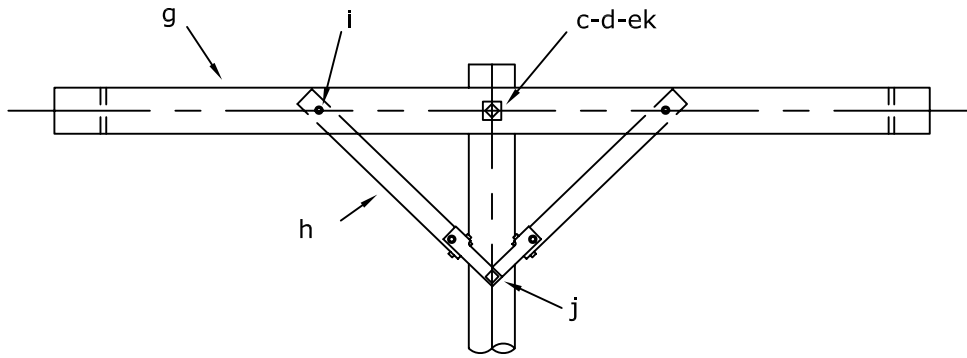
Electric Distribution

STRAIGHTEN LEANING POLE

DATE: 04-20-07

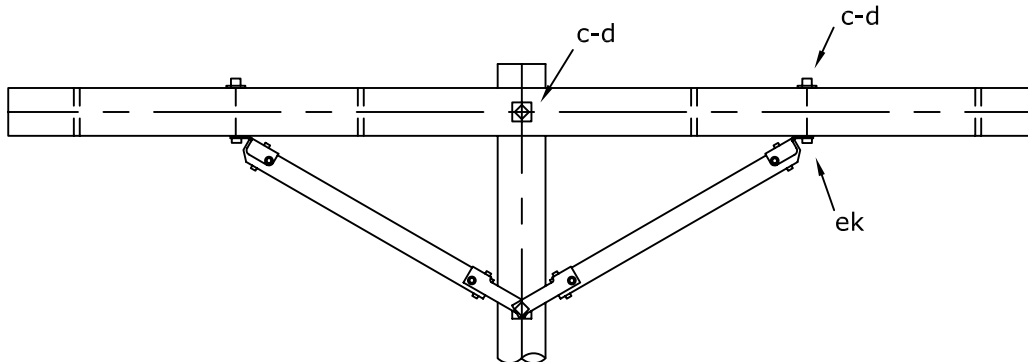
STANDARD
NUMBER

STR POLE



XA8 - MATERIAL LIST

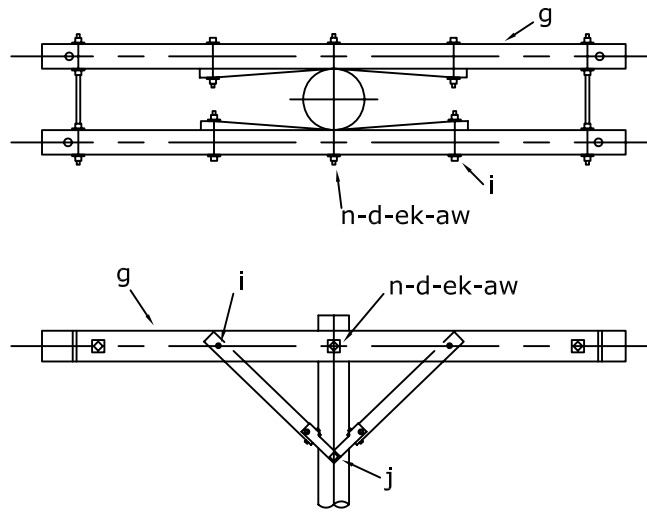
Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	1	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	2	Brace, 28", Wood
i	2857402021	2	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	1	Lag Screw, 1/2" x 4"
ek	285740XXXX	1	Locknut, 5/8"



XA10 - MATERIAL LIST

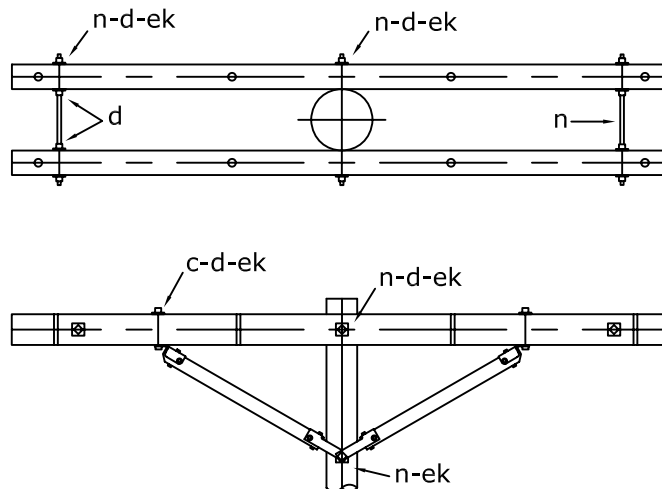
Item	COA Commodity Code	Qty.	Description
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	4	Washer, 2 1/4" Square With 13/16" Hole
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	2	Locknut, 5/8"

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>CROSSARM ASSEMBLIES</p> <p>SINGLE ARM, 8' OR 10'</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>XA8</p> <p>XA10</p>



XA8 - MATERIAL LIST

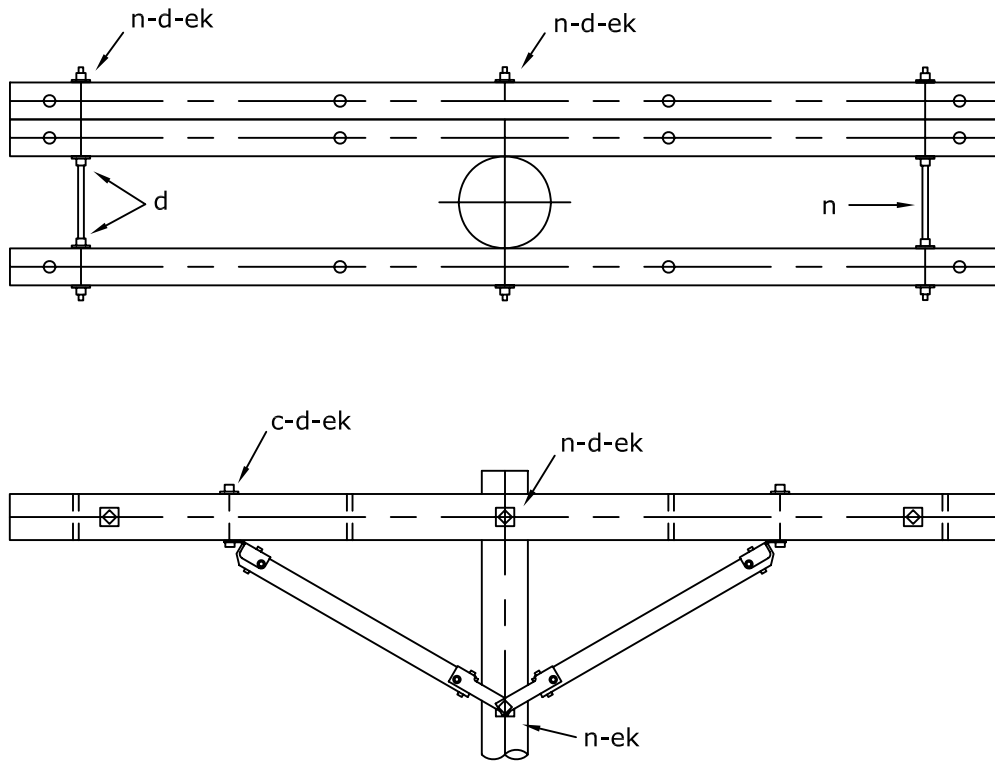
Item	COA Commodity Code	Qty.	Description
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
g	2857802041	2	Crossarm, 3 3/4" x 4 3/4" x 8', Wood
h	2857802044	4	Brace, 28", Wood
i	2857402021	4	Carriage Bolt, 3/8" x 4 1/2"
j	2857402320	2	Lag Screw, 1/2" x 4"
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
ek	285740XXXX	10	Locknut, 5/8"



XA10 - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
g	2857802042	2	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	10	Locknut, 5/8"

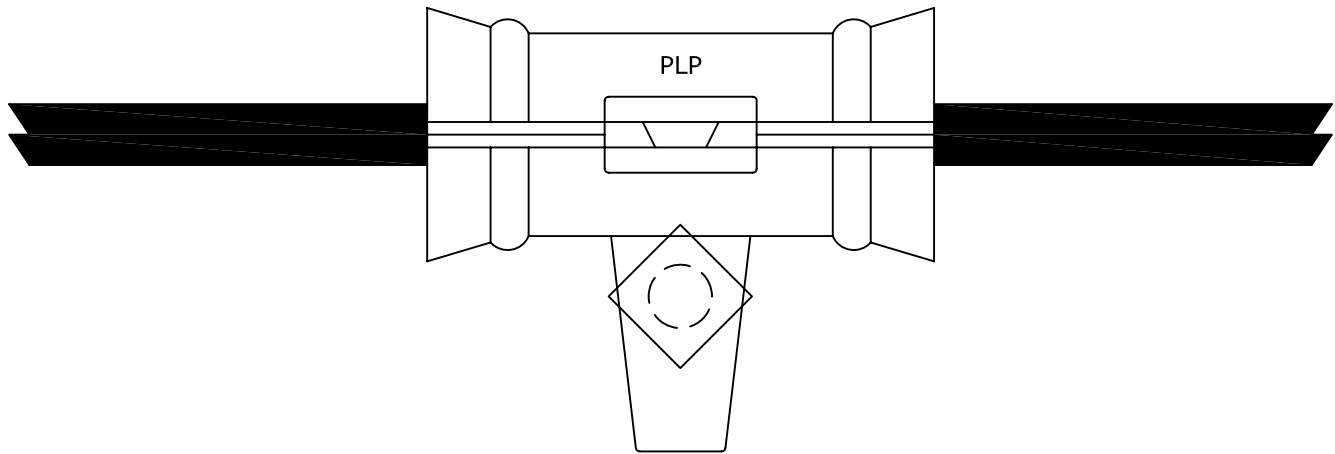
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>CROSSARM ASSEMBLIES</p> <p>DOUBLE ARM, 8' OR 10'</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>XD8</p> <p>XD10</p>



XA10 - MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	4	Bolt, Machine, 5/8" x Required Length
d	2857402322	10	Washer, 2 1/4" Square With 13/16" Hole
d	2857402321	4	Washer, 1 3/8" Round With 9/16" Hole
g	2857802042	3	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
n	28574020XD	3	Bolt, Double Arming, 5/8" x Required Length
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	10	Locknut, 5/8"

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>CROSSARM ASSEMBLIES TRIPLE ARM, 10'</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>XT10</p>



NOTES:

1. Maintain minimum bending radius of cable at all times.
2. For use on tangents or angles of 20° or less.

FO1-72 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
ek	285740XXXX	1	Locknut, 5/8"
fot	2857402534	1	Tangent Support, ADSS, 2-72 Fibers

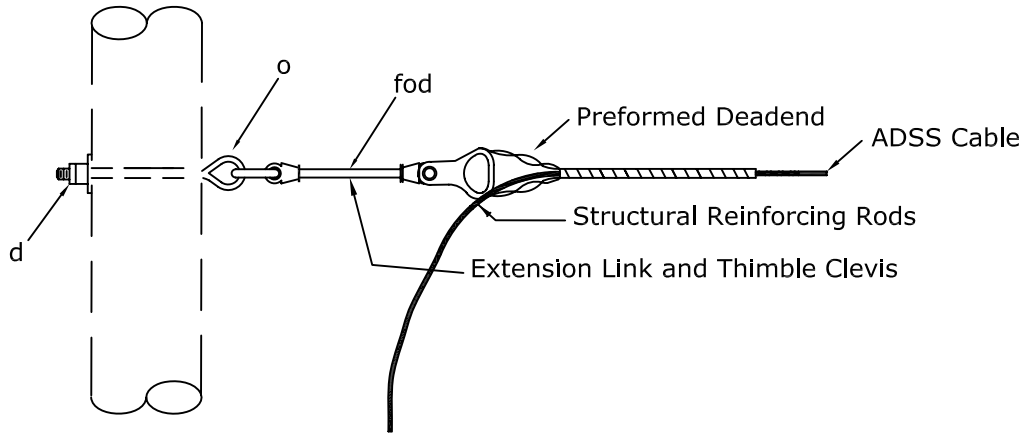
FO1-96 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
ek	285740XXXX	1	Locknut, 5/8"
fot	2857402535	1	Tangent Support, ADSS, 73-96 Fibers

FO1-144 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	1	Bolt, Machine, 5/8" x Required Length
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
ek	285740XXXX	1	Locknut, 5/8"
fot	2857402536	1	Tangent Support, ADSS, 97-144 Fibers

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>ADSS FIBER OPTIC CABLE TANGENT SUPPORT ASSEMBLY</p>	DATE: 12-14-07
		<p>STANDARD NUMBER</p> <p>FO1-72</p> <p>FO1-96</p> <p>FO1-144</p>



NOTES:

1. Maintain minimum bending radius of cable at all times.
2. Structural reinforcing rods should extend through preformed deadend past the thimble clevis.
3. Ensure cable is sufficiently clear of the pole to prevent abrasion.
4. Refer to project staking sheets for amount of slack, if any, to be stored at deadend locations.

FO5-72 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402537	1	Dead-End, ADSS, Limited Tension, 2-72 Fibers

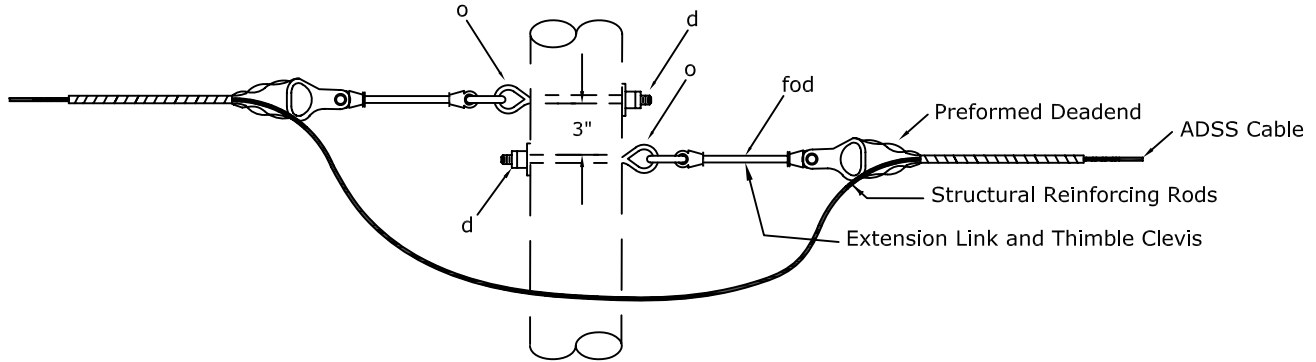
FO5-96 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402538	1	Dead-End, ADSS, Limited Tension, 73-96 Fibers

FO5-144 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402539	1	Dead-End, ADSS, Limited Tension, 97-144 Fibers

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>ADSS FIBER OPTIC CABLE LIMITED TENSION DEADEND ASSEMBLY</p>	DATE: 12-14-07
		<p>STANDARD NUMBER</p> <p>FO5-72</p> <p>FO5-96</p> <p>FO5-144</p>



NOTES:

1. For in-line double-deadends, both deadend assemblies may be attached to the same eye bolt. Make second attachment using 5/8" eye nut.
2. Maintain minimum bending radius of cable at all times.
3. Structural reinforcing rods should extend through preformed deadend past the thimble clevis.
4. Ensure cable is sufficiently clear of the pole to prevent abrasion.
5. Refer to project staking sheets for amount of slack, if any, to be stored at double-deadend locations.

FO6-72 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402537	2	Dead-End, ADSS, Limited Tension, 2-72 Fibers

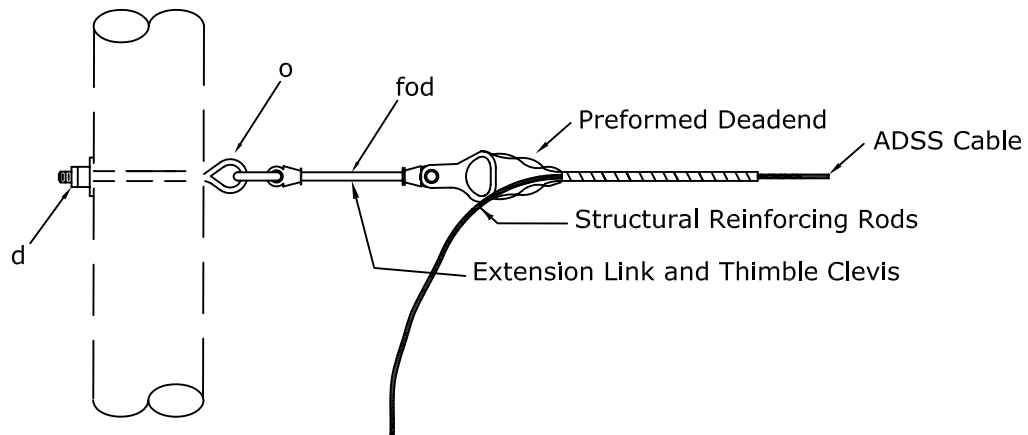
FO6-96 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402538	2	Dead-End, ADSS, Limited Tension, 73-96 Fibers

FO6-144 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402539	2	Dead-End, ADSS, Limited Tension, 97-144 Fibers

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>ADSS FIBER OPTIC CABLE LIMITED TENSION DOUBLE-DEADEND ASSEMBLY</p>	DATE: 12-14-07
		<p>STANDARD NUMBER</p> <p>FO6-72</p> <p>FO6-96</p> <p>FO6-144</p>



NOTES:

1. Maintain minimum bending radius of cable at all times.
2. Structural reinforcing rods should extend through preformed deadend past the thimble clevis.
3. Ensure cable is sufficiently clear of the pole to prevent abrasion.
4. Refer to project staking sheets for amount of slack, if any, to be stored at deadend locations.

FO7-72 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402540	1	Dead-End, ADSS, Medium Tension, 2-72 Fibers

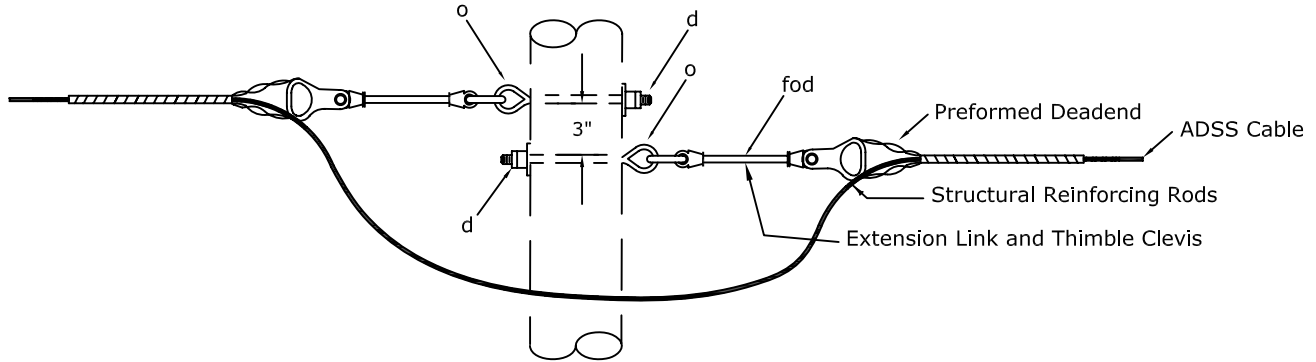
FO7-96 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402541	1	Dead-End, ADSS, Medium Tension, 73-96 Fibers

FO7-144 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	1	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	1	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	1	Locknut, 5/8"
fod	2857402542	1	Dead-End, ADSS, Medium Tension, 97-144 Fibers

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>ADSS FIBER OPTIC CABLE MEDIUM TENSION DEADEND ASSEMBLY</p>	DATE: 12-14-07
		<p>STANDARD NUMBER</p> <p>FO7-72</p> <p>FO7-96</p> <p>FO7-144</p>



NOTES:

1. For in-line double-deadends, both deadend assemblies may be attached to the same eye bolt. Make second attachment using 5/8" eye nut.
2. Maintain minimum bending radius of cable at all times.
3. Structural reinforcing rods should extend through preformed deadend past the thimble clevis.
4. Ensure cable is sufficiently clear of the pole to prevent abrasion.
5. Refer to project staking sheets for amount of slack, if any, to be stored at double-deadend locations.

FO8-72 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402540	2	Dead-End, ADSS, Medium Tension, 2-72 Fibers

FO8-96 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402541	2	Dead-End, ADSS, Medium Tension, 73-96 Fibers

FO8-144 MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
o	28574020XE	2	Bolt, Oval Eye, 5/8" x Required Length
ek	285740XXXX	2	Locknut, 5/8"
fod	2857402542	2	Dead-End, ADSS, Medium Tension, 97-144 Fibers

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>ADSS FIBER OPTIC CABLE MEDIUM TENSION DOUBLE-DEADEND ASSEMBLY</p>	DATE: 12-14-07
		<p>STANDARD NUMBER</p> <p>FO8-72</p> <p>FO8-96</p> <p>FO8-144</p>



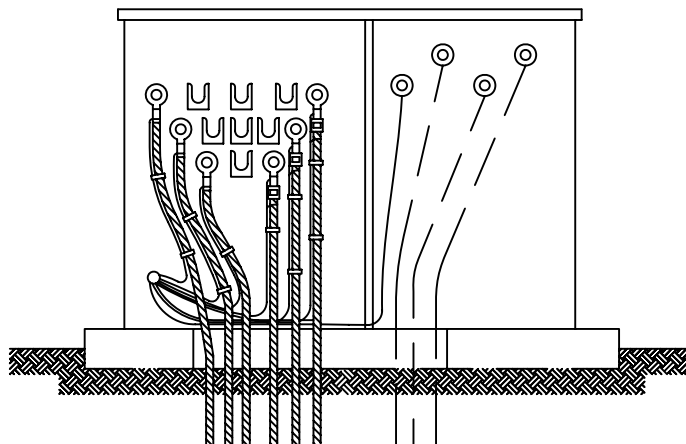
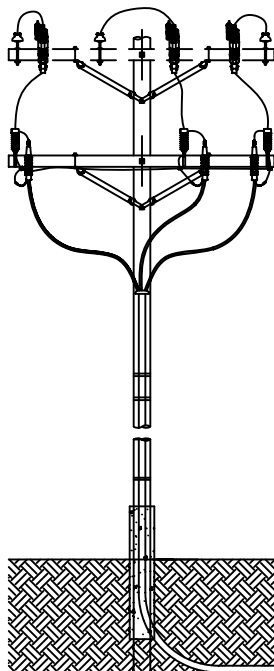
City of Alexandria

Electric Distribution Dept.

Underground Distribution

Construction Manual

Revision 4 - 03/28/08



CITY OF ALEXANDRIA ELECTRIC DISTRIBUTION DEPARTMENT
UNDERGROUND DISTRIBUTION CONSTRUCTION SPECIFICATONS

1. GENERAL

1.1 These specifications provide for the construction of underground distribution power facilities as specified by the City of Alexandria Electric Distribution Dept. (Owner).

1.2 It is the responsibility of the Contractor to ensure that all construction work shall be accomplished in a thorough and workmanlike manner in accordance with the staking sheets, plans and specifications, and the construction drawings.

2. STORAGE OF MATERIAL AND EQUIPMENT: It is the responsibility of the Contractor to ensure that all material and equipment to be used in construction must be stored so as to be protected from deteriorating effects of the elements. If outdoor storage cannot be avoided, the material and equipment must be stacked on supports well above the ground line and protected from the elements as appropriate, and with due regard to public safety.

3. HANDLING OF CABLE

3.1 It is the responsibility of the Contractor to ensure that the cable shall be handled carefully at all times to avoid damage, and shall not be dragged across the ground, fences or sharp projections. Care shall be exercised to avoid excessive bending of the cable. The Contractor shall ensure that the ends of the cable be sealed at all times against moisture with suitable end caps. Where it is necessary to cut the cable, the ends will be terminated or sealed immediately after the cutting operation.

3.2 At no time shall the cable reel be lifted in a way which applies pressure to the cables lays on the reel.

3.3 Contractor shall take all necessary precautions to ensure that the pulling tension does not exceed the manufacturer's recommended tension.

4. PLOWING

4.1 When cables are to be installed by plowing, it is the responsibility of the Contractor to ensure that the plowing equipment be subject to the approval of the Owner and the public authorities having jurisdiction over highway and road rights-of-way. The plow must be provided with a means to assure positive holddown of the plow blade to provide proper depth at all times.

4.2 The design of the plowshare must ensure that the cable passing through the plow will not be bent in a radius less than 12 times the outside diameter of the cable. The equipment must be capable of extending the plow a minimum of 6 inches below the specified depth under all terrain conditions of plow utilization.

4.3 The Contractor must ensure that equipment and construction methods used during construction cause minimum displacement of the soil. The slot made in the soil by the cable plows must be closed immediately by driving a vehicle track or wheel over the slot or by other suitable means.

4.4 Starting and terminating points of the plowing operation must be excavated prior to cable installation to reduce possible cable damage and to assure sufficient burial depth.

4.5 During the plowing operation, care is to be exercised to feed the cable or wire into the ground through the plow loosely and at minimum tension. Besides using proper equipment and construction methods, supervision by the Contractor or the Owners's representative shall be furnished at all times at the site of plowing operations to assure compliance with these specifications.

4.6 If, during the plowing operation, the plow should strike a buried object or rock that would stop the equipment and necessitate removal of the plow from the ground, the plow must be removed from the ground carefully and, if practical, without backing the plow. If it should be necessary to back the plow to remove it from the ground, the cable must be uncovered a sufficient distance back for inspection by the Owner to determine whether the cable or wire has been damaged.

4.7 The cable must be inspected carefully as it is payed out from the reel to be certain that it is free from visible defects. Every instance of damaged cable observed at any time, whether prior to installation, during installation, or when discovered by test or observation subsequent to installation in plant, shall be immediately called to the attention of the Owner. Repair or correction of such damage must be completed promptly and in accordance with the written instruction of the Owner. The location of any such repair must be indicated on the staking sheet.

5. SPECIAL REQUIREMENTS FOR COORDINATION BETWEEN OWNER AND CONTRACTOR WHERE CABLE IS TO BE INSTALLED BY PLOWING

5.1 It is the responsibility of the Contractor to ensure that the Contractor and the Owner shall jointly review the staking sheets prior to the start of construction. At that time, the Contractor shall propose any desirable changes or clarifications. These changes, if approved by the Owner, shall be made and recorded on the staking sheets. No changes on the staking sheets shall be made by the Contractor without the prior written approval of the Owner. A representative of the Owner shall remain in the immediate vicinity of the plowing operations at all times and shall consider and possibly approve any acceptable changes proposed by the Contractor. A representative of the Owner shall also inspect any damage to cable and approve acceptable methods of repair or correction of such damage in accordance with the provisions of these specifications.

5.2 In the event that rock is encountered during the plowing operation so that the buried cable cannot be installed to the required minimum depths in soil, the Contractor shall determine for the Owner the nature and extent of the rock encountered. Based on this information, the Owner shall determine whether the cable is to be rerouted, trenched in rock or a change made to aerial construction. This decision shall be made promptly, and appropriate changes in units shall be made on the staking sheets. Such changes shall be in writing, dated, and initialed by the Owner.

5.3 Due to the necessity of making on-the-spot corrections and changes on staking sheets, it may not be possible for the Owner to issue revised staking sheets to the Contractor in all cases. When changes are made, dated, and initialed by the Owner on a set of the Contractor's staking sheets, it shall be the Contractor's responsibility to transfer these changes to all other sets of staking sheets being used by the Contractor for construction purposes.

5.4 The Contractor shall provide a competent representative to work with the Owner on the inventory and inspection of buried cable units. The inventory of buried cable will be made as soon after the plowing operation as practical to avoid later disagreements on the quantity of cable installed when changes are required in the project.

6. TRENCHING

6.1 It is the responsibility of the Contractor to ensure that all trenching depths specified are minimum as measured from the final grade to the top surface of the cable. The routing must be as shown on the staking sheets and plans and specifications unless conditions encountered are such that changes are necessary to accomplish the work. In such event, the Owner shall be notified promptly. If rock or other difficult digging is involved, the Contractor shall determine the nature and extent of the difficulty, and the Owner shall determine whether rerouting, rock trenching, plowing or other changes are necessary. Loose soil or crumbly rock shall not be considered as "difficult digging." The trench widths specified are minimum and should be increased as necessary to obtain the required depths in loose soils.

6.2 Where trenches are intended for more than one cable, particular care must be taken to provide for extra depth and width to allow for soil falling into the trench during the laying of the first cables.

6.3 Care shall be exercised to minimize the likelihood of waterflow since this may cause trench damage and reduction in trench depth. If this occurs, the trench must be cleared to the specified depth before installing the cable.

6.4 All trenches must follow straight lines between staked points to the greatest extent possible. Secondary and service trenches must extend in a straight line from takeoff points wherever possible. The trenches must be dug so that the bottom has a smooth grade. Large rocks, stones and gravel in excess of 1 inch must be removed from the bottom of the trench. Where this cannot be accomplished, a 2 inch bed of sand or clean soil must be placed in the bottom of the trench.

6.5 Construction shall be arranged so that trenches may be left open for the shortest practical time to avoid creating a hazard to the public and to minimize the likelihood of collapse of the trench due to other construction activity, rain, accumulation of water in the trench, etc.

7. INSTALLING CONDUIT IN TRENCH

7.1 It is the responsibility of the Contractor to ensure that the conduit must be placed in the trench as soon after the trenching operation as feasible. Wherever possible, HDPE conduit must be payed out from the reel mounted on a moving vehicle or trailer. The reel must be supported so that it can turn easily without undue strain on the conduit. The conduit must be carefully placed in the trench by hand. All conduit placement will be done under constant supervision by the Contractor's representative who assure that no damage to the conduit occurs.

7.2 The conduit must be inspected carefully as it is removed from the reel in laying operations to be certain that it is free from visible defects. The Owner shall decide upon corrective action when defects are discovered.

7.3 Where more than one conduit is to be placed in a trench, the spacings required by the specifications must be observed. Care must be taken that any soil falling into the trench during the laying of the first conduit does not reduce the clearances of the last conduit below that specified. Should this occur, the excess soil must be removed carefully by hand or with equipment that will not damage the installed conduits.

7.4 The conduit trench must be restored to a minimum 95% compaction across any proposed road beds. Trenches in all other areas must be sufficiently backfilled and compacted to avoid future settlement or caving as outlined in Section 17.2.

8. CONDUIT (OTHER): It is the responsibility of the Contractor to ensure that all exposed ends of conduit must be plugged during construction to prevent the entrance of foreign matter and moisture into the conduit. Burrs or sharp projections which might injure the cable must be removed. Riser conduit must extend at least 18 inches below grade at all riser poles. An appropriately sized long-radius 90° elbow shall be installed between the riser conduit and the below ground conduit.

9. CABLE INSTALLATION:

9.1 It is the responsibility of the Contractor to ensure that the minimum bending radius of primary cable is 12 times the overall diameter of the cable. The minimum bending radius of secondary and service cable is six times the overall diameter of the cable. In all cases the minimum radius specified is measured to the surface of the cable on the inside of the bend. Cable bends must not be made within 6 inches of a cable terminal base.

9.2 When necessary the Contractor shall use pulling lubricants in an amount sufficient enough to prevent excessive binding of the cable during the pulling operation. Contractor shall take all necessary precautions to ensure that the pulling tension does not exceed the manufacturer's recommended tension.

9.3 The ends of all primary and secondary cables must be long enough to reach at least 12 inches above the top of the underground enclosure.

10. TAGGING OF CABLES AT TERMINATION POINTS: As the cables are pulled, it is the responsibility of the Contractor to coordinate with the Owner to ensure that they are identified and tagged. Cables feeding into a transformer or sectionalizing cabinet shall be marked with red marking tape; cables feeding out of a transformer or sectionalizing cabinet shall be marked with blue marking tape. In addition cables feeding out of a sectionalizing cabinet shall be labeled indicating the load they feed. The Contractor will be responsible for installing the marking tape; the Owner will install the permanent cable tags.

11. SPLICES

11.1 It is the responsibility of the Contractor to ensure that cable splices must be of the premolded rubber, heat-shrink, or cold-shrink type, of the correct voltage rating and must be installed in accordance with the splice manufacturer's instructions. Splices that depend solely on tape for a moisture barrier must not be used.

11.2 Not more than one splice may be permitted for each 2000 feet of cable installed unless authorized by the Owner. No bends may be permitted within 12 inches of the ends of a splice. The cable or circuit numbers and the exact location of all splices must be noted on the staking sheets (as built).

12. PRIMARY CABLE TERMINATION AND STRESS CONES: It is the responsibility of the Contractor to ensure that prefabricated stress cones or terminations must be installed in accordance with the manufacturer's instructions at all primary cable terminals. They must be suitable for the size and type of cable that they are used with and for the environment in which they will operate. Any indication of misfit, such as a loose or exceptionally tight fit, must be called to the Owner's attention. The outer conductive surface of the termination must be bonded to the system neutral. A heat-shrink or cold-shrink sleeve must be installed to seal between the body of the termination and the cable jacket.

13. SPECIAL PRECAUTIONS FOR CABLE SPLICES AND TERMINATIONS: It is the responsibility of the Contractor to ensure that a portable covering or shelter must be available for use when splices or terminations are being prepared and when prefabricated terminations are being switched. The shelter must be used as necessary to keep rain, snow and windblown dust off the insulating surfaces of these devices. Since cleanliness is essential in the preparation and installation of primary cable fittings, care shall be exercised to prevent the transfer of conducting particles from the hands to insulating surfaces. Mating surfaces must be wiped with a solvent such as denatured alcohol to remove any possible accumulation of dirt, moisture or other conducting materials. A silicone grease or similar lubricant should be applied afterwards in accordance with the manufacturer's recommendations. Whenever prefabricated cable devices are opened, the unenergized mating surfaces must be lubricated with silicone grease before the fittings are reconnected.

14. SECONDARY AND SERVICE CONNECTIONS

14.1 It is the responsibility of the Contractor to ensure that a suitable inhibiting compound must be used with all secondary and service connections.

14.2 All secondary cable connections located below grade or in secondary pedestals must be made with pre-insulated secondary connector blocks; uninsulated blocks shall have a insulating cover installed after secondary cables are terminated.

14.3 Secondary connections to terminals of pole-mounted transformers must be made so that moisture cannot get inside the cable insulation. This may be accomplished by covering the terminals and bare conductor ends with an appropriate moisture sealant or providing a drip loop.

14.4 The secondary connections and insulation must have accommodations for all future and existing services as shown on the plans and specifications.

15. PEDESTALS: Where required, it is the responsibility of the Contractor to ensure that Pedestal bases are properly buried below grade before cables are placed, and shall be located as shown on the staking sheets. Pedestals must be in place before the cable is installed. All pedestals should be approximately at the same height above finished grade.

16. INSPECTION AND INVENTORY OF BURIED UNITS: Before any backfilling operations are begun, it is the responsibility of the Contractor to ensure that the Contractor and Owner shall jointly inspect all trenches, cable placement, risers, pedestal stakes, and other construction that will not be accessible after backfilling, and an inventory of units shall be taken. If corrections are required, a second inspection shall be made after completion of the changes.

17. BACKFILLING

17.1 It is the responsibility of the Contractor to ensure that the first 6 inches of trench backfill shall be free from rock, gravel or other material which might damage the cable jacket. In lieu of cleaning the trench, the Contractor may, at the Contractor's option, place a 2 inch bed of clean sand or soil under the cable and 4 inches of clean soil above the cable. Cleaned soil backfill when used shall contain no solid material larger than 1 inch. This soil layer must be carefully compacted so that the cable will not be damaged.

17.2 Backfilling must be completed in such a manner that voids will be minimized. Excess soil must be piled on top and must be well tamped. All rock and debris must be removed from the site, and any damage to the premises repaired immediately.

17.3 Pieces of scrap cable or other material remaining after installation must not be buried in the trench as a means of disposal.

18. EQUIPMENT PADS: It is the responsibility of the Contractor to ensure that the site for the pad shall be on undisturbed earth adjacent to but not over the trench. The site shall be cleared of all debris and excavated to the specified depth. Gravel or sand may be added to the site and thoroughly compacted. The pad shall be installed level at the specified elevation.

19. TRANSFORMERS: It is the responsibility of the Contractor to ensure that transformers shall be handled carefully to avoid damage to the finish and shall be positioned in accordance with the staking sheets and the plans and specifications. Only qualified and experienced personnel shall be allowed to make connections and cable terminations.

20. EQUIPMENT ENCLOSURES: It is the responsibility of the Contractor to ensure that excavations for sleeve-type transformer pads and other below-grade enclosures shall be made so as to disturb the surrounding earth as little as practical. Enclosures shall be installed with side walls plumb. When enclosures are of fiber, plastic, or other semiflexible material, backfilling should be done with covers in place and with careful tamping so as to avoid distortion of the enclosure. When installation is complete, the cover of the enclosure shall not be lower than and not more than 2 inches higher than the grade specified by the Owner. Soil in the immediate vicinity shall be tamped and sloped away from the enclosure. At the Owner's option, the excess soil shall be removed from the site or spread evenly over the surface of the ground to the satisfaction of the Owner.

21. UTILITY SAFETY SIGNS: It is the responsibility of the Contractor to ensure that utility safety signs must be in accordance with ANSI Z535.2, Environmental and Facility Safety Signs. Copies of the ANSI Z535.2 may be obtained from the National Electrical Manufacturers Association (NEMA), 1300 North 17th Street, Suite 1847, Rosslyn, Virginia 22209.

22. GROUNDING

22.1 It is the responsibility of the Contractor to ensure that all neutral conductors, grounding electrodes, sacrificial anodes and groundable parts of equipment shall be interconnected. All interconnections shall be made as shown on the construction drawings. A copper-clad or galvanized steel ground rod with minimum length of 8 feet shall be installed at all equipment locations as shown in the construction drawings and at all cable splices and taps.

22.2 All pad-mounted equipment enclosures, including transformers, shall be grounded in such a manner that two separate grounding paths exist between the enclosure and the grounding rod(s).

23. CABLE LOCATION MARKERS: It is the responsibility of the Contractor to ensure that location of permanent cable markers shall be as shown on the staking sheets.

24. INSTALLED CABLE AND ACCEPTANCE TESTS

24.1 It is the responsibility of the Contractor to ensure that:

a. Continuity: After installation of the cable and prior to the high potential test specified below, authorized personnel shall perform a simple continuity test on the system. This can easily be accomplished by grounding the conductor at the source and checking for continuity from the end of each tap with an ohmmeter or with a battery and ammeter.

b. High Potential: After successful continuity tests, authorized personnel should perform high potential tests on each length of cable, with terminations in place but disconnected from the system.

24.2 The installation shall withstand for a minimum of 15 minutes a DC test potential as follows:

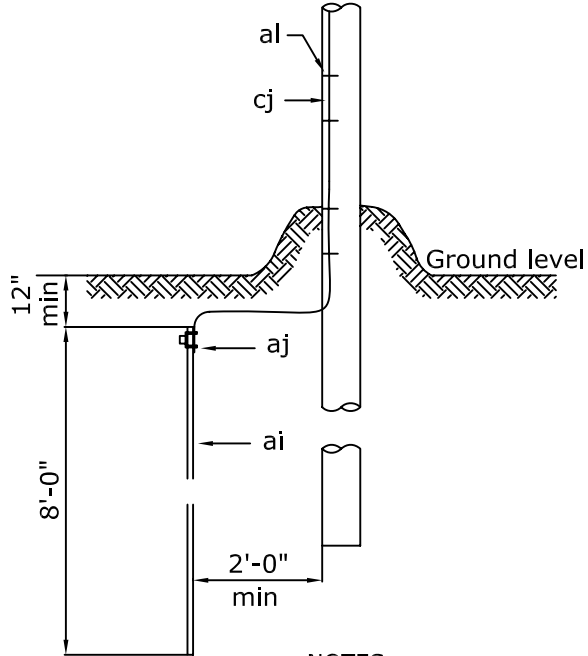
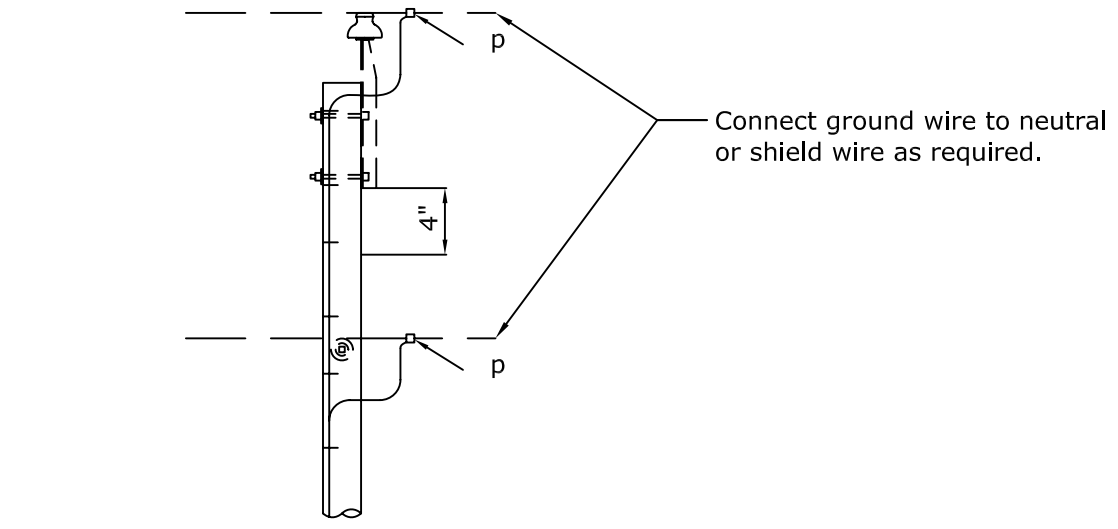
Primary URD Cable
(XLP-TR, and EPR)

<u>Rated Voltage (kV)</u>	<u>Insulation Thickness (Inches)</u>	<u>Field DC Acceptance Test Voltage (kV)</u>
15	.220	64.0
25	.260	80.0
35	.345	100.0

The voltage may either be increased continuously or in steps to the maximum test value:

- a. If increased continuously, the rate of increase of test voltage should be approximately uniform and increasing to maximum voltage in not less than 10 seconds and in not more than approximately 60 seconds.
- b. If applied in steps, the rate of increase of test voltage from one step to the next should be approximately uniform. The duration at each step shall be long enough for the absorption current to attain reasonable stabilization (1 minute minimum). Current and voltage readings should be taken at the end of each step duration. The number of steps should be from five to eight.

24.3 Warning: A hazardous voltage may still exist on the cable after the above testing has been completed. Therefore, before handling the cable, it is the responsibility of the Contractor to ensure that the conductor shall be grounded to permit any charge to drain to earth.

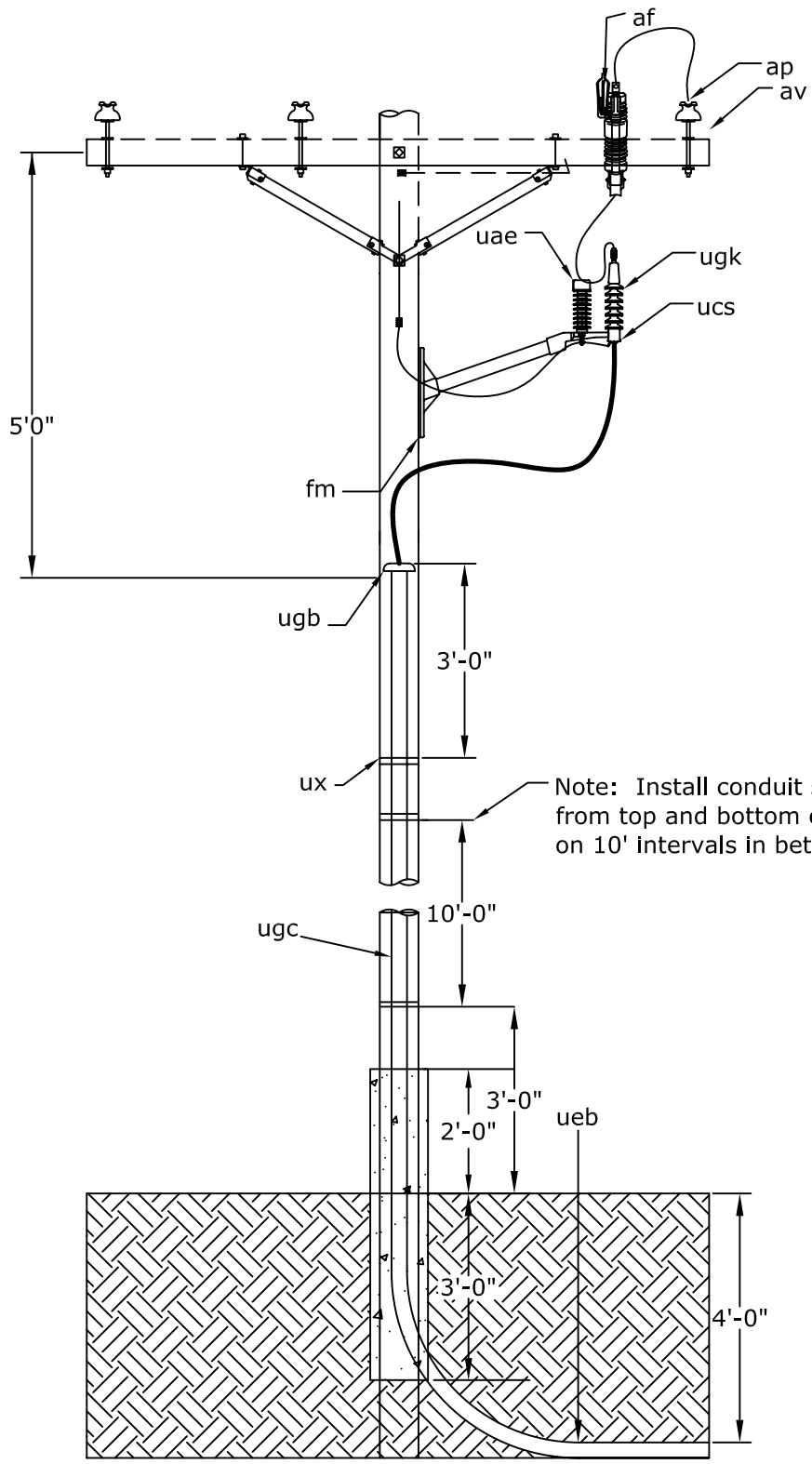


- NOTES:
- 1- Ground wire to be located on same side as neutral conductor and in quadrant opposite climbing space or pole top pin.
 - 2- Staples on ground wire shall be 2'-0" apart. Except for a distance of 8'-0" above ground and 8'-0" from top of pole, where they shall be 6" apart.
 - 3- Ground wire to clear all hardware by 2" minimum, and shall be stapled to maintain this position.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	1	Connector, Sized As Required
ai	2854002319	1	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	1	Clamp, Ground Rod
al	2857402330	.5	Staples, Ground Wire (per pound)
cj	2801602119	90	Ground Wire, #2, 7 Strand Bare Copper

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>RISER POLE GROUNDING ASSEMBLY GROUND ROD TYPE</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>M2-1U</p>



City of
Alexandria

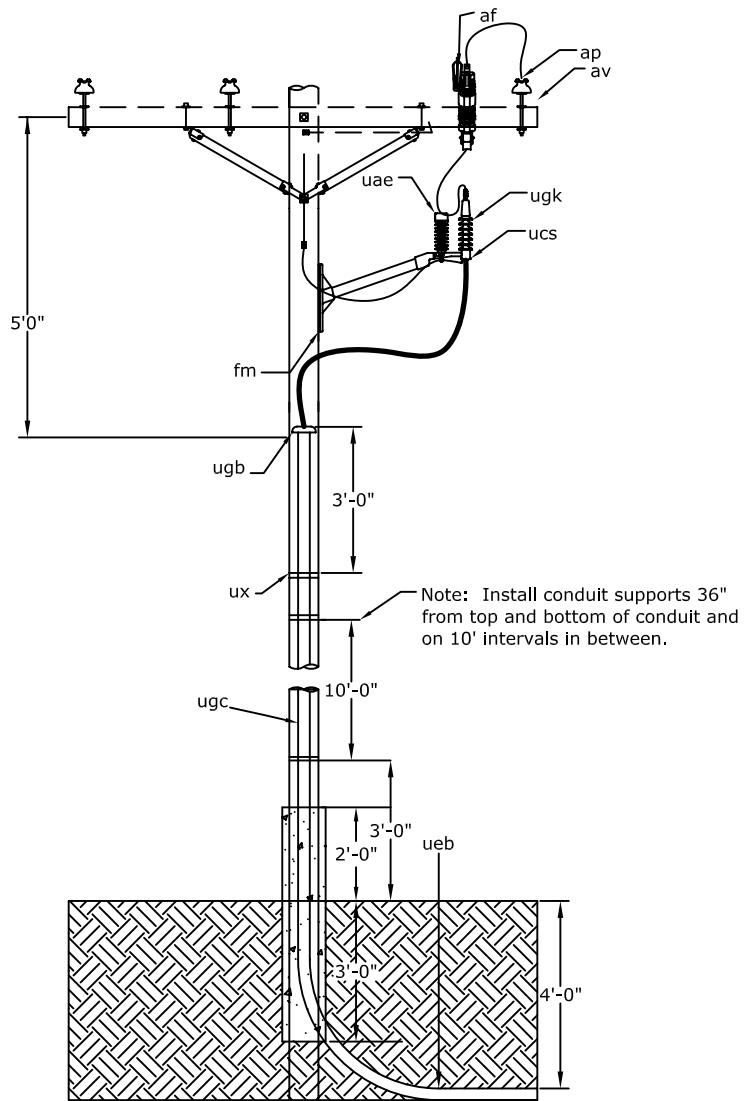
Electric Distribution

SINGLE PHASE PRIMARY RISER POLE

DATE: 04-20-07

STANDARD NUMBER

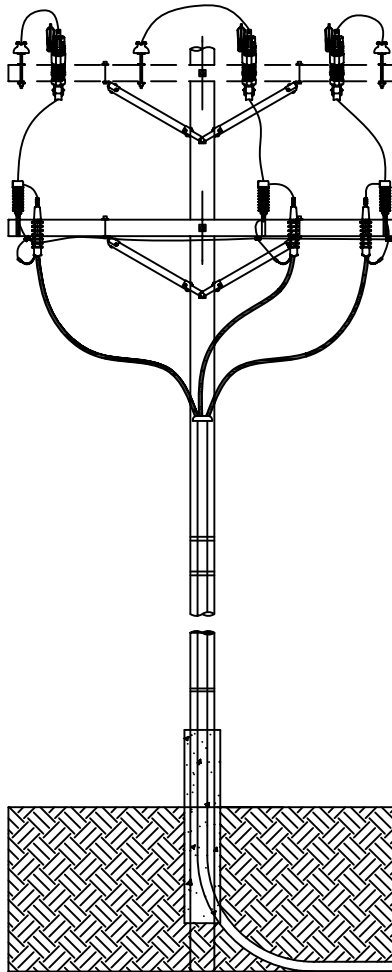
UA1



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole, As Required
p	28574022XX	2	Connector, Sized As Required
ap	2851002131	1	Clamp, Hot Line
af	2852820002	1	Cutout, 15kV 100A Loadbreak
av	NA	2	Jumper, Sized As Required
fm	2857802474	1	Cutout and Arrester Mounting Bracket, Fiberglass
ek	285740XXXX	2	Locknut, 5/8"
uae	2858702470	1	Lightning Arrester, Riser Pole, 10kV
ueb	2851902345	1	2", Sch. 40 PVC, 90°, 36" Sweep Elbow
ugb	2858702425	1	Conduit Sealing Bushing, 2"
ugc	2851902487	3	RGS Conduit, 2" x 10' Length
ugk	2858702477	1	Cable Terminator, 15kV, 1/0 Al TRXLP
ucs	2858702405	1	Cable Sealing Kit
ux	2857802458	5	Conduit Stand-off Bracket

City of Alexandria Electric Distribution	SINGLE PHASE PRIMARY RISER POLE	DATE: 04-20-07
		STANDARD NUMBER UA1



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402008	2	Bolt, Machine, 1/2" x Required Length
c	28574020XM	2	Bolt, Machine, 5/8" x Required Length
d	2857402321	2	Washer, 1 3/8" Round With 9/16" Hole
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
g	2857802042	1	Crossarm, 3 3/4" x 4 3/4" x 10', Wood
p	28574022XX	6	Connector, Sized As Required
ap	2851002131	3	Clamp, Hot Line
af	2852820002	3	Cutout, 15kV 100A Loadbreak
av	NA	6	Jumper, Sized As Required
cu	2857802043	2	Brace, 60" Span (Wood)
ek	285740XXXX	2	Locknut, 5/8"
uae	2858702470	3	Lightning Arrester, Riser Pole, 10kV
ueb	SO-UG-UEB	1	4", 90°, 36" Sweep Elbow
ugb	2858702426	1	Conduit Sealing Bushing, Sized As Required
ugc	SO-UG-UGC4	3	RGS Conduit, 4" x 10' Length
ugk	2858702477	3	Cable Terminator, 15kV, 1/0 Al TRXLP
uhd	2858702401	3	Crossarm Mounting Bracket, Cable Terminator
ux	2857802458	5	Conduit Stand-off Bracket

City of Alexandria Electric Distribution	THREE PHASE PRIMARY RISER POLE	DATE: 04-20-07
		STANDARD NUMBER UC1

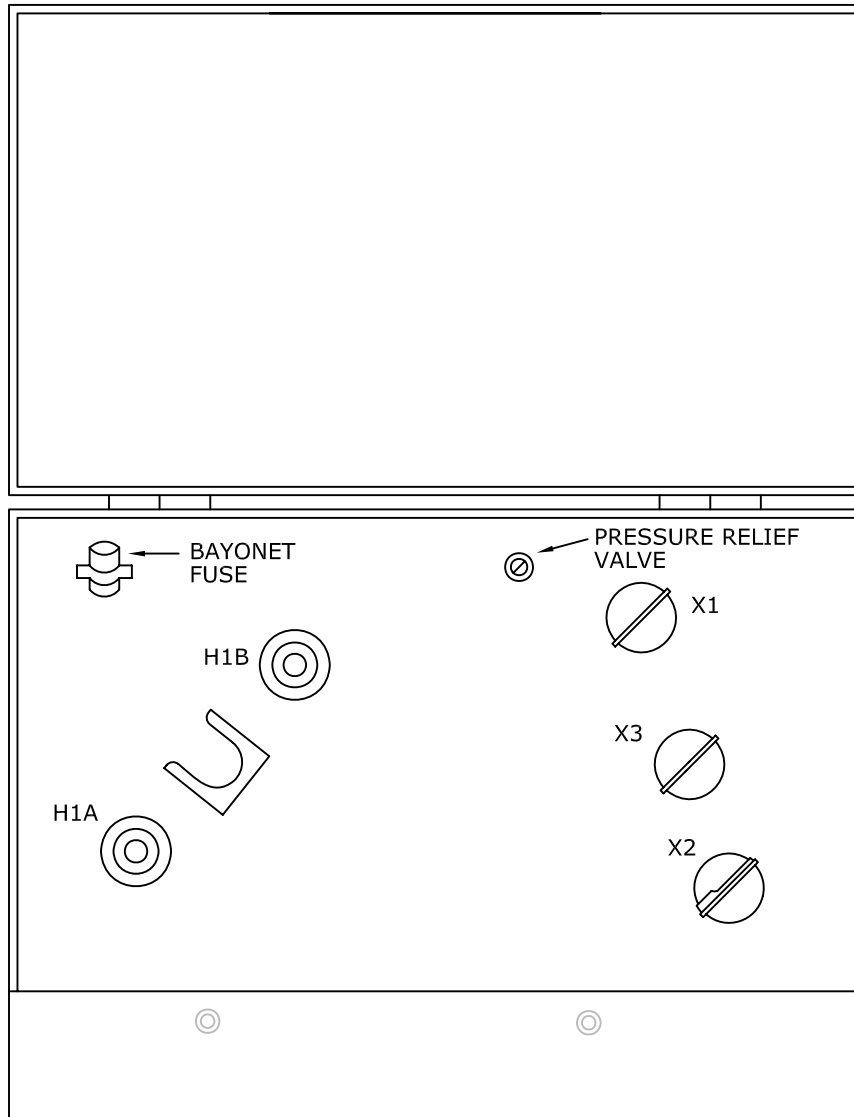
PRIMARY CONDUCTORS

Unit #	Description	Codename	COA Commodity Code	Unit of Measure
UD2CU	#2 Cu XLP, 15kV, Str. (One Phase)	N/A	2808002447	Per Foot
UD2CU-2	#2 Cu XLP, 15kV, Str. (Two Phases)	N/A	2808002447	Per Foot
UD2CU-3	#2 Cu XLP, 15kV, Str. (Three Phases)	N/A	2808002447	Per Foot
UD10AL	1/0 Al XLP, 15kV, Str. (One Phase)	N/A	2808002447	Per Foot
UD10AL-2	1/0 Al XLP, 15kV, Str. (Two Phases)	N/A	2808002447	Per Foot
UD10AL-3	1/0 Al XLP, 15kV, Str. (Three Phases)	N/A	2808002447	Per Foot
UD40AL	4/0 Al XLP, 15kV, Str. (One Phase)	N/A	SO-UG-UD40AL	Per Foot
UD40AL-2	4/0 Al XLP, 15kV, Str. (Two Phases)	N/A	SO-UG-UD40AL	Per Foot
UD40AL-3	4/0 Al XLP, 15kV, Str. (Three Phases)	N/A	SO-UG-UD40AL	Per Foot

SECONDARY CONDUCTORS

Unit #	Description	Codename	COA Commodity Code	Unit of Measure
UD6HL	#6 XHHW, 1 Each Red, Black, & Green	N/A	SO-6XHHWR SO-6XHHWB SO-6XHHWG	Per Foot
UD8SLW	#8 THHN, 1 Each Black, & White	N/A	SO-8THHNW SO-8THHNB	Per Foot
UD10SLW	#10 THHN, 1 Each Black, & White	N/A	SO-10THHNW SO-10THHNB	Per Foot
UD12SLW	#12 THHN, 1 Each Black, & White	N/A	2802402115 2802402117	Per Foot
UD40TPX	4/0 URD XLP Triplex	Sweetbriar	2801602464	Per Foot
UD350TPX	350 URD XLP Triplex	Wesleyan	2801602463	Per Foot

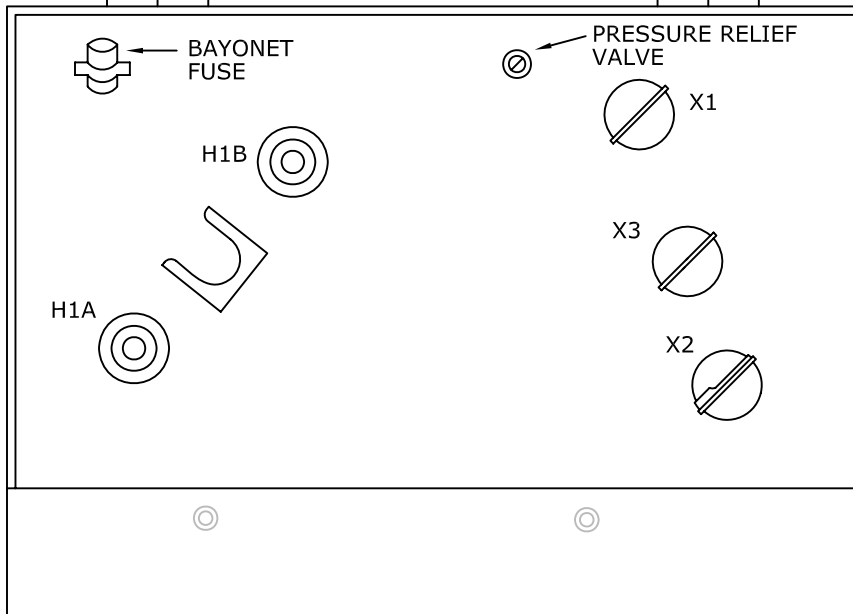
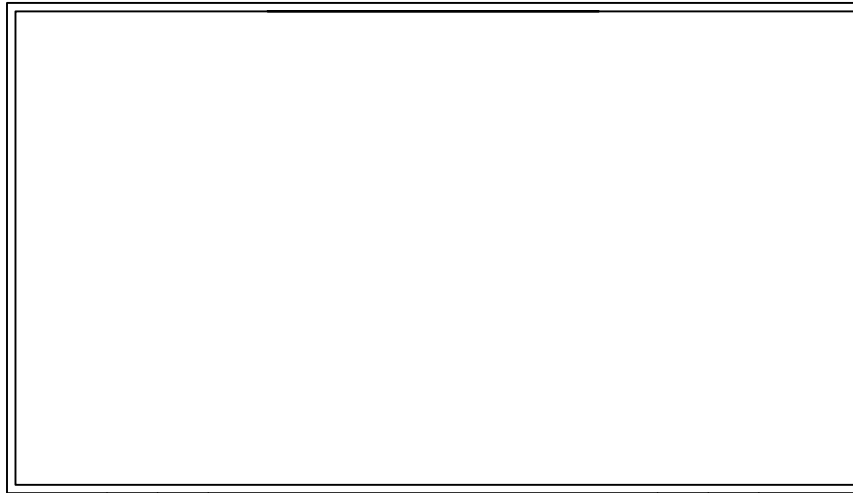
City of Alexandria Electric Distribution	UNDERGROUND ELECTRIC CONSTRUCTION PRIMARY AND SECONDARY CONDUCTORS	DATE: 03-28-08
		STANDARD NUMBER UD-GUIDE



MATERIAL LIST

COA Commodity Code	Description	UG1-120 -25	UG1-120 -37.5	UG1-120 -50	UG1-120 -75	UG1-120 -100	UG1-120 -167
UG112025	Pad-Mounted Transformer, 240/120V, 25 KVA	1					
UG1120375	Pad-Mounted Transformer, 240/120V, 37.5 KVA		1				
UG112050	Pad-Mounted Transformer, 240/120V, 50 KVA			1			
UG112075	Pad-Mounted Transformer, 240/120V, 75 KVA				1		
UG1120100	Pad-Mounted Transformer, 240/120V, 100 KVA					1	
UG1120167	Pad-Mounted Transformer, 240/120V, 167 KVA						1
2858702404	Secondary Terminal Bars, Small	3	3	3	3		
2858702488	Secondary Terminal Bars, Large					3	3

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE-PHASE PAD-MOUNTED TRANSFORMER</p> <p>7,200V PRIMARY, 240/120V SECONDARY</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UG1-120-KVA</p>



MATERIAL LIST

COA Commodity Code	Description	UG1-240 -25	UG1-240 -37.5	UG1-240 -50	UG1-240 -75	UG1-240 -100	UG1-240 -167
UG124025	Pad-Mounted Transformer, 480/240V, 25 KVA	1					
UG1240375	Pad-Mounted Transformer, 480/240V, 37.5 KVA		1				
UG124050	Pad-Mounted Transformer, 480/240V, 50 KVA			1			
UG124075	Pad-Mounted Transformer, 480/240V, 75 KVA				1		
UG1240100	Pad-Mounted Transformer, 480/240V, 100 KVA					1	
UG1240167	Pad-Mounted Transformer, 480/240V, 167 KVA						1
2858702404	Secondary Terminal Bars, Small	3	3	3	3		
2858702488	Secondary Terminal Bars, Large					3	3

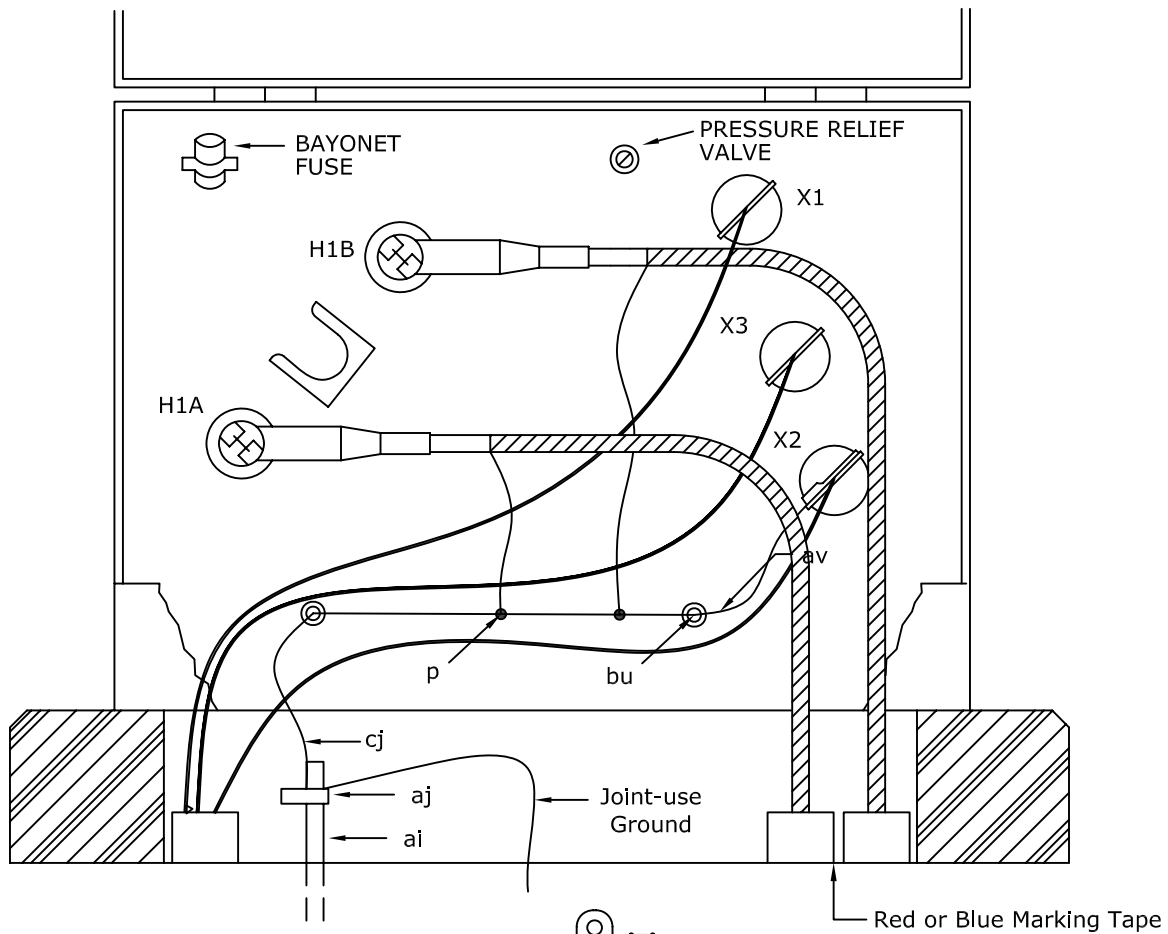
City of
Alexandria

Electric Distribution

SINGLE-PHASE PAD-MOUNTED TRANSFORMER
7,200V PRIMARY, 480/240V SECONDARY

DATE: 04-20-07

STANDARD NUMBER
UG1-240-KVA



NOTES:

1. Mark feed-in with RED marking tape.
2. Mark feed-out with BLUE marking tape.
3. Install additional #6 Cu grounding jumper from ground rod to the center, street side of the transformer pad. Leave 3' of slack coiled at the base of the pad.

NOTE:

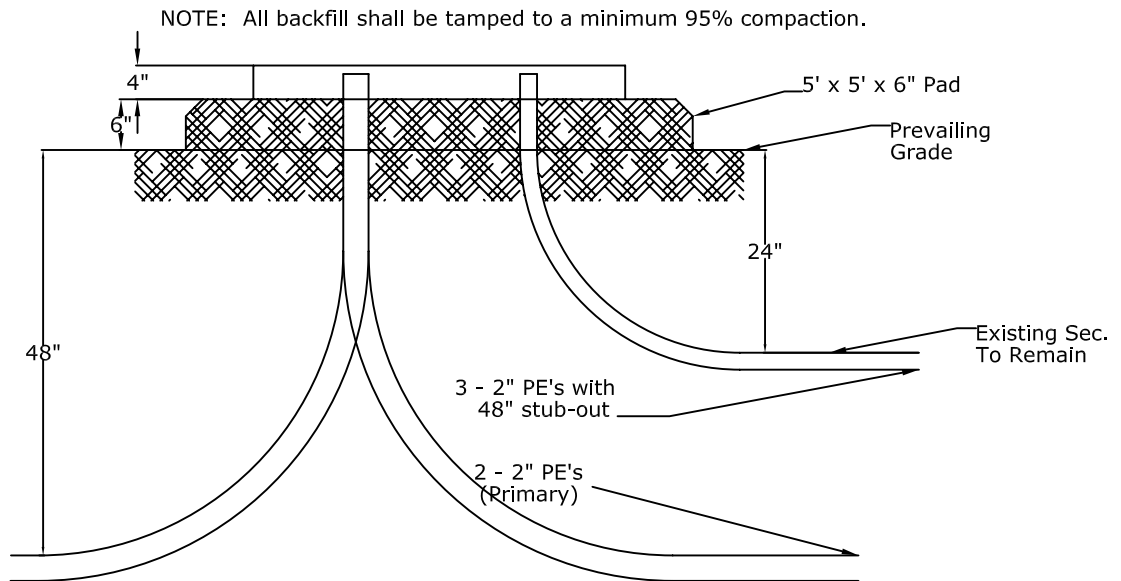
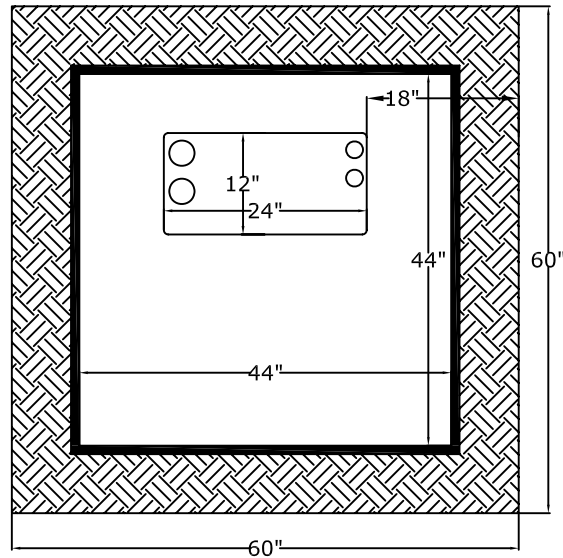
WHEN CONNECTING CONCENTRIC NEUTRALS TO TRANSFORMER GROUND, LEAVE AN ADEQUATE LENGTH SO ELBOWS CAN BE REMOVED WITHOUT DISCONNECTING NEUTRALS FROM GROUND.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Bolted
ai	2854002319	1	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	1	Clamp, Ground Rod
av	NA	1	Jumper, #2 Stranded Copper
bu	2851002136	2	Connector, Equipment Ground
cj	2801602119	25	Ground Wire, #2 Copper, 7-Strand
ubi	2858202097	2	Bushing Well Insert
ucs	2858702405	2	Cable Sealing Kit
uhp	2858202476	2	15kV Loadbreak Elbow, 1/0 Al TRXLP

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>SINGLE-PHASE PAD-MOUNTED TRANSFORMER INSTALLATION ASSEMBLY</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UG1</p>

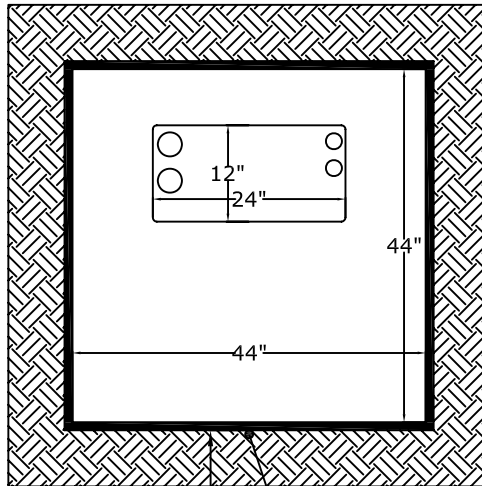
LABOR ONLY UNIT



NOTE: Unit includes all cost of routing newly installed conduits into existing pad-mounted transformers including all excavation, backfill, and restoration.

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>CONDUIT INSTALLATION FOR EXISTING SINGLE-PHASE PAD-MOUNTED TRANSFORMER</p>	<p>DATE: 09-28-06</p> <p>STANDARD NUMBER</p> <p>UG1-ENT</p>
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TO INTERIOR OF LOT



PROPERTY CORNER WHEN 5' SERVITUDE HAS BEEN GRANTED

60"

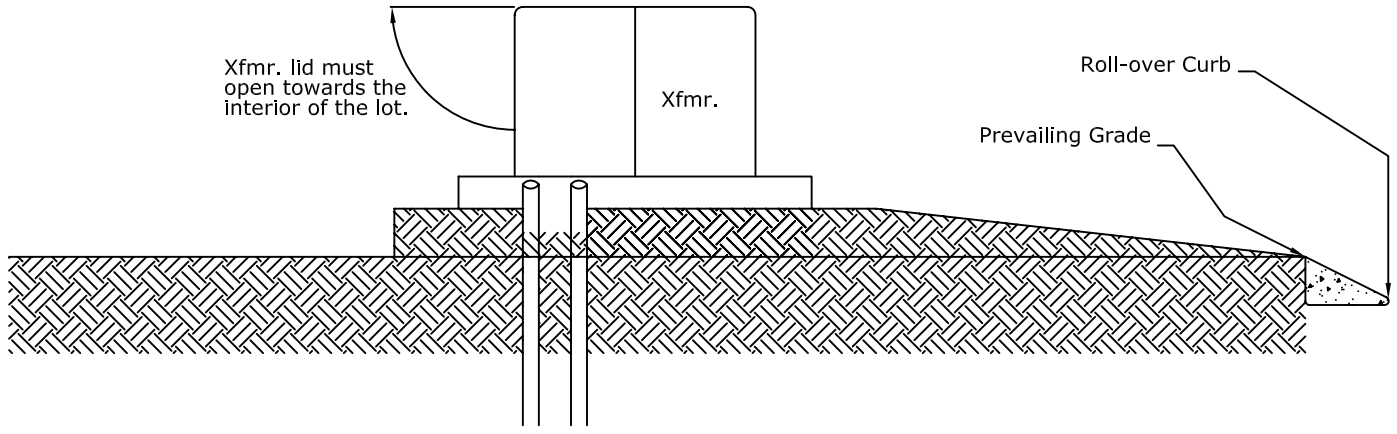
PROPERTY CORNER WHEN 10' SERVITUDE HAS BEEN GRANTED

Xfmr. lid must open towards the interior of the lot.

Xfmr.

Roll-over Curb

Prevailing Grade

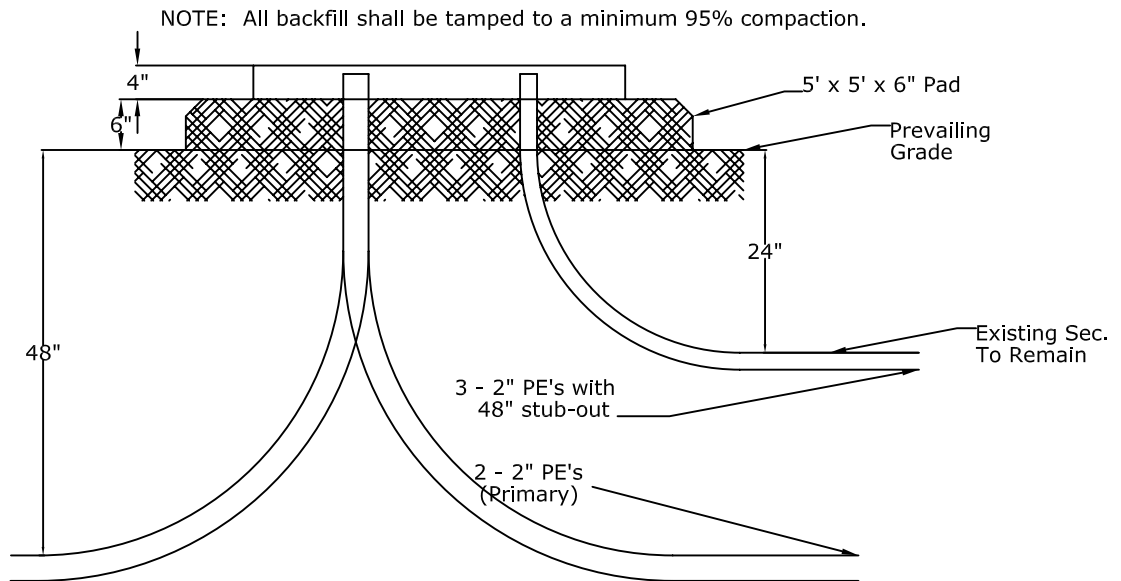
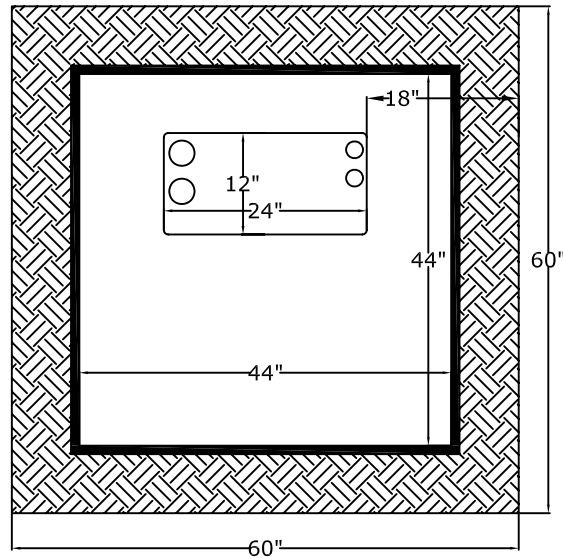


City of Alexandria
Electric Distribution

SINGLE-PHASE PAD-MOUNTED TRANSFORMER
PAD PLACEMENT DETAILS

DATE: 04-20-07
STANDARD NUMBER
UG1L

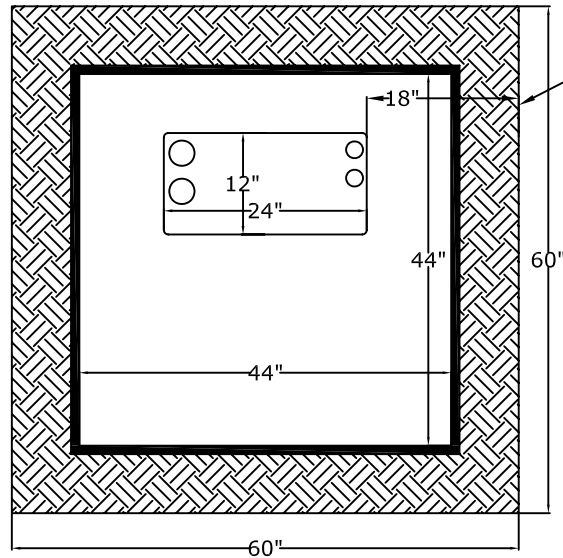
LABOR ONLY UNIT



NOTE: Unit includes all cost of leveling existing pad-mounted transformers including all excavation, backfill, and restoration.

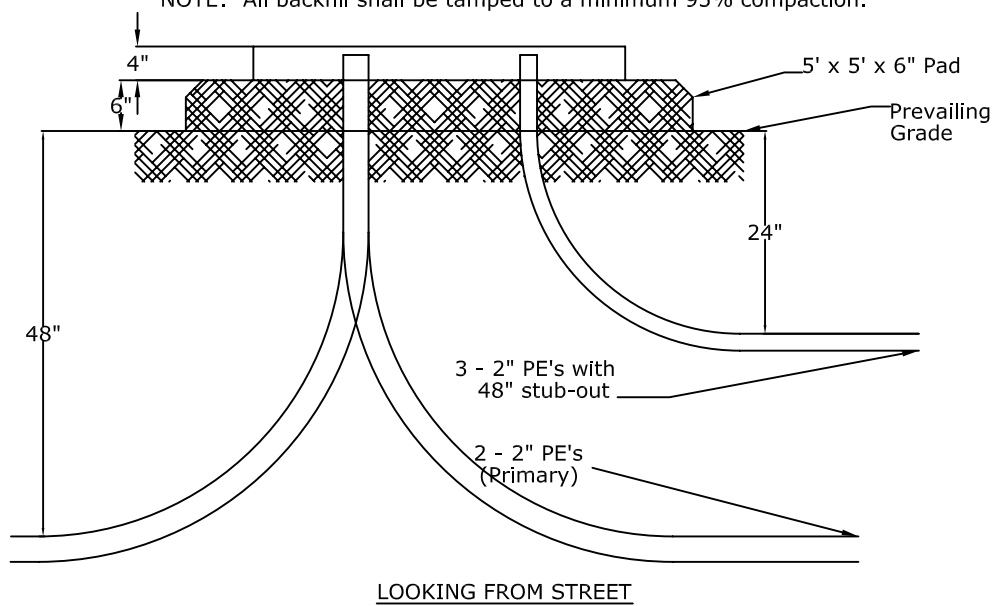
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>LEVEL EXISTING SINGLE-PHASE PAD-MOUNTED TRANSFORMER</p>	<p>DATE: 09-28-06</p> <p>STANDARD NUMBER</p> <p>UG1-LVL</p>
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TO INTERIOR OF LOT



5' x 5' pad built up 6" above prevailing grade. Minimum 95% compaction required.

NOTE: All backfill shall be tamped to a minimum 95% compaction.



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
-	2858702417	1	Single-phase Transformer Pad

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE-PHASE PAD-MOUNTED TRANSFORMER PAD INSTALLATION DETAILS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UG1P</p>

MATERIAL LIST

COA Commodity Code	Description	UG3L -120-75	UG3L -120-112	UG3L -120-150	UG3L -120-225	UG3L -120-300	UG3L -120-500	UG3L -120-750	UG3L -120-1000	UG3L -120-1500	UG3L -120-2000	UG3L -120-2500
UG3L12075	Pad-Mounted Transformer, 120/208V, 75 KVA	1										
UG3L120112	Pad-Mounted Transformer, 120/208V, 112.5 KVA		1									
UG3L120150	Pad-Mounted Transformer, 120/208V, 150 KVA			1								
UG3L120225	Pad-Mounted Transformer, 120/208V, 225 KVA				1							
UG3L120300	Pad-Mounted Transformer, 120/208V, 300 KVA					1						
UG3L120500	Pad-Mounted Transformer, 120/208V, 500 KVA						1					
UG3L120750	Pad-Mounted Transformer, 120/208V, 750 KVA							1				
UG3L1201000	Pad-Mounted Transformer, 120/208V, 1000 KVA								1			
UG3L1201500	Pad-Mounted Transformer, 120/208V, 1500 KVA									1		
UG3L1202000	Pad-Mounted Transformer, 120/208V, 2000 KVA										1	
UG3L1202500	Pad-Mounted Transformer, 120/208V, 2500 KVA											1

City of Alexandria
Electric Distribution

THREE-PHASE PAD-MOUNTED TRANSFORMER
120/208V SECONDARY, DEAD-FRONT LOOP FEED

DATE: 04-20-07

STANDARD NUMBER
UG3L-120-KVA

MATERIAL LIST

COA Commodity Code	Description	UG3L -277-75	UG3L -277-112	UG3L -277-150	UG3L -277-225	UG3L -277-300	UG3L -277-500	UG3L -277-750	UG3L -277-1000	UG3L -277-1500	UG3L -277-2000	UG3L -277-2500
UG3L27775	Pad-Mounted Transformer, 277/480V, 75 KVA	1										
UG3L277112	Pad-Mounted Transformer, 277/480V, 112.5 KVA		1									
UG3L277150	Pad-Mounted Transformer, 277/480V, 150 KVA			1								
UG3L277225	Pad-Mounted Transformer, 277/480V, 225 KVA				1							
UG3L277300	Pad-Mounted Transformer, 277/480V, 300 KVA					1						
UG3L277500	Pad-Mounted Transformer, 277/480V, 500 KVA						1					
UG3L277750	Pad-Mounted Transformer, 277/480V, 750 KVA							1				
UG3L2771000	Pad-Mounted Transformer, 277/480V, 1000 KVA								1			
UG3L2771500	Pad-Mounted Transformer, 277/480V, 1500 KVA									1		
UG3L2772000	Pad-Mounted Transformer, 277/480V, 2000 KVA										1	
UG3L2772500	Pad-Mounted Transformer, 277/480V, 2500 KVA											1

City of Alexandria
Electric Distribution

THREE-PHASE PAD-MOUNTED TRANSFORMER
277/480V SECONDARY, DEAD-FRONT LOOP FEED

DATE: 04-20-07

STANDARD NUMBER
UG3L-277-KVA

MATERIAL LIST

COA Commodity Code	Description	UG3R -120-75	UG3R -120-112	UG3R -120-150	UG3R -120-225	UG3R -120-300	UG3R -120-500	UG3R -120-750	UG3R -120-1000	UG3R -120-1500	UG3R -120-2000	UG3R -120-2500
UG3R12075	Pad-Mounted Transformer, 120/208V, 75 KVA	1										
UG3R120112	Pad-Mounted Transformer, 120/208V, 112.5 KVA		1									
UG3R120150	Pad-Mounted Transformer, 120/208V, 150 KVA			1								
UG3R120225	Pad-Mounted Transformer, 120/208V, 225 KVA				1							
UG3R120300	Pad-Mounted Transformer, 120/208V, 300 KVA					1						
UG3R120500	Pad-Mounted Transformer, 120/208V, 500 KVA						1					
UG3R120750	Pad-Mounted Transformer, 120/208V, 750 KVA							1				
UG3R1201000	Pad-Mounted Transformer, 120/208V, 1000 KVA								1			
UG3R1201500	Pad-Mounted Transformer, 120/208V, 1500 KVA									1		
UG3R1202000	Pad-Mounted Transformer, 120/208V, 2000 KVA										1	
UG3R1202500	Pad-Mounted Transformer, 120/208V, 2500 KVA											1

City of Alexandria
Electric Distribution

THREE-PHASE PAD-MOUNTED TRANSFORMER
120/208V SECONDARY, DEAD-FRONT RADIAL FEED

DATE: 04-20-07

STANDARD NUMBER
UG3R-120-KVA

MATERIAL LIST

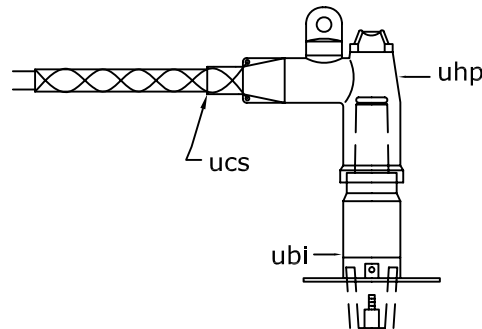
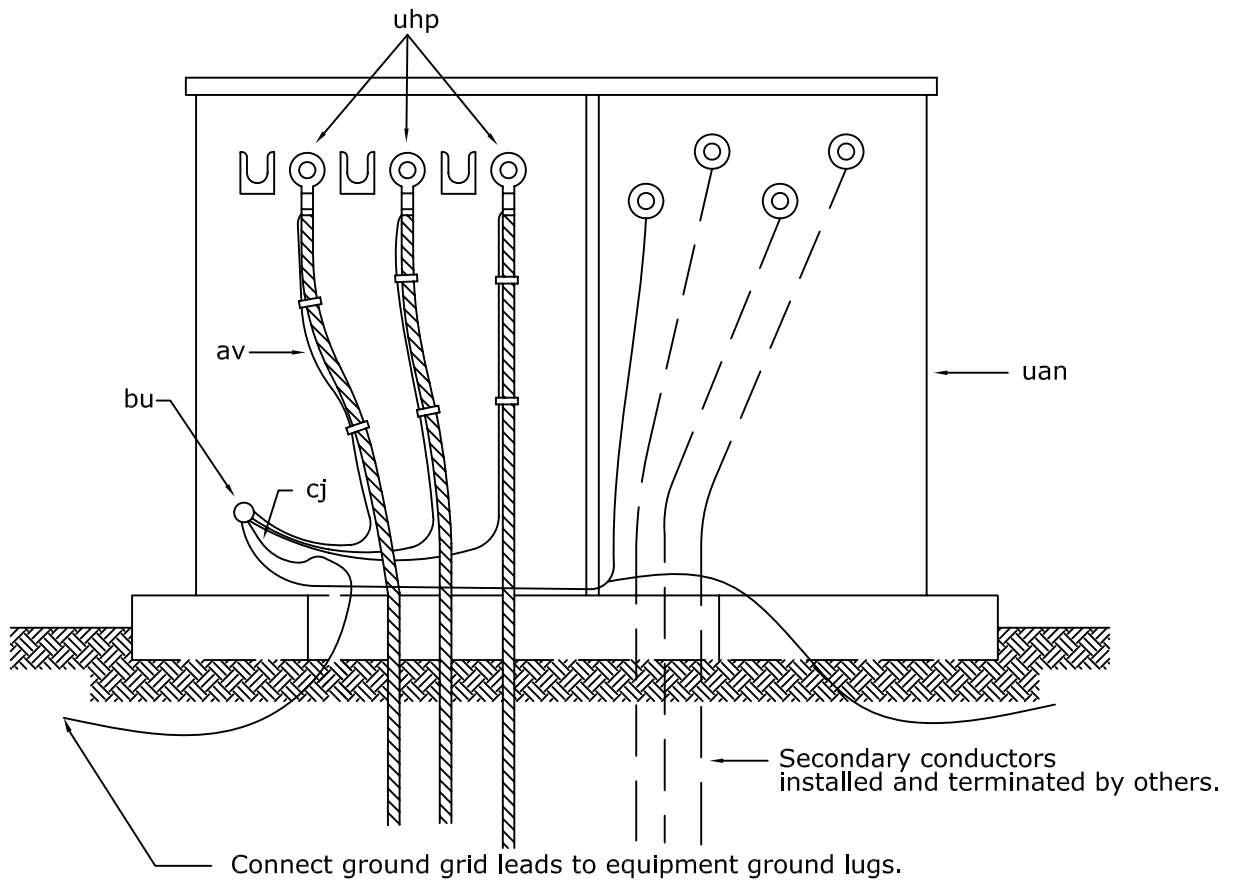
COA Commodity Code	Description	UG3R -277-75	UG3R -277-112	UG3R -277-150	UG3R -277-225	UG3R -277-300	UG3R -277-500	UG3R -277-750	UG3R -277-1000	UG3R -277-1500	UG3R -277-2000	UG3R -277-2500
UG3R27775	Pad-Mounted Transformer, 277/480V, 75 KVA	1										
UG3R277112	Pad-Mounted Transformer, 277/480V, 112.5 KVA		1									
UG3R277150	Pad-Mounted Transformer, 277/480V, 150 KVA			1								
UG3R277225	Pad-Mounted Transformer, 277/480V, 225 KVA				1							
UG3R277300	Pad-Mounted Transformer, 277/480V, 300 KVA					1						
UG3R277500	Pad-Mounted Transformer, 277/480V, 500 KVA						1					
UG3R277750	Pad-Mounted Transformer, 277/480V, 750 KVA							1				
UG3R2771000	Pad-Mounted Transformer, 277/480V, 1000 KVA								1			
UG3R2771500	Pad-Mounted Transformer, 277/480V, 1500 KVA									1		
UG3R2772000	Pad-Mounted Transformer, 277/480V, 2000 KVA										1	
UG3R2772500	Pad-Mounted Transformer, 277/480V, 2500 KVA											1

City of Alexandria
Electric Distribution

THREE-PHASE PAD-MOUNTED TRANSFORMER
277/480V SECONDARY, DEAD-FRONT RADIAL FEED

DATE: 04-20-07

STANDARD NUMBER
UG3R-277-KVA

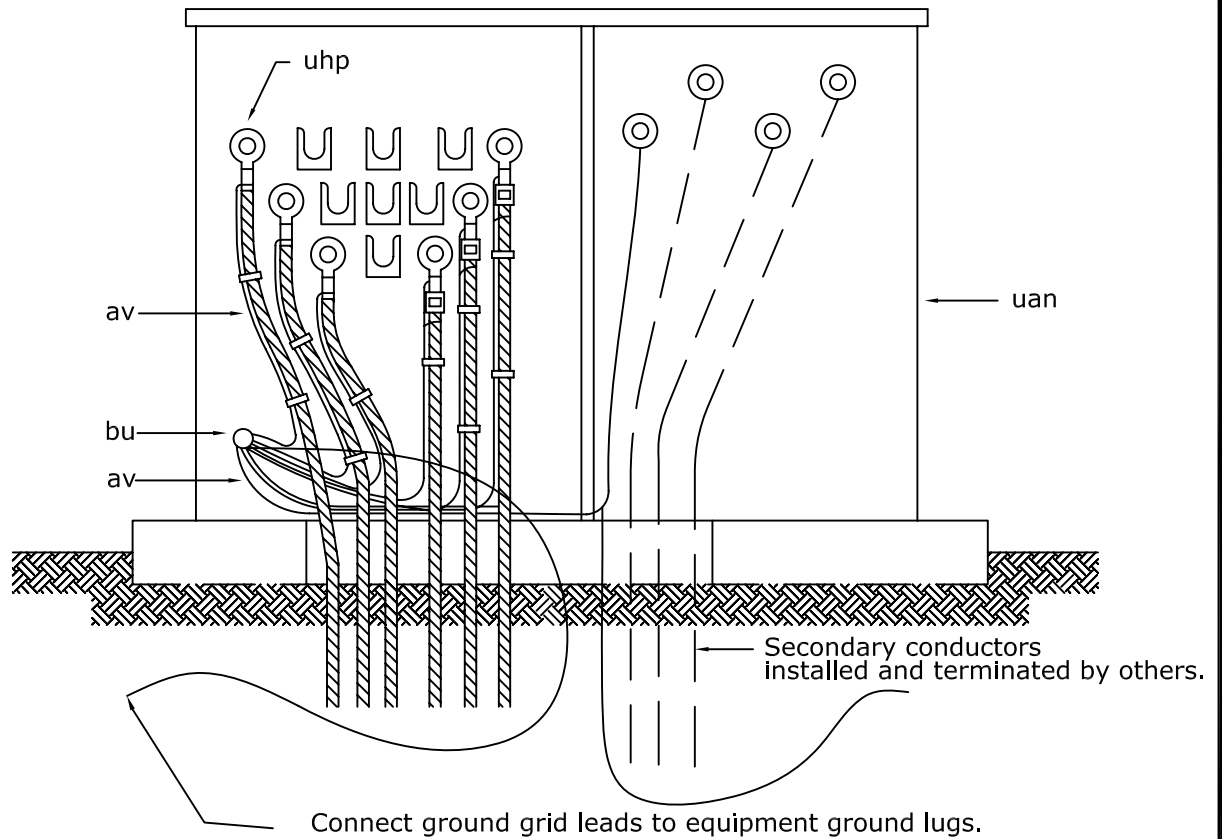


NOTE:
WHEN CONNECTING CONCENTRIC
NEUTRALS TO TRANSFORMER GROUND,
LEAVE AN ADEQUATE LENGTH SO ELBOWS
CAN BE REMOVED WITHOUT
DISCONNECTING NEUTRALS FROM
GROUND.

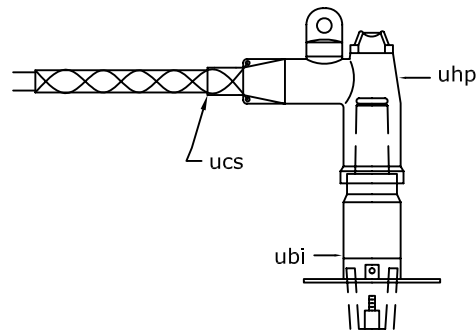
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Bolted
av	NA	1	Jumper, #2 Stranded Copper
bu	2851002136	2	Connector, Equipment Ground
cj	2801602119	25	Ground Wire, #2 Copper, 7-Strand
ubi	2858202097	3	Bushing Well Insert
ucs	2858702405	3	Cable Sealing Kit
uhp	2858202476	3	15kV Loadbreak Elbow, 1/0 Al TRXLP

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>THREE-PHASE PAD-MOUNTED TRANSFORMER DEAD FRONT RADIAL FEED</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UG31</p>



NOTE: Mark feed-in with RED marking tape. Mark feed-out with BLUE marking tape.



NOTE: WHEN CONNECTING CONCENTRIC NEUTRALS TO TRANSFORMER GROUND, LEAVE AN ADEQUATE LENGTH SO ELBOWS CAN BE REMOVED WITHOUT DISCONNECTING NEUTRALS FROM GROUND.

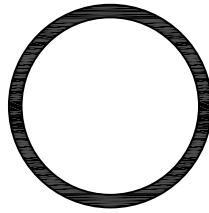
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	2	Connector, Bolted
av	NA	1	Jumper, #2 Stranded Copper
bu	2851002136	2	Connector, Equipment Ground
cj	2801602119	25	Ground Wire, #2 Copper, 7-Strand
ubi	2858202097	6	Bushing Well Insert
ucs	2858702405	6	Cable Sealing Kit
uhp	2858202476	6	15kV Loadbreak Elbow, 1/0 Al TRXLP

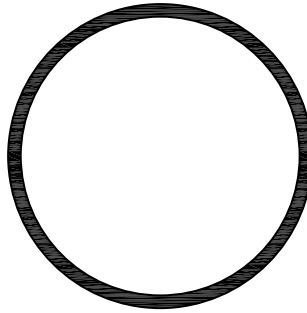
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>THREE-PHASE PAD-MOUNTED TRANSFORMER DEAD FRONT LOOP FEED</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UG32</p>



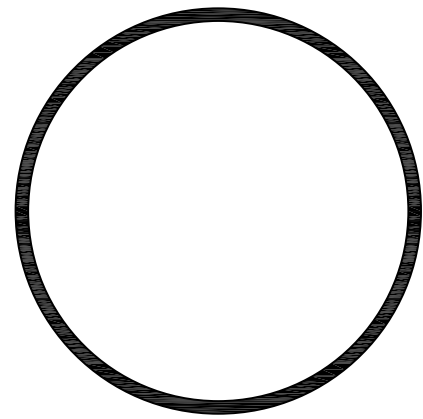
1"
RED HDPE



2"
RED HDPE



3"
RED HDPE



4"
RED HDPE

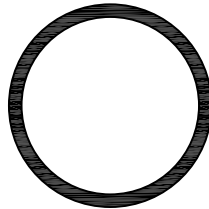
NOTE: Unit of measure is Per Foot.

UHDPE - MATERIAL LIST

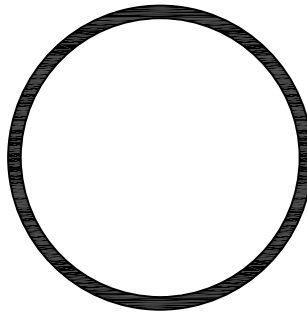
COA Commodity Code	Description	UHDPE-1	UHDPE-2	UHDPE-3	UHDPE-4
2851902352	Petroflex, 1" HDPE Sch. 40 Conduit, Red	1			
2851902353	Petroflex, 2" HDPE Sch. 40 Conduit, Red		1		
2851902354	Petroflex, 3" HDPE Sch. 40 Conduit, Red			1	
2851902509	Petroflex, 4" HDPE Sch. 40 Conduit, Red				1



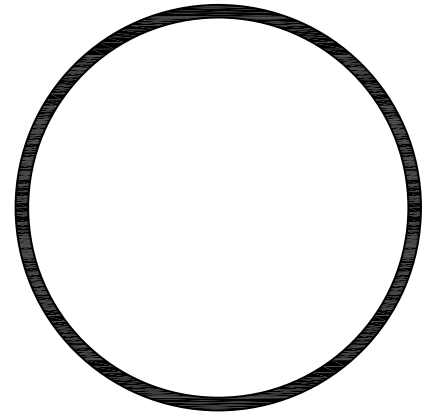
1"
SCH. 40
PVC



2"
SCH. 40
PVC



3"
SCH. 40
PVC



4"
SCH. 40
PVC

NOTE: Unit of measure is Per Foot.

UPVC - MATERIAL LIST

COA Commodity Code	Description	UPVC-1	UPVC-2	UPVC-3	UPVC-4
2851902505	1" Sch. 40 PVC Conduit, Gray	1			
2851902506	2" Sch. 40 PVC Conduit, Gray		1		
2851902350	3" Sch. 40 PVC Conduit, Gray			1	
2851902508	4" Sch. 40 PVC Conduit, Gray				1

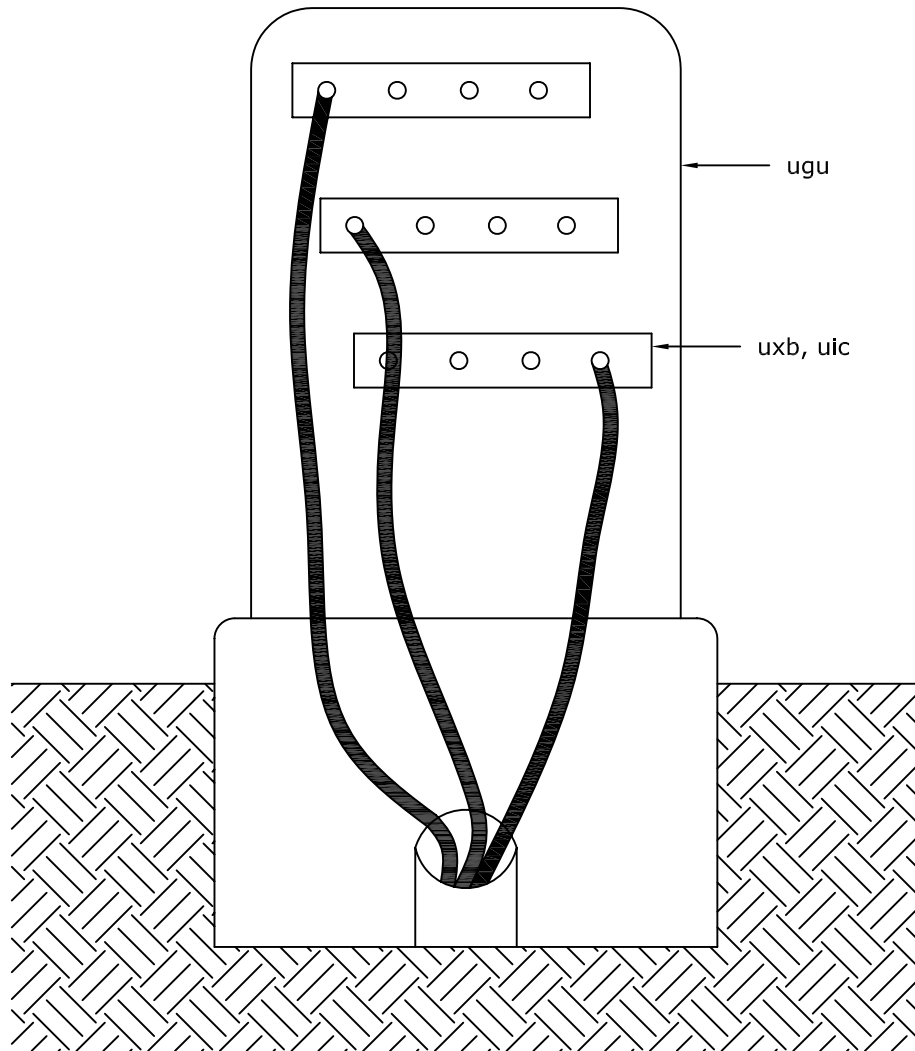
DATE: 04-20-07

City of
Alexandria

Electric Distribution

CONDUIT INSTALLATION ASSEMBLIES

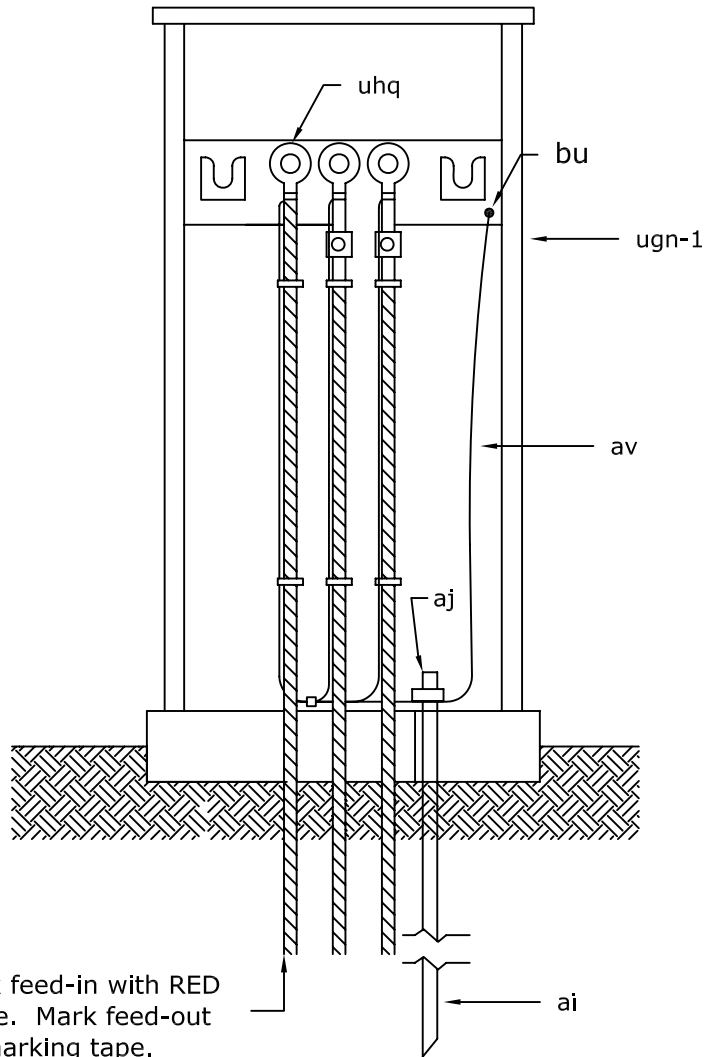
STANDARD
NUMBER
UHDPE-(Dia.)
UPVC-(Dia.)



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
ugu	2857402450	1	Secondary Pedestal, Above Grade
uic	2859902532	3	Insulating Cover
uxb	2858702417	3	Secondary Terminal Bars

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>DIRECT BURIED SECONDARY PEDESTAL</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UK-1</p>



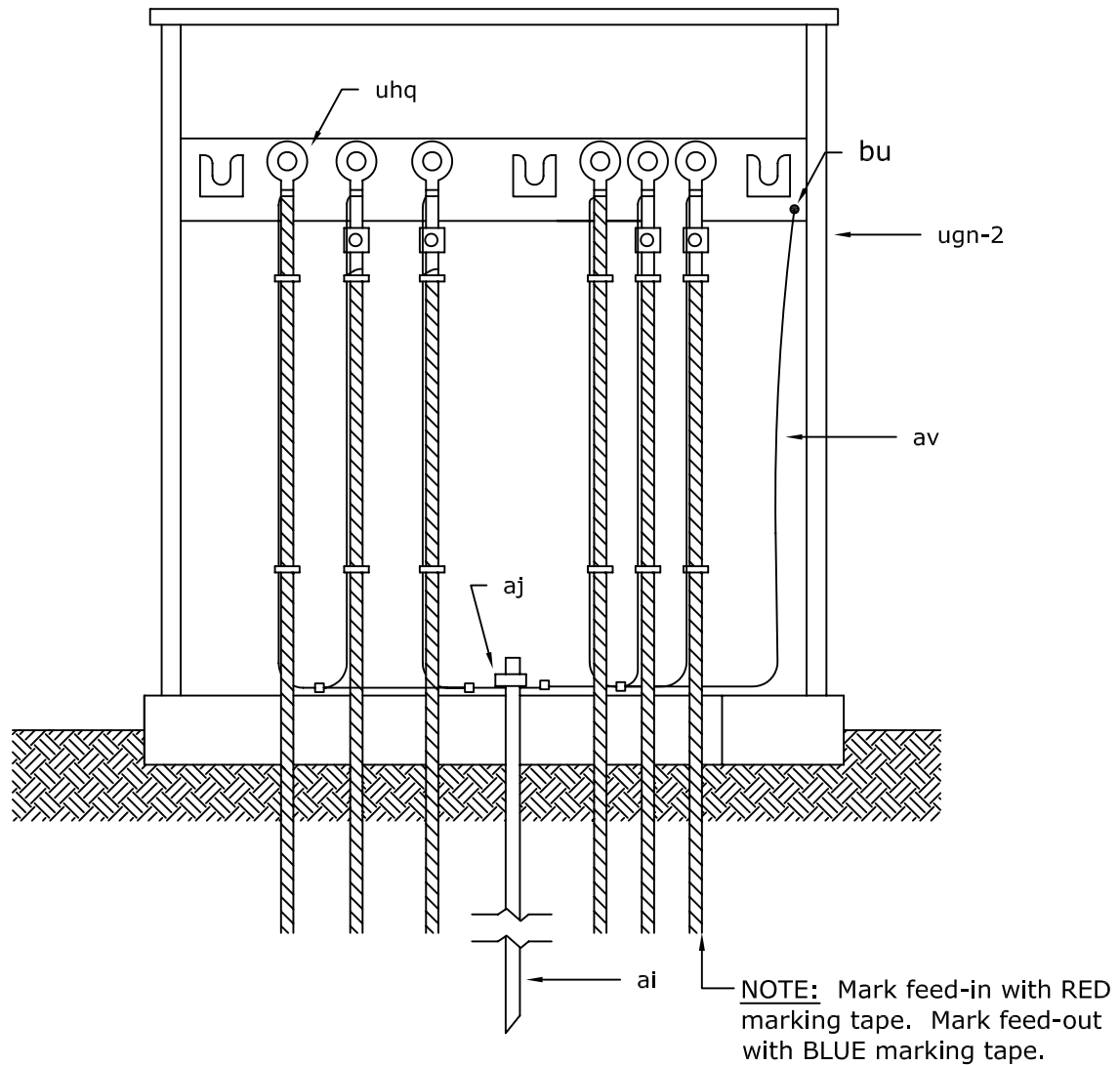
NOTE: Mark feed-in with RED marking tape. Mark feed-out with BLUE marking tape.

- NOTE:** 1. Specify load-break elbows and feed-thru modules separately.
2. Assembly includes sectionalizing enclosure and fiberglass ground sleeve.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
ai	2854002319	1	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	1	Clamp, Ground Rod
av	2801602119	15	Jumpers, #2 7 Str. Cu, As Required
bu	2851002136	1	Connector, Equipment Ground
ugn	2858702468	1	Enclosure, Single-phase
	2858702468	1	Direct Burial Base

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>SINGLE-PHASE DIRECT BURIED SECTIONALIZING ASSEMBLY</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UM3-1</p>

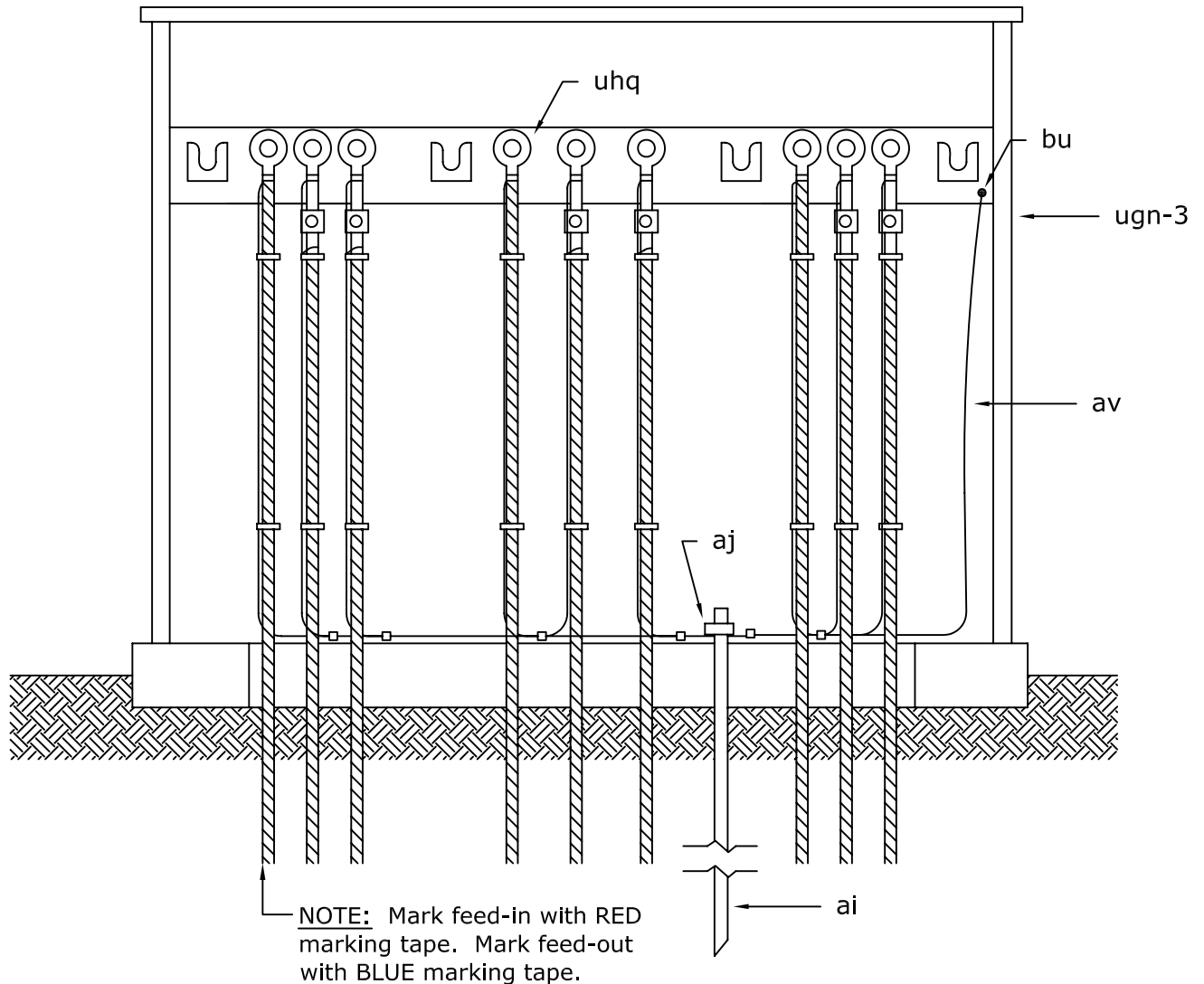


- NOTE:** 1. Specify load-break elbows and feed-thru modules separately.
 2. Assembly includes sectionalizing enclosure and fiberglass ground sleeve.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
ai	2854002319	2	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	2	Clamp, Ground Rod
av	2801602119	20	Jumpers, #2 7 Str. Cu, As Required
bu	2851002136	1	Connector, Equipment Ground
ugn-3	2857402448	1	Enclosure, Three-phase
	2857402249	1	Direct Burial Base

City of Alexandria Electric Distribution	TWO-PHASE DIRECT BURIED SECTIONALIZING ASSEMBLY	DATE: 04-20-07
		STANDARD NUMBER UM3-2

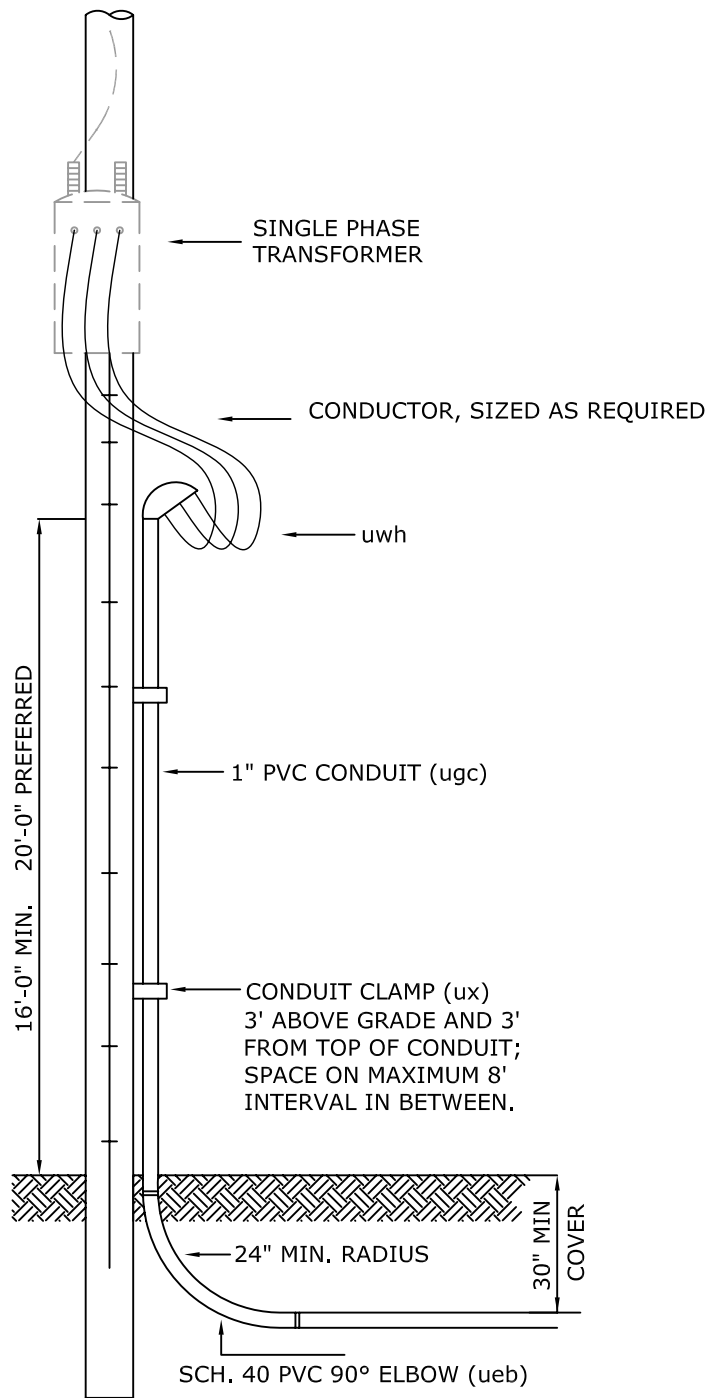


- NOTE:** 1. Specify load-break elbows and feed-thru modules separately.
 2. Assembly includes sectionalizing enclosure and fiberglass ground sleeve.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
ai	2854002319	3	Ground Rod, 5/8" x 8', Copperweld
aj	2854002133	3	Clamp, Ground Rod
av	2801602119	25	Jumpers, #2 7 Str. Cu, As Required
bu	2851002136	1	Connector, Equipment Ground
ugn-3	2857402448	1	Enclosure, Three-phase
	2857402249	1	Direct Burial Base

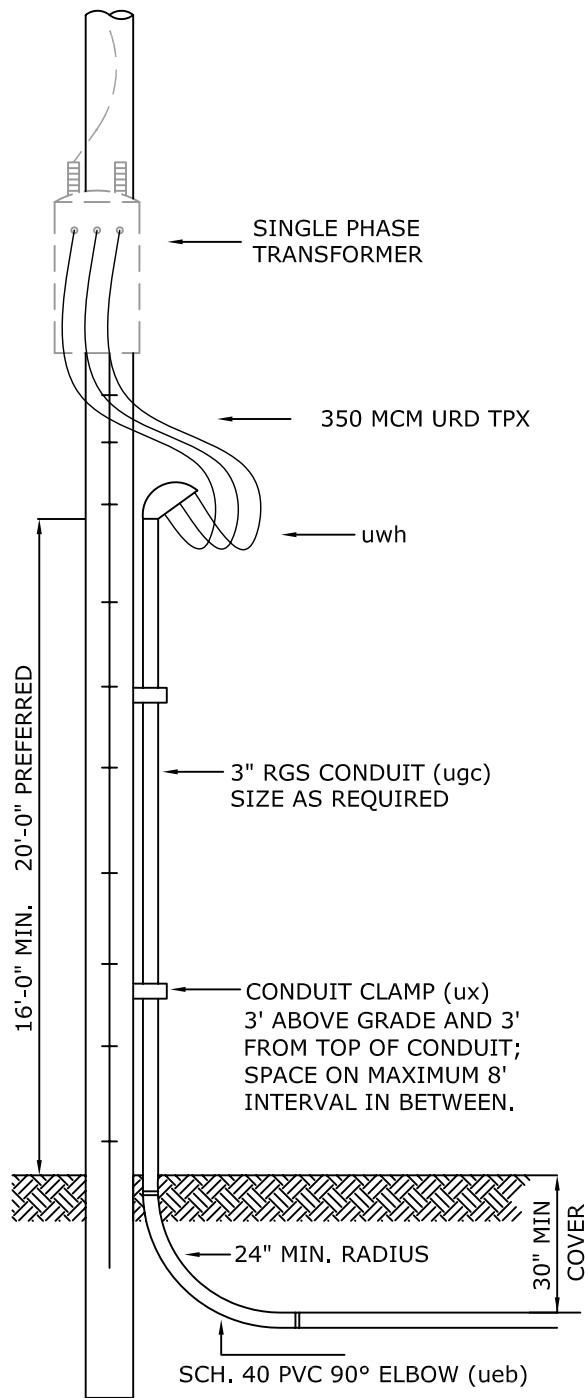
City of Alexandria Electric Distribution	THREE-PHASE DIRECT BURIED SECTIONALIZING ASSEMBLY	DATE: 04-20-07
		STANDARD NUMBER UM3-3



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	3	Connector, Sized As Required
ucp1	2851902338	1	Coupling, 1", Drive-on
ueb	SO-UG-UEB1	1	1", Sch. 40 PVC, 90°, 24" Sweep Elbow
uwh	SO-UG-UWH1	1	Weather Head, 1" RGS
ugc	2851902505	3	PVC Conduit, Sch. 40, 1" x 10' Length
ux	2857802458	4	Conduit Stand-off Bracket

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE-PHASE SECONDARY RISER POLE</p>	DATE: 03-28-08
		<p>STANDARD NUMBER</p> <p>UM5-1</p>

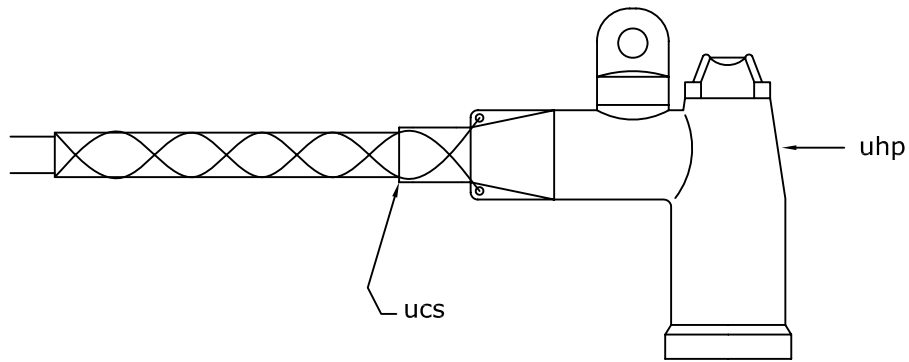


NOTE:
 SCHEDULE 40 PVC DUCT MAY BE
 UTILIZED IN LIEU OF RIGID STEEL
 BELOW GRADE ONLY.

MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
p	28574022XX	3	Connector, Sized As Required
ucp3	2851902340	1	Coupling, 3", Drive-on
ueb	2851902346	1	3", Sch. 40 PVC, 90°, 24" Sweep Elbow
uwh	SO-UG-UWH3	1	Weather Head, 3" RGS
ugc	2851902507	3	RGS Conduit, 3" x 10' Length
ux	2857802458	4	Conduit Stand-off Bracket

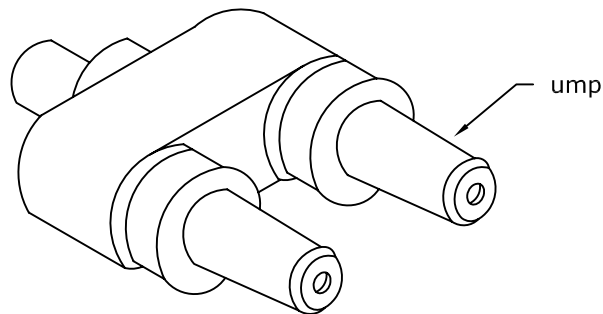
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>SINGLE-PHASE SECONDARY RISER POLE</p>	DATE: 03-28-08
		<p>STANDARD NUMBER</p> <p>UM5-3</p>



NOTE:
 WHEN CONNECTING CONCENTRIC
 NEUTRALS TO TRANSFORMER GROUND,
 LEAVE AN ADEQUATE LENGTH SO ELBOWS
 CAN BE REMOVED WITHOUT
 DISCONNECTING NEUTRALS FROM
 GROUND.

UM6-1 - MATERIAL LIST

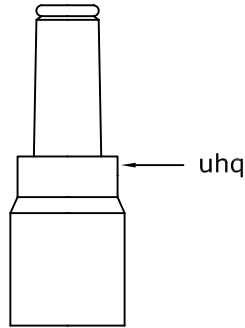
Item	COA Commodity Code	Qty.	Description
ucs	2858702405	1	Cable Sealing Kit
uhp	2858202476	1	15kV Loadbreak Elbow, 1/0 Al TRXLP



UM6-5 - MATERIAL LIST

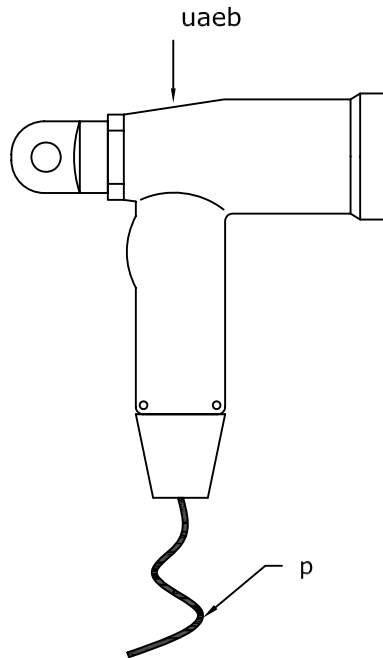
Item	COA Commodity Code	Qty.	Description
ump	2858202093	1	15kV Feed-thru Loadbreak Insert

<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>MISCELLANEOUS ACCESSORIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UM6-1 UM6-5</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
uhq	2858202098	1	Bushing, Insulated Parking

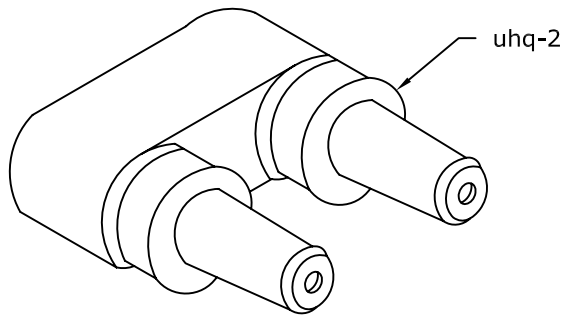


MATERIAL LIST

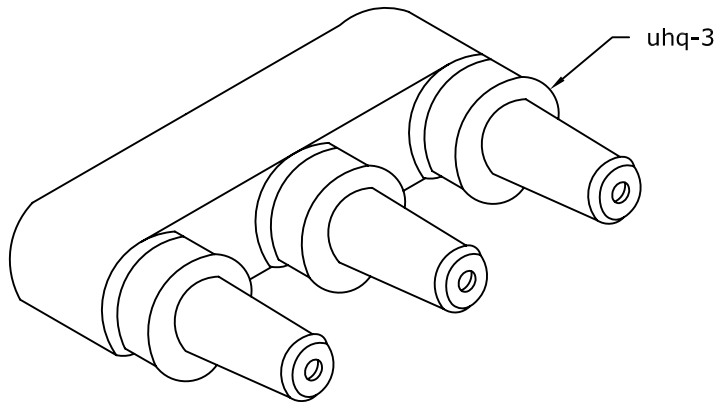
Item	COA Commodity Code	Qty.	Description
p	28574022XX	1	Connector, Sized As Required
uaeb	2858202090	1	Elbow Surge Arrester, 10kV MOVE

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>MISCELLANEOUS ACCESSORIES</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UM6-15</p> <p>UM6-34</p>

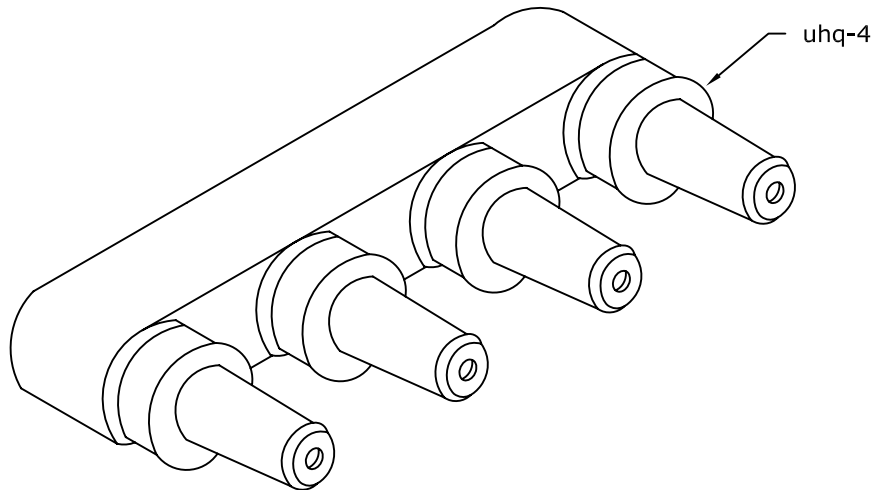
UM6-22



UM6-23



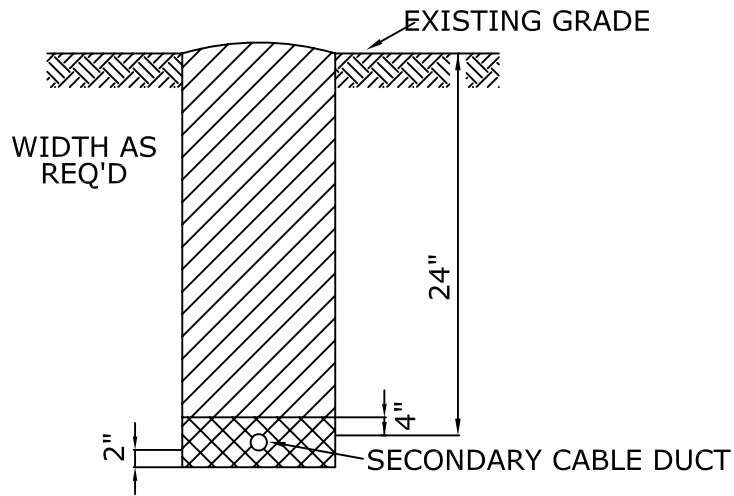
UM6-24



U6-2(#) - MATERIAL LIST

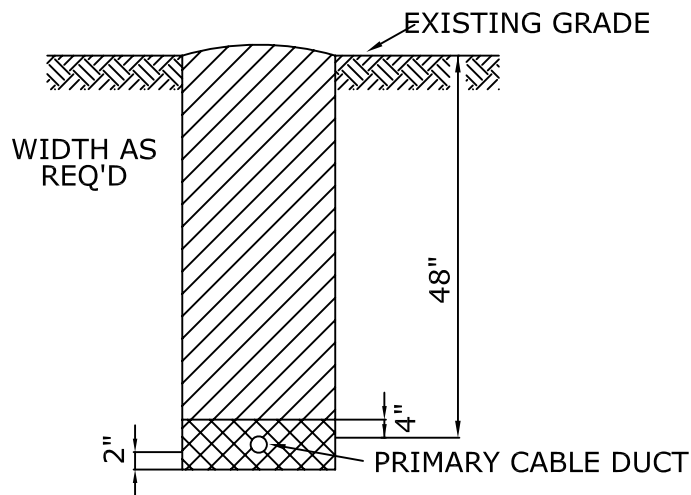
Item	COA Commodity Code	Description	UM6-22	UM6-23	UM6-24
uhq-2	SO-UG-UHQ2	Module, Feed-thru, 2 Point	1		
uhq-3	2858702403	Module, Feed-thru, 3 Point		1	
uhq-4	2858702529	Module, Feed-thru, 4 Point			1

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>MULTI-POINT FEED-THRU MODULES 2, 3, OR 4 POINT</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UM6-2(# Pts.)</p>



SECONDARY SUPPLY DUCT ONLY

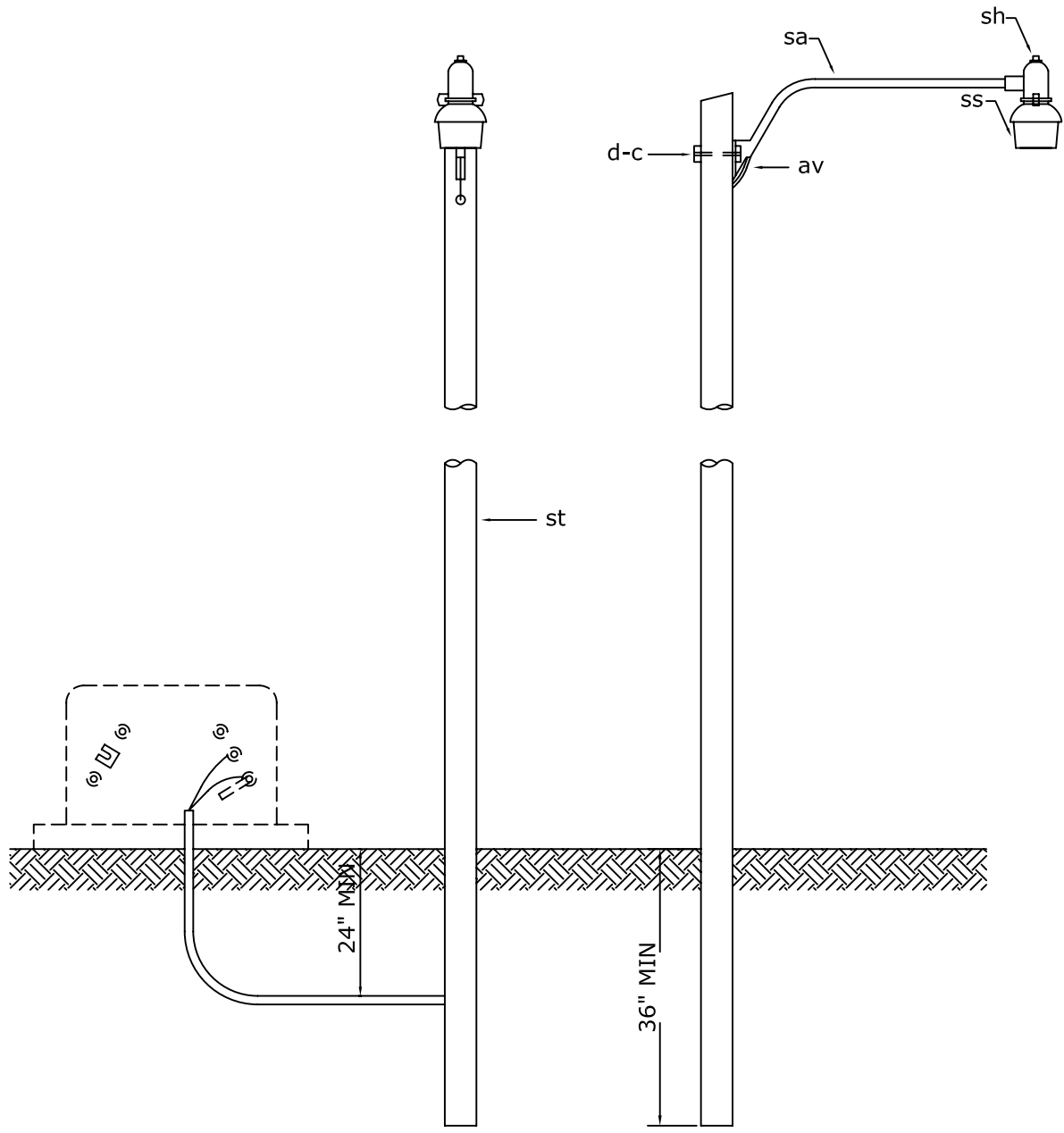
- NOTE:
1. Backfill and compact trench to a minimum 95% compaction.
 2. Request inspection of trench depth before backfilling.
 3. Unit of measure is Per Foot.
 4. Specify UR2B when conduit requires installation by directional boring.



PRIMARY SUPPLY DUCT ONLY

- NOTE:
1. Backfill and compact trench to a minimum 95% compaction.
 2. Request inspection of trench depth before backfilling.
 3. Unit of measure is Per Foot.
 4. Specify UR4B when conduit requires installation by directional boring.

<p style="text-align: center;"><i>City of Alexandria</i></p> <p style="text-align: center;"><i>Electric Distribution</i></p>	<p>TYPICAL TRENCHES SECONDARY AND PRIMARY CONDUITS</p>	<p>DATE: 04-20-07</p>
		<p style="text-align: center;">STANDARD NUMBER</p> <p style="text-align: center;">UR2, UR2B UR4, UR4B</p>



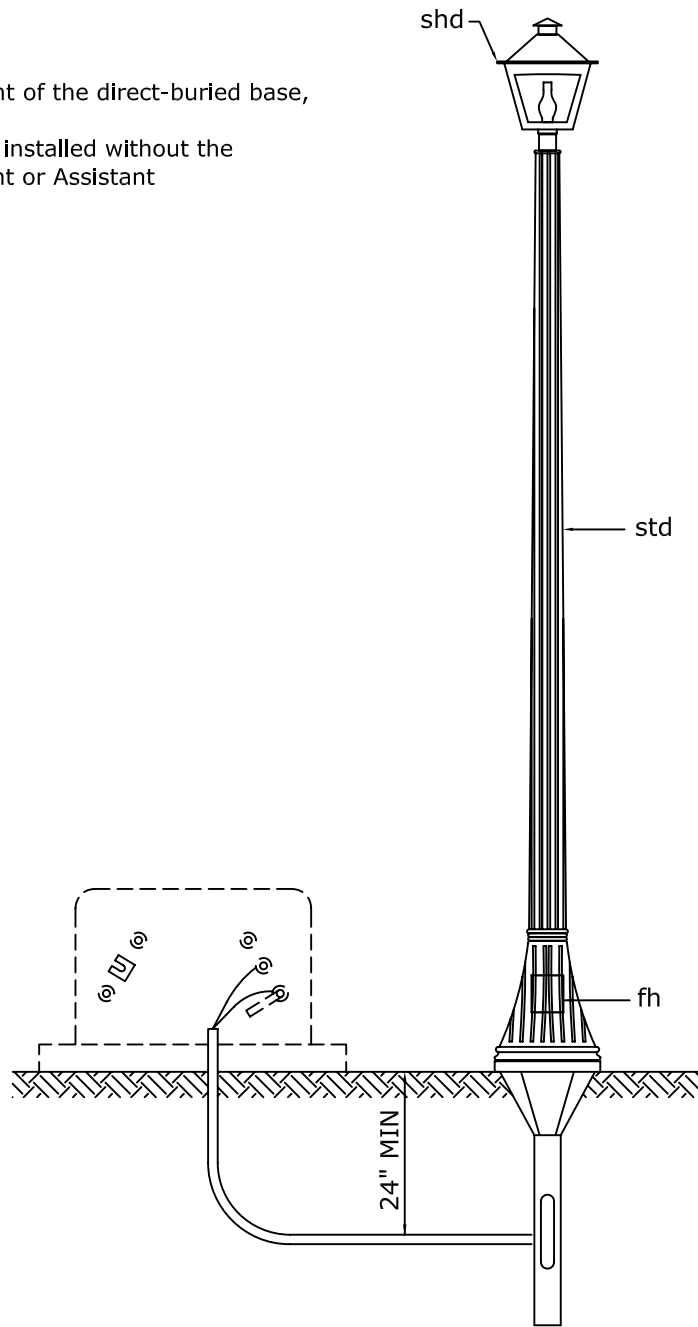
MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402010	2	Bolt, Machine, 5/8" x 6"
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
av	2802402115	60	Jumper, #12 THHN, Black
av	2802402117	60	Jumper, #12 THHN, White
fh	2858202088	1	Fuse Holder
sa	2858302162	1	Street Light Arm, 6' for Fiberglass Poles
sh	2857602047	1	Street Light Head, 100W HPS
ss	2857602048	1	Shade, Acrylic
st	2858302161	1	Streetlight Pole, 25' Precast Fiberglass, Direct Burial

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>RESIDENTIAL STREETLIGHT ASSEMBLY</p> <p>100W HPS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>USL-100</p>

NOTES:

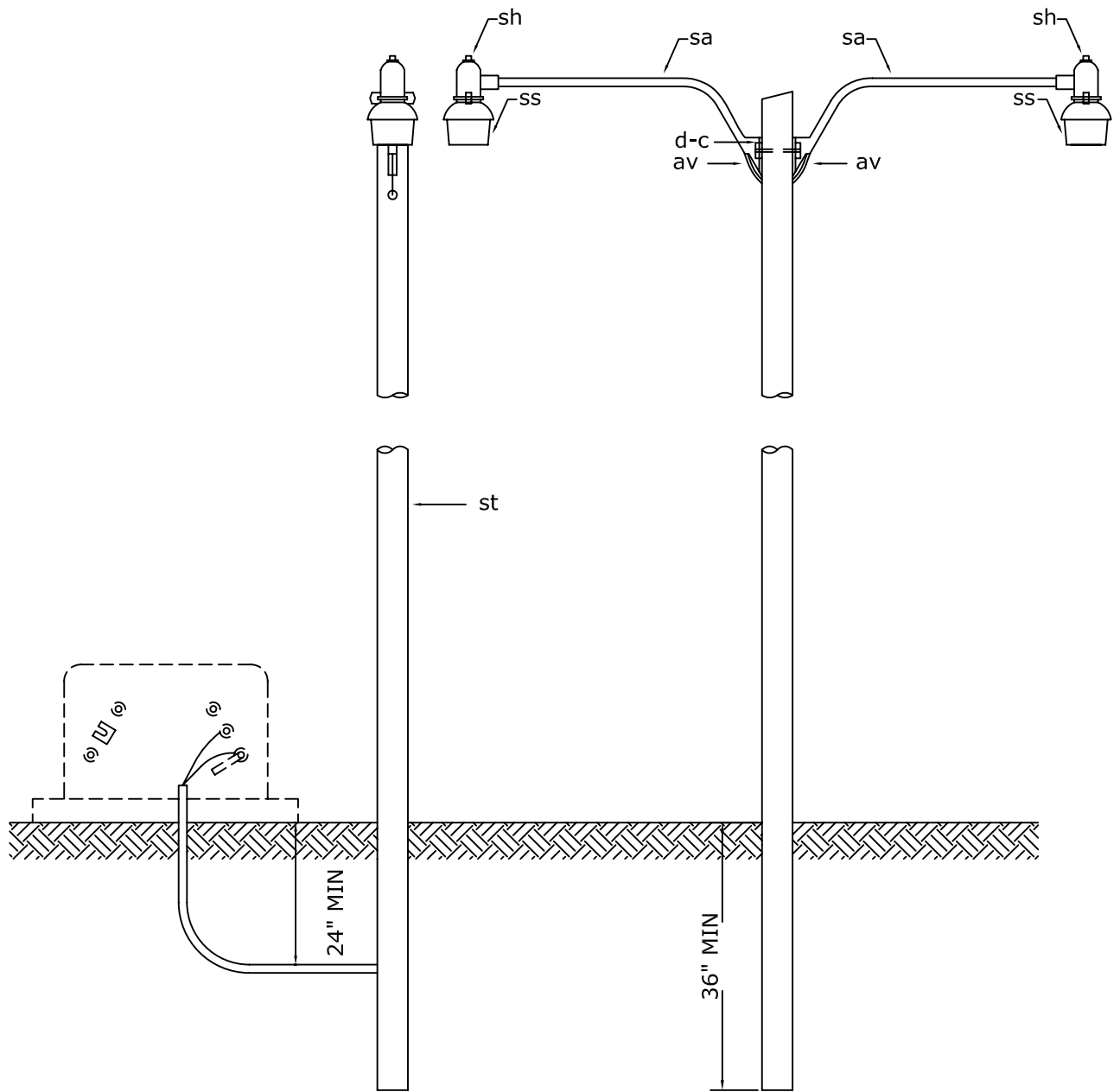
1. To reduce future settlement of the direct-buried base, backfill with 1# Polecrete kit.
2. This assembly may not be installed without the approval of the Superintendent or Assistant Superintendent.



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
av	2802402115	60	Jumper, #12 THHN, Black
av	2802402117	60	Jumper, #12 THHN, White
fh	2858202088	1	Fuse Holder
shd	2857602479	1	Luminaire, 100W HPS, Vertical
std	2858302478	1	Decorative Streetlight Pole, 14.5' Precast Fiberglass, Direct Burial Base
-	2851502496	1	Polecrete Stabilizer, 1 Gallon Kit

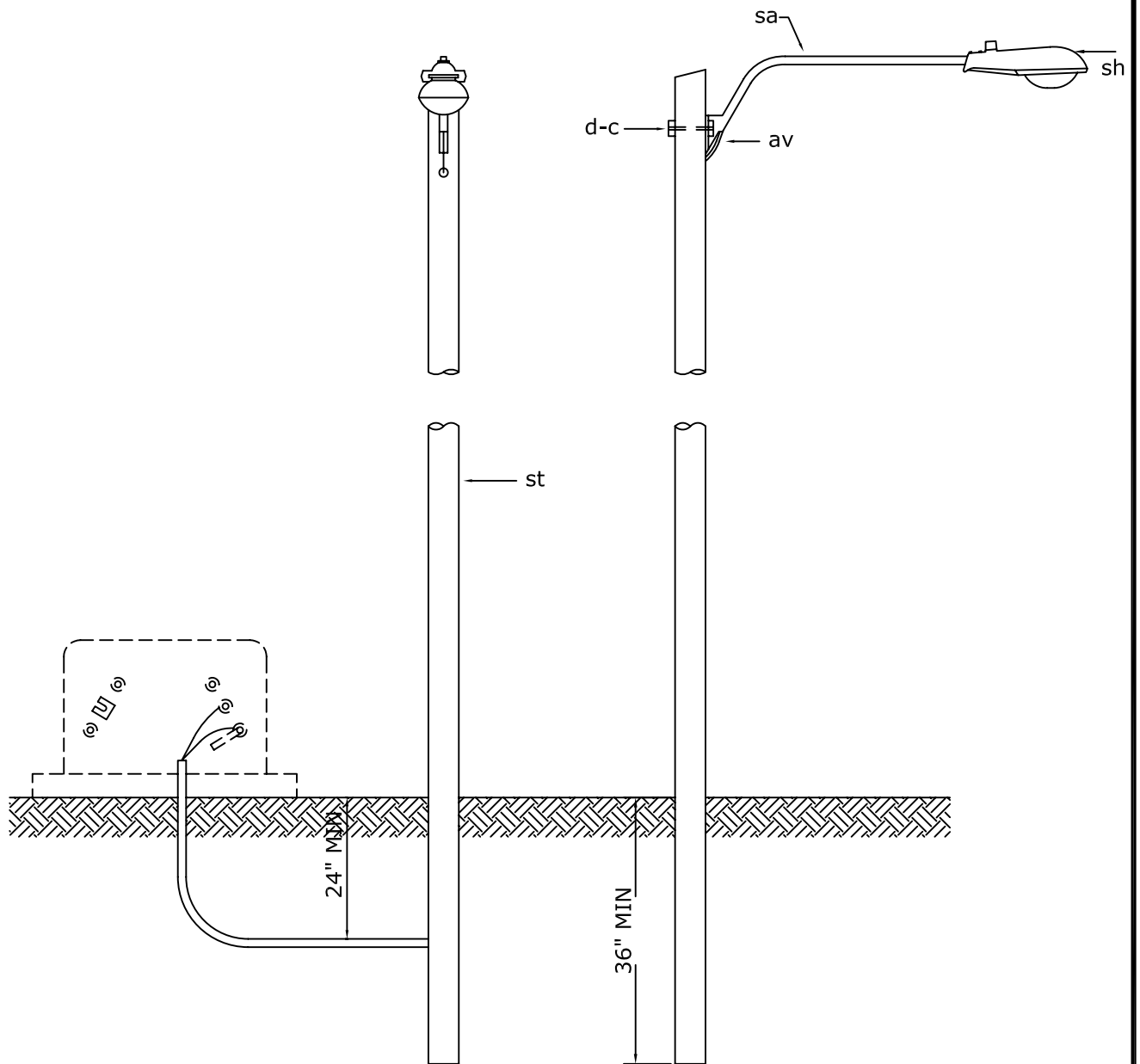
<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>DECORATIVE STREETLIGHT ASSEMBLY</p> <p>100W HPS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>UDL-100</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402010	2	Bolt, Machine, 5/8" x 6"
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
av	2802402115	65	Jumper, #12 THHN, Black
av	2802402117	65	Jumper, #12 THHN, White
fh	2858202088	1	Fuse Holder
sa	2858302162	2	Street Light Arm, 6' for Fiberglass Poles
sh	2857602047	2	Street Light Head, 100W HPS
ss	2857602048	2	Shade, Acrylic
st	2858302161	1	Streetlight Pole, 25' Precast Fiberglass, Direct Burial

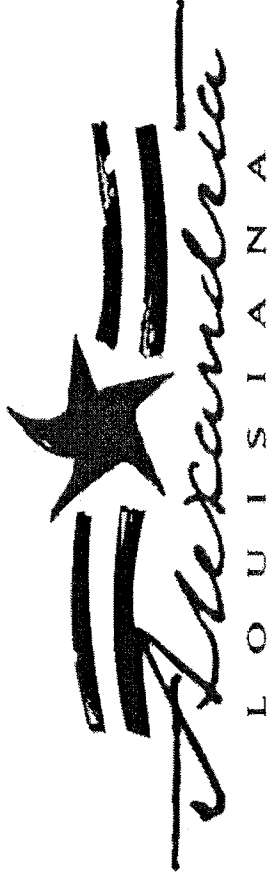
<p>City of Alexandria</p> <p>Electric Distribution</p>	<p>RESIDENTIAL STREETLIGHT ASSEMBLY DOUBLE 100W HPS</p>	DATE: 04-20-07
		<p>STANDARD NUMBER</p> <p>USL-100-2</p>



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
c	2857402010	2	Bolt, Machine, 5/8" x 6"
d	2857402322	2	Washer, 2 1/4" Square With 13/16" Hole
av	2802402115	60	Jumper, #12 THHN, Black
av	2802402117	60	Jumper, #12 THHN, White
fh	2858202088	1	Fuse Holder
sa	2858302162	1	Street Light Arm, 6' for Fiberglass Poles
sh	2857602053	1	Street Light Head, 250W HPS
st	2858302161	1	Streetlight Pole, 25' Precast Fiberglass, Direct Burial

<p><i>City of Alexandria</i></p> <p><i>Electric Distribution</i></p>	<p>RESIDENTIAL STREETLIGHT ASSEMBLY</p> <p>100W HPS</p>	DATE: 03-28-08
		<p>STANDARD NUMBER</p> <p>USL-250</p>

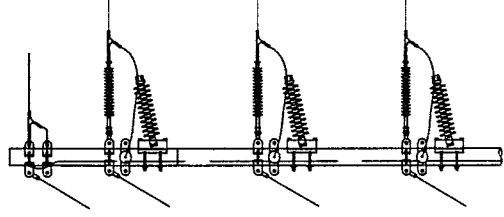
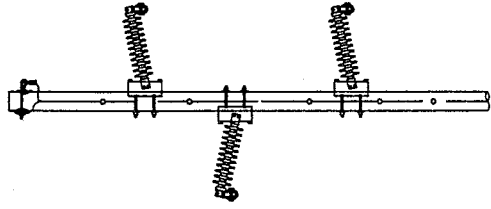


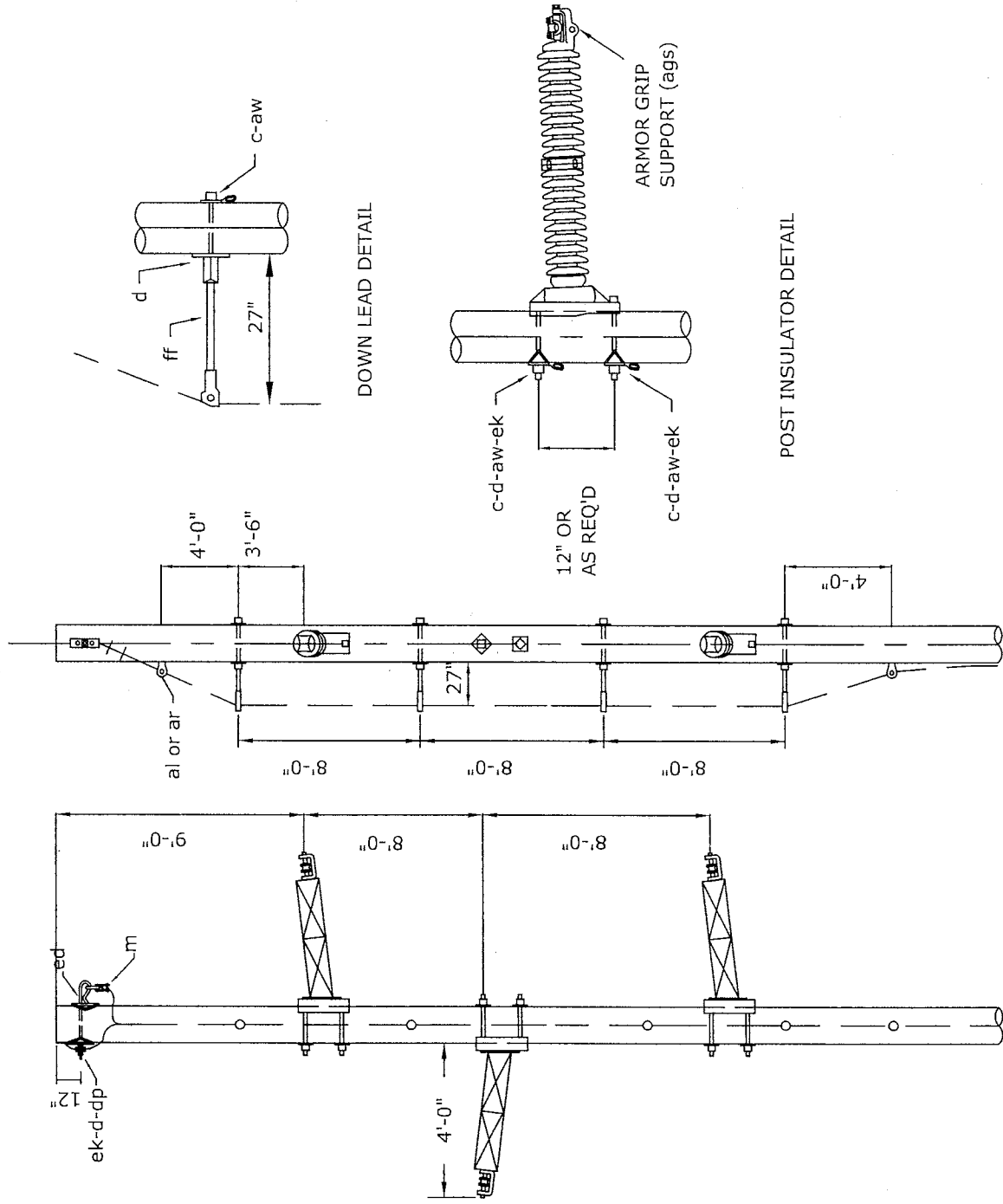
City of Alexandria

Electric Distribution Dept.

138KV Transmission

Construction Manual





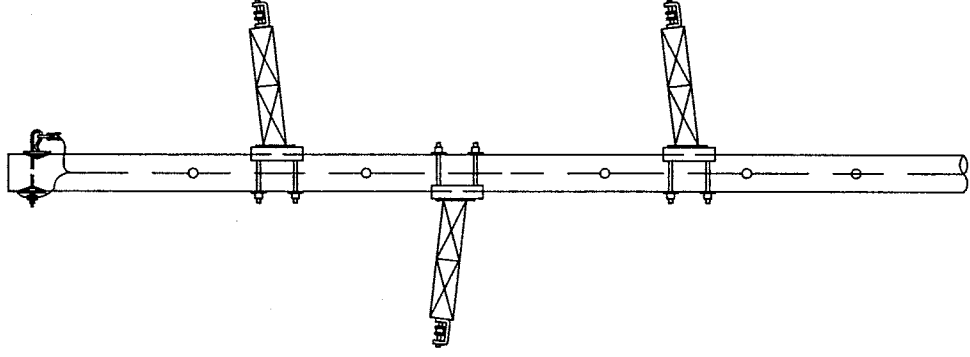
NOTE:

FOR MAINTENANCE PROJECTS, TRANSFER EXISTING LINE POST INSULATORS AND REPLACE ALL OTHER HARDWARE WITH NEW MATERIALS PER CITY OF ALEXANDRIA SPECIFICATIONS.

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
HORIZONTAL PORCELAIN LINE POST
TANGENT STRUCTURE

DATE: 03-03-05
STANDARD NUMBER
TP-138HP



MATERIAL LIST

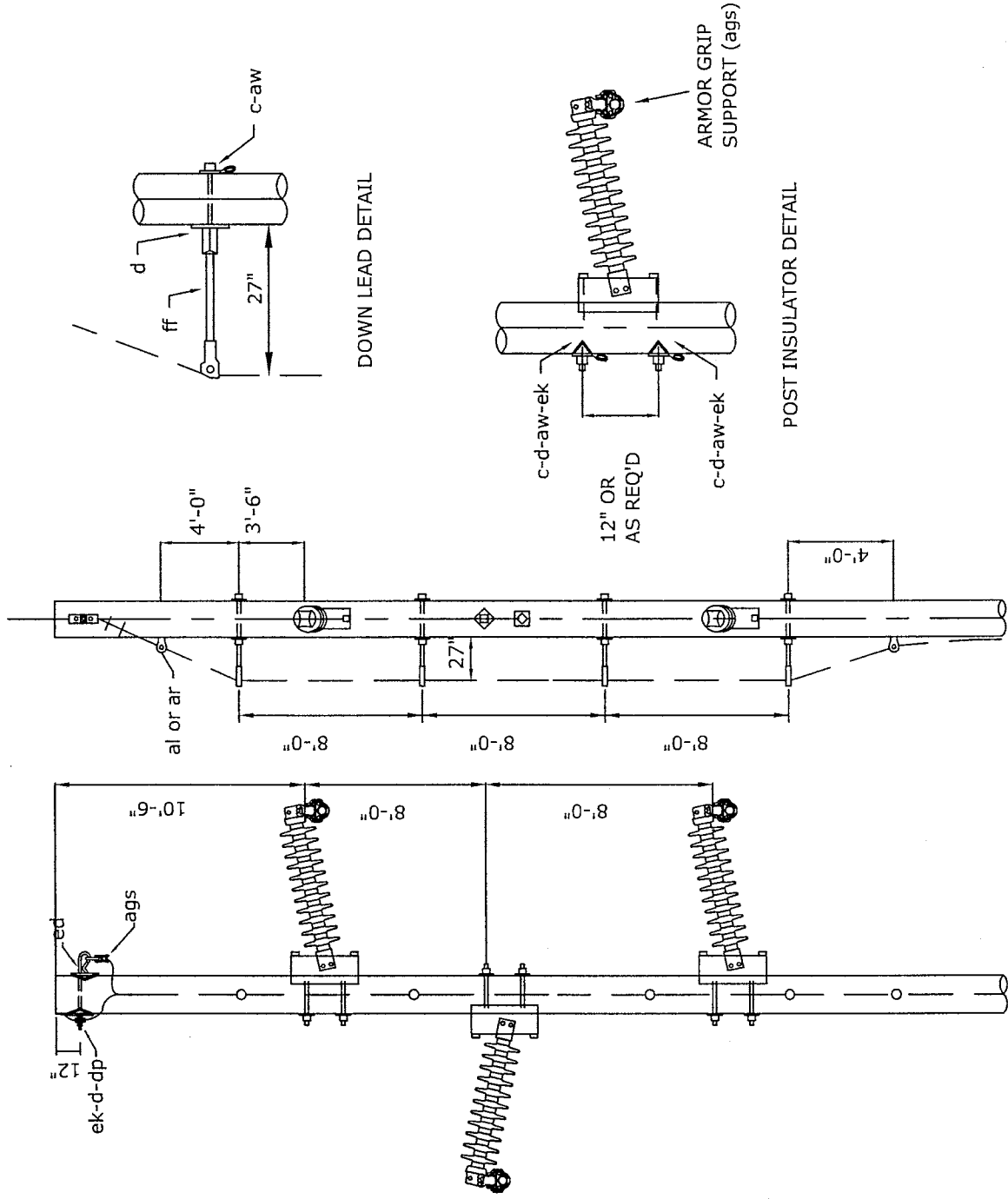
Item	Qty.	Description	Manufacturer	Catalog #
c	3	Bolt, Machine, 3/4" x Required Length	Joslyn	J89 Series
c	7	Bolt, Machine, 5/8" x Required Length	Joslyn	J88 Series
d	4	Washer, 2 1/4" Square With 11/16" Hole	Joslyn	J1075
d	7	Washer, Curved, 4" Square x 1/4" With 13/16" Hole	Joslyn	J6836
m	1	Ground Wire Suspension Clamp For 3/8" EHS	Anderson	MS-46
al	4	Staples, 2" x 1/2" Open, Copperweld	Joslyn	J6496
ar	2	Wireholder, Screw Type, 4" Screw	Joslyn	J0894ZG
aw	3	Washer, Spring 3/4"	Joslyn	J3541
aw	7	Washer, Spring 5/8"	Joslyn	J3540
dp	1	Ground Wire Clamp 3/4"	Joslyn	J1164
ea	3	Insulator, Post Clamp Type, Horizontal Mount	Lapp	70147PA
ed	1	Single 3/4" Bolt, OHGW Support With Chain Link	Hughes	2812.6-(L)-B1CL
ek	7	Locknut, 3/4"	Joslyn	J8584
ek	4	Locknut, 5/8"	Joslyn	J8583
ff	4	Fiberglass Download Bracket	Joslyn	65-24
ags	3	Armor Grip Support For 636 AAC	Preformed Line Products	AGS-5221

DATE: 01-31-05

City of
Alexandria
Electric Distribution

138 KV TRANSMISSION LINE
HORIZONTAL PORCELAIN LINE POST
TANGENT STRUCTURE

STANDARD
NUMBER
TP-138HP



NOTE:

FOR MAINTENANCE PROJECTS, TRANSFER EXISTING LINE POST INSULATORS AND REPLACE ALL OTHER HARDWARE WITH NEW MATERIALS PER CITY OF ALEXANDRIA SPECIFICATIONS.

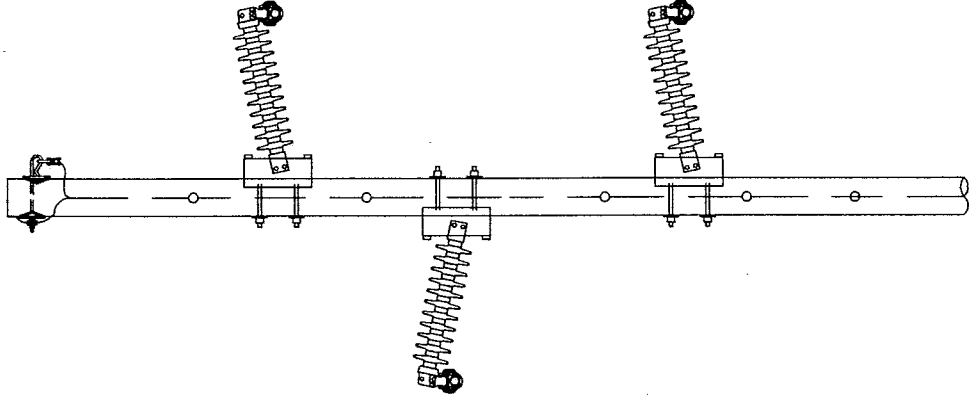
DATE: 01-31-05

138KV TRANSMISSION LINE
HORIZONTAL POLYMER LINE POST
TANGENT STRUCTURE

STANDARD
NUMBER

TP-138PP

City of
Alexandria
Electric Distribution



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
c	6	Bolt, Machine, 7/8" x Required Length	Joslyn	J90 Series
c	4	Bolt, Machine, 5/8" x Required Length	Joslyn	J88 Series
d	4	Washer, 2 1/4" Square With 11/16" Hole	Joslyn	J1075
d	7	Washer, Curved, 4" Square x 1/4" With 15/16" Hole	Joslyn	J6829
al	4	Staples, 2" x 1/2" Open, Copperweld	Joslyn	J6496
ar	2	Wireholder, Screw Type, 4" Screw	Joslyn	J0894ZG
aw	7	Washer, Spring 7/8"	Joslyn	J3542
aw	4	Washer, Spring 5/8"	Joslyn	J3540
dp	3	Ground Wire Clamp 7/8"	Hughes	2727.8
ea	3	Insulator, Polymer Post Type, Horizontal Mount	Ohio Brass	232108-3002
ed	1	Single 3/4" Bolt, OHGW Support With 1/2" Chain Link	Hughes	2812.6-(L)-B1CL
ek	7	Locknut, 7/8"	Joslyn	J8584
ek	4	Locknut, 5/8"	Joslyn	J8583
ff	4	Fiberglass Downlead Bracket	Joslyn	65-24
ags	1	AGS Unit For 3/8" EHS	Performed Line Products	AGS-7104
ags	3	Armor Grip Support With Y-Clevis Eye For 1,272 ACSR	Performed Line Products	AGS-5139

DATE: 01-31-05

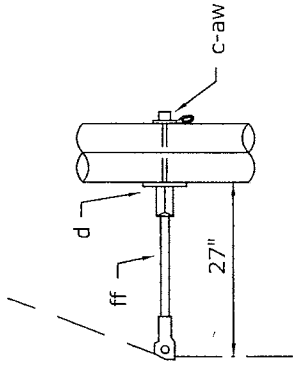
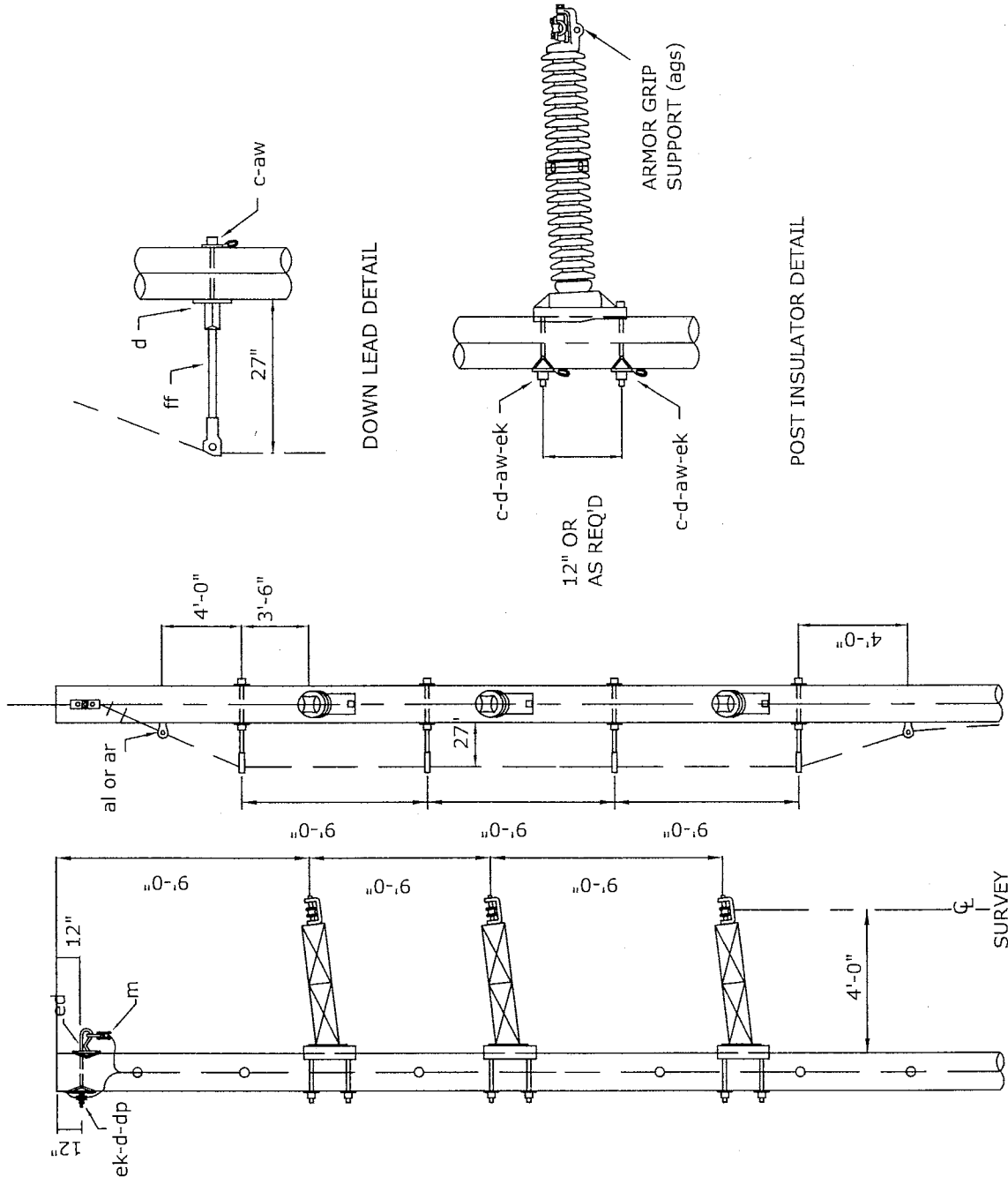
City of
Alexandria

Electric Distribution

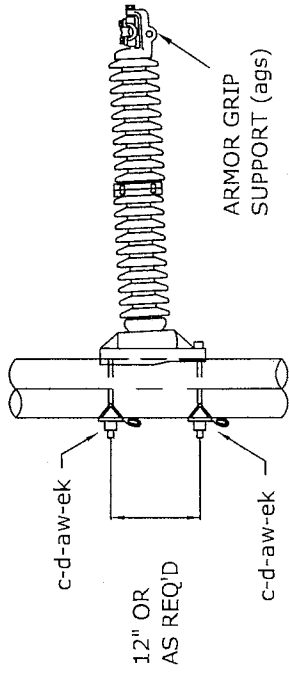
138KV TRANSMISSION LINE
HORIZONTAL POLYMER LINE POST
TANGENT STRUCTURE

STANDARD
NUMBER

TP-138PP



DOWN LEAD DETAIL



POST INSULATOR DETAIL

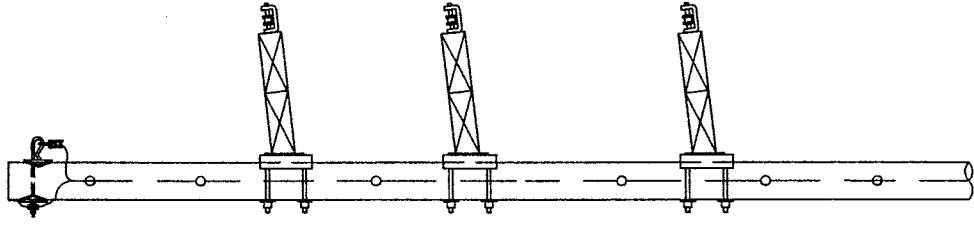
NOTE:

FOR MAINTENANCE PROJECTS, TRANSFER EXISTING LINE POST INSULATORS AND REPLACE ALL OTHER HARDWARE WITH NEW MATERIALS PER CITY OF ALEXANDRIA SPECIFICATIONS.

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
HORIZONTAL PORCELAIN LINE POST
SMALL ANGLE STRUCTURE

DATE: 02-01-05
STANDARD NUMBER
TSA-138



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
c	6	Bolt, Machine, 3/4" x Required Length	Joslyn	J89 Series
c	4	Bolt, Machine, 5/8" x Required Length	Joslyn	J88 Series
d	4	Washer, 2 1/4" Square With 11/16" Hole	Joslyn	J1075
d	7	Washer, Curved, 4" Square x 1/4" With 13/16" Hole	Joslyn	J6836
m	1	Ground Wire Suspension Clamp For 3/8" EHS	Anderson	MS-46
al	4	Staples, 2" x 1/2" Open, Copperweld	Joslyn	J6496
ar	2	Wireholder, Screw Type, 4" Screw	Joslyn	J0894ZG
aw	7	Washer, Spring 3/4"	Joslyn	J3541
aw	4	Washer, Spring 5/8"	Joslyn	J3540
dp	1	Ground Wire Clamp 3/4"	Joslyn	J1164
ea	3	Insulator, Post Clamp Type, Horizontal Mount	Lapp	70147PA
ed	1	Single 3/4" Bolt, OHGW Support With Chain Link	Hughes	2812.6-(L)-B1CL
ek	7	Locknut, 3/4"	Joslyn	J8584
ek	4	Locknut, 5/8"	Joslyn	J8583
ff	4	Fiberglass Downlead Bracket	Joslyn	65-24
ags	3	Armor Grip Support For 636 AAC	Preformed Line Products	AGS-5221

DATE: 02-01-05

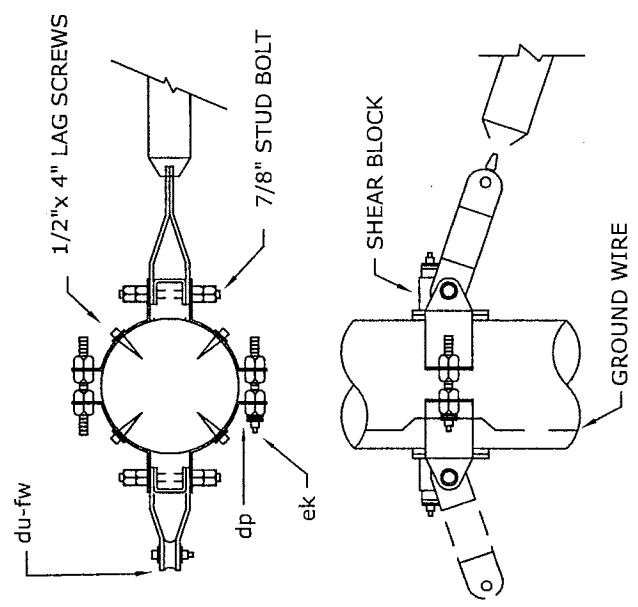
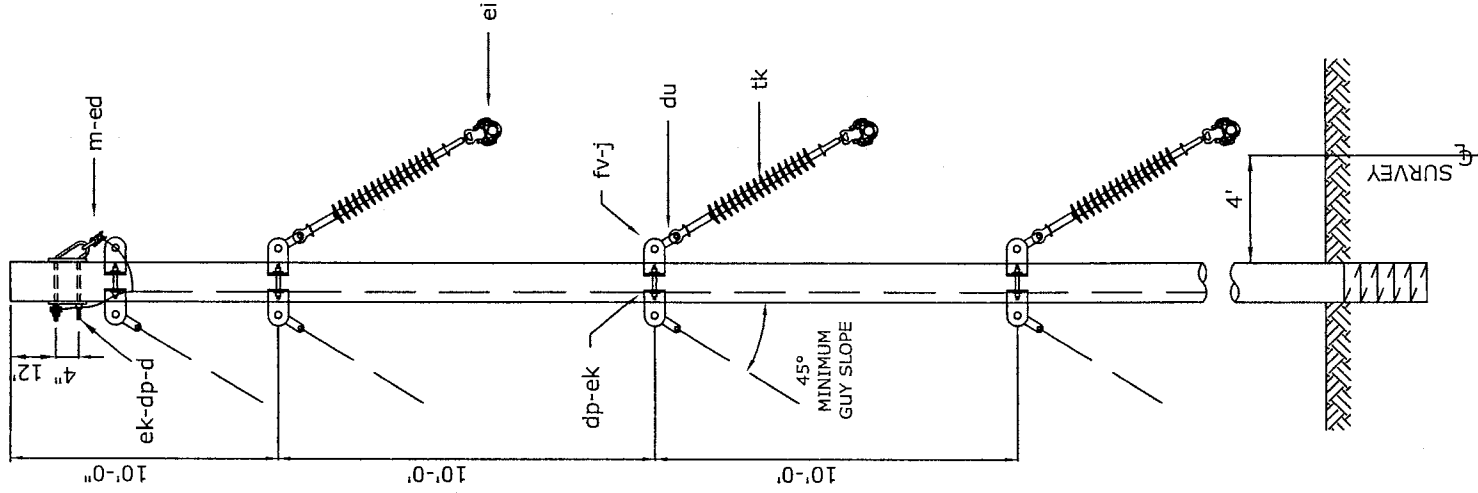
City of
Alexandria

138KV TRANSMISSION LINE
HORIZONTAL POLYMER LINE POST
SMALL ANGLE STRUCTURE

STANDARD
NUMBER

TSA-138

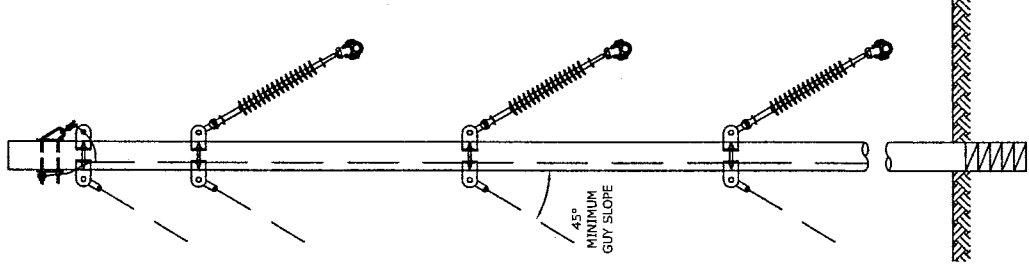
Electric Distribution



VIEW OF BAND ATTACHMENT

BANDS TO BE SIZED TO POLE CIRCUMFERENCE, LAG SCREWS INSTALLED AND ALL NUTS SECURELY TIGHTENED BEFORE STRAIN IS APPLIED.

<p>City of Alexandria Electric Distribution</p>	<p>138KV TRANSMISSION LINE MEDIUM ANGLE STRUCTURE</p>	<p>DATE: 02-01-05</p>
		<p>STANDARD NUMBER TMA-138</p>



MATERIAL LIST

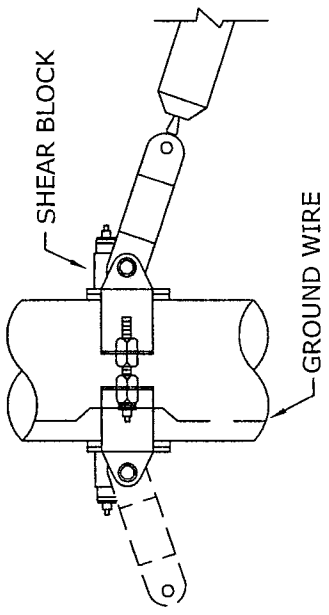
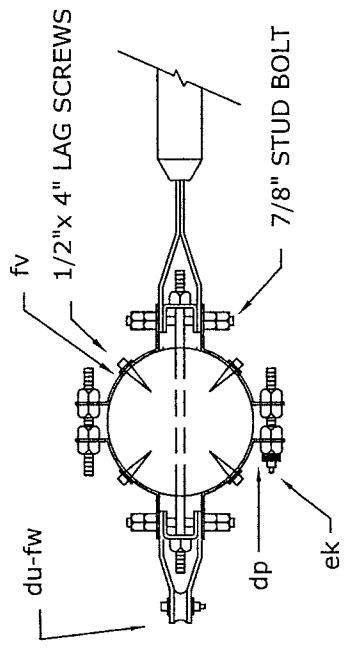
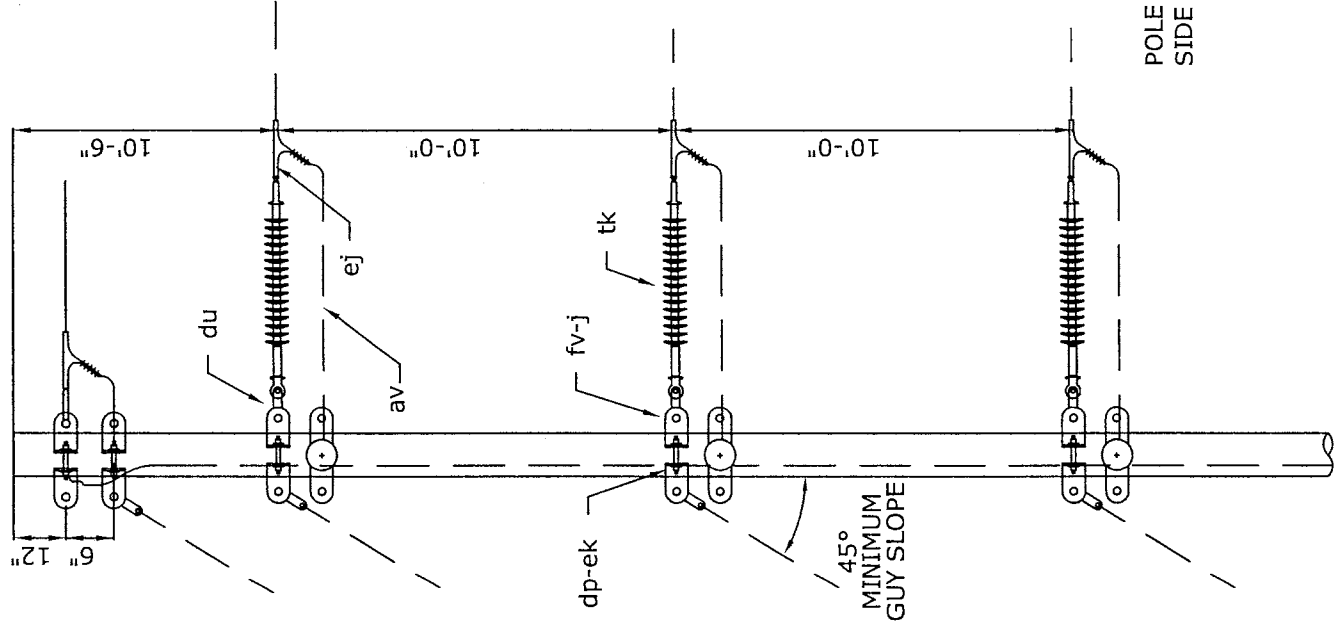
Item	Qty.	Description	Manufacturer	Catalog #
d	2	Washer, Curved, 4" Square x 1/4" With 13/16" Hole	Joslyn	J6836
j	16	Lag Screw, 1/2" x 4"	Joslyn	J8754
m	1	Ground Wire Suspension Clamp For 3/8" EHS	Anderson	MS-46
dp	1	Ground Wire Clamp 3/4"	Joslyn	J1164
dp	3	Ground Wire Clamp 7/8"	Hughes	2727.8
du	3	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
ed	1	Double 3/4" Bolt, OHGW Support With Chain Link	Joslyn	J6395
ei	3	Armor Grip Suspension Support For 636 AAC	Preformed Line Products	AGS-5121 SE-5152
ek	7	Locknut, 3/4"	Joslyn	J8584
ek	4	Locknut, 7/8"	Joslyn	J8585
fv	4	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series
fw	4	Sheave Roller	Hughes	TG-92
tk	3	Polymer Suspension Insulator	Ohio Brass	232054

DATE: 02-01-05

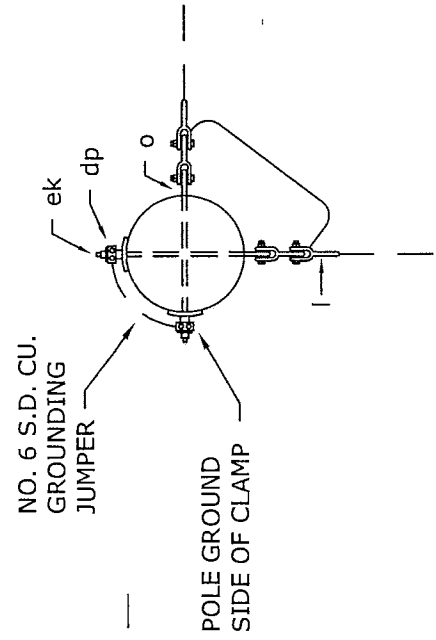
City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
MEDIUM ANGLE STRUCTURE

STANDARD
NUMBER
TMA-138

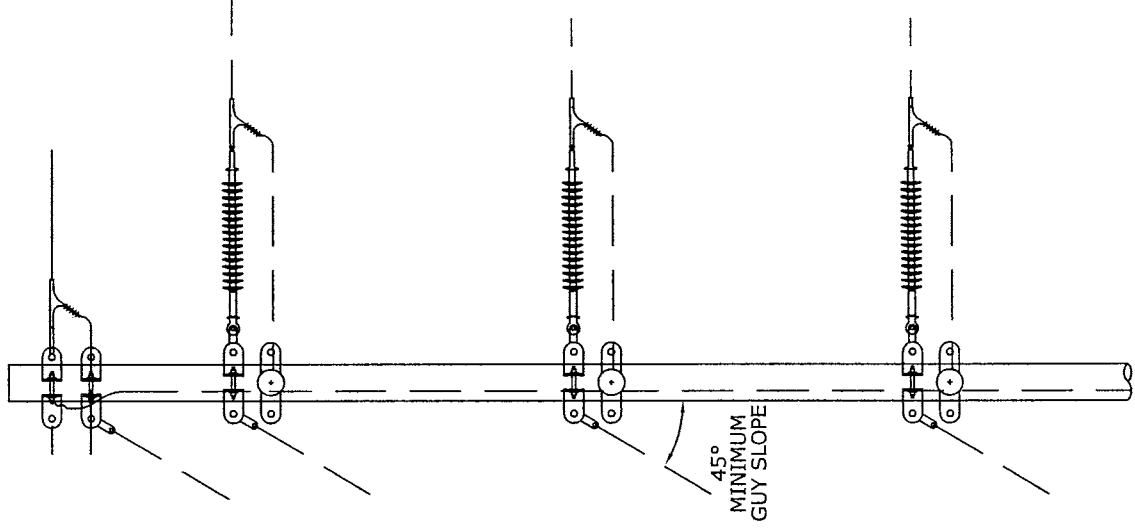


VIEW OF BAND ATTACHMENT



PLAN OF OHGW

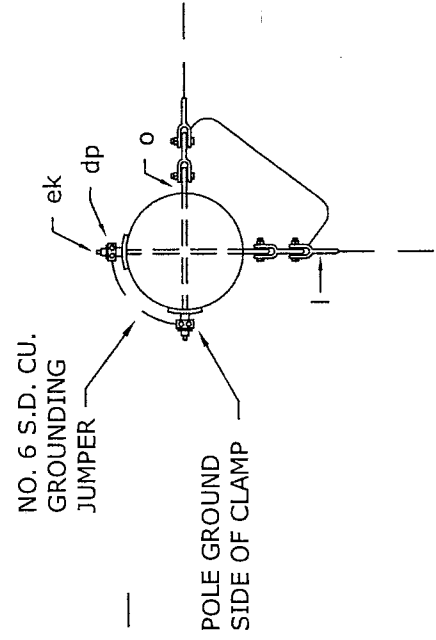
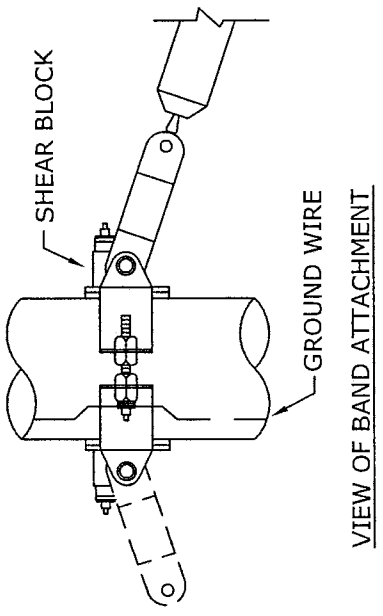
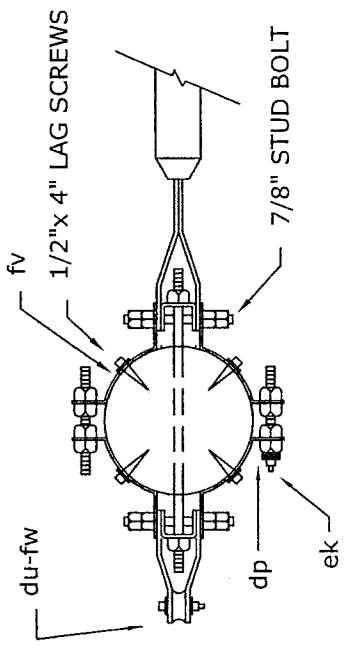
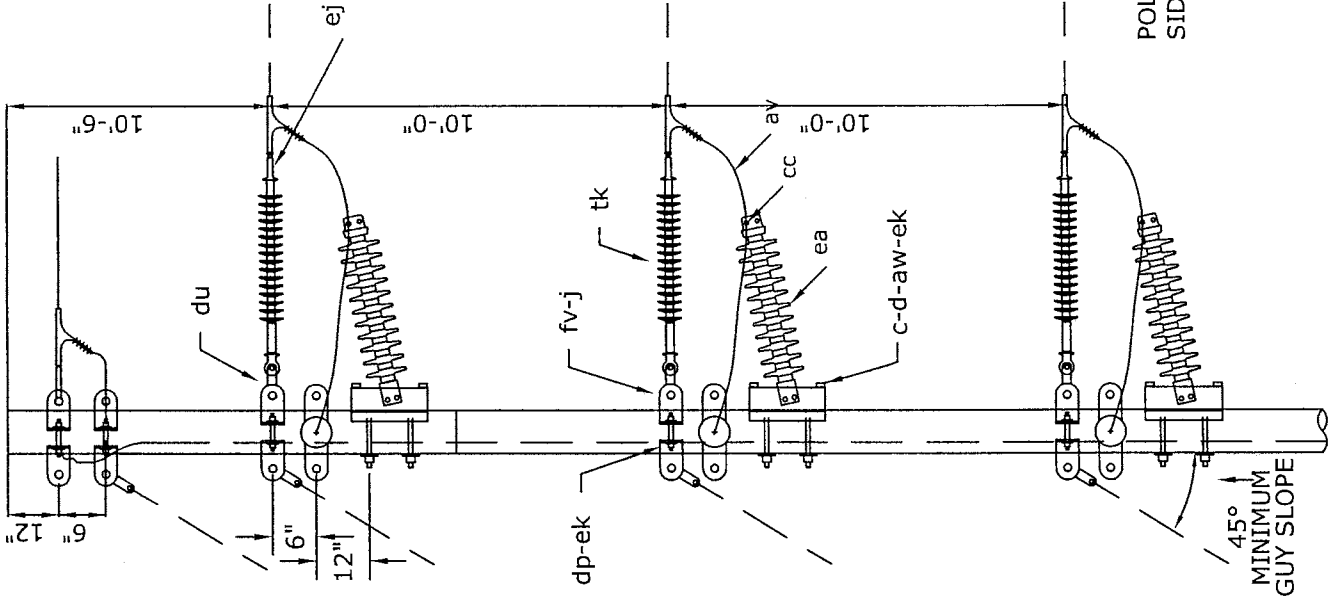
<p>City of Alexandria Electric Distribution</p>	<p>138KV TRANSMISSION LINE LARGE ANGLE (DOUBLE DEADEND) STRUCTURE</p>	<p>DATE: 02-01-05 STANDARD NUMBER TLA-138</p>
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MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
j	24	Lag Screw, 1/2" x 4"	Joslyn	J8754
av	4	Jumpers, Sized as Required	NA	NA
dp	8	Ground Wire Clamp 7/8"	Hughes	2727.8
du	8	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
ej	2	Compression Deadend With Terminal Pad, 3/8" EHS	Alcoa	VGWDE14.406
ej	6	Compression Deadend With Terminal Pad, 636 AAC	Alcoa	VESE100
ek	8	Locknut, 7/8"	Joslyn	J8585
fv	8	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series
fw	8	Sheave Roller	Hughes	TG-92
tk	6	Polymer Suspension Insulator With Socket Clevis	Ohio Brass	232054 90890

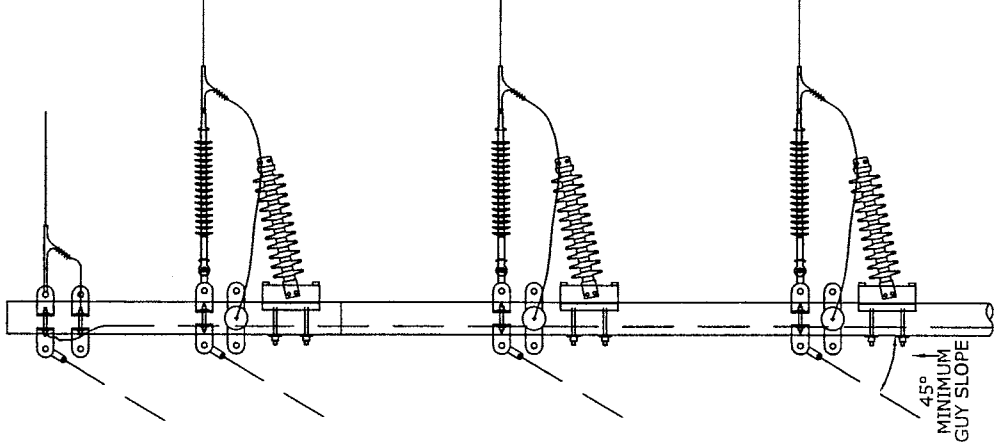
<p>City of Alexandria Electric Distribution</p>	<p>138KV TRANSMISSION LINE LARGE ANGLE STRUCTURE</p>	<p>DATE: 02-01-05</p>
		<p>STANDARD NUMBER TLA-138</p>



City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
LARGE ANGLE STRUCTURE WITH JUMPER SUPPORTS

DATE: 02-01-05
STANDARD NUMBER
TLA-138PP



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
c	6	Bolt, Machine, 7/8" x Required Length	Joslyn	J90 Series
d	6	Washer, Curved, 4" Square x 1/4" With 15/16" Hole	Joslyn	J6829
j	24	Lag Screw, 1/2" x 4"	Joslyn	J8754
av	4	Jumpers, Sized as Required	NA	NA
aw	6	Washer, Spring 7/8"	Joslyn	J3542
dp	11	Ground Wire Clamp 7/8"	Hughes	2727.8
du	8	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
cc	3	Conductor Clamp. 636 AAC	Ohio Brass	270661
ea	3	Insulator, Polymer Post Type, Horizontal Mount	Ohio Brass	232108-3202
ej	2	Compression Deadend With Terminal Pad, 3/8" EHS	Alcoa	VGWDE14.406
ej	6	Compression Deadend With Terminal Pad, 636 AAC	Alcoa	VESE100
ek	14	Locknut, 7/8"	Joslyn	J8585
fv	8	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series
fw	8	Sheave Roller	Hughes	TG-92
tk	6	Polymer Suspension Insulator With Socket Clevis	Ohio Brass	232054 90890

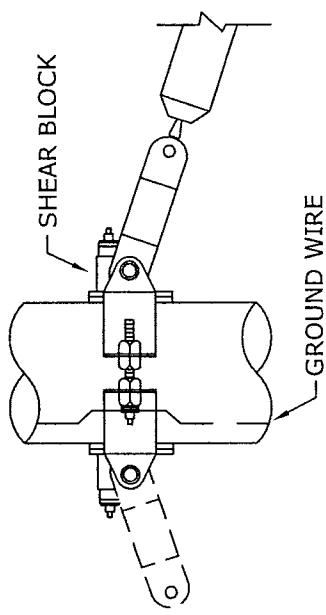
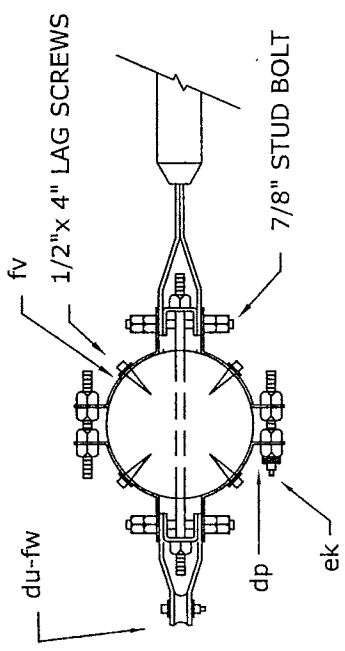
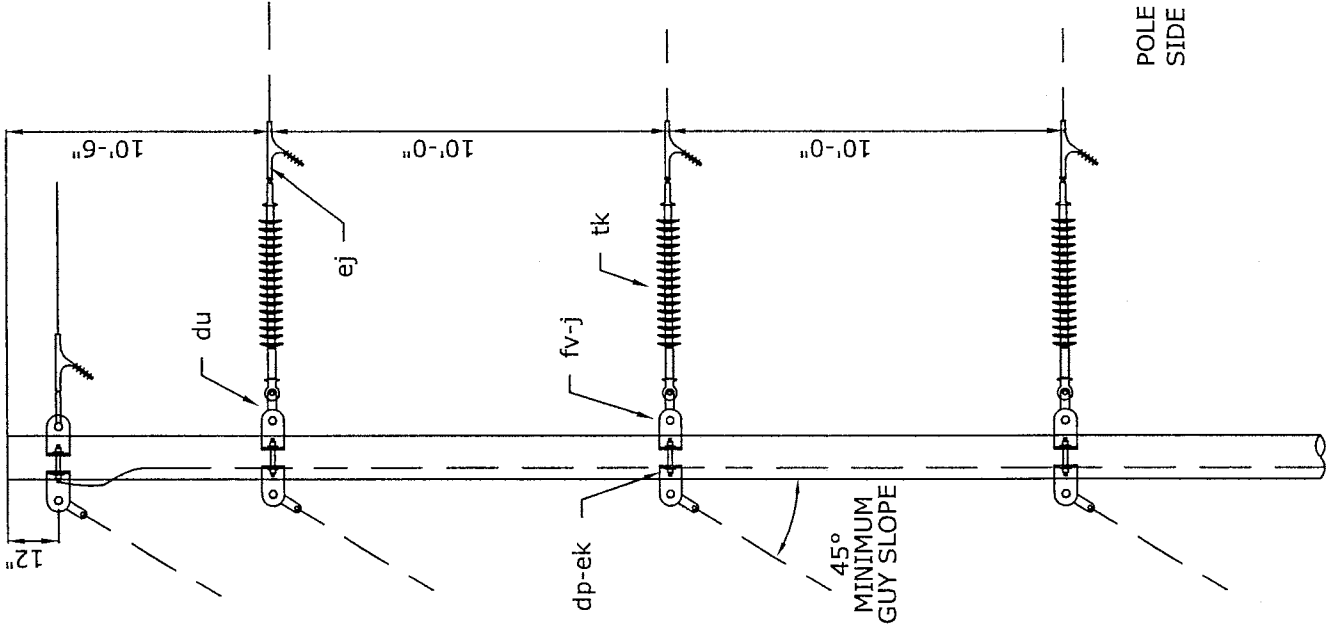
DATE: 02-01-05

City of
Alexandria
Electric Distribution

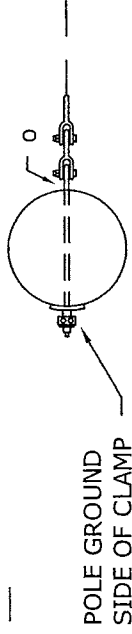
138KV TRANSMISSION LINE
LARGE ANGLE STRUCTURE WITH JUMPER SUPPORTS

STANDARD
NUMBER

TLA-138PP



VIEW OF BAND ATTACHMENT



PLAN OF OHGW

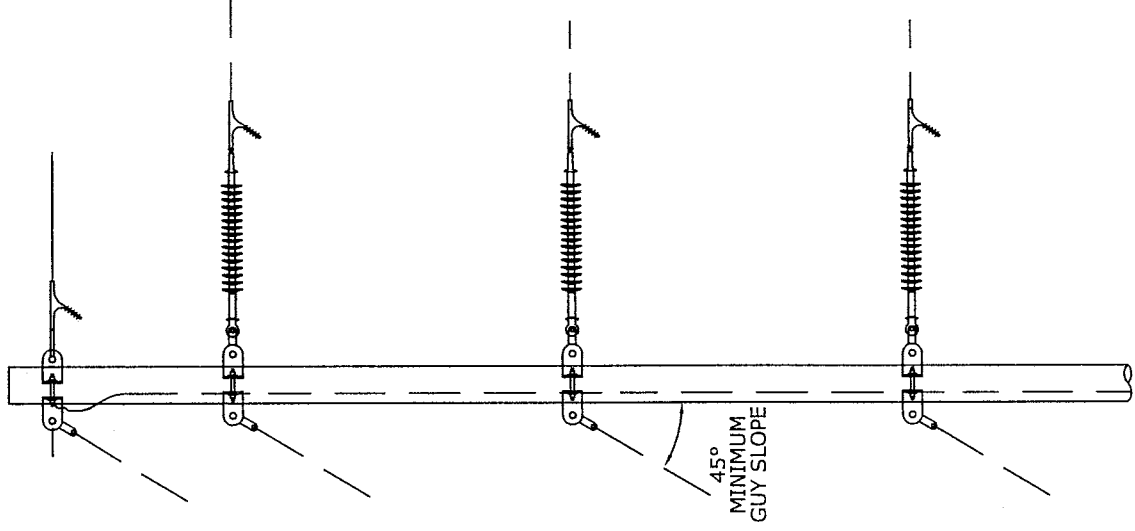
City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
DEADEND STRUCTURE

DATE: 02-01-05

STANDARD
NUMBER

TDE-138



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
j	16	Lag Screw, 1/2" x 4"	Joslyn	J8754
dp	4	Ground Wire Clamp 7/8"	Hughes	2727.8
du	4	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
ej	1	Compression Deadend With Terminal Pad, 3/8" EHS	Alcoa	VGWDE14.406
ej	3	Compression Deadend With Terminal Pad, 636 AAC	Alcoa	VESE100
ek	4	Locknut, 7/8"	Joslyn	J8585
fv	4	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series
fw	4	Sheave Roller	Hughes	TG-92
tk	3	Polymer Suspension Insulator With Socket Clevis	Ohio Brass	232054 90890

DATE: 02-01-05

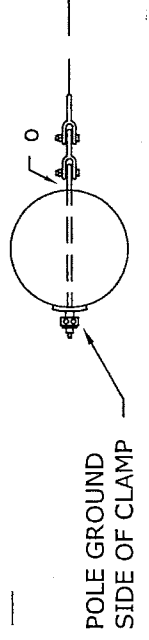
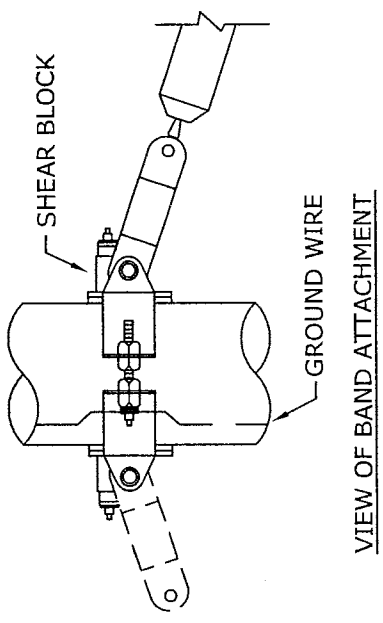
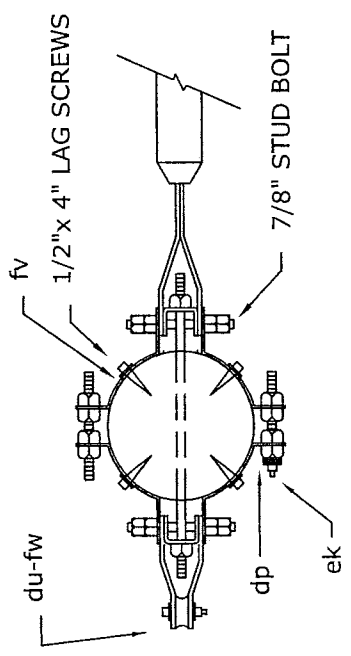
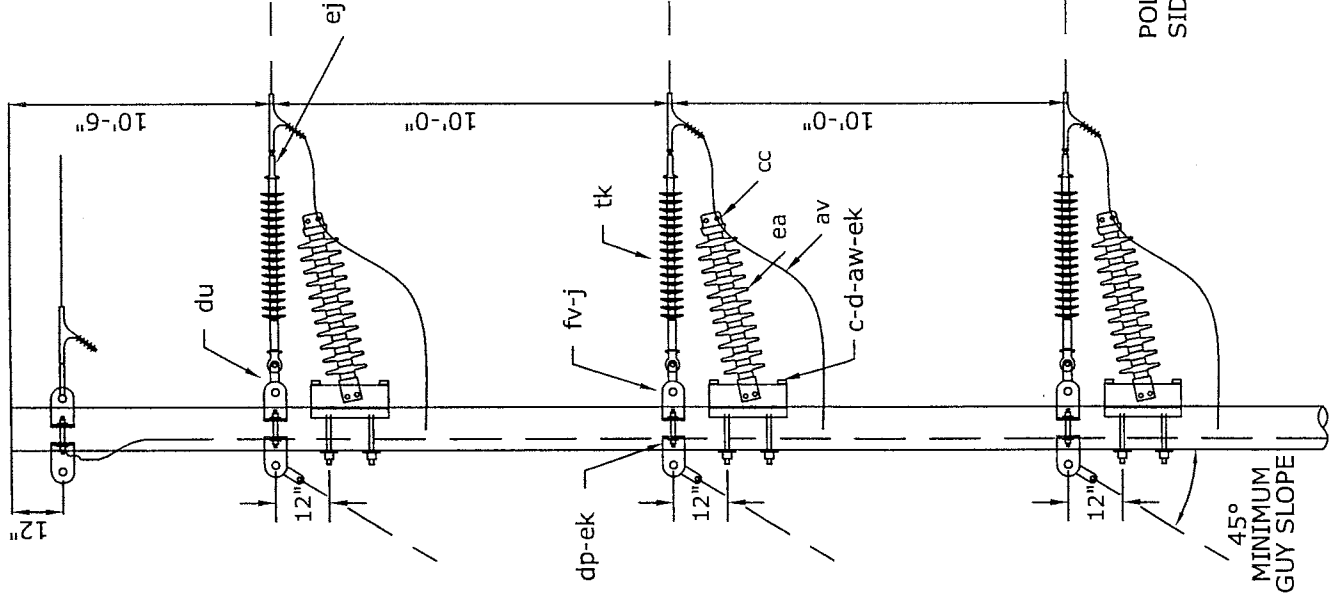
City of
Alexandria

138KV TRANSMISSION LINE
DEADEND STRUCTURE

STANDARD
NUMBER

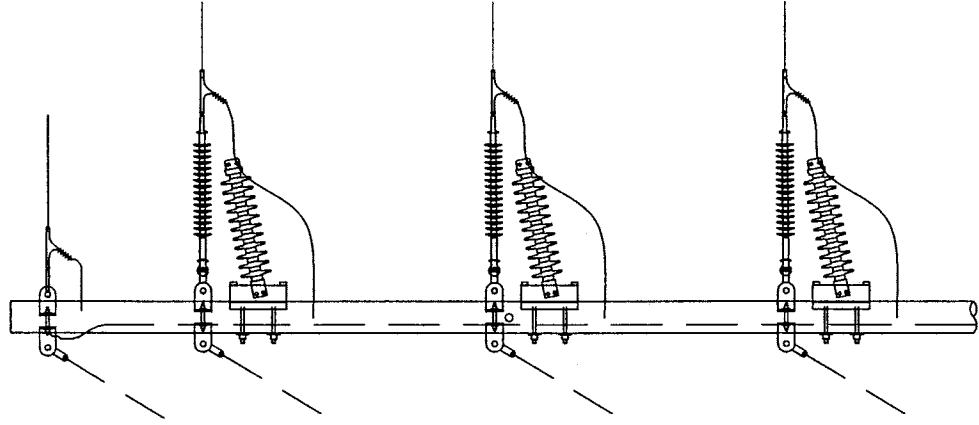
TDE-138

Electric Distribution



PLAN OF OHGW

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE DEADEND STRUCTURE WITH JUMPER SUPPORTS	DATE: 02-01-05
		STANDARD NUMBER TDE-138PP



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
c	6	Bolt, Machine, 7/8" x Required Length	Joslyn	J90 Series
d	6	Washer, Curved, 4" Square x 1/4" With 15/16" Hole	Joslyn	J6829
j	16	Lag Screw, 1/2" x 4"	Joslyn	J8754
aw	6	Washer, Spring 7/8"	Joslyn	J3542
dp	11	Ground Wire Clamp 7/8"	Hughes	2727-8
du	4	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
cc	3	Conductor Clamp. 636 AAC	Ohio Brass	270661
ea	3	Insulator, Polymer Post Type, Horizontal Mount	Ohio Brass	232108-3202
ej	1	Compression Deadend With Terminal Pad, 3/8" EHS	Alcoa	VGWDE14.406
ej	3	Compression Deadend With Terminal Pad, 636 AAC	Alcoa	VESE100
ek	7	Locknut, 7/8"	Joslyn	J8585
fv	4	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series
fw	4	Sheave Roller	Hughes	TG-92
tk	3	Polymer Suspension Insulator With Socket Clevis	Ohio Brass	232054 90890

DATE: 02-01-05

STANDARD
NUMBER

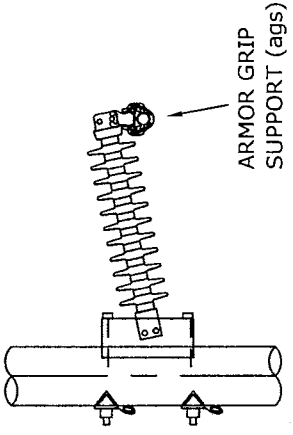
TDE-138PP

138KV TRANSMISSION LINE
DEADEND STRUCTURE WITH JUMPER SUPPORTS

City of
Alexandria

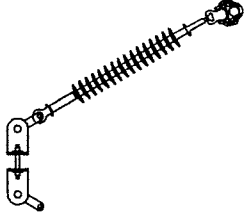
Electric Distribution

LABOR ONLY UNIT



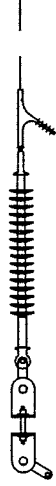
NOTE: Unit includes all cost of relocating existing conductor attachment including AGS assembly unless new AGS assembly has been specified seperately.

LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment including AGS assembly unless new AGS assembly has been specified seperately.

LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment. Does not include installing new compression deadend, jumper pad, or jumper.

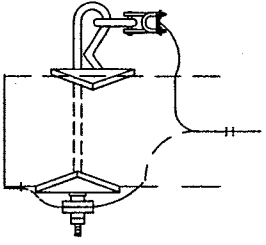
City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
CONDUCTOR RELOCATION ASSEMBLIES

DATE: 02-08-05

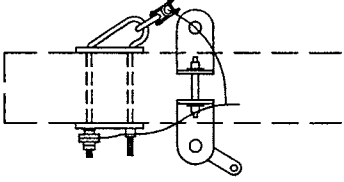
STANDARD NUMBER
TD-138TC
TD-138AC
TD-138DC

LABOR ONLY UNIT



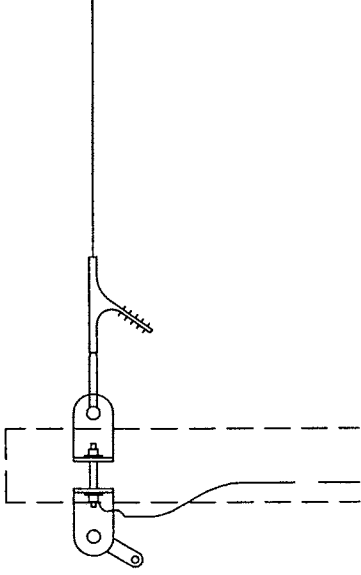
NOTE: Unit includes all cost of relocating existing conductor attachment and connecting shield wire bracket to new pole ground.

LABOR ONLY UNIT



NOTE: Unit includes all cost of relocating existing conductor attachment and connecting shield wire bracket to new pole ground.

LABOR ONLY UNIT



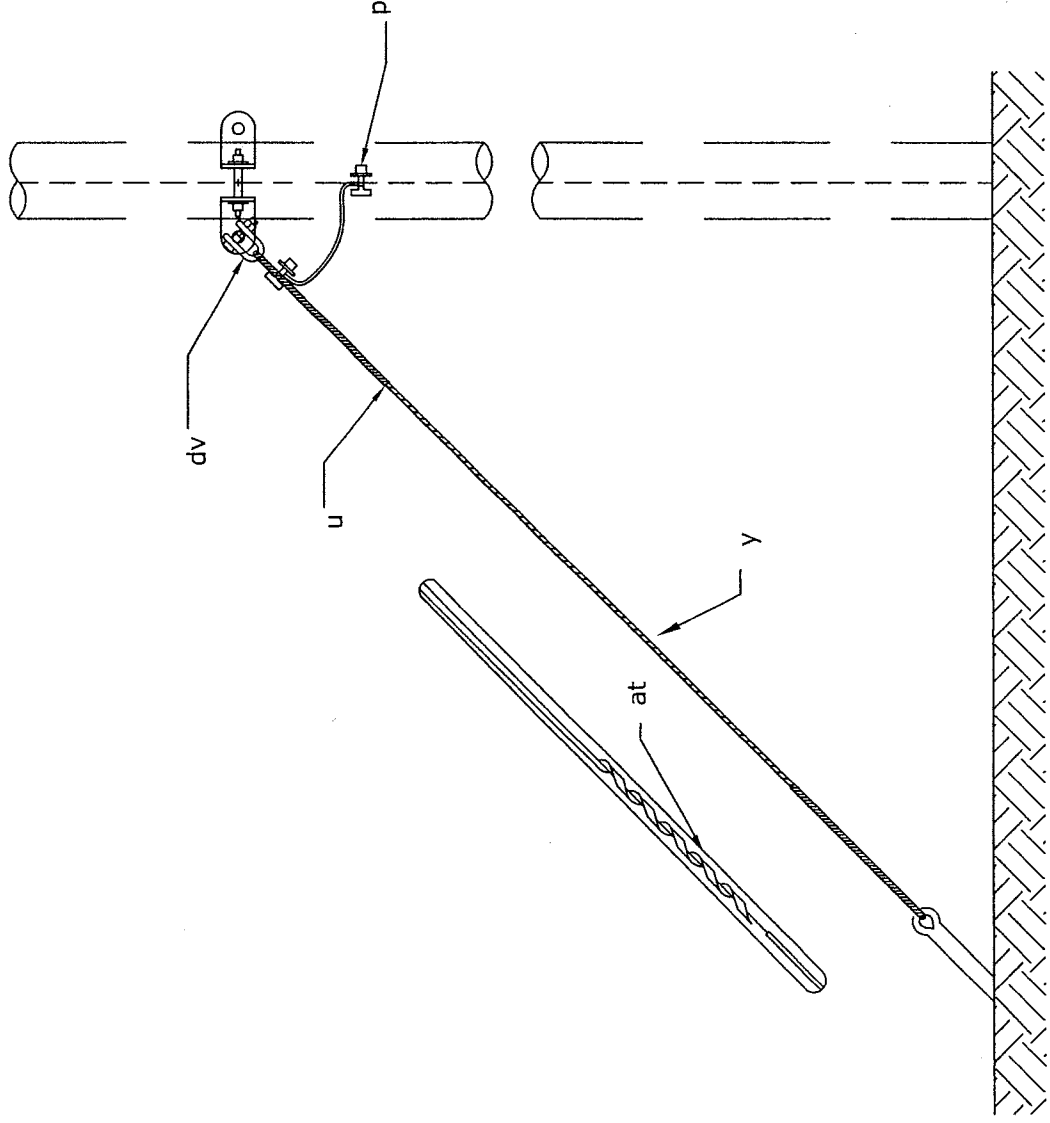
NOTE: Unit includes all cost of relocating existing conductor attachment and connecting shield wire bracket to new pole ground. Does not include installing new compression deadend, jumper pad, or jumper.

*City of
Alexandria
Electric Distribution*

DATE: 02-08-05

STANDARD
NUMBER
TD-SWTC
TD-SWAC
TD-SWDC

138KV TRANSMISSION LINE
SHIELD WIRE RELOCATION ASSEMBLIES



NOTE: Delete Bonding Jumper (av) when Guy Strain Insulator is attached directly to the pole band.

MATERIAL LIST

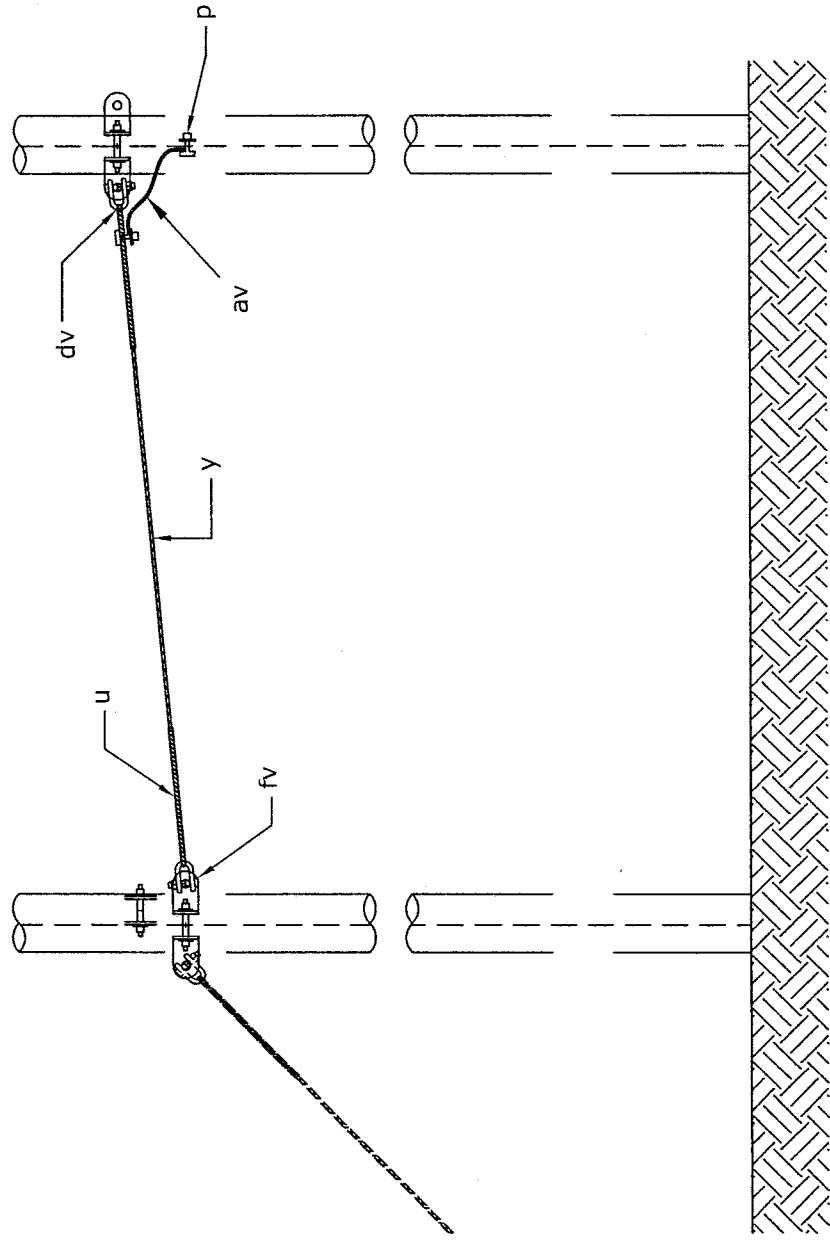
Item	Qty.	Description	Manufacturer	Catalog #
p	1	Connector, Bolted, Sized As Required (if required)	Burdny	KS22
p	1	Connector, Bolted, Sized As Required (if required)	Anderson	ST-4
u	2	Deadend for Galvanized Steel Strand, 1/2"	Preformed Line Products	BG-2115
y	95	Galvanized Steel Strand, 1/2" EHS	King Wire	1/2"
at	1	Guy Marker, 8' Yellow	Joslyn	J5718
av	1	Bonding Jumper, #4 Cu	NA	NA
dv	1	Thimble Clevis	MacLean Power	CT-88H

DATE: 02-04-05

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
SINGLE DOWN GUY

STANDARD
NUMBER
TG-10

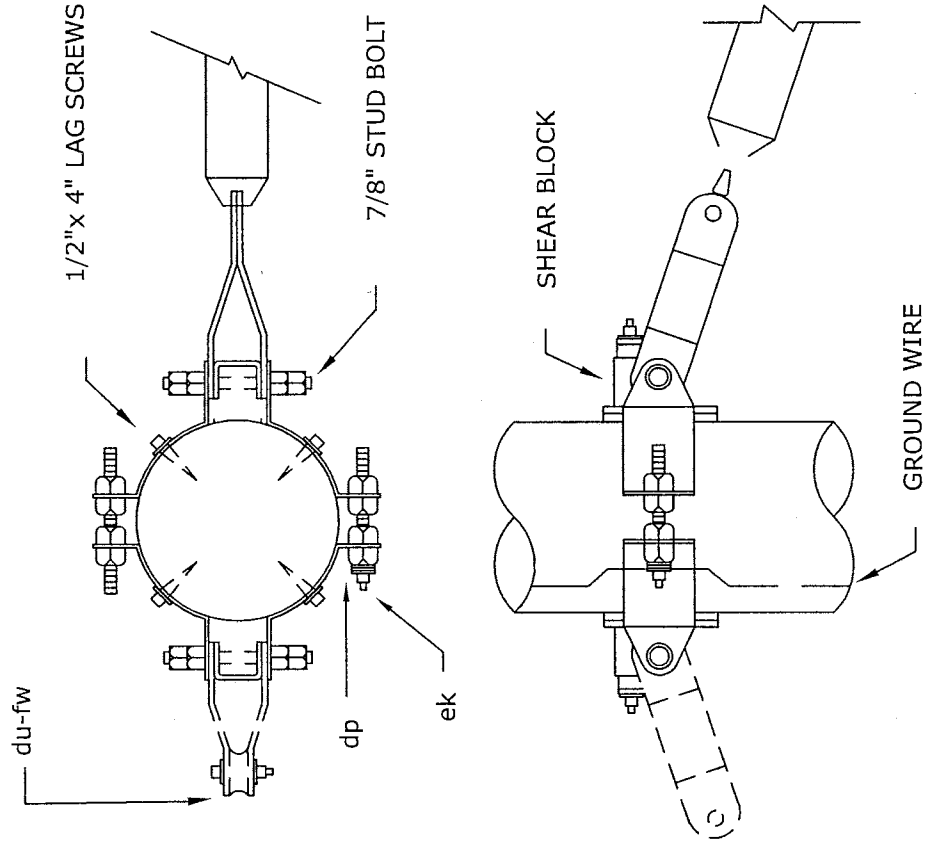


NOTE: Delete Bonding Jumper (av) when Guy Strain Insulator is attached directly to the pole band.

MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
p	1	Connector, Bolted, Sized As Required (if required)	Burndy	KS22
p	1	Connector, Bolted, Sized As Required (if required)	Anderson	ST-4
u	2	Deadend for Galvanized Steel Strand, 1/2"	Preformed Line Products	BG-2115
y	80	Galvanized Steel Strand, 1/2" EHS	King Wire	1/2"
av	1	Bonding Jumper, #4 Cu	NA	NA
dv	2	Thimble Clevis	MacLean Power	CT-88H
fv	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE SINGLE OVERHEAD GUY	DATE: 02-04-05
		STANDARD NUMBER TG-20



VIEW OF BAND ATTACHMENT

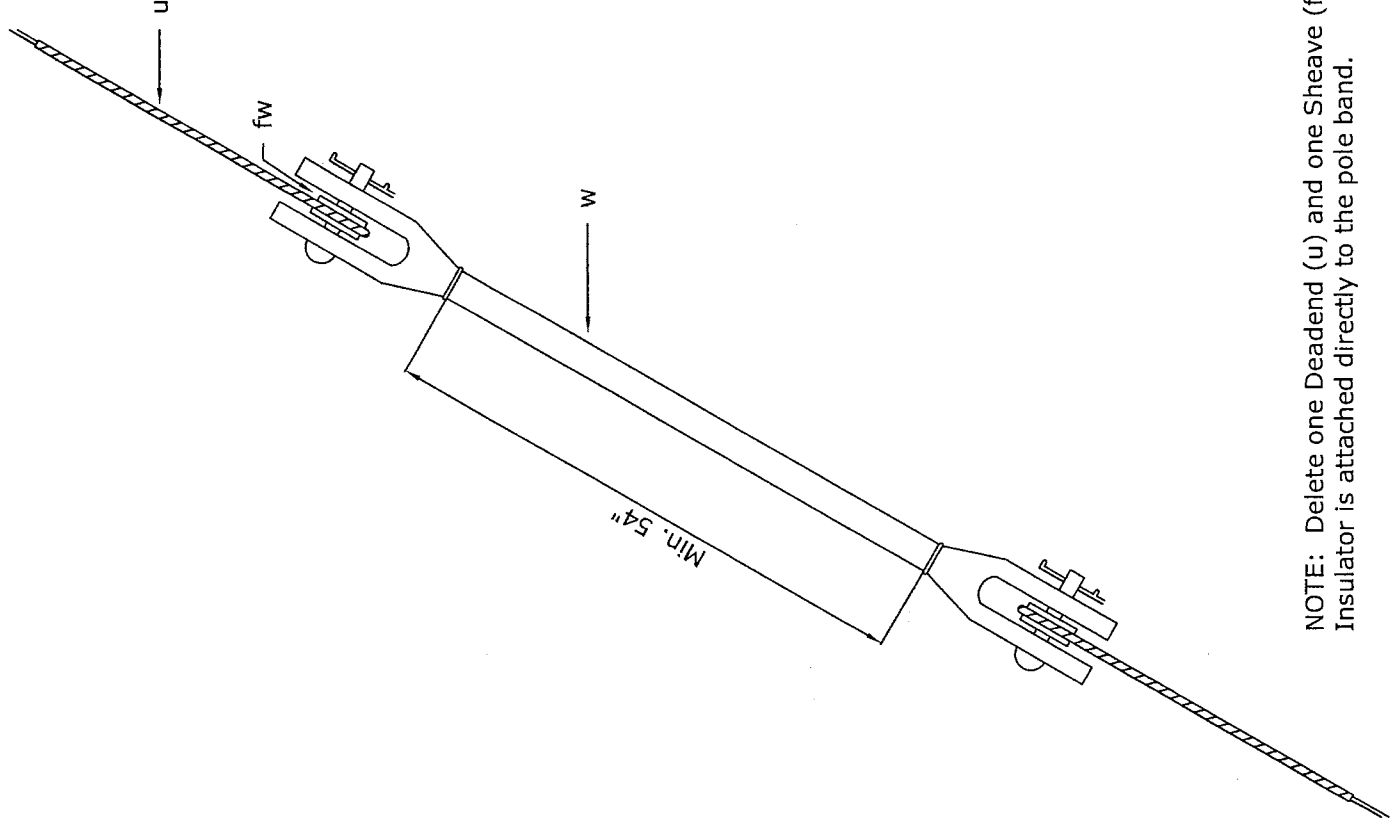
BANDS TO BE SIZED TO POLE CIRCUMFERENCE, LAG SCREWS INSTALLED AND ALL NUTS SECURELY TIGHTENED BEFORE STRAIN IS APPLIED. DELETE LAG SCREWS ON CONCRETE POLES.

MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
j	4	Lag Screw, 1/2" x 4"	Joslyn	J8754
du	2	Connecting Link, 1/4" x 3" x 9 1/2" With 15/16" and 1 1/4" Chamfered Holes	Hughes	3153
ek	4	Locknut, 7/8"	Joslyn	J8585
fv	1	Pole Band, 1/4" x 4" Steel, 4-Way 90° With 7/8" Bolts and Studs	Hughes	3103 Series

DATE: 02-28-05

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE POLE BAND ASSEMBLY
STANDARD NUMBER TG-26	



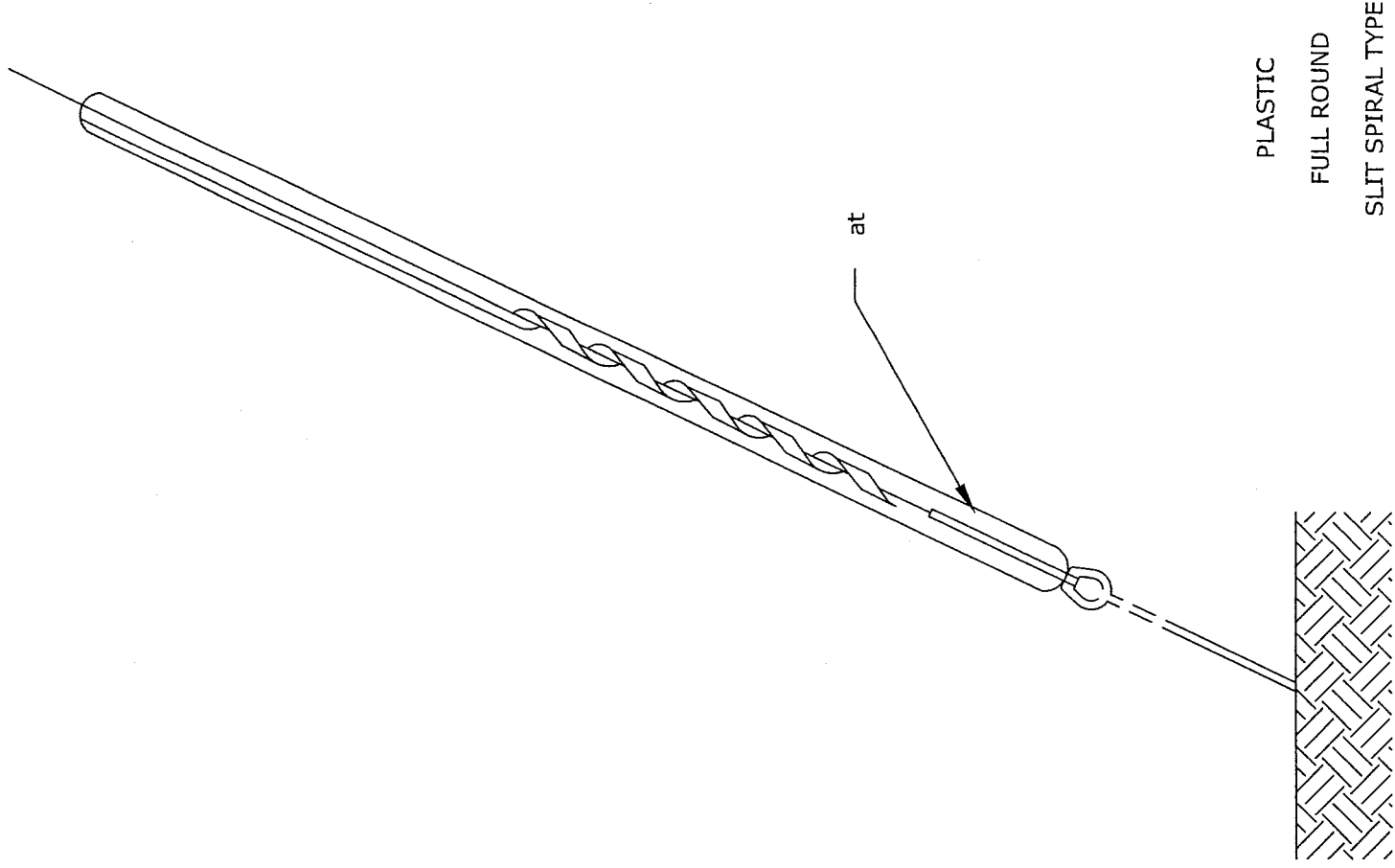
NOTE: Delete one Deadend (u) and one Sheave (fw) when Guy Strain Insulator is attached directly to the pole band.

MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
u	2	Deadend for Galvanized Steel Strand, 1/2"	Preformed Line Products	BG-2115
w	1	Guy Strain Insulator, 54" Minimum	Joslyn	300-54-12R
fw	2	Sheave, Roller	Joslyn	300-54-12R

DATE: 02-07-05

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE MEDIUM DUTY GUY STRAIN INSULATOR	STANDARD NUMBER TG-INS
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MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
at	1	Guy Marker, 8' Yellow	Joslyn	J5718

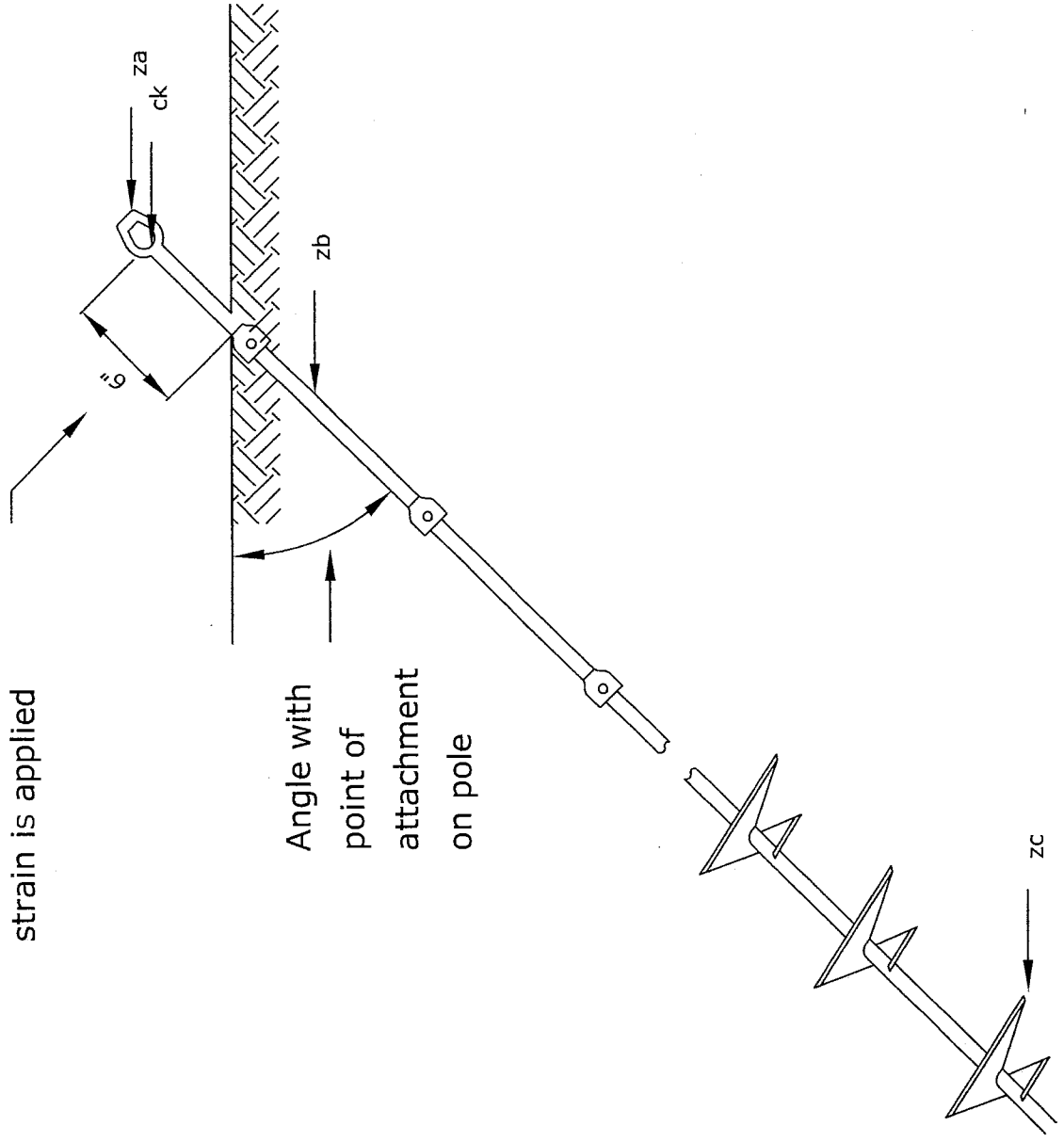
DATE: 02-07-05

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
GUY MARKER

STANDARD
NUMBER
TG-M

Approximate after strain is applied

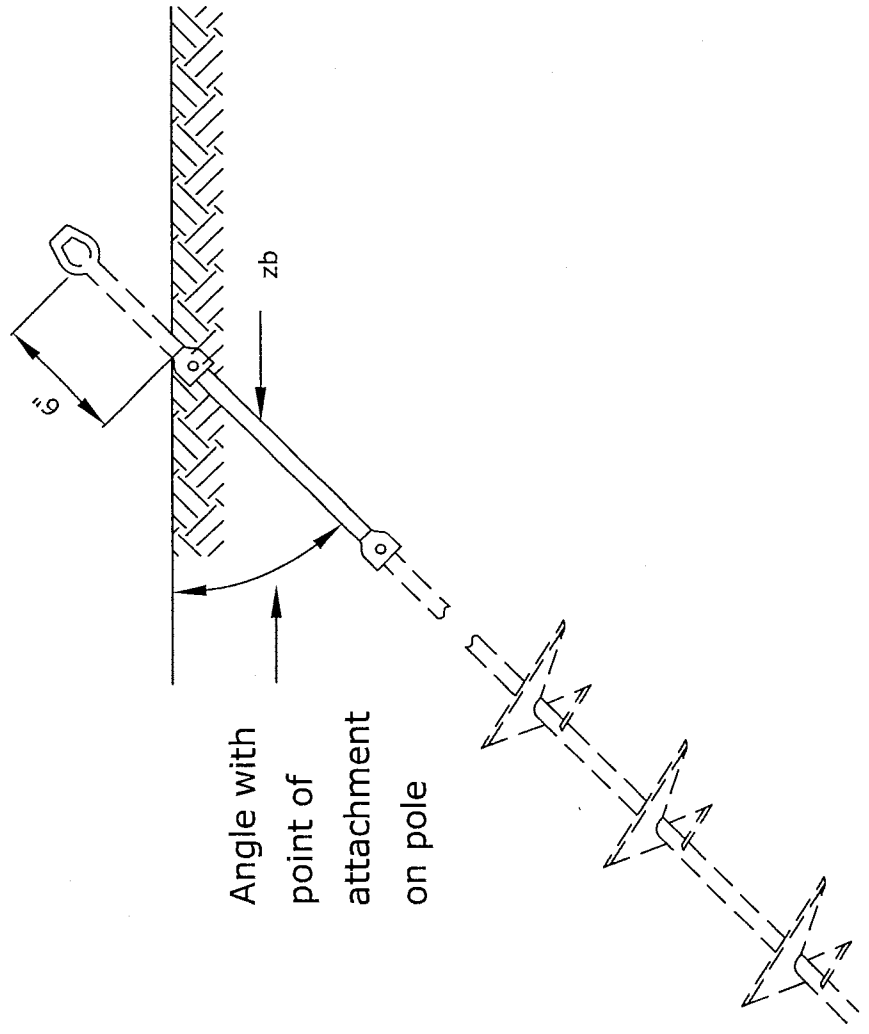


MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
za	2807502324	1	Anchor, Guy Adapter, 1.5" Shaft
zb	2807502325	2	Anchor, Extension 1.5" x 5'
zc	2807502325	1	Anchor, Triple Helix, 1.5" Shaft
ck	NI	1	Clamp, Anchor Rod Bonding

City of Alexandria Electric Distribution	DATE: 12-21-04
	STANDARD NUMBER TA-3H

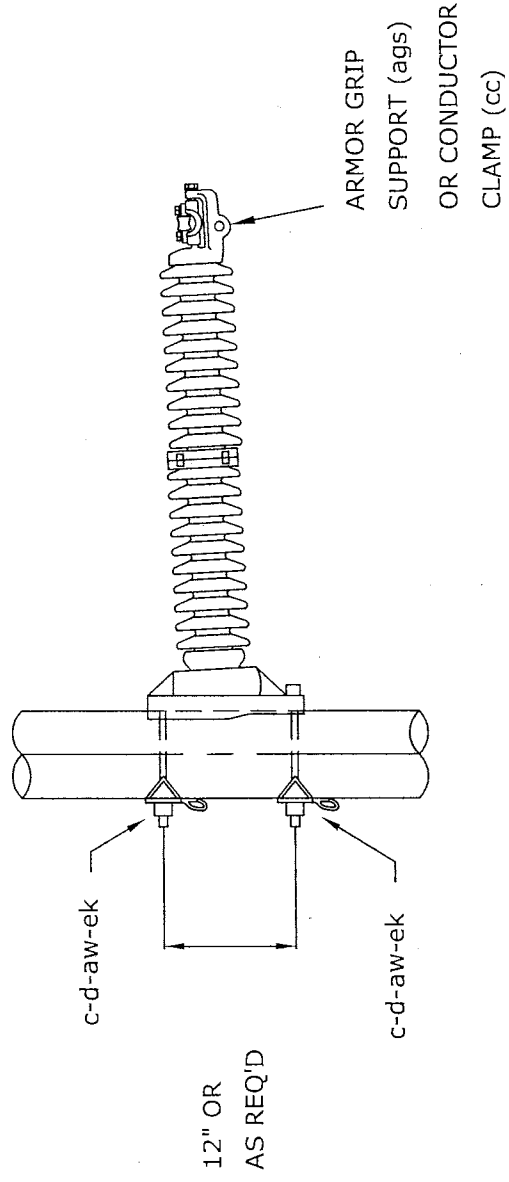
138KV TRANSMISSION LINE
TRIPLE HELIX ANCHOR
WITH 2 5' EXTENSIONS AND GUY ADAPTER



MATERIAL LIST

Item	COA Commodity Code	Qty.	Description
zb	2807502325	1	Anchor, Extension 1.5" x 5'

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE ANCHOR ROD EXTENSION 1.5" X 5'	DATE: 12-21-04
	STANDARD NUMBER TA-5EXT	



NOTE:

FOR MAINTENANCE PROJECTS, TRANSFER EXISTING LINE POST INSULATORS AND REPLACE ALL OTHER HARDWARE WITH NEW MATERIALS PER CITY OF ALEXANDRIA SPECIFICATIONS.

MATERIAL LIST

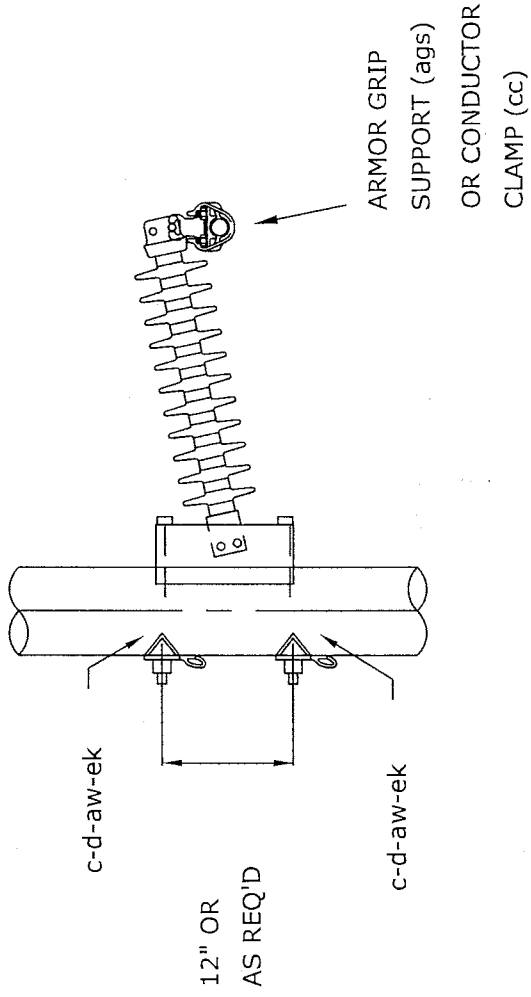
Item	Qty.	Description	Manufacturer	Catalog #
c	1	Bolt, Machine, 3/4" x Required Length	Joslyn	J89 Series
c	1	Bolt, Machine, 5/8" x Required Length	Joslyn	J88 Series
d	2	Washer, Curved, 4" Square x 1/4" With 13/16" Hole	Joslyn	J6836
aw	1	Washer, Spring 3/4"	Joslyn	J3541
aw	1	Washer, Spring 5/8"	Joslyn	J3540
dp	1	Ground Wire Clamp 3/4"	Joslyn	J1164
ea	1	Insulator, Post Clamp Type, Horizontal Mount	Lapp	70147PA
ek	1	Locknut, 3/4"	Joslyn	J8584
ek	1	Locknut, 5/8"	Joslyn	J8583
ags	1	Armor Grip Support For 636 AAC	Preformed Line Products	AGS-5221

DATE: 03-03-05

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
HORIZONTAL PORCELAIN LINE POST

STANDARD
NUMBER
TM-3HP



NOTE:

FOR MAINTENANCE PROJECTS, TRANSFER EXISTING LINE POST INSULATORS AND REPLACE ALL OTHER HARDWARE WITH NEW MATERIALS PER CITY OF ALEXANDRIA SPECIFICATIONS.

MATERIAL LIST

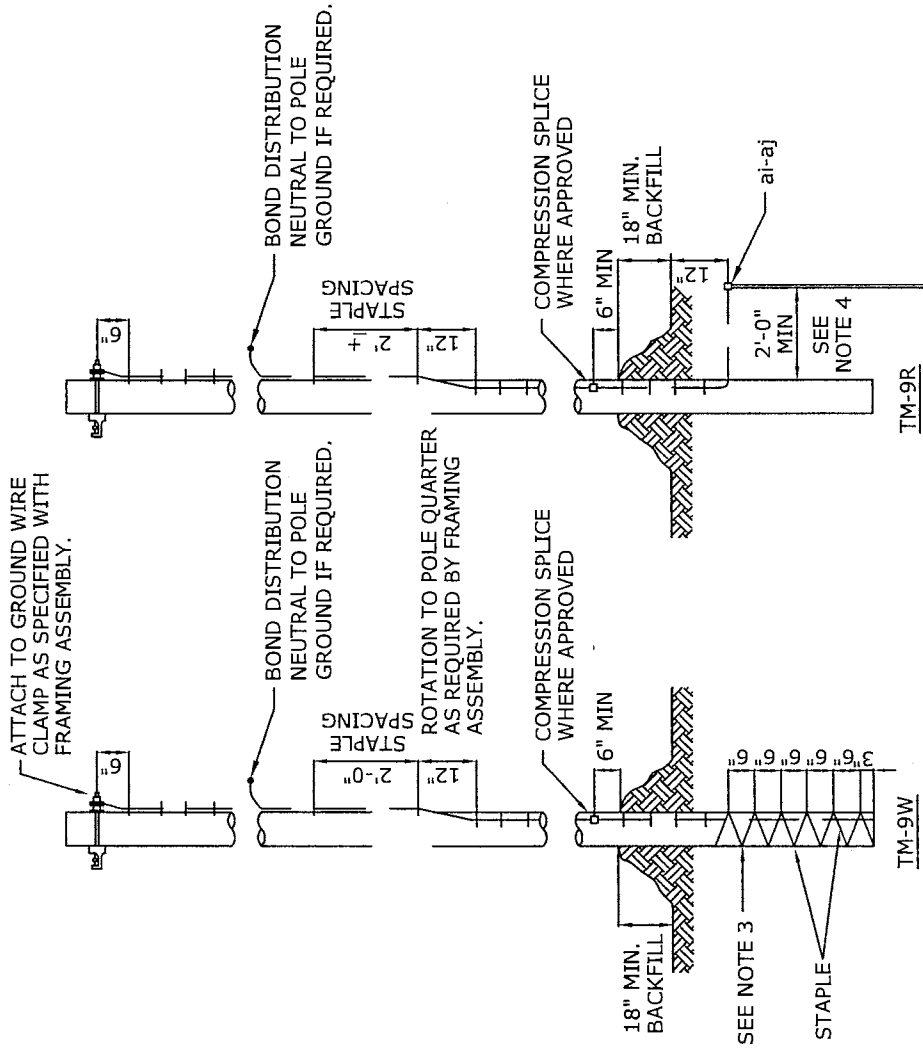
Item	Qty.	Description	Manufacturer	Catalog #
c	2	Bolt, Machine, 7/8" x Required Length	Joslyn	J90 Series
d	2	Washer, Curved, 4" Square x 1/4" With 15/16" Hole	Joslyn	J6829
aw	2	Washer, Spring 7/8"	Joslyn	J3542
dp	1	Ground Wire Clamp 7/8"	Hughes	2727.8
ea	1	Insulator, Polymer Post Type, Horizontal Mount	Ohio Brass	232108-3002
ek	2	Locknut, 7/8"	Joslyn	J8584
ags	1	Armor Grip Support With Y-Clevis Eye For 1,272 ACSR	Preformed Line Products	AGS-5139

DATE: 01-31-05

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
HORIZONTAL POLYMER LINE POST

STANDARD
NUMBER
TM-3PP



NOTES:

1. CARRY DOWNLEAD UNDER BOTTOM OF POLE AND TAKE SIX COMPLETE WRAPS BACK UP POLE WITH A STAPLE AT EACH WIRE CROSSING AND ON OPPOSITE SIDE OF POLE.
2. ON STRUCTURES WITH CROSSARMS STAPLE DOWNLEAD SO THAT IT DOES NOT COME IN CONTACT WITH CROSSARMS OR THROUGH BOLTS, OR AS INDICATED ON RESPECTIVE POLE TOP ASSEMBLY DRAWINGS
3. STAPLES ON DOWNLEAD SHALL BE 2 FEET APART, EXCEPT FOR A DISTANCE OF 8 FEET ABOVE GROUND AND 8 FEET FROM TOP OF POLE WHERE THEY SHALL BE 6" APART.
4. GROUND ROD SHALL BE INSTALLED IN UNDISTURBED SOIL OUTSIDE OF THE POLE EXCAVATION AREA, BUT IN NO CASE SHALL BE LESS THAN 2'-0" MINIMUM FROM SIDE OF POLE.

TM-9W MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
p	1	Connector, Bolted, Sized As Required (if required)	Burndy	KS22
p	1	Connector, Compression, Sized As Required (if required)	Burndy	YHD-250
al	.5	Staples, Ground Wire (per pound)	-	RUS Approved
cj	150	Ground Wire, #4 Soft Drawn Copper (or equal)	-	RUS Approved

TM-9R MATERIAL LIST

p	1	Connector, Bolted, Sized As Required (if required)	Joslyn	J8301
p	1	Connector, Compression, Sized As Required (if required)	Burndy	YHD-250
ai	1	Ground Rod, 3/4" x 10', Copperweld	Joslyn	J8350
aj	1	Clamp, Ground Rod, 3/4"	Joslyn	J8493
al	.5	Staples, Ground Wire (per pound)	-	RUS Approved
cj	110	Ground Wire, #4 Soft Drawn Copper (or equal)	-	RUS Approved

DATE: 02-06-05

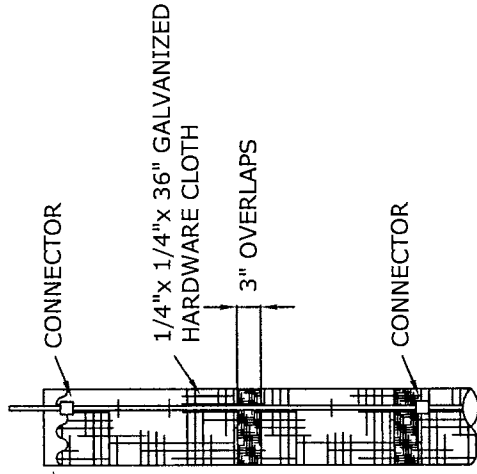
City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
POLE GROUND ASSEMBLIES

STANDARD
NUMBER

TM-9W
TM-9R

BEGIN FABRIC UNDERNEATH POLE CAP.

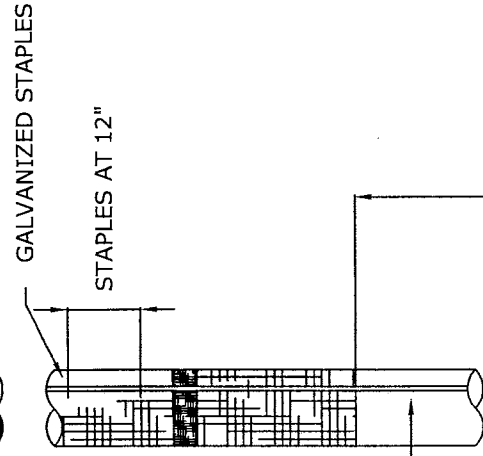


A. HARDWARE CLOTH SHALL BE 19 GAUGE WELDED SELVEGE.

B. OVERLAP FABRIC 3" IN THE HORIZONTAL & VERTICAL & STAPLE EVERY 12".

C. BOND FABRIC TO POLE GROUND WIRE AT TOP AND BOTTOM ROUND AND 3 EQUALLY SPACED INTERVALS IN BETWEEN

D. STAPLE FABRIC TO POLE GROUND WIRE EVERY 18".

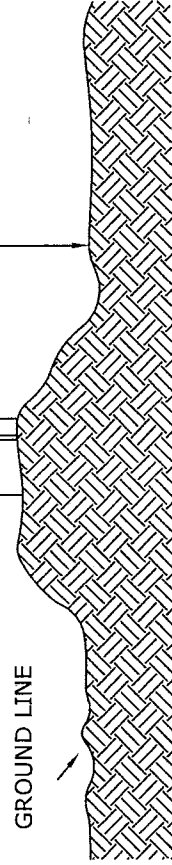


APPROX. 10'

POLE GROUND WIRE

GROUND LINE

Quantity Required	
Height	Wraps
85'	17
90'	18
95'	20
100'	21
105'	22
110'	23



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
p	5	Connector, Bolted, Sized As Required	Burndy	KS22
al	1	Staples, Ground Wire (per pound)	-	RUS Approved
hwc	As Req'd	Hardware Cloth, 1/2" x 1/2" x 4', 19 Gauge	RUS Approved	-

DATE: 02-08-05

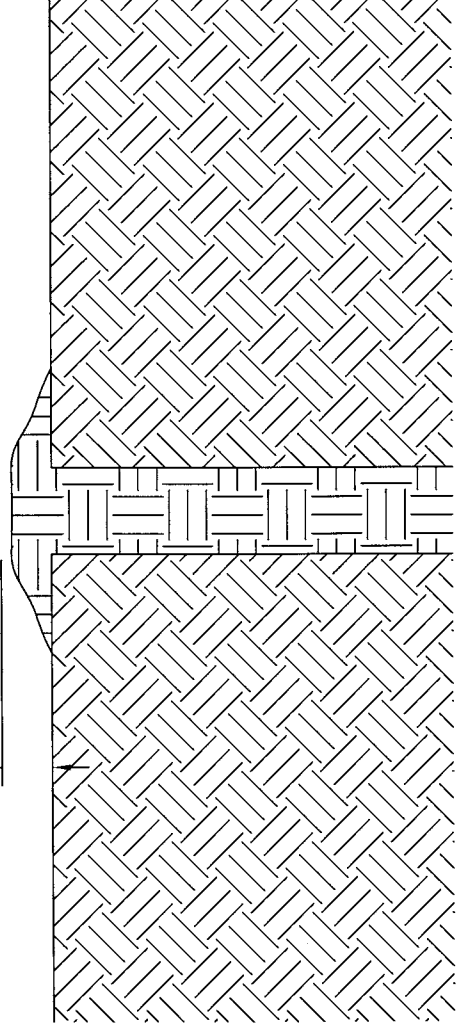
STANDARD NUMBER
TM-10

138KV TRANSMISSION LINE
POLE PROTECTION ASSEMBLY

City of
Alexandria

Electric Distribution

6" Min.



MATERIAL LIST

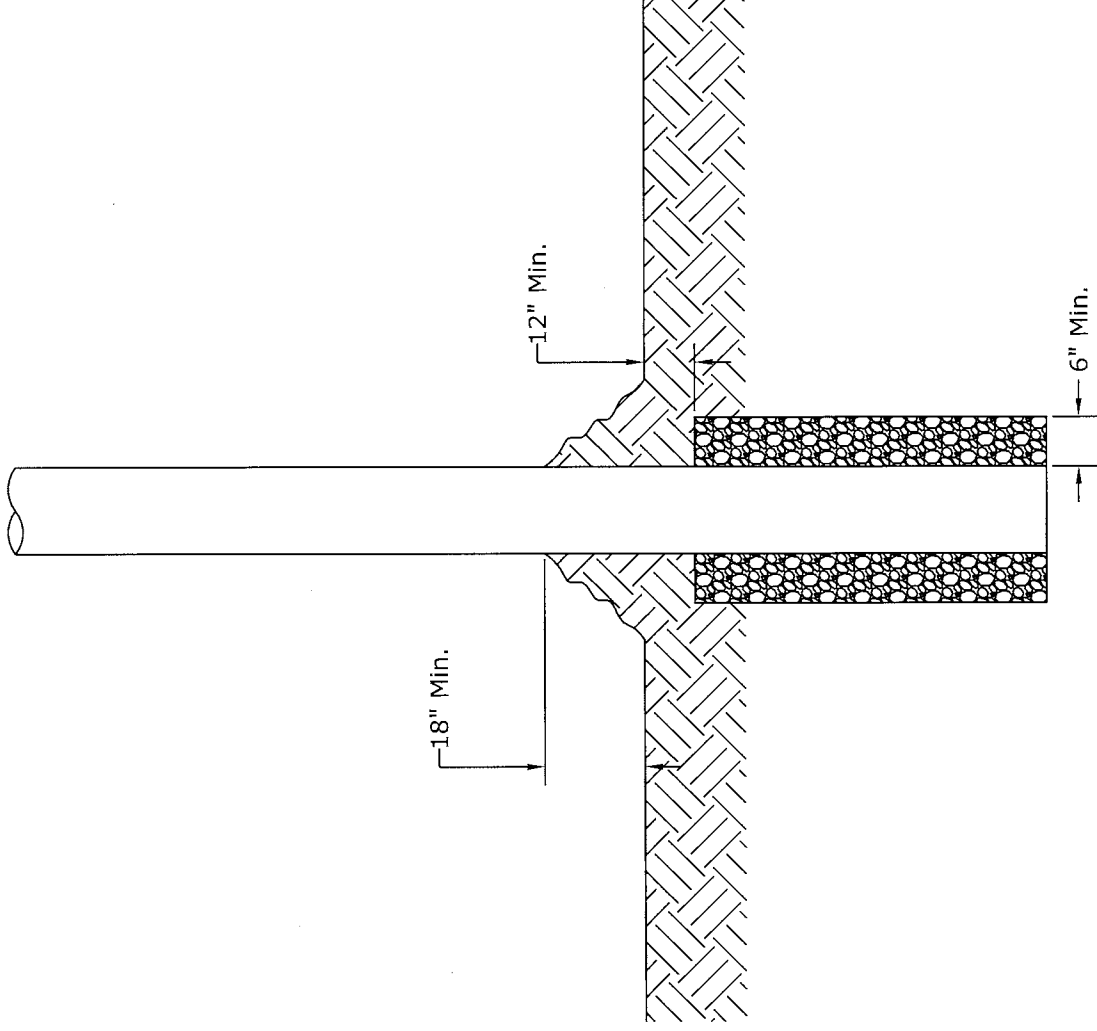
Item	Qty.	Description	Manufacturer	Catalog #
-	3	Imported Native Backfill	NA	NA

DATE: 03-07-05

City of
Alexandria
Electric Distribution

138KV TRANSMISSION LINE
IMPORTED NATIVE BACKFILL FOR STUB HOLE

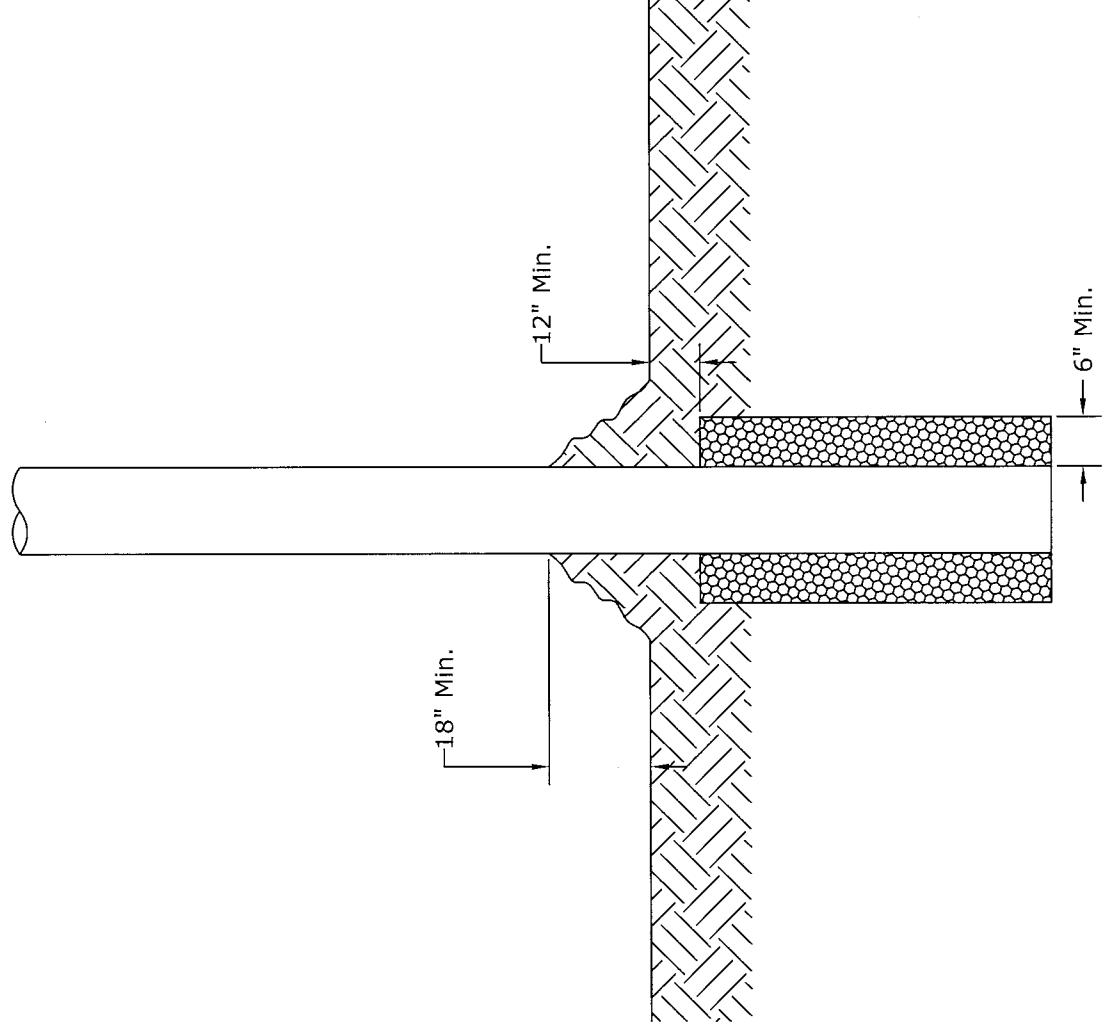
STANDARD
NUMBER
TM-100



MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
-	2.5 yd.	Crushed Rock Backfill, DGA or Better	-	-

City of Alexandria Electric Distribution	138KV TRANSMISSION LINE CRUSHED ROCK BACKFILL	DATE: 02-07-05
		STANDARD NUMBER TM-101

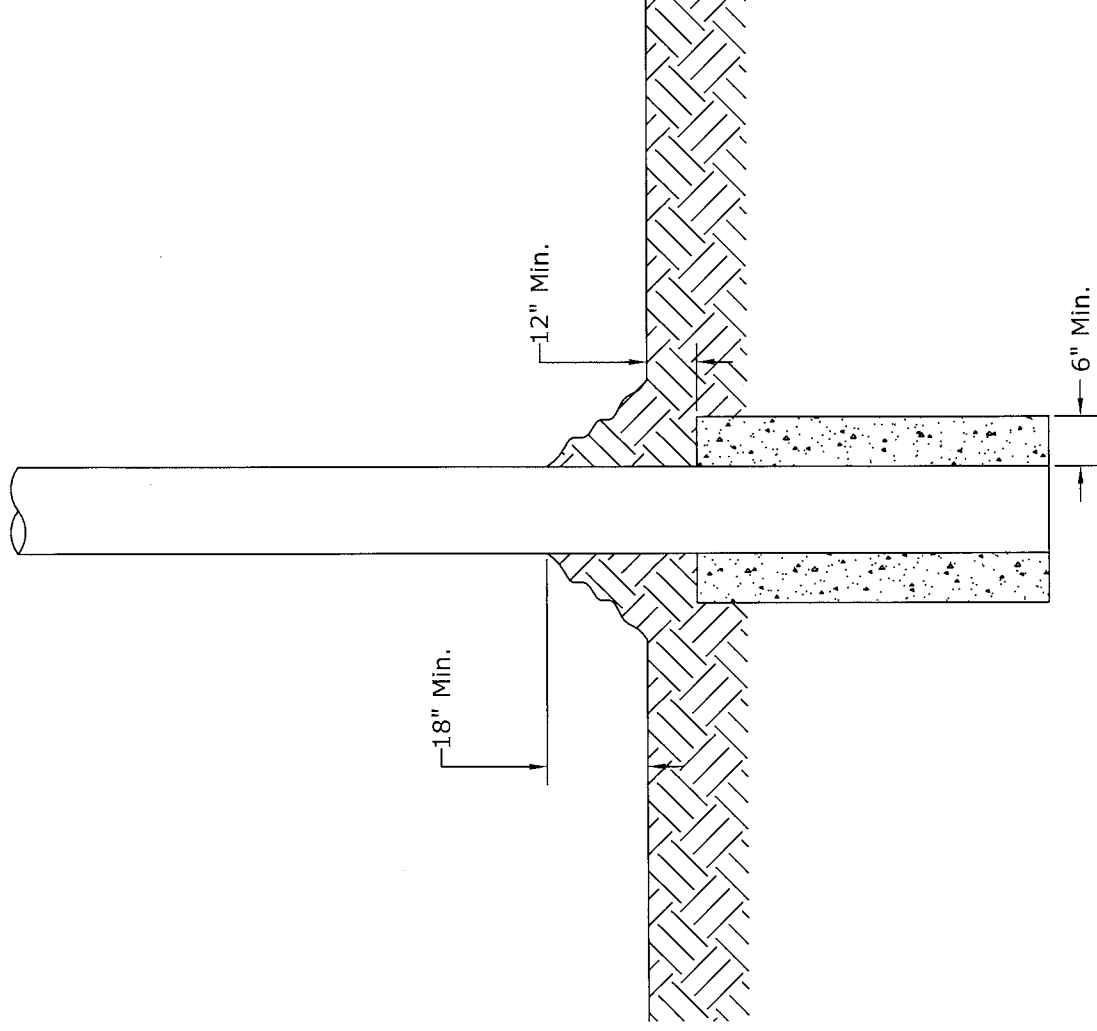


MATERIAL LIST

Item	Qty.	Description	Manufacturer	Catalog #
-	1	Poly-Set Select Backfill Kit, 10 Cubic Feet	Utility Structural Systems	PS-250W

City of Alexandria Electric Distribution	DATE: 02-07-05
	STANDARD NUMBER TM-102

138KV TRANSMISSION LINE
 HIGH STRENGTH BACKFILL



MATERIAL LIST

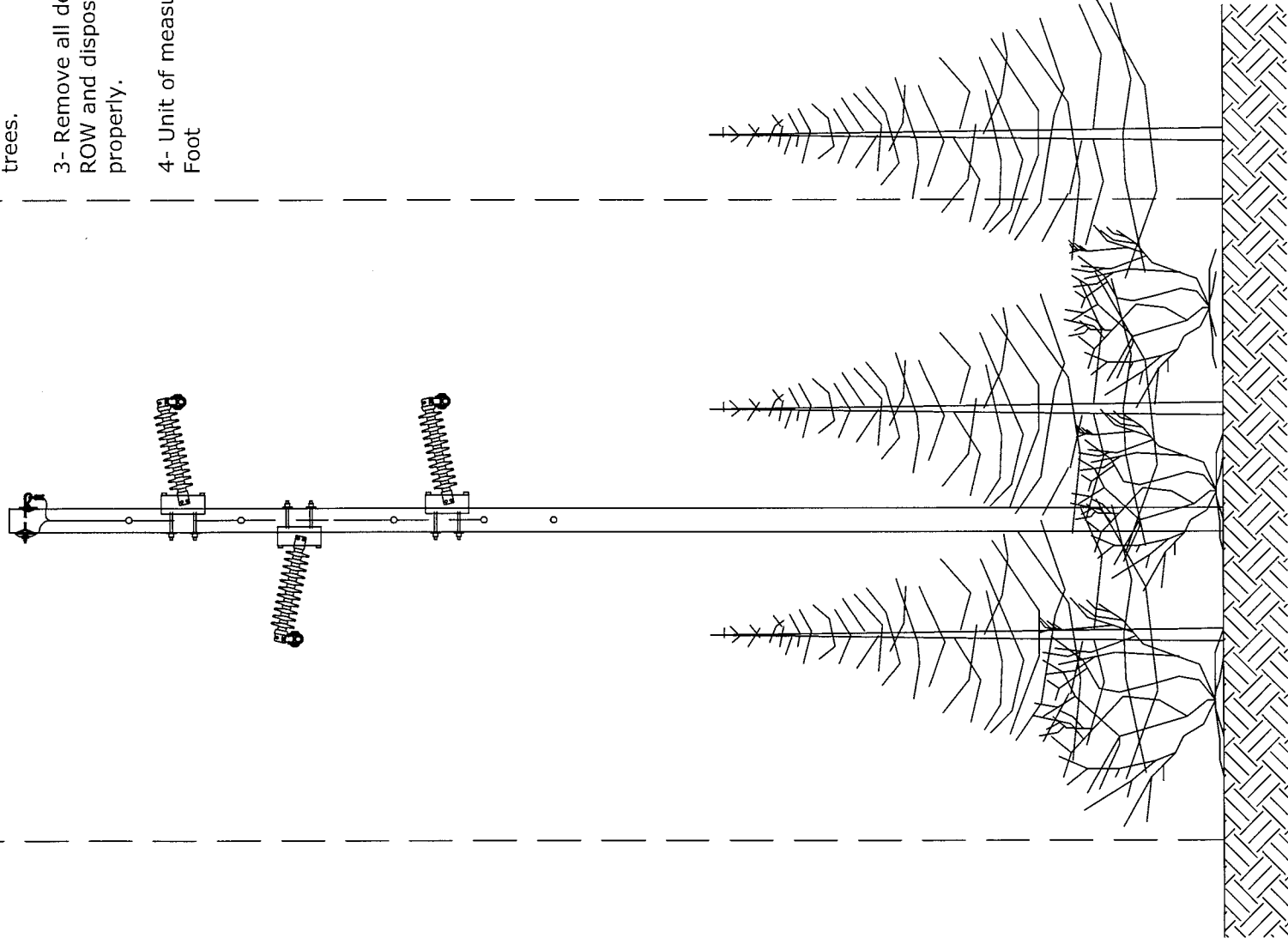
Item	Qty.	Description	Manufacturer	Catalog #
-	2.5 yd.	Concrete, 3,000 PSI or better	-	-

<p>City of Alexandria Electric Distribution</p>	<p>138KV TRANSMISSION LINE CONCRETE BACKFILL</p>	<p>DATE: 02-07-05</p>
		<p>STANDARD NUMBER TM-103</p>

10' ROW

Notes:

- 1- Clear all underbrush inside ROW limits.
- 2- Side-cut encroaching trees.
- 3- Remove all debris from ROW and dispose of properly.
- 4- Unit of measure: Per Foot

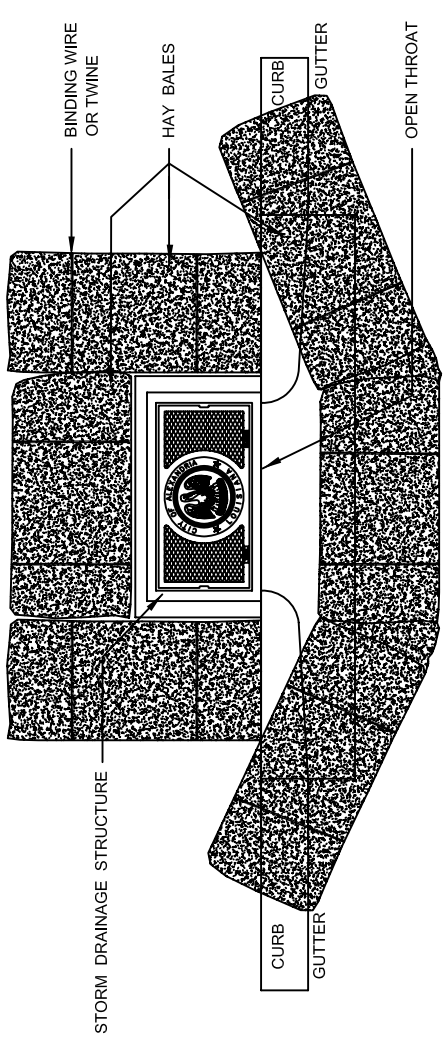


City of
Alexandria
Electric Distribution

UTILITY EASEMENT RE-CLEARING GUIDE

DATE: 03-03-05

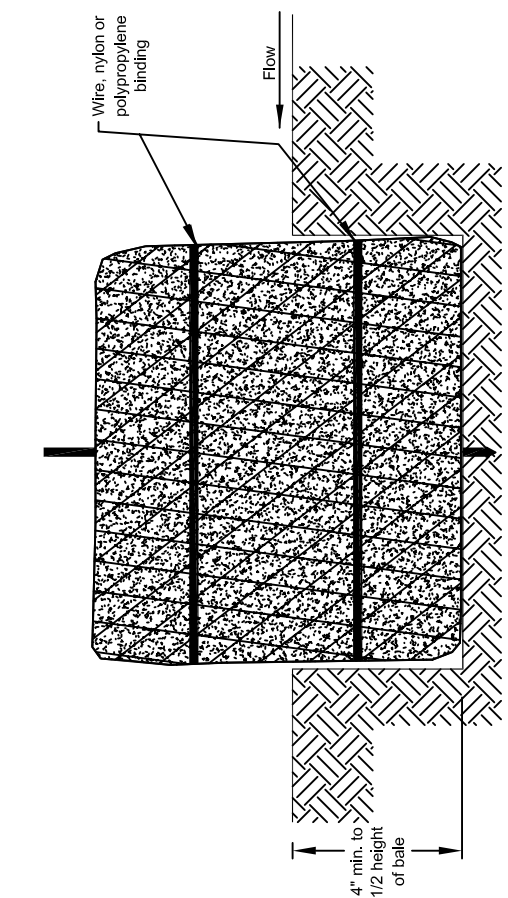
STANDARD
NUMBER
TR1-10



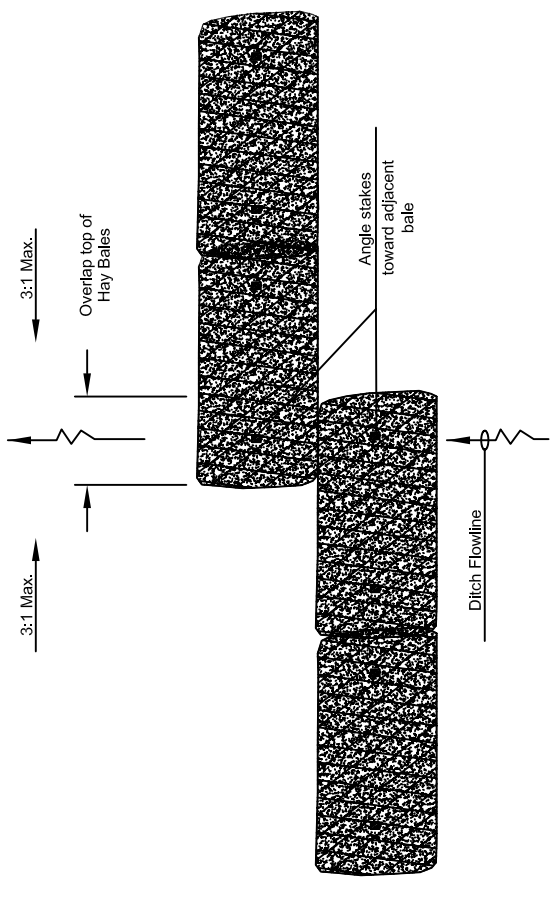
PLAN SHOWING HAY BALES
TEMPORARY BALED HAY OR STRAW

NOTES - (TEMPORARY HAY BARRIER)

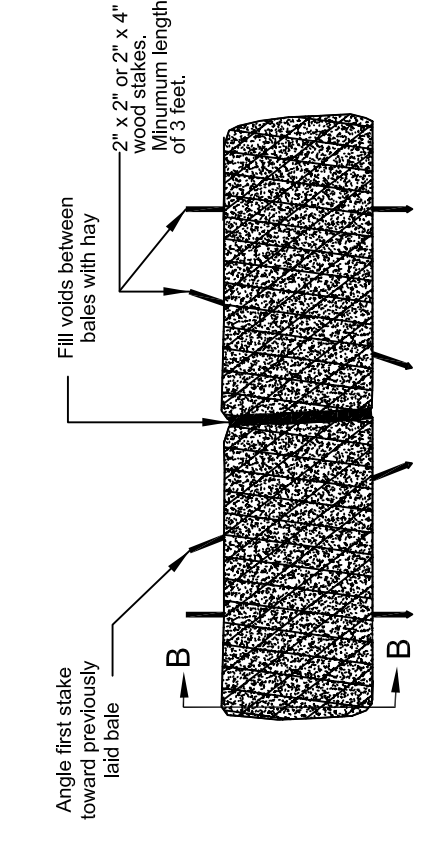
- A hay barrier is a temporary sediment barrier consisting of a row of entrenched and anchored bales of straw or hay. The hay bale barrier is also used as a check dam to reduce the velocity in small ditches or swales.
- A few basic design guidelines for the use of a Hay Bale Barrier are:
1. Use where erosion would occur in the form of sheet and rill erosion.
 2. Use in minor swales or ditches where the maximum drainage area is 1 acre.
 3. Only use where the effectiveness is required for less than 3 months.
 4. Do not use in live streams or in swales or ditches where there is a possibility of a washout.
 5. Hay bales shall be in accordance with Technical Specification EC-100.
- For Baled Hay installations in small ditches, the additional following considerations apply:
1. The ditch sideslopes should be graded as flat as possible to maximize the drainage flowrate thru the hay.
 2. The ditch should be graded large enough to contain the overtopping drainage when sediment has filled to the top of the baled hay.
- Bales should be replaced usually every 2 months or more often during wet weather when loss of structural integrity is accelerated.



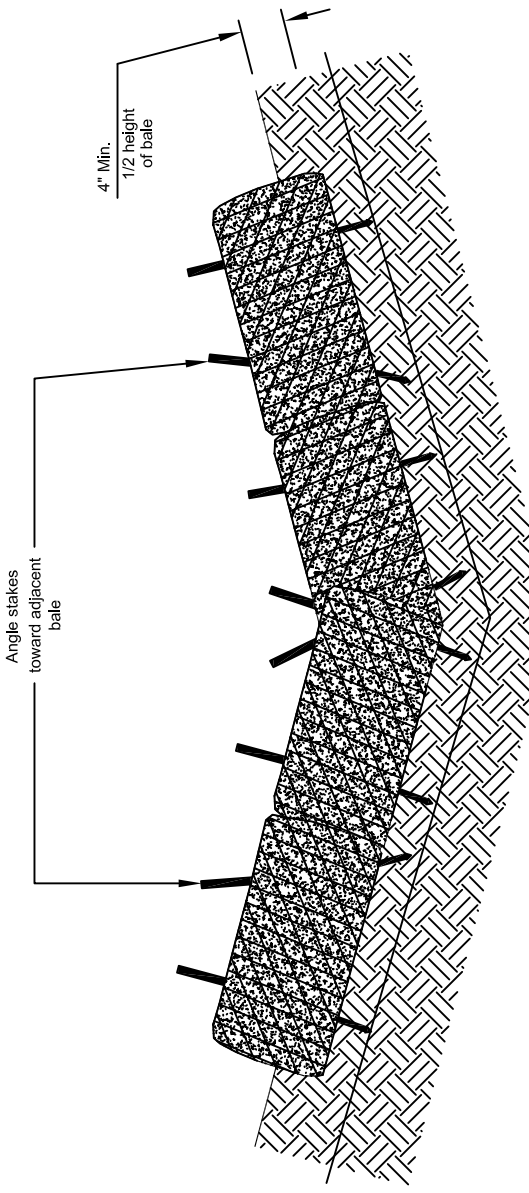
SECTION B - B



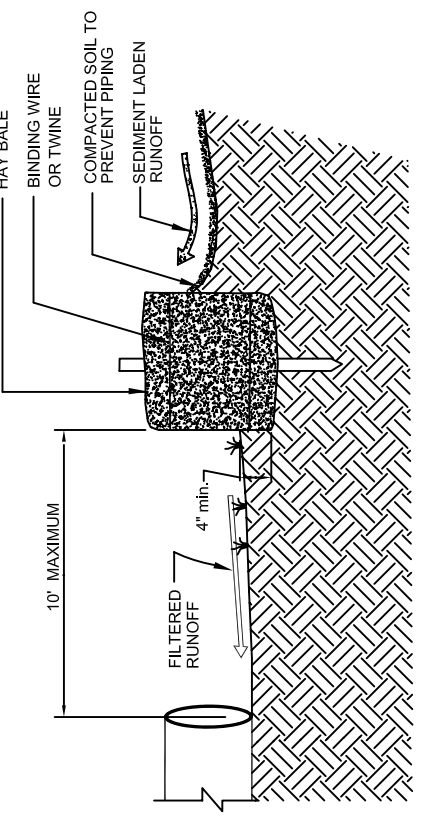
PLAN VIEW



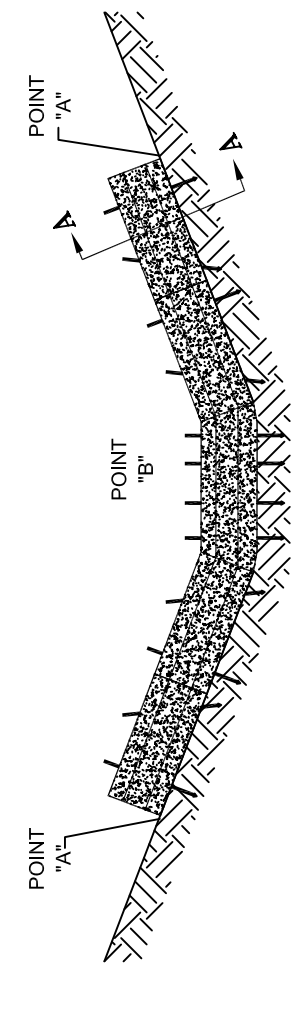
BALED HAY FOR EROSION CONTROL



PROFILE VIEW



SECTION A - A



ELEVATION

TEMPORARY SEDIMENT CHECK DAM (HAY)

LEGEND:

- CHAIN LINK FENCE
- PROPERTY LINE
- EXISTING GRADE
- SEWER CLEAN OUT
- FINISH GRADE
- SEWER LINE
- FIRE HYDRANT
- WATER MANHOLE
- GAS LINE
- WATER SERVICE METER
- GAS SERVICE VALVE
- WATER VALVE BOX
- POWERPOLE
- WOOD FENCE

NOTICE

48 HOURS BEFORE DIGGING
CALL 1-800-272-3020
TO LOCATE UTILITY LINES

CITY OF ALEXANDRIA -
CONTACT NUMBERS -

1. ELECTRIC DEPT. - 473-1344
2. ENGINEERING DEPT.-473-1171
3. FIRE DEPT. - 441-6600
4. GAS DEPT. - 441-6018
5. TRAFFIC DEPT. - 441-6127
6. WASTEWATER DEPT. - 441-6240
7. WATER DEPT. - 441-6214

DATE	DESCRIPTION	BY

STANDARD DETAILS
TEMPORARY EROSION CONTROL DETAILS
HAY BALES

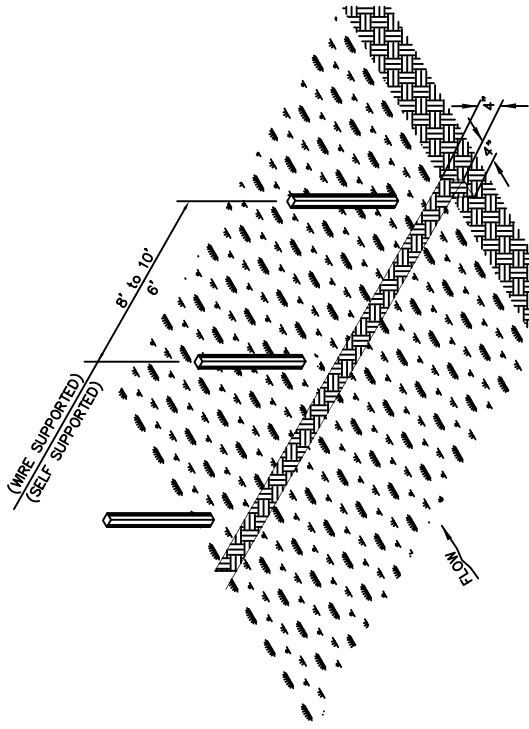
DESIGNED: L.O.M.	DRAWN BY: D.J.	SCALE: AS SHOWN
CHECKED: L.O.M.	CHECKED: L.O.M.	DATE: MARCH -2005
FILE: E:\Dwg\Standards\City Standards\62-09A	SHT. OF	

CITY OF ALEXANDRIA, LA.
ENGINEERING DEPARTMENT

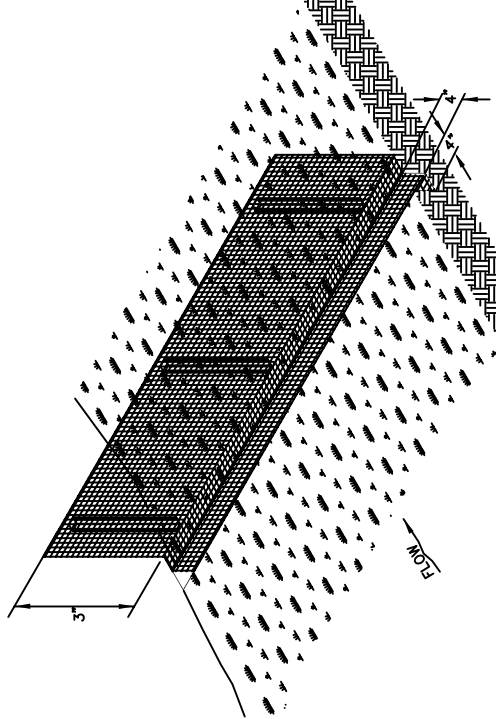
NOTES - (TEMPORARY SILT FENCING)

Silt fencing is a temporary sediment barrier consisting of a filter fabric supported by post and stretched across an area to intercept and detain small amounts of sediment. The silt fencing shall be installed in accordance with EC-100 of the Technical Specifications. A few basic guidelines for the use of Silt fencing are:

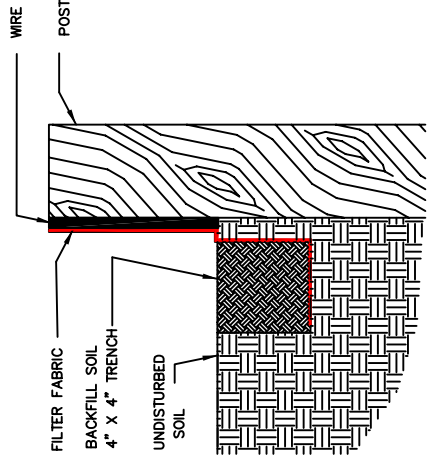
1. Use where erosion would occur in the form of sheet and rill erosion.
2. Use where the maximum slope length behind the barrier is 100 feet.
3. Do not use silt fences in live streams or in ditches or swales where flows exceed one cubic foot per second.
4. Staple spacing for connection of filter fabric or wire fencing to wooden posts shall be a maximum of 6 inches.
5. Wooden posts shall be driven into the ground a minimum of 16 inches.



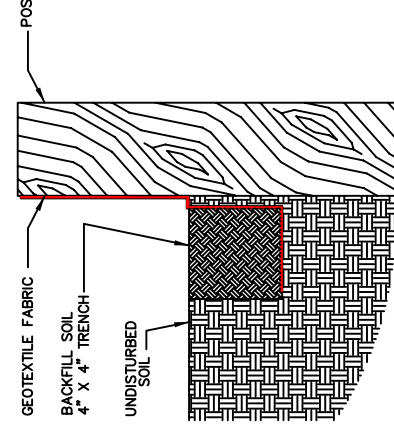
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.



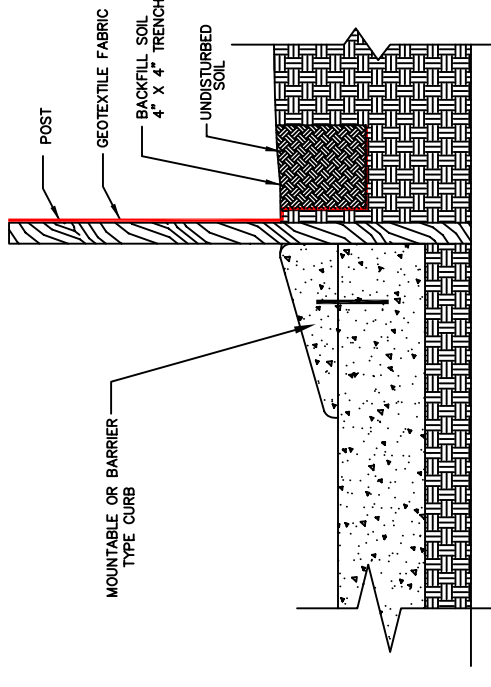
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



- EXTENSION OF FABRIC INTO THE TRENCH**
(Wire supported silt fence is shown. Self supported silt fence will be constructed according to manufacturers specifications.)



SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC

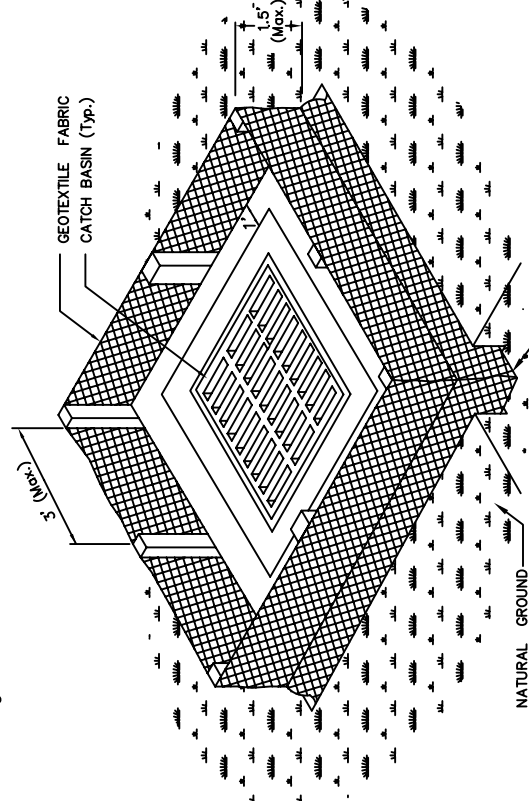


TEMPORARY SILT FENCING BEHIND BACK OF CURB

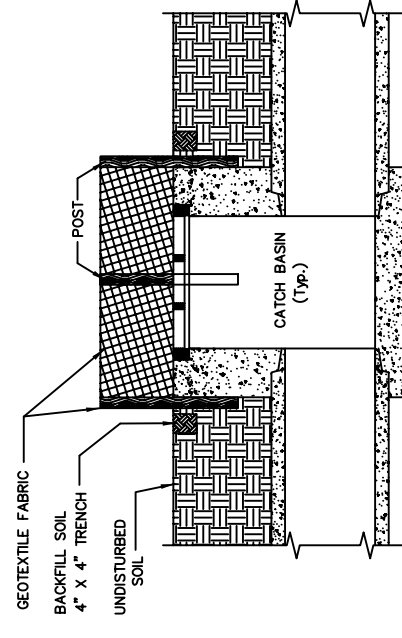
NOTES - (TEMPORARY DROP INLET SILT TRAP)

The temporary drop inlet silt trap is to be used for small drainage areas (less than 1 acre) where the storm drain is functional before the area is stabilized. The trap can be either geotextile fabric or hay bales.

1. The geotextile fabric shall conform to Section 1019 (Type G) of the LA DOTD Standard Specifications, Latest Edition.
2. Wooden stakes supporting the fabric shall be 2" x 2" or 2" x 4" with a minimum length of 3 feet. The stakes shall be spaced around the inlet at a maximum spacing of 3 feet.
3. The height of the fabric above the inlet shall be limited to 1.5' and the bottom of the fabric shall be buried in a trench approximately 4" wide by 4" deep. The fabric shall be stapled to the post with 1/2" staples.
4. The trap should be inspected regularly and after each storm. The sediment should be removed and make sure each stake is firmly in the ground.
5. Temporary drop inlet silt trap shall be installed outside the limits of the roadway and/or all traffic areas.



ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC
(BACK FILL SOIL NOT SHOWN)



SECTIONAL VIEW SHOWING GEOTEXTILE FABRIC

(FOR CATCH BASIN LOCATED OUTSIDE THE LIMITS OF THE ROADWAY)

CONSTRUCTION OF TEMPORARY SILT FENCING
(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

LEGEND:

—	PROPERTY LINE
—	SEWER CLEAN OUT
—	SEWER LINE
—	SEWER MANHOLE
—	WATER LINE
—	WATER SERVICE METER
—	WATER VALVE BOX
—	WOOD FENCE

CITY OF ALEXANDRIA - CONTACT NUMBERS

1.	ELECTRIC DEPT.	473-1344
2.	ENGINEERING DEPT.	473-1171
3.	FIRE DEPT.	441-6600
4.	GAS DEPT.	441-6018
5.	TRAFFIC DEPT.	441-6127
6.	WASTEWATER DEPT.	441-6240
7.	WATER DEPT.	441-6214

NOTICE
48 HOURS BEFORE DIGGING
CALL 1-800-272-3020
TO LOCATE UTILITY LINES

DATE	DESCRIPTION	BY

STANDARD DETAILS
TEMPORARY EROSION CONTROL DETAILS
SILT FENCE

CITY OF ALEXANDRIA, LA.
ENGINEERING DEPARTMENT
DESIGNED: L.O.M. DRAWN BY: D.J. SCALE: AS SHOWN
CHECKED: L.O.M. CHECKED: L.O.M. DATE: MARCH-2005
FILE: I:\Dwg\Standards\City Standards\62-09B.SHT. OF