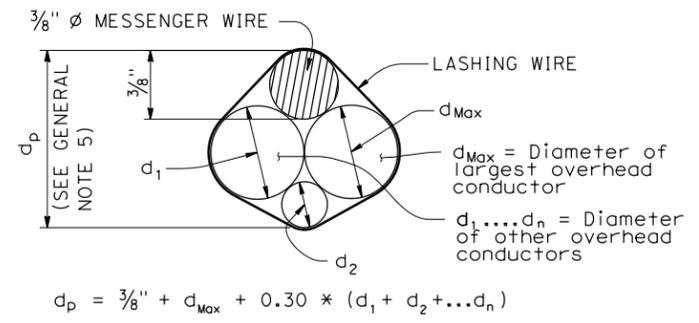


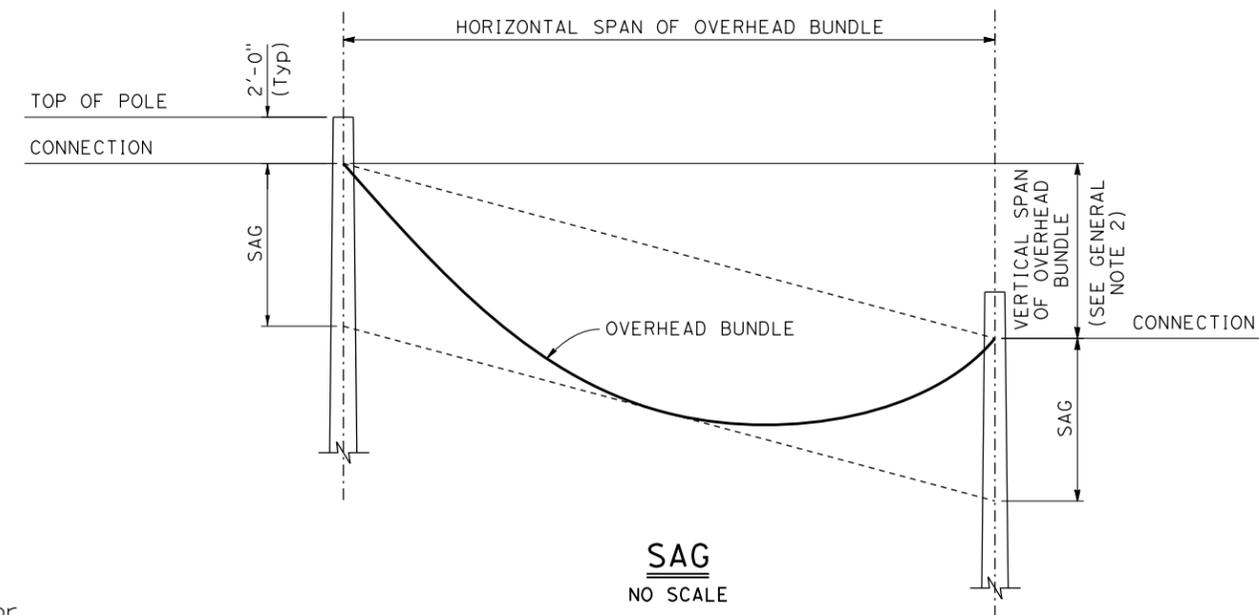
| | | | | | |
|------|--------|-------|--------------------------|-----------|--------------|
| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS |
| X | X | X | X | X | X |

| | |
|---------------------------|------|
| REGISTERED CIVIL ENGINEER | DATE |
| PLANS APPROVAL DATE | |

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



PROJECTED DEPTH OF OVERHEAD BUNDLE, (d_p)



Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load
- IV Fatigue: Not used

LOADING:

Wind Loading: 100 mph (3-second gust)
 Wind Recurrence Interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.05
 (Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on overhead bundles

BASIC DESIGN VALUES:

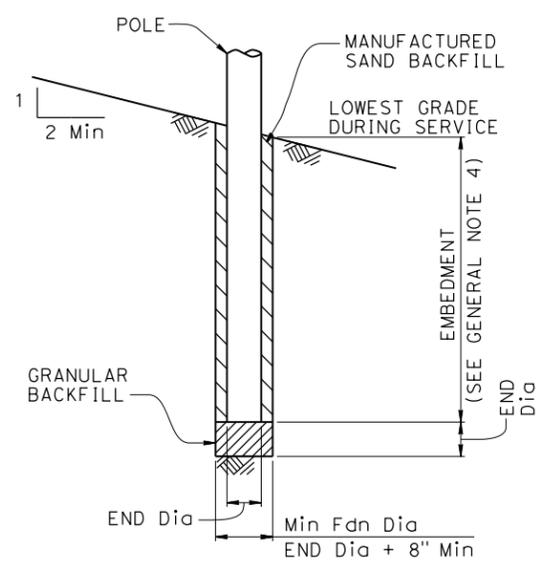
Timber Poles: $F_b = 1850$ psi
 $F_v = 110$ psi
 $F_{cp} = 230$ psi
 $F_c = 950$ psi
 $E = 1500 \times 10^3$ psi

DESIGN WIRE BREAKING STRENGTHS:

ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8

FOUNDATION DESIGN NOTES:

- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
- Embedment depth is calculated based on following soil parameters.
 Cohesive Soil:
 Shear strength of soil $c = 1500$ psf.
 Cohesionless Soil:
 $\phi = 30$ deg, $\gamma = 120$ pcf.
 Soil assumed to be unsaturated.
- An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
- Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.
- Guy wire anchor minimum allowable tension capacity, "Qa" = 8,900 lbs.



GENERAL NOTES:

- The messenger wire and any combination of overhead conductors must not exceed either a self weight of 3.0 lb/ft or the maximum d in the pole selection tables.
- The maximum vertical span is 10% of the horizontal span.
- For poles with adjacent unbalanced horizontal spans, the shortest horizontal span must be at least 50% of the largest horizontal span.
- Add 2'-0" for slopes above 1V:4H.
- For a pole supporting multiple spans, calculate d_p for each span and use the largest value.
- Do not exceed the attachments shown.

DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS

| CONDUCTOR OR CABLE TYPE | DIAMETER d (in) | WEIGHT w (plf) |
|--|-----------------|----------------|
| 3 CONDUCTOR SIGNAL CABLE (3CSC) | 0.400 | 0.0980 |
| 5 CONDUCTOR SIGNAL CABLE (5CSC) | 0.500 | 0.1560 |
| 9 CONDUCTOR SIGNAL CABLE (9CSC) | 0.650 | 0.2760 |
| 12 CONDUCTOR SIGNAL CABLE (12CSC) | 0.800 | 0.3970 |
| 28 CONDUCTOR SIGNAL CABLE (28CSC) | 0.900 | 0.6490 |
| 1-#14 | 0.166 | 0.0235 |
| 1-#12 | 0.185 | 0.0330 |
| 1-#10 | 0.210 | 0.0476 |
| 1-#8 | 0.271 | 0.0774 |
| 1-#6 | 0.310 | 0.1130 |
| 1-#4 | 0.359 | 0.1690 |
| 1-#3 | 0.388 | 0.2080 |
| 1-#2 | 0.420 | 0.2560 |
| 1-#1 | 0.498 | 0.3340 |
| 6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC) | 0.350 | 0.0860 |
| 12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC) | 0.500 | 0.1440 |
| DETECTOR LEAD-IN CABLE (DLC) | 0.310 | 0.0440 |
| 12 to 48-STRAND FIBER OPTIC CABLE (48FOC) | 0.424 | 0.0600 |
| 72-STRAND FIBER OPTIC CABLE (72FOC) | 0.484 | 0.0770 |
| 96-STRAND FIBER OPTIC CABLE (96FOC) | 0.535 | 0.1050 |
| 144-STRAND FIBER OPTIC CABLE (144FOC) | 0.670 | 0.1890 |
| 3/8" Ø MESSENGER WIRE | 0.375 | 0.2730 |

NO SCALE

| | |
|--------------------------|-------------------------|
| STANDARD DRAWING | |
| FILE NO. xs18-010 | APPROVAL DATE July 2014 |

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| STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION | DIVISION OF ENGINEERING SERVICES |
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|-----------------|---------------------------------------|
| BRIDGE NO. X | TEMPORARY WOOD POLES GENERAL NOTES |
| POST MILE X | |