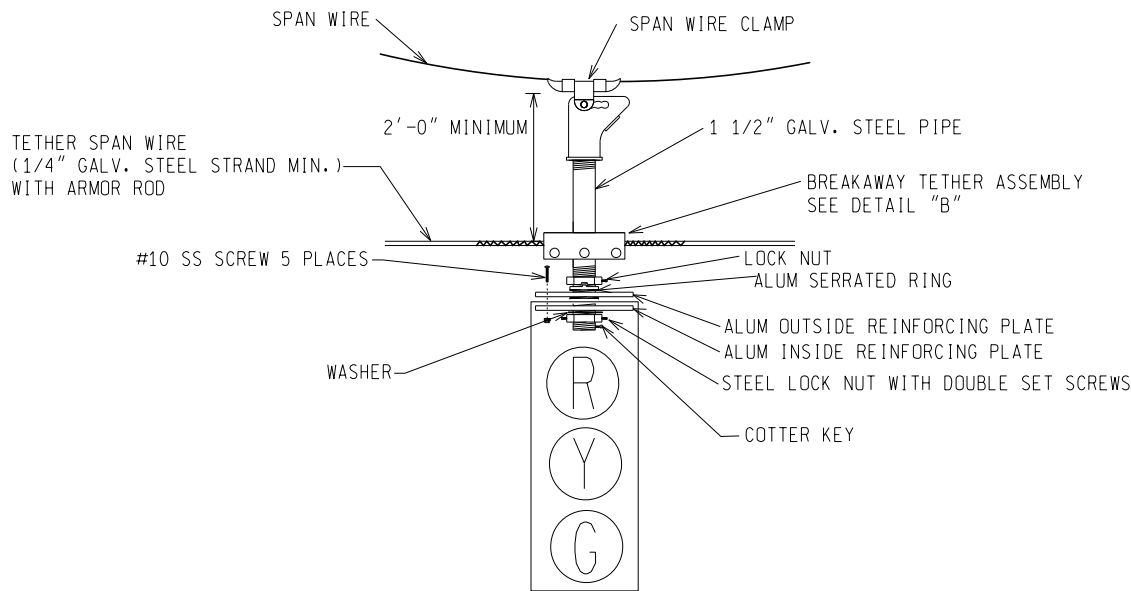


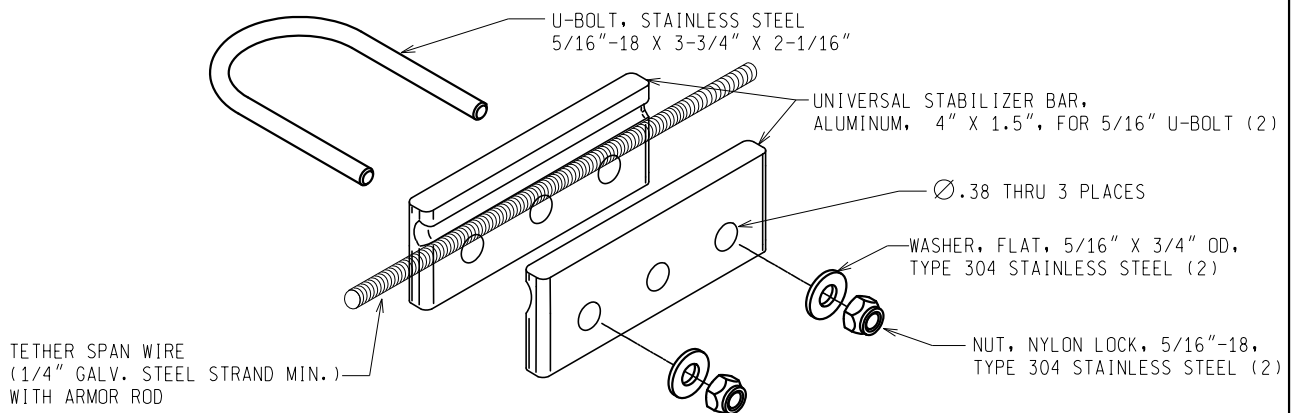
ATTACH TETHER ASSEMBLY SO THAT TETHER SPAN WIRE RUNS STRAIGHT ACROSS.

ALL VEHICLE SIGNALS AND SIGNS HUNG ON A SPAN SHALL BE TETHERED. SPAN POLE CONTACT HEIGHTS NEED NOT BE AT THE SAME ELEVATION.

ELEVATION VIEW: TOP TETHER INSTALLATION



DETAIL "A": SPAN WIRE INSTALLATION WITH TOP TETHER SPAN WIRE



DETAIL "B": BREAK-AWAY TETHER ASSEMBLY FOR TOP OF SIGNAL HEAD

NOT TO SCALE

File: RefDoc/TR/Signals/Web/Sp Det/Fin/SIG305C.dgn Rev. 04/08/19



PREPARED BY
TRAFFIC AND SAFETY

DRAWN BY: DSP

CHECKED BY:

ENGINEER OF DELIVERY

ENGINEER OF DEVELOPMENT

(SPECIAL DETAIL)
FHWA APPROVAL DATE

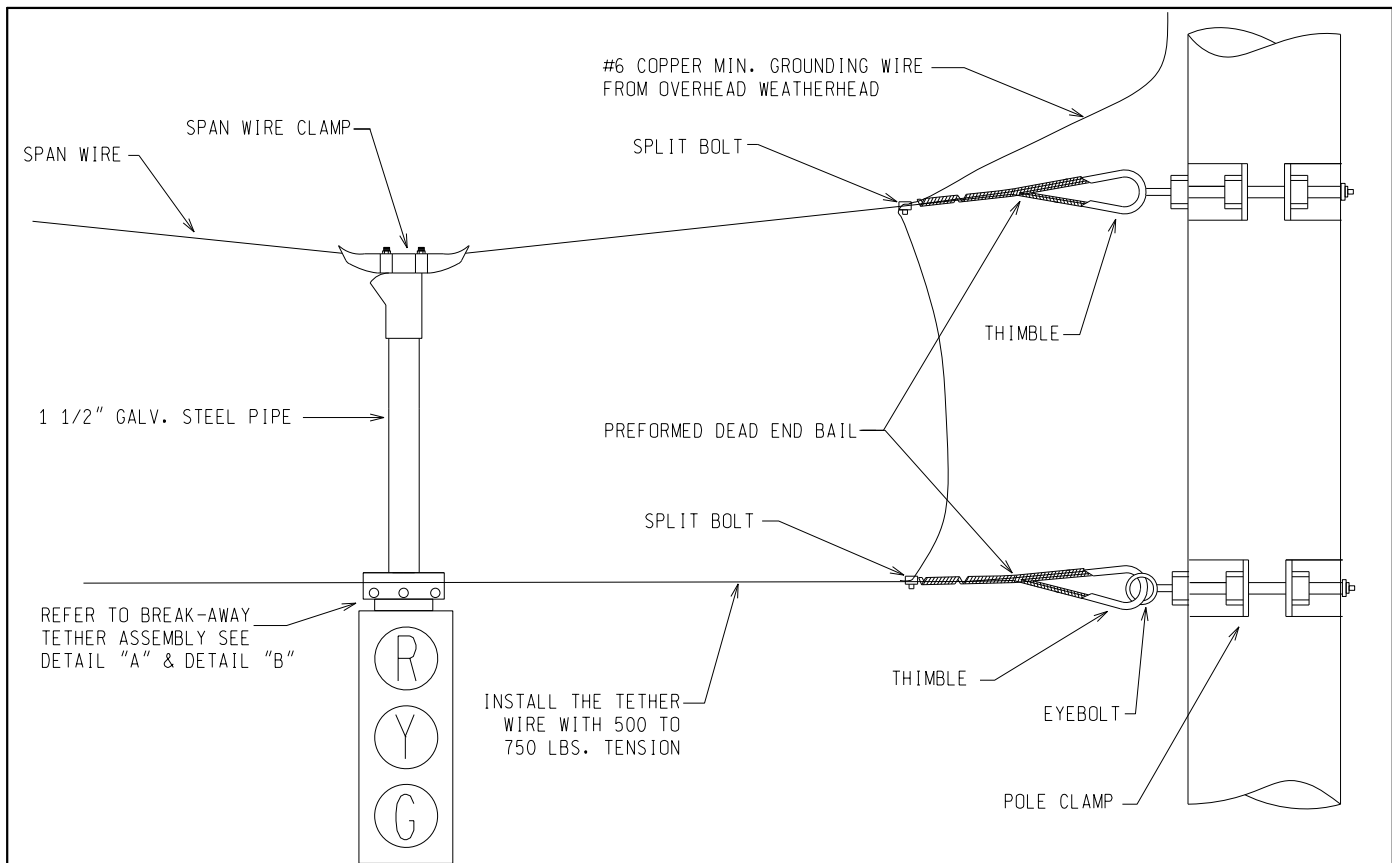
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BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN FOR

SPAN WIRE
TETHER DETAILS

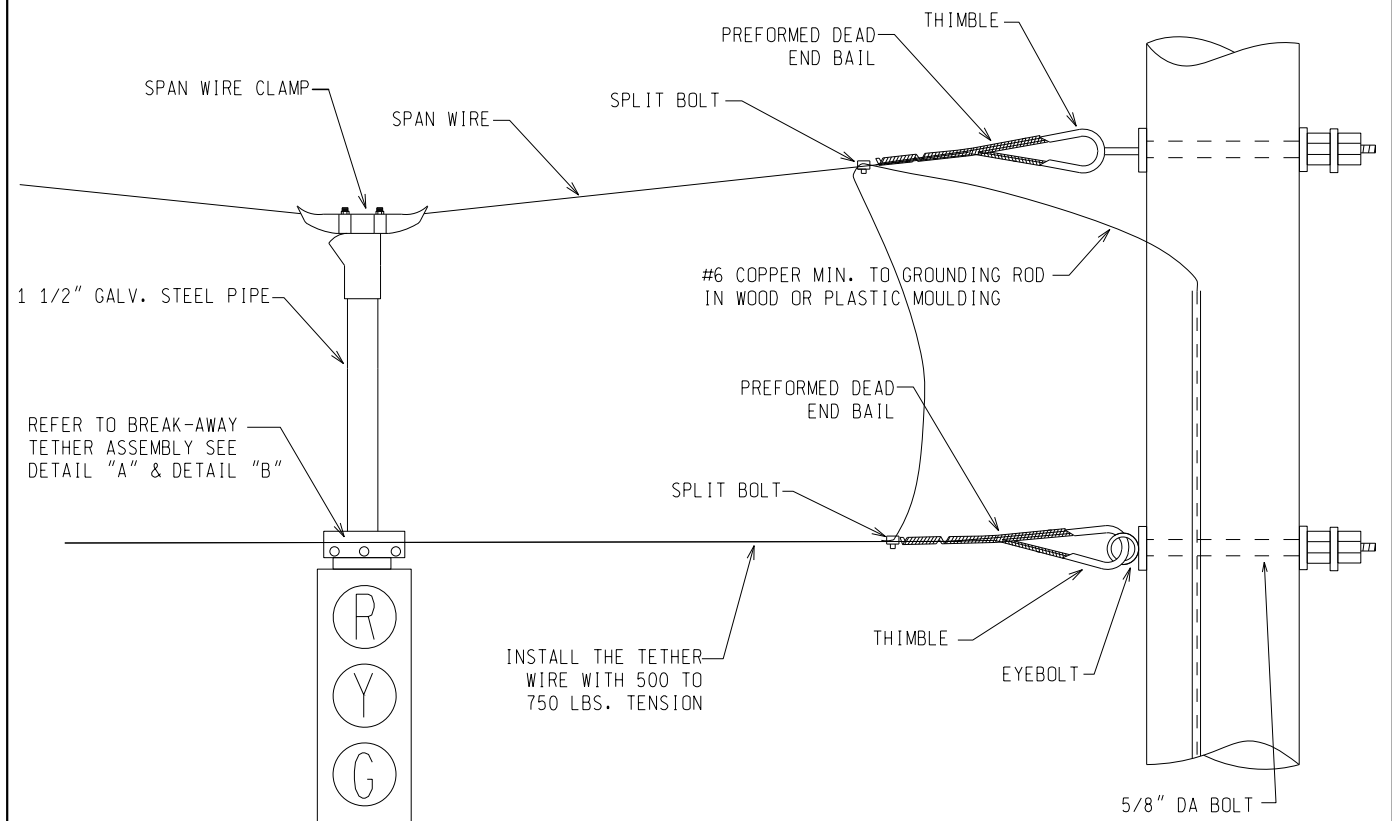
PLAN DATE

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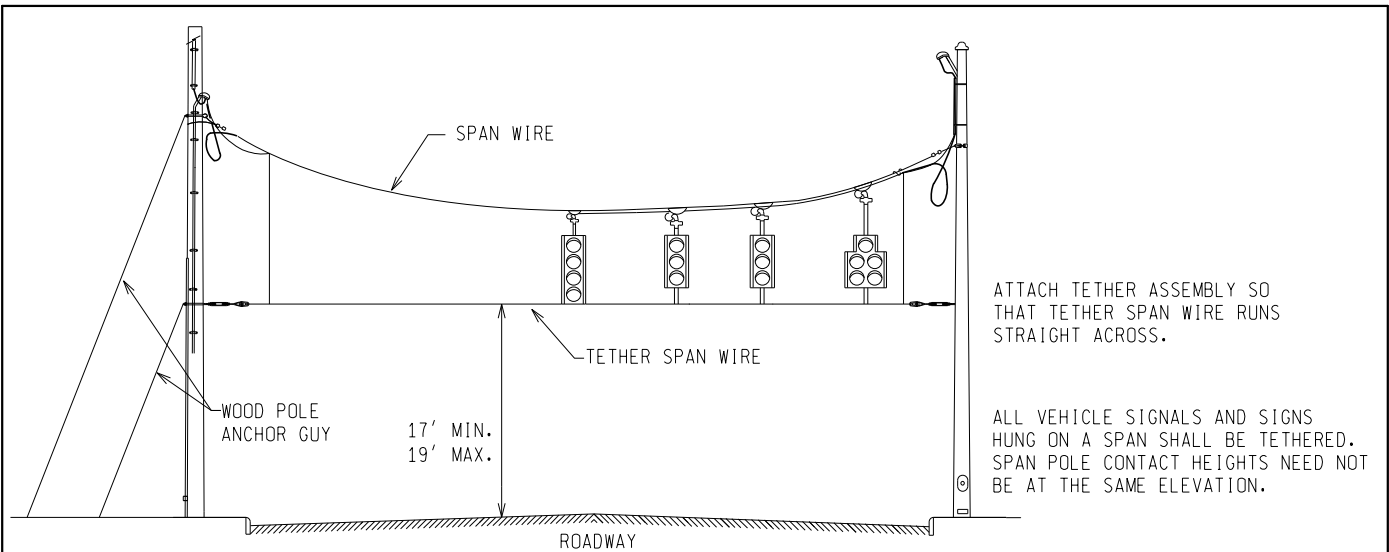
TOP TETHER SPAN WIRE STEEL POLE CONNECTION DETAIL



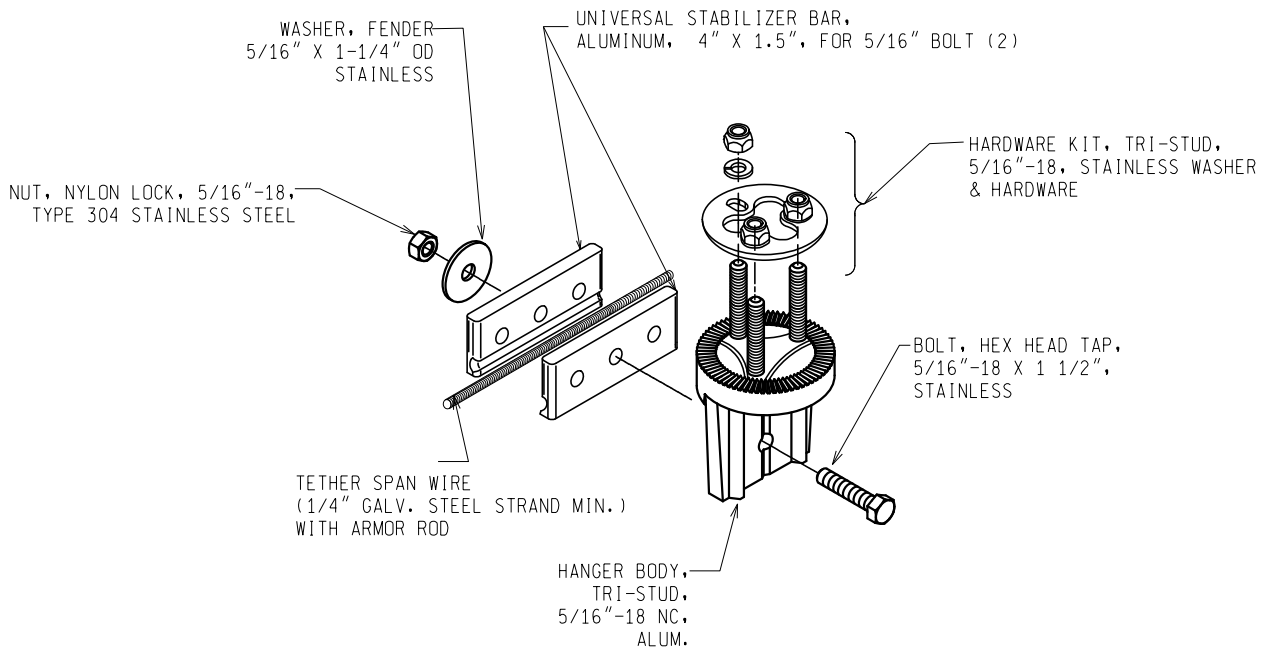
TOP TETHER SPAN WIRE WOOD POLE CONNECTION DETAIL

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MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS DELIVERY STANDARD PLAN	FHWA APPROVAL DATE	PLAN DATE	SHEET 2 of 5
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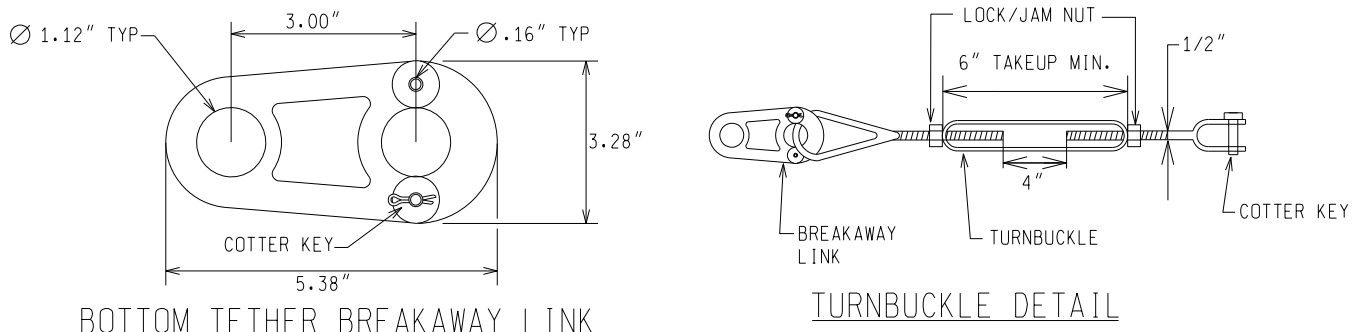


ELEVATION VIEW: BOTTOM TETHER INSTALLATION



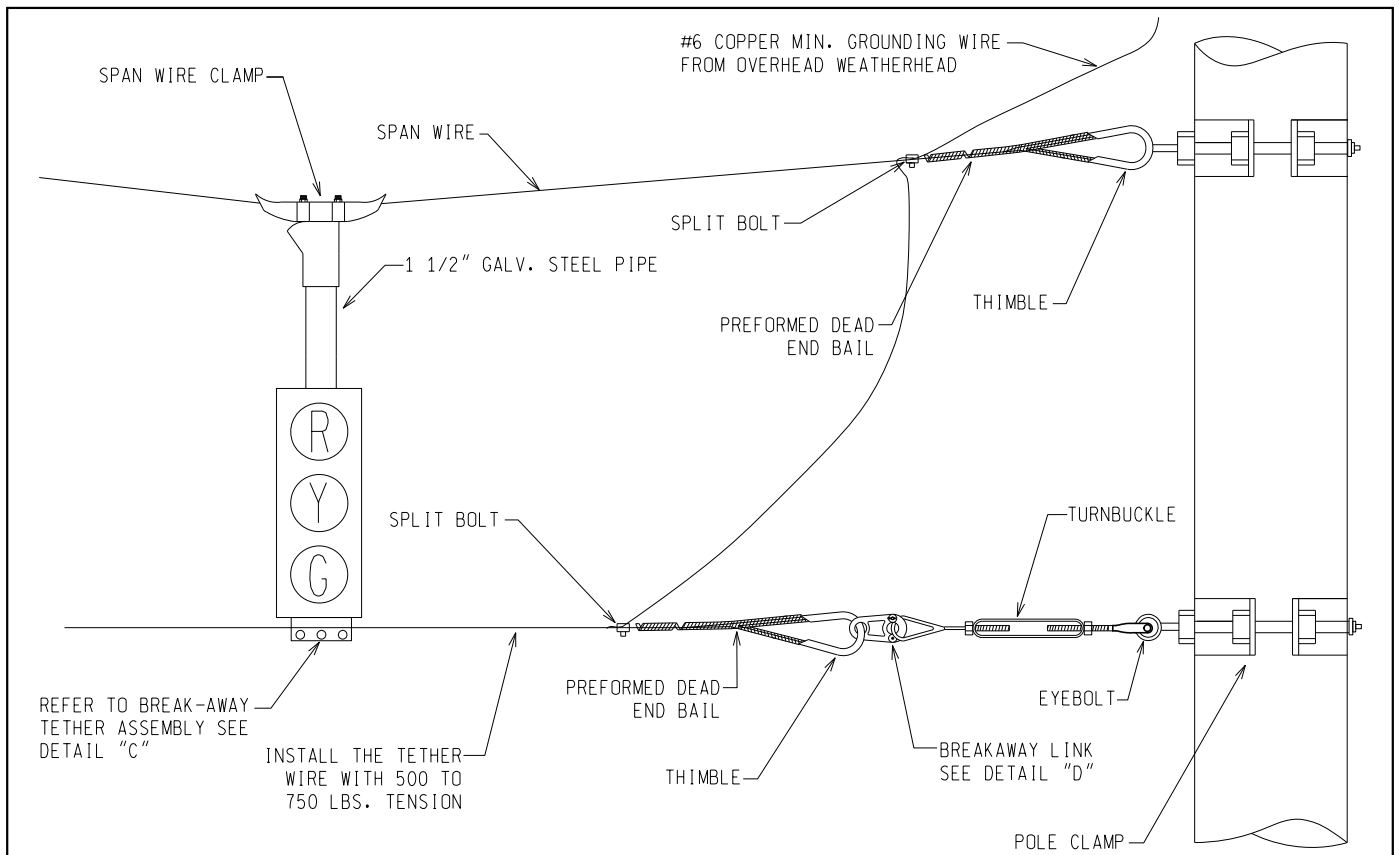
DETAIL "C": TETHER ASSEMBLY TRI-STUD BREAK-A-WAY

DETAIL "D": BREAK-AWAY TETHER ASSEMBLY FOR BOTTOM OF SIGNAL HEAD

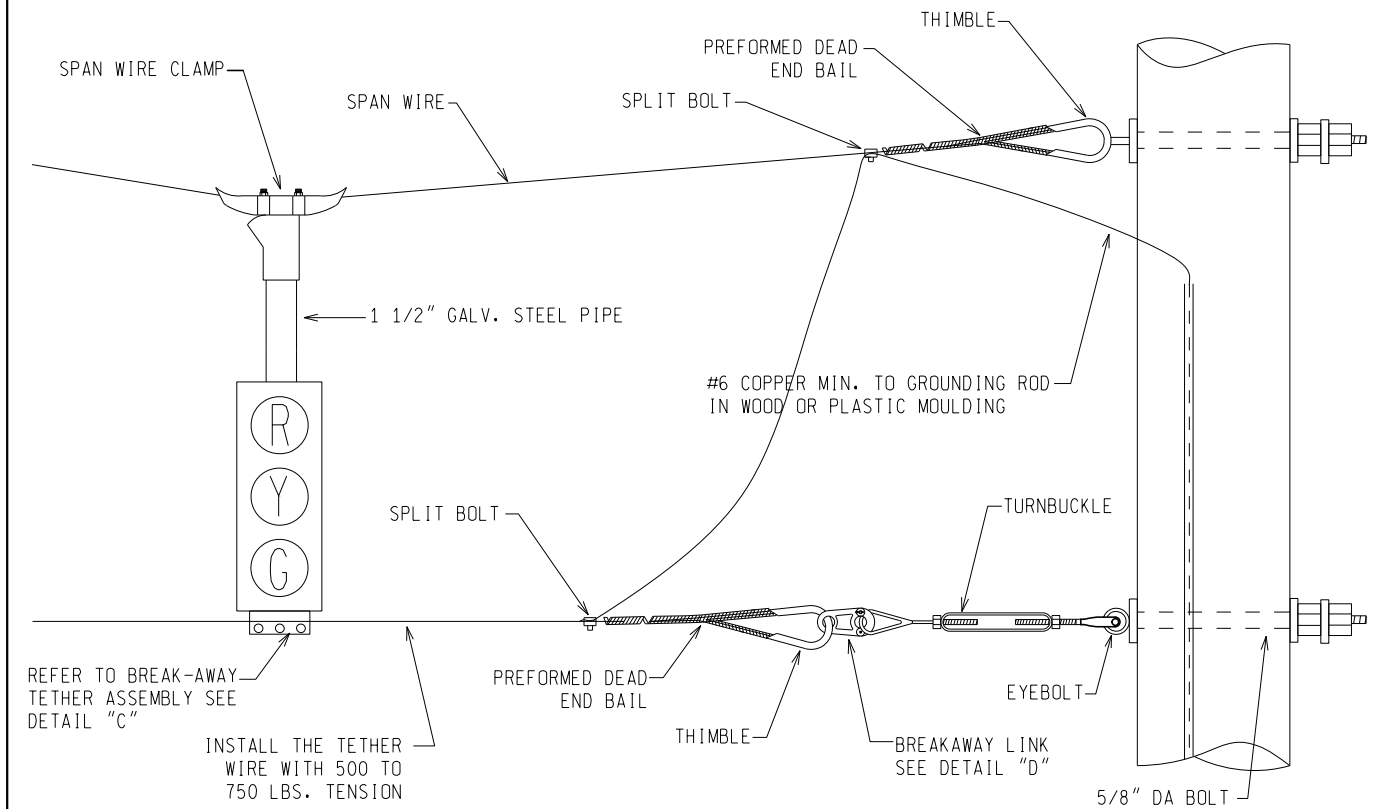


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BOTTOM TETHER SPAN WIRE STEEL POLE CONNECTION



BOTTOM TETHER SPAN WIRE WOOD POLE CONNECTION

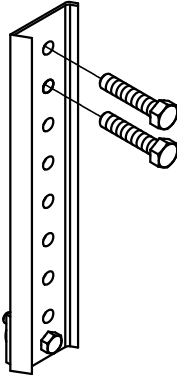
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EXTENDER OPTION 8", 11", 19", 24", & 72"
(CUT TO LENGTH)

NOTES

1. BREAKAWAY LINK AND TURNBUCKLE ARE REQUIRED AT BOTH ENDS OF ALL BOTTOM TETHER SPANS. IF BREAKAWAY LINK BEGINS TO YIELD DURING INSTALLATION, IT SHALL BE REMOVED AND REPLACED. THE WIRE TENSION SHALL BE ADJUSTED TO MINIMIZE MOVEMENT OF SIGNAL HEADS IN HIGH WINDS. TYPICAL TENSION IS 500 TO 750 LBS.
2. INSTALL GROUND WIRE AT BOTH ENDS OF TOP AND BOTTOM TETHERING.
3. IF SIGNAL ORIENTATION IS NOT PERPENDICULAR TO SPAN AND TETHER WIRE, THEN USE AN ANCHOR EXTENSION. CLAMP ASSEMBLY MUST BE ATTACHED TO THE FLAT SIDE OF THE EXTENDER BAR.
4. BREAKAWAY LINK SHALL YIELD AT 3325 LBS OF TENSION.
5. TETHER WIRE SHALL BE 7-STRAND ASTM A475 HS 1/4 INCH. ON ALL SPANS, INSTALL TETHER HORIZONTALLY. MAINTAIN CLEARANCE OF 17' OVER ROADWAY.
6. GROUNDING WIRE ANCHOR HEIGHT TO THE SPAN WIRE IS ADJUSTED IN THE FIELD BEFORE BREAKAWAY LINK IS INSTALLED. GROUNDING WIRE LENGTH SHALL BE ADJUSTED SO THAT THE MINIMUM VERTICAL CLEARANCE OF THE SAGGING TETHER WIRE ABOVE THE PAVEMENT WITHOUT THE BREAKAWAY LINK INSTALLED IS AT LEAST 14'. GROUNDING WIRE SHALL CONTAIN ENOUGH SLACK FOR HEAD TO SWAY IN HIGH WINDS. GROUNDING WIRE SHALL BE ATTACHED TO THE SPAN WIRE USING A TINNED COPPER SPLIT BOLT.
7. TRAFFIC SIGNAL HOUSING REINFORCEMENT PLATES ARE REQUIRED WHEN TETHERING.
 - A. TOP TETHERING REQUIRES REINFORCEMENT PLATES AT THE TOP OF THE POLYCARBONATE HOUSING. (2 PLATES TOTAL)
 - B. BOTTOM TETHERING REQUIRES REINFORCEMENT PLATES AT THE TOP AND BOTTOM OF POLYCARBONATE HOUSING. (4 PLATES TOTAL)
 - C. BOTTOM TETHERING 5-SECTION HEADS REQUIRES REINFORCEMENT PLATES ON THE TOP AND BOTTOM OF THE POLYCARBONATE HOUSING (8 TOTAL) AND AN ALUMINUM TRI-STUD UPPER ARM ASSEMBLY IN PLACE OF THE BOTTOM BRACKET.
 - D. IF POLYCARBONATE HOUSING CONNECTS TO AN ALUMINUM CASE SIGN, REINFORCEMENT PLATES MUST BE USED AT THE CONNECTION.

NOT TO SCALE

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