

Evaluation Table

PEP ID:	XXXXX
Manufacturer:	Name of Manufacturer
Product Name:	Name of Product

731 Traffic Signals and Light Poles

731 Traffic Signal Poles and Mast Arms (Including Pedestrian Post)

ADOT Stored Specification: 731STRSUP

ADOT Standard Drawing: T.SL. 4 Series (as applicable)

Responsible Section: Traffic Group

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
General: Definition	731STRSUP 731-2.02(A)	Standard steel poles assemblies for traffic signals and highway lighting shall include pole shafts, mast arms, and pole bases.		
General: Complete Assembly	731STRSUP 731-2.02(A)	Each steel pole and mast arm shall be designed and manufactured as a complete assembly. The assembly shall be furnished and installed as a complete unit that is configured to the necessary dimensions with all the required components including mounting brackets and assembly, ground lugs, rain caps, hand hole covers, anchor bolts, nuts, washers and related hardware and accessories.		
General: Design Parameters	731STRSUP 731-2.02(A) T.SL 4 Series	The design of the traffic signal and lighting supports shall be per the requirements of the 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 6 th edition, with the 2015 interim revisions. (2019 and 2020 interim revisions included in Standard Drawings)		
General: Stress and Fatigue	731STRSUP 731-2.02(A)	All pole lighting supports and mast arms shall be designed to withstand 90 miles per hour wind, and a 3-second Gust. Fatigue analysis is to be per Fatigue Category 2, without galloping. Truck Induced velocity shall be 55 mph wind speed.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Pole Shafts: Tapered Pole Shafts	731STRSUP 731-2.02(B)(1)	Tapered pole shafts shall be fabricated from sheet steel of weldable grade which shall meet a minimum yield stress, after fabrication, of 50,000 pounds per square inch.		
Pole Shafts: Tapered Pole Shafts	731STRSUP 731-2.02(B)(1)	A taper rate of approximately 0.14 inches in diameter per linear foot shall be required unless otherwise specified.		
Pole Shafts: Standard Pipe Pole Shafts	731STRSUP 731-2.02(B)(1) ASTM A53 ASTM A500 - Grade B	Standard pipe pole shafts shall be fabricated from standard weight structural steel which conforms to the minimum strength requirements of ASTM A53, or A500 Grade B.		
Pole Shafts: Standard Pipe Pole Shafts	731STRSUP 731-2.02(B)(1)	Each section shall be fabricated from not more than two pieces of sheet steel. When two pieces are used, the longitudinal welded seams shall be directly opposite one another.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1)	When the sections are butt welded, seams shall be directly opposite one another. When the sections are butt welded together, the longitudinal welded seams on adjacent sections shall be placed to form continuous straight seams from base to top of pole.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1)	Pole shafts shall be straight, with a permissive variation not to exceed one inch measured at the midpoint.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1) ASTM A123	Pole shafts shall be galvanized in accordance with the requirements of ASTM A123.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1)	All steel poles shall have a hand hole in the base of the poles and shall conform to the details shown on the Standard Drawings.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1)	All welds shall be continuous and any exposed welds, except fillet welds, shall be ground flush with the base metal.		
Steel Poles and Mast Arms: Pole Shafts	731-2.02(B)(1)	A metal tag shall be permanently attached to the pole above the hand hole stating the manufacturer's name, pole type per the Department's plans, pole drawing number, shaft length and gage number.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Mast Arms: Tapered Mast Arms	731STRSUP 731-2.02(B)(2)	Tapered mast arms for all pole types shall be fabricated from sheet steel with a minimum yield stress of 50,000 pounds per square inch after fabrication.		
Mast Arms: Tapered Mast Arms	731STRSUP 731-2.02(B)(2)	A taper rate of approximately 0.14 inches change in diameter per linear foot shall be required unless otherwise specified.		
Mast Arms: Hardware	731STRSUP 731-2.02(B)(2) ASTM F3125 ASTM F2329	All bolts, washers, and nuts for mast arms shall be high strength, shall be fabricated from steel which meets the requirements of ASTM F3125 GR A325, and shall be electro-galvanized in accordance with the requirements of ASTM F2329.		
Mast Arms: Galvanization	731STRSUP 731-2.02(B)(2) ASTM A123	Mast arms shall be galvanized in accordance with the requirements of ASTM A123.		
Mast Arms: Identification	731STRSUP 731-2.02(B)(2)	A metal tag shall be permanently attached on the side of the mast arm near the base stating the manufacturer's name, pole type and name as shown on the plans, mast arm or pole drawing number, length, and gage number.		
Steel Pole Extensions and Twin Luminaire Brackets: Fabrication	731STRSUP 731-2.02(B)(3) ASTM A53 ASTM A500	Pole extensions and twin luminaire brackets shall be fabricated from new pipe conforming to the requirements of ASTM A53 or A500 Grade B.		
Steel Pole Extensions and Twin Luminaire Brackets: Welding	731STRSUP 731-2.02(B)(3)	All welding shall conform to the requirements of the American Welding Society, Structural Welding Code - Steel, D1.1, latest edition.		
Steel Pole Extensions and Twin Luminaire Brackets: Galvanization	731STRSUP 731-2.02(B)(3) ASTM A123	Pole extensions and twin luminaire brackets shall be fully galvanized in accordance with the requirements of ASTM A123.		
Standard Bases: Fabrication	731STRSUP 731-2.02(B)(4) ASTM A36	Poles shall have standard bases fabricated from structural steel plates conforming to the minimum strength requirements of ASTM A36.		
Standard Bases: Finish	731STRSUP 731-2.02(B)(4)	Exposed surfaces shall be finished smooth and all exposed edges shall be neatly rounded to a 1/8 inch radius.		

Product Property	Specification/ Test Method	Requirement	Results	Pass/ Fail
Standard Bases: Galvanization	731STRSUP 731-2.02(B)(4) ASTM A123	Standard bases shall be galvanized in accordance with the requirements of ASTM A123.		
Anchor Bolts, Nuts and Washers: Fabrication	731STRSUP 731-2.02(B)(5) ASTM F1554	Standard anchor bolts, washers, and nuts shall be fabricated from steel conforming to the requirements of ASTM F1554 Grade 55.		
Anchor Bolts, Nuts and Washers: Galvanization	731STRSUP 731-2.02(B)(5) ASTM F2329	Anchor bolts, washers, and nuts shall be fully galvanized in accordance with the requirements of ASTM F2329.		
Anchor Bolts, Nuts and Washers: Conformance	731STRSUP 731-2.02(B)(5)	Anchor bolts shall conform to the requirements shown on Standard Drawings.		
Anchor Bolts, Nuts and Washers: Welding	731STRSUP 731-2.02(B)(5)	Welding shall not be performed on any portion of the body of these bolts.		
Type "J" Pole	T.SL. 4-12	Type "J" poles shall conform to Standard Drawing T.SL. 4-12.		
Type "Q" Pole	T.SL. 4-13	Type "Q" poles shall conform to Standard Drawing T.SL. 4-13.		
Type "K" Pole	T.SL. 4-14	Type "K" poles shall conform to Standard Drawing T.SL. 4-14.		
Type "R" Pole	T.SL. 4-15	Type "R" poles shall conform to Standard Drawing T.SL. 4-15.		
Type "V" Pole	T.SL. 4-16	Type "V" poles shall conform to Standard Drawing T.SL. 4-16.		
Type "W" Pole	T.SL. 4-17	Type "W" poles shall conform to Standard Drawing T.SL. 4-17.		
Hand Hole	T.SL. 4-18	Hand holes shall conform to Standard Drawing T.SL. 4-18.		
Type PB Pole	T.SL. 4-27	Pedestrian push button posts "Type PB Pole" shall conform to Standard Drawing T.SL. 4-27.		
Steel Mast Arm Luminaire and Signal Arms to 20'	T.SL. 4-29	Steel luminaire and signal arms to 20' shall conform to Standard Drawing T.SL. 4-29.		
Signal Mast Arm Tenon	T.SL. 4-31	Signal mast arm tenons shall conform to Standard Drawing T.SL. 4-31.		