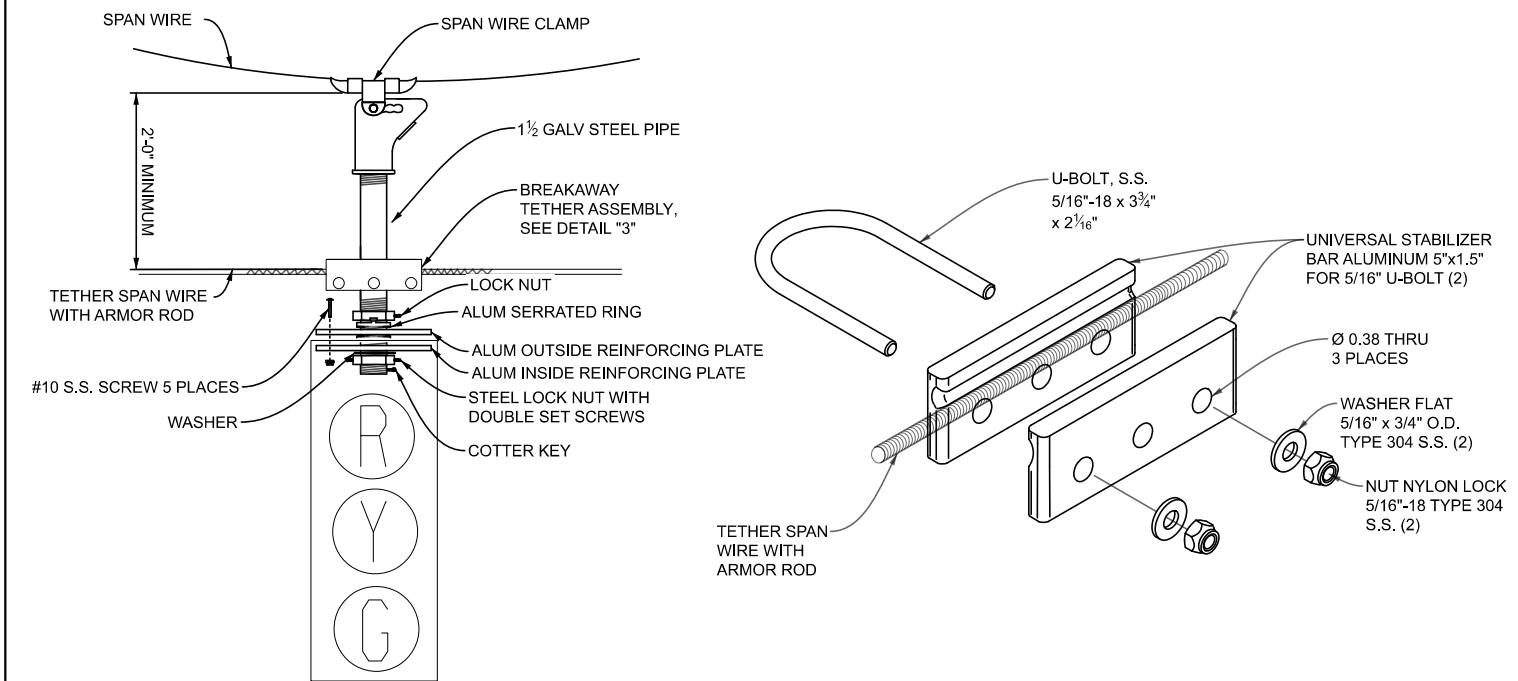
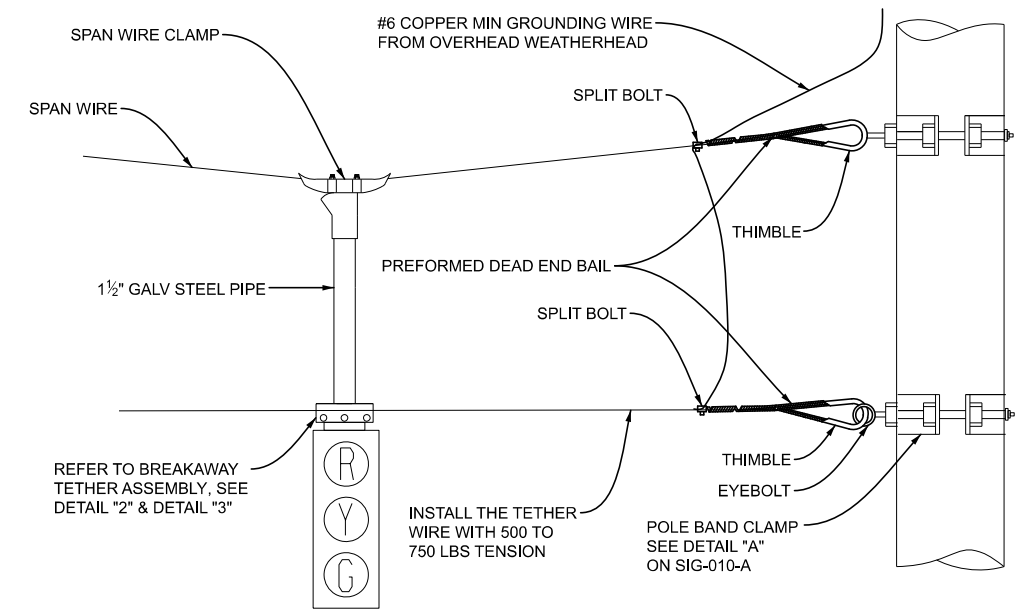


1 DETAIL - TOP TETHER

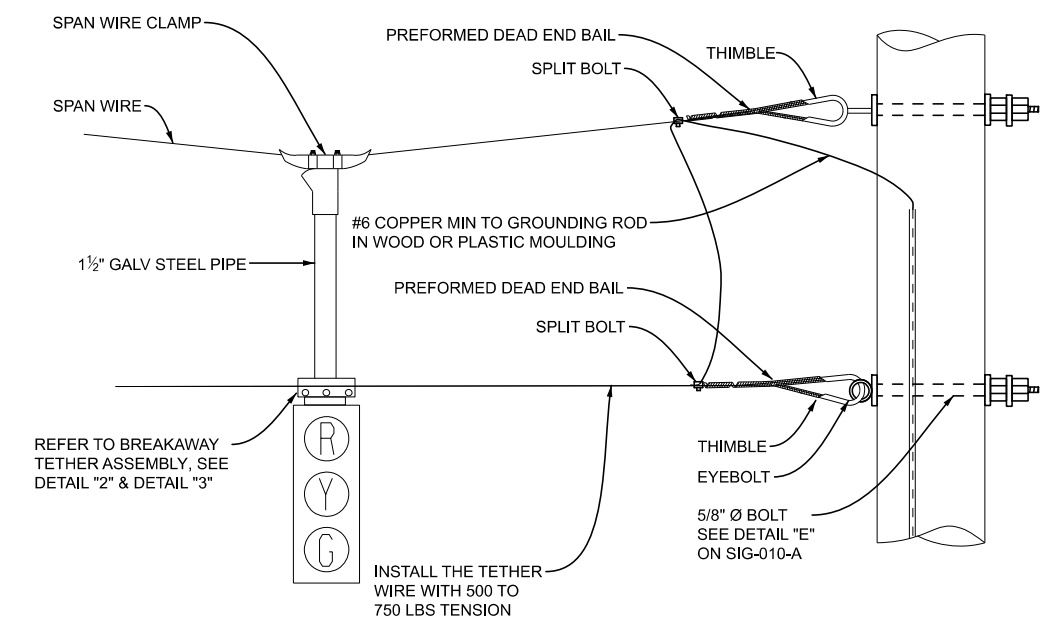


2 DETAIL - SPAN WIRE INSTALLATION

3 DETAIL - BREAKAWAY TETHER ASSEMBLY FOR TOP OF SIGNAL HEAD



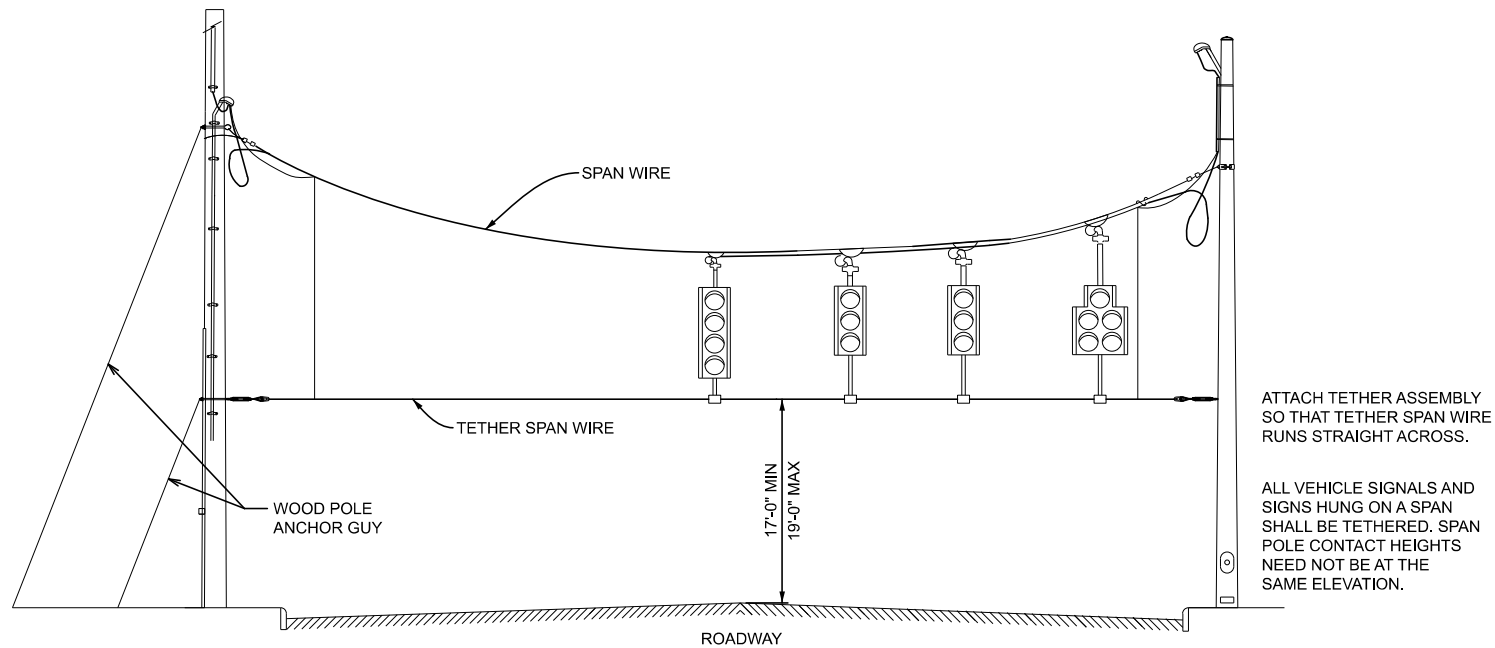
4 TOP TETHER SPAN WIRE STEEL POLE CONNECTION



5 TOP TETHER SPAN WIRE WOOD POLE CONNECTION

APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES		STANDARD PLAN FOR SPAN WIRE TOP TETHER DETAILS			
APPROVED BY: _____ DIRECTOR, BUREAU OF DEVELOPMENT		DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE	SIG-305-D

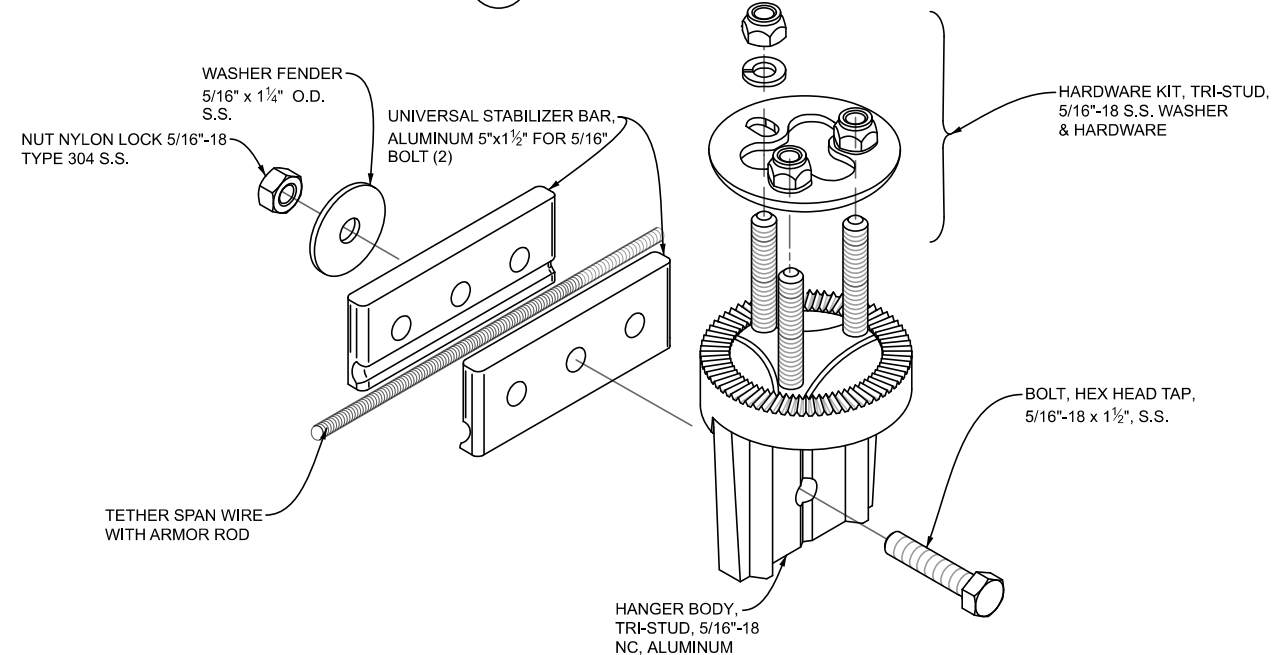
	STANDARD PLAN FOR TOP TETHER CONNECTION DETAILS			
	DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE	SIG-305-D



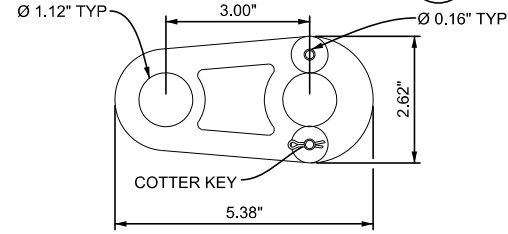
6 BOTTOM TETHER INSTALLATION

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

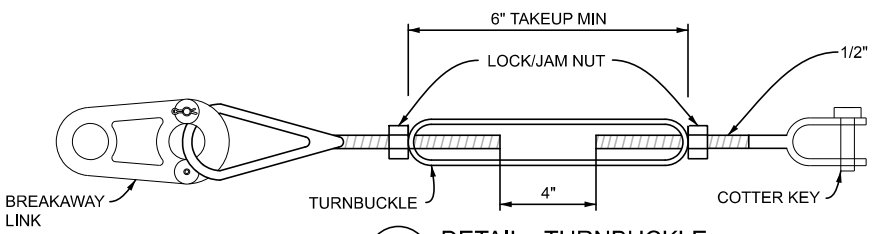
ALL VEHICLE SIGNALS AND SIGNS HUNG ON A SPAN SHALL BE TETHERED. SPAN POLE CONTACT HEIGHTS NEED NOT BE AT THE SAME ELEVATION.



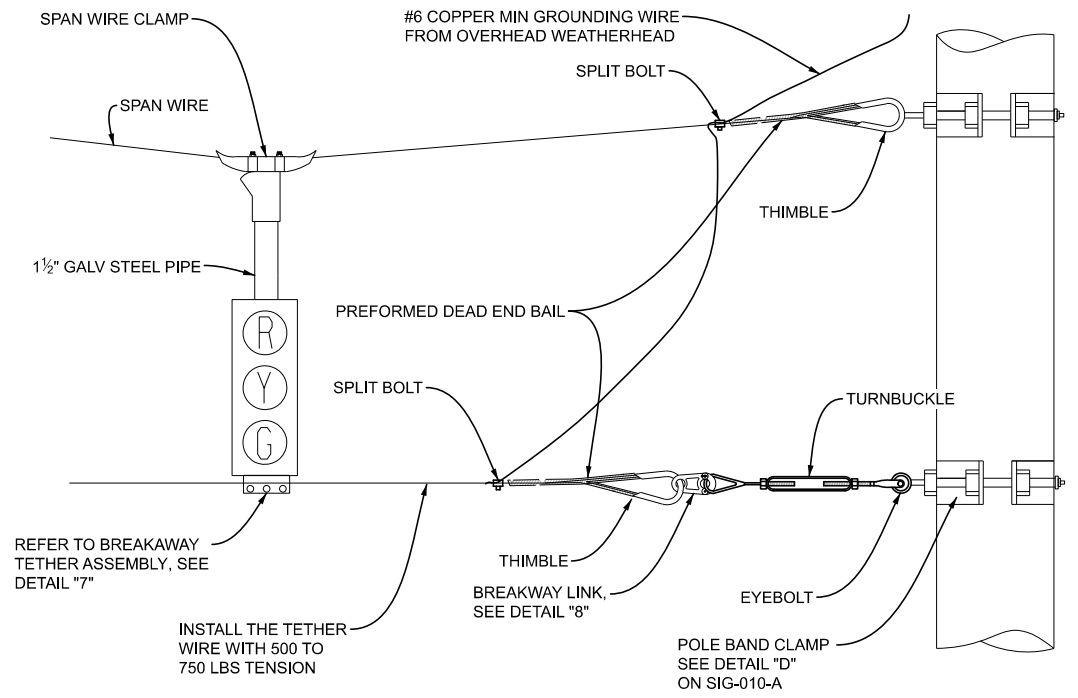
7 DETAIL - TETHER ASSEMBLY TRI-STUD BREAKAWAY



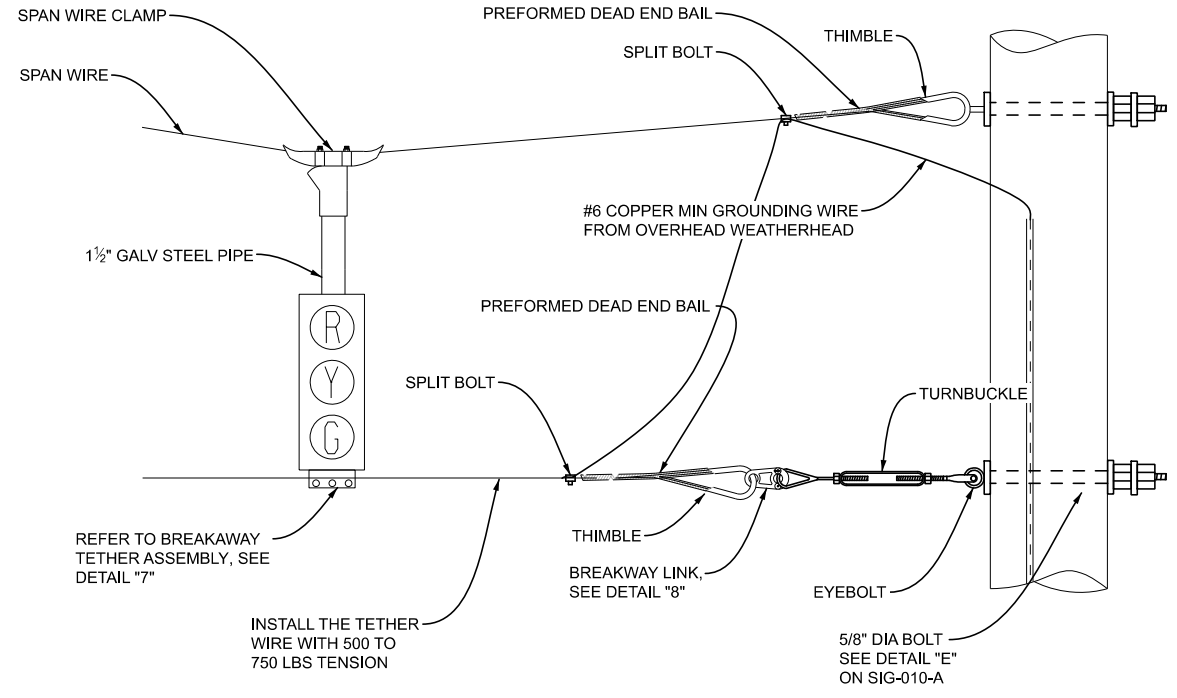
8 DETAIL - BREAKAWAY TETHER ASSEMBLY FOR BOTTOM OF SIGNAL HEAD



9 DETAIL - TURNBUCKLE



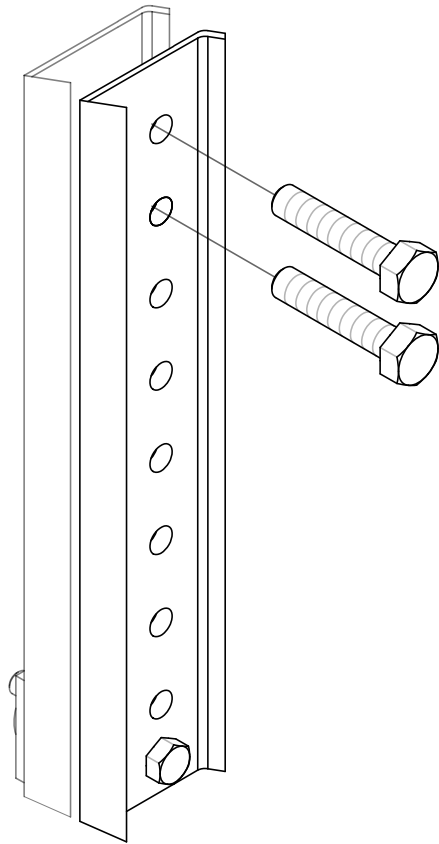
10 BOTTOM TETHER SPAN WIRE STEEL POLE CONNECTION



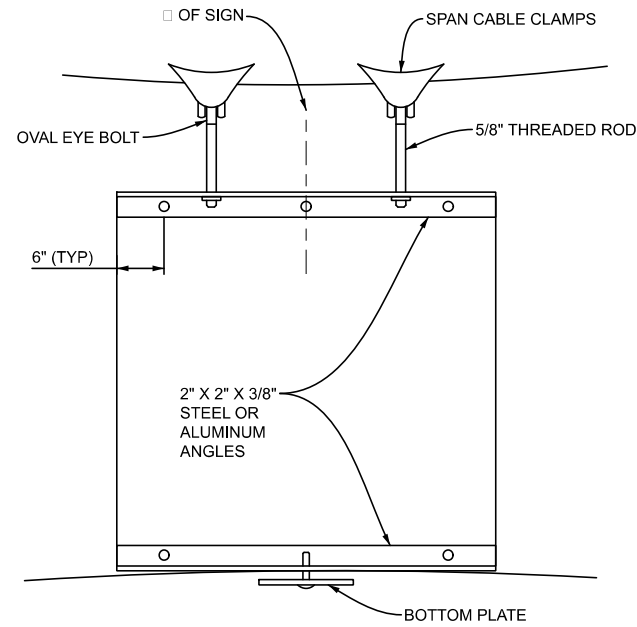
11 BOTTOM TETHER SPAN WIRE WOOD POLE CONNECTION

 Michigan Department of Transportation	STANDARD PLAN FOR			SHEET
	SPAN WIRE BOTTOM TETHER DETAILS			
DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE	SIG-305-D	

 Michigan Department of Transportation	STANDARD PLAN FOR			SHEET
	BOTTOM TETHER CONNECTION DETAILS			
DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE	SIG-305-D	SECT



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



**13** DETAIL - OVERHEAD LANE ASSIGNMENT SIGN CONNECTION

**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. 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.
5. 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 (12 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.

**NOTES:**

1. ALUMINUM ANGLES SHALL BE USED FOR ALUMINUM SIGNS (TYPE III).
2. STEEL OR ALUMINUM ANGLES MAY BE USED ON PLYWOOD SIGNS (TYPE II).

<p>DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE</p>	STANDARD PLAN FOR EXTENDER OPTION AND OVERHEAD LANE ASSIGNMENT SIGN CONNECTION DETAILS			SHEET 5 OF 5
	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE	SIG-305-D	

<p>DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE</p>	STANDARD PLAN FOR			SHEET OF SECT
	(SPECIAL DETAIL) FHWA APPROVAL	07/27/23 PLAN DATE		