GENERAL NOTES

1. The drawings for the Overhead Contact System are a project drawing of both specific drawings and standard drawings. Each drawing is intended to be used in conjunction with the specifications and referenced standard drawings.

2. All drawings of the Overhead Contact System shall be in accordance with the specifications of the Overhead Contact System drawings, and drawings issued in conjunction with the specifications.

3. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

4. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

5. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

6. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

7. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

8. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

9. INSTALLATION OF THE OVERHEAD CONTACT SYSTEM SHALL BE IN ACCORDANCE WITH THE DRAWINGS ISSUED IN CONJUNCTION WITH THE SPECIFICATIONS AND REFERENCED STANDARD DRAWINGS.

STANDARD DRAWINGS

1. Standard drawings include: technical drawings, typical drawings, structure drawings, and assembly drawings.

2. Technical drawings provide means and methods used to produce the Overhead Contact System drawings, and drawings issued in conjunction with the specifications.

3. Technical drawings provide means and methods used to produce the Overhead Contact System drawings, and drawings issued in conjunction with the specifications.

4. Technical drawings provide means and methods used to produce the Overhead Contact System drawings, and drawings issued in conjunction with the specifications.

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9. Technical drawings provide means and methods used to produce the Overhead Contact System drawings, and drawings issued in conjunction with the specifications.
ALL CLEARANCES SHALL COMPLY UNDER THE FOLLOWING CONDITIONS:

VERTICAL CLEARANCES APPLY TO CONTACT WIRES ABOVE GROUND IN AREAS ACCESSIBLE TO PEDESTRIANS OR DRIVEWAYS, PARKING LOTS AND ALLEYS SUBJECT TO ANY VEHICLE EXCEEDING 8 FT HEIGHT OVER GROUND PARALLEL TO AND WITHIN R.O.W. OF PUBLIC STREETS BUT NOT OVERHANGING TRACK RAILS OF RAILROADS (EXCEPT ELECTRIFIED RAILROADS USING OVERHEAD CONDUCTOR).

1. CONTACT WIRES AND ASSOCIATED SPAN WIRES GROUNDED GUYS
23'-6" 22'-0" 15'-6" 18'-0" 18'-0" 15'-0" 18'-0" 9'-6" 16'-0" 6'

4. SUPPLY LINES GREATER THAN 22KV
SUPPLY LINES 750V-22KV
SUPPLY LINES 0V-750V

5. CONTACT WIRES OR SPAN WIRE ABOVE OCS CONTACT WIRES OR SPAN WIRE WITH NO ICE OR UNDER THE FOLLOWING CONDITIONS:

- O.C.S. WIRE CLEARANCES ABOVE GROUND OR RAILS PRODUCES THE LARGEST SAG AND O.C.S. CONTACT WIRES, AND SPAN WIRE WITH NO ICE.
- NON O.C.S. CONDUCTOR CLEARANCES ABOVE CONTACT WIRE WITH NO ICE OR UNDER THE FOLLOWING CONDITIONS:

A. CONDUCTOR SAG AT 120 DEGREES F THAN 120 DEGREES F OR 32 DEGREES F WITH RADIAL ICE OF 0.25 INCHES WHICHEVER APPLIES.
B. O.C.S. WIRE CLEARANCES ABOVE GROUND OR RAILS OR MAXIMUM CONDUCTOR TEMPERATURE IS GREATER THAN 120 DEGREES F.

SEE NOTE 4
SEE NOTE 3

NOTES:
A. CONDUCTOR TEMPERATURE OF 60 DEGREES F, NO ICE
B. CONDUCTOR TEMPERATURE OF 60 DEGREES F, 20% OR LESS ICE
C. OR 32 DEGREES F WITH RADIAL ICE OF 0.25 INCHES
D. OR 32 DEGREES F WITH RADIAL ICE OF 0.5 INCHES
E. OR 32 DEGREES F WITH RADIAL ICE OF 1.0 INCHES
F. OR LOWER TEMPERATURES.

NO WIND, WITH FINAL SAG IN THE WIRE.

B. SPAN LENGTHS NOT GREATER THAN THE FOLLOWING:

SINGLE CONTACT WIRE - 120 FT.

1. VERTICAL CLEARANCES APPLY TO CONTACT WIRES ABOVE GROUND IN AREAS ACCESSIBLE TO PEDESTRIANS OR DRIVEWAYS, PARKING LOTS AND ALLEYS SUBJECT TO ANY VEHICLE EXCEEDING 8 FT HEIGHT OVER GROUND PARALLEL TO AND WITHIN R.O.W. OF PUBLIC STREETS BUT NOT OVERHANGING TRACK RAILS OF RAILROADS (EXCEPT ELECTRIFIED RAILROADS USING OVERHEAD CONDUCTOR).

2. SUPPLY LINES GREATER THAN 22KV
SUPPLY LINES 750V-22KV
SUPPLY LINES 0V-750V

3. CONTACT WIRES AND ASSOCIATED SPAN WIRES GROUNDED GUYS

23'-6" 22'-0" 15'-6" 18'-0" 18'-0" 15'-0" 18'-0" 9'-6" 16'-0" 6'

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E. OR 32 DEGREES F WITH RADIAL ICE OF 1.0 INCHES
F. OR LOWER TEMPERATURES.
### DESIGN CRITERIA

#### TEMPERATURE

<table>
<thead>
<tr>
<th>Condition</th>
<th>db F</th>
<th>Humidity</th>
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<tr>
<td>Humid</td>
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<tr>
<td>Maximum</td>
<td>+50</td>
<td>+95%</td>
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<tr>
<td>Minimum</td>
<td>-5</td>
<td>+75%</td>
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#### ELECTRICAL CLEARANCES

- Contact Wire Clearance
- Cage Clearance

#### DESIGN CRITERIA

<table>
<thead>
<tr>
<th>Item</th>
<th>Units</th>
<th>In-Street Sections</th>
<th>Yard Section</th>
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</thead>
<tbody>
<tr>
<td>Minimum Frost Depth</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Snow Depth</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Track Center Pin</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Track Center Pin</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Offset Between O/C Wires</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Offset Between O/C Wires</td>
<td>In.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Offset Related to O/C Wires</td>
<td>In.</td>
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<td></td>
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<tr>
<td>Maximum Offset Related to O/C Wires</td>
<td>In.</td>
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</table>

#### FOUNDATION, INSTALLATION AND POLE TOLERANCES

- Foundation Location along Track
- Foundation Location across Track
- Foundation Offset
- Foundation Deflection
- Pole Baseline Elevation
- Pole Baseplate Elevation
- Location of Foundations
- Location across Track (for special trackwork)
- Foundation Installation and Pole Tolerances

#### SUMMARY OF DESIGN CRITERIA, TOLERANCES AND RELATED INFORMATION

- Maximum Asbuilt Contact Wire Height
- Minimum Asbuilt Contact Wire Height
- Minimum Nonoperating ACross Track Pole
- Maximum Nonoperating ACross Track Pole
- Maximum Pseudag
- Minimum Asbuilt Contact Wire Height when due to live load
- Foundation Location along Track
- Foundation Location across Track
- Foundation Offset
- Foundation Deflection
- Pole Baseline Elevation
- Pole Baseplate Elevation
- Location of Foundations
- Location across Track

#### NOTES

1. The tolerances given at the supports exceed 1" in either direction laterally. Deflection due to live loads shall not exceed 1.0".
2. The presence of a 40 MPH wind and 1/2" ice cover is to be applied in calculations and dimensions relating to normal train operations.
3. The presence of a 90 MPH wind and no ice cover, or 2. The presence of a 55 MPH wind and no ice covering, or 2. The presence of a 40 MPH wind.
4. Normal operational average pole height due to live load shall have "MIN" in generator area.
5. Minimum non-operating condition is to be applied in calculations relating to members of O/C and Supports: Span.
6. The tolerances given at the supports exceed 1" in either direction laterally. Deflection due to live loads shall not exceed 1.0".

#### TECHNICAL SHEET

- Philadelphia, PA 19103
- SYSTRA Consulting, Inc.
- 1600 Market Street, Suite 1310
- D.C. DEPARTMENT OF TRANSPORTATION
- INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
- OCT-6

### TECHNICAL SHEET

- D.C. DEPARTMENT OF TRANSPORTATION
- INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
- OVERHEAD CONTACT SYSTEM
- TECHNICAL SHEET
- H STREET / BENNING ROAD STREETCAR
- IMPLEMENTATION DESIGN / BUILD PROJECT
- SUMMARY OF DESIGN CRITERIA, TOLERANCES AND RELATED INFORMATION

#### SECTION 1

- OVERHEAD CONTACT SYSTEM
- TECHNICAL SHEET
- IMPLEMENTATION DESIGN / BUILD PROJECT
- H STREET / BENNING ROAD STREETCAR
- D.C. DEPARTMENT OF TRANSPORTATION
- INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION
- OCT-6
1. The drawing is a record of photograph collector heads on drawings that have been developed in accordance with the D.O.T. standard drawings and the various defined dimensions.

2. Engineering information as follows:
   - LH: Collector length over horns
   - LC: Length of carbon collector
   - WC: Width of collector strip
   - HH: Overall height to bottom of horn
   - RC: Radius of contact strip
   - R: Collector strip radius

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
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<tbody>
<tr>
<td>Collector length</td>
<td>6.0&quot;</td>
</tr>
<tr>
<td>Collector length over horns</td>
<td>7.0&quot;</td>
</tr>
<tr>
<td>Overall height to bottom of horn</td>
<td>7.9&quot;</td>
</tr>
<tr>
<td>Collector strip radius</td>
<td>7.9&quot;</td>
</tr>
<tr>
<td>Collector strip width</td>
<td>4.3&quot;</td>
</tr>
<tr>
<td>Carbon collector length</td>
<td>6.0&quot;</td>
</tr>
<tr>
<td>Overall height</td>
<td>10.6&quot;</td>
</tr>
<tr>
<td>Contact strip radius</td>
<td>32.9'</td>
</tr>
<tr>
<td>Collector strip width</td>
<td>11.9&quot;</td>
</tr>
<tr>
<td>Carbon collector length</td>
<td>13.4&quot;</td>
</tr>
<tr>
<td>Overall height</td>
<td>12.8&quot;</td>
</tr>
<tr>
<td>Collector strip radius</td>
<td>16.1&quot;</td>
</tr>
<tr>
<td>Collector strip width</td>
<td>14.2&quot;</td>
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</tbody>
</table>

**NOTES:**
- LH = Collector length over horns
- LC = Length of carbon collector
- WC = Width of collector strip
- HH = Overall height to bottom of horn
- RC = Radius of contact strip

**OVERHEAD CONTACT SYSTEM TECHNICAL SHEET**
**PANTOGRAPH COLLECTOR OUTLINE**

**D.C. DEPARTMENT OF TRANSPORTATION**
**INFRASTRUCTURE PROJECT MANAGEMENT ADMINISTRATION**
**PROJECT MANAGEMENT DIVISION**

**SYSTRA Consulting, Inc.**
1600 Market Street, Suite 1310
Philadelphia, PA 19103

**DEAN Facchina**
TABLE 1: DIMENSIONS TABLE

1. FOR VALUES OF CONTACT WIRE HEIGHT BETWEEN THOSE LISTED IN TABLE 1, USE LINEAR INTERPOLATION TO DETERMINE A VALUE FOR DIMENSION A.

2. FOR VALUES OF CONTACT WIRE HEIGHT BETWEEN THOSE LISTED IN TABLE 1, USE LINEAR INTERPOLATION TO DETERMINE A VALUE FOR DIMENSION A.

3. SUPER ELEVATED MINIMUM CLEARANCES FOR USE PRIOR TO CONSTRUCTION ARE TO BE CALculated USING ALLOWANCES SHOWN ON DRAWINGS OCT-09, OCT-10, OCT-11.

4. MINIMUM CLEARANCES BETWEEN LIVE WIRES OR FITTINGS AND OTHER FIXED INFRASTRUCTURE SHALL BE DETERMINED FROM NATIONAL ELECTRIC SAFETY CODE (N.E.S.C) AND DRAWINGS OCT-03 AND OCT-04.

5. CONTACT WIRE HEIGHT EMBEDDED TRACK INSIDE CURVE TANGENT OR OUTSIDE CURVE DIMENSION A [INCHES]

<table>
<thead>
<tr>
<th>WIRE HEIGHT</th>
<th>DIMENSION A</th>
<th>WIRE HEIGHT</th>
<th>DIMENSION A</th>
</tr>
</thead>
<tbody>
<tr>
<td>13'-0&quot;</td>
<td>54.0&quot;</td>
<td>19'-0&quot;</td>
<td>59.2&quot;</td>
</tr>
<tr>
<td>20'-0&quot;</td>
<td>60.2&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:

- OBSTRUCTIONS NOT CLEARING THIS OUTLINE MAY BE FURTHER EXAMINED AGAINST THE CONDITIONS AND MINIMUM CLEARANCES OF DWGS OCT-09, OCT-10, OCT-11.

- MINIMUM CONTACT WIRE HEIGHT 13'-0" MAXIMUM CONTACT WIRE HEIGHT 20'-0"

- TABLE 1

- SEE TABLE 1

- SEE NOTE 1

- RELATED MINIMUM CLEARANCE DETAILS

- SIMPLIFIED PANTOGRAPH CLEARANCE ENVELOPE FOR AS-BUILT CONDITIONS

- SIMPLIFIED PANTOGRAPH CLEARANCE ENVELOPE FOR AS-BUILT CONDITIONS
STAGGER AREA "M" SEE NOTE 5
LINE OF MAXIMUM LOAD - MEDIUM / LINE OF MINIMUM LOAD - LIGHT STEADY ARM
C/W LEVEL - STATIC CONDITIONS  
HEAVY STEADY ARM  
LIGHT STEADY ARM  
LINE OF MAXIMUM LOAD

AREA "L" SEE NOTE 4
RADIAL PULL DIRECTION OF STATIC CONDITIONS
3" UPLIFTED CONTACT HEIGHT 
C/W HEIGHT  
STEADY ARM CLEARANCE OUTLINE  
TYPICAL UPLIFTED STEADY ARM 
FOR AUTO-TENSIONED CONTACT WIRE THE MINIMUM DISTANCE FROM CONTACT WIRE LOAD STEADY ARMS ARRANGED TO SHARE LOAD EQUALLY.  
HEAVY RADIAL LOADS OF UP TO 1000 POUNDS SHALL BE SERVICED BY USING TWO MEDIUM 500 POUNDS. THE STEADY ARM HEEL PIVOT POINT IS TO FALL WITHIN AREA "M" SHOWN.  
MEDIUM LOAD STEADY ARMS ARE TO BE SUITABLE FOR RADIAL LOADS UP TO 250 POUNDS. THE STEADY ARM HEEL PIVOT POINT IS TO FALL WITHIN AREA "L" SHOWN.  
LIGHT LOAD STEADY ARMS ARE TO BE SUITABLE FOR RADIAL LOADS UP TO 200 POUNDS. THE STEADY ARM HEEL PIVOT POINT IS TO FALL WITHIN AREA "M" SHOWN.  
THE DIRECTION OF LOAD PULL IS TO BE MEASURED FROM THE STATIC CONTACT WIRE ENVELOPE EXCEPTING FOR CONTACT WIRE CLAMP COMPONENTS. 
CLEARANCE OUTLINE OR WITHIN 1" RUNNING CLEARANCE OF THE PANTOGRAPH DYNAMIC ENVELOPE.  
ALL STEADY ARMS SHALL BE SHAPED SO AS NOT TO ENCROACH INSIDE THE STEADY ARM CLEARANCE OUTLINE.  
IT DOES NOT APPLY TO UPLIFT THIS DRAWING IS TO BE USED FOR THE DESIGN AND APPLICATION OF STEADY ARMS.
### SINGLE WIRE AUTO-TENSIONED (S.W.A.T) CONTACT WIRE PARTICULARS

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Limit</th>
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</thead>
<tbody>
<tr>
<td>Contact Wire Weight</td>
<td>lb/ft</td>
<td>0.7441</td>
</tr>
<tr>
<td>Contact Wire Diameter</td>
<td>in.</td>
<td>3.00</td>
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<tr>
<td>Contact Wire Material</td>
<td></td>
<td>Hard Drawn Copper Contact Wire</td>
</tr>
<tr>
<td>Contact Wire Cross Sectional Area</td>
<td>sq. in.</td>
<td>0.977</td>
</tr>
<tr>
<td>Contact Wire Breaking Load</td>
<td>lb</td>
<td>1.366</td>
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</table>

### SINGLE WIRE FIXED-TENSIONED (S.W.F.T) CONTACT WIRE PARTICULARS

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Wire Weight</td>
<td>lb/ft</td>
<td>0.2758</td>
</tr>
<tr>
<td>Contact Wire Diameter</td>
<td>in.</td>
<td>0.620</td>
</tr>
<tr>
<td>Contact Wire Material</td>
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<td>Hard Drawn Copper Contact Wire</td>
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<tr>
<td>Contact Wire Cross Sectional Area</td>
<td>sq. in.</td>
<td>0.696</td>
</tr>
<tr>
<td>Contact Wire Breaking Load</td>
<td>lb</td>
<td>0.696</td>
</tr>
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</table>

### IMMEDIATEICE (O) OPERATING CONDITION

- System Weights Shown are for Design
- Coefficient of Thermal Expansion
- Lower Limit of Auto Tensioning
- Upper Limit of Auto Tensioning
- Conductive Height at 60° F
- Weight of Contact Wire

### IMMEDIATEICE (NO) NON OPERATING CONDITION

- 11-21-2012
- XXX

### IMMEDIATEICE (O) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- 2.93

### IMMEDIATEICE (NO) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- -5° F WIND & ICE (O)
- -5° F WIND & ICE (NO)
- 60° F NO WIND
- 60° F WIND
- 0° F WIND & ICE (NO)

### IMMEDIATEICE (O) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- CONTACT WIRE WITH ICE (O)
- CONTACT WIRE WITH ICE (NO)

### IMMEDIATEICE (O) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- 0° F WIND & ICE (O)
- 0° F WIND & ICE (NO)
- -5° F WIND & ICE (O)
- -5° F WIND & ICE (NO)
- 60° F NO WIND

### IMMEDIATEICE (O) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- CONTACT WIRE TYPE
- CONTACT WIRE DIA
- CONTACT WIRE MATERIAL
- CONTACT WIRE CROSS SECTIONAL AREA
- CONTACT WIRE BREAKING LOAD
- CONTACT WIRE MIN SAFETY FACTOR
- CONTACT WIRE MOD OF ELASTICITY

### IMMEDIATEICE (O) OPERATING CONDITION IS SYSTEM WEIGHTS SHOWN ARE FOR DESIGN

- 19.0 (NORMAL)
- 30.00 (NORMAL)
- 4452 (NORMAL)
- 4477 (NORMAL)
- 11810 (NORMAL)
- 2000 (NORMAL)
- 844 (NORMAL)
- 100 (NORMAL)
Installing contact wire spans may be accepted where as-built static midspan offset exceeds 0.000 in. / ft.

DATE: 11-21-2012

### Name: throfile2\shared\5916 Washington DC Streetcar\09.0 Deliverables DEL\9.2 Drawings\SYSTRA\Working Drawings\OCS\OCT-12.dgn

**Tuesday, November 20, 2012 AT 03:37 PM**

**NAME_SUB.tbl**

**LENGTH (FEET)**

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<td>100</td>
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<td>50</td>
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<td>100</td>
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**CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF A STATIC PANTOGRAPH UNDER CENTER LINE OF 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RADIAL LOAD TANGENT TRACK

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RADIAL LOAD BY ANGLE

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NOTE:
- \( L \) is the distance to the nearest point of the wire from each side of the support.
- \( V \) is the angle of the wire from each side of the support.
### Erection Tensions SWAT

**Equivalent Span = 100 Feet**

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### Erection Tensions SWFT

**Equivalent Span = 100 Feet**

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### Notes

1. **Establish the Equivalent Span for the Single Basis.**
   - ** erw**
   - **swf**

2. **For Intermediate Temperatures, Calculate the Equivalent Span:**
   - **S**
   - **Swat**
   - **Swft**
3. **Temperature - Degrees F**
   - **Reg**
   - **State**
   - **D.C.**
   - **Project**
   - **Division Chief**
   - **Total**

---

**CONTACT WIRE BASIS SWFT**

**CONTACT WIRE BASIS SWAT**

**EQUVALENT SPAN = 100 FEET**

**ACTUAL SPAN (FT)**

**TEMPERATURE - DEGREES F**

**NAME**

**DATE**

**FILE**

**SHEET**

**MONITOR**

**ENGINEER**

**CHECKED BY**

**DIVISION CHIEF**

**SHEETS**

**TOTAL**