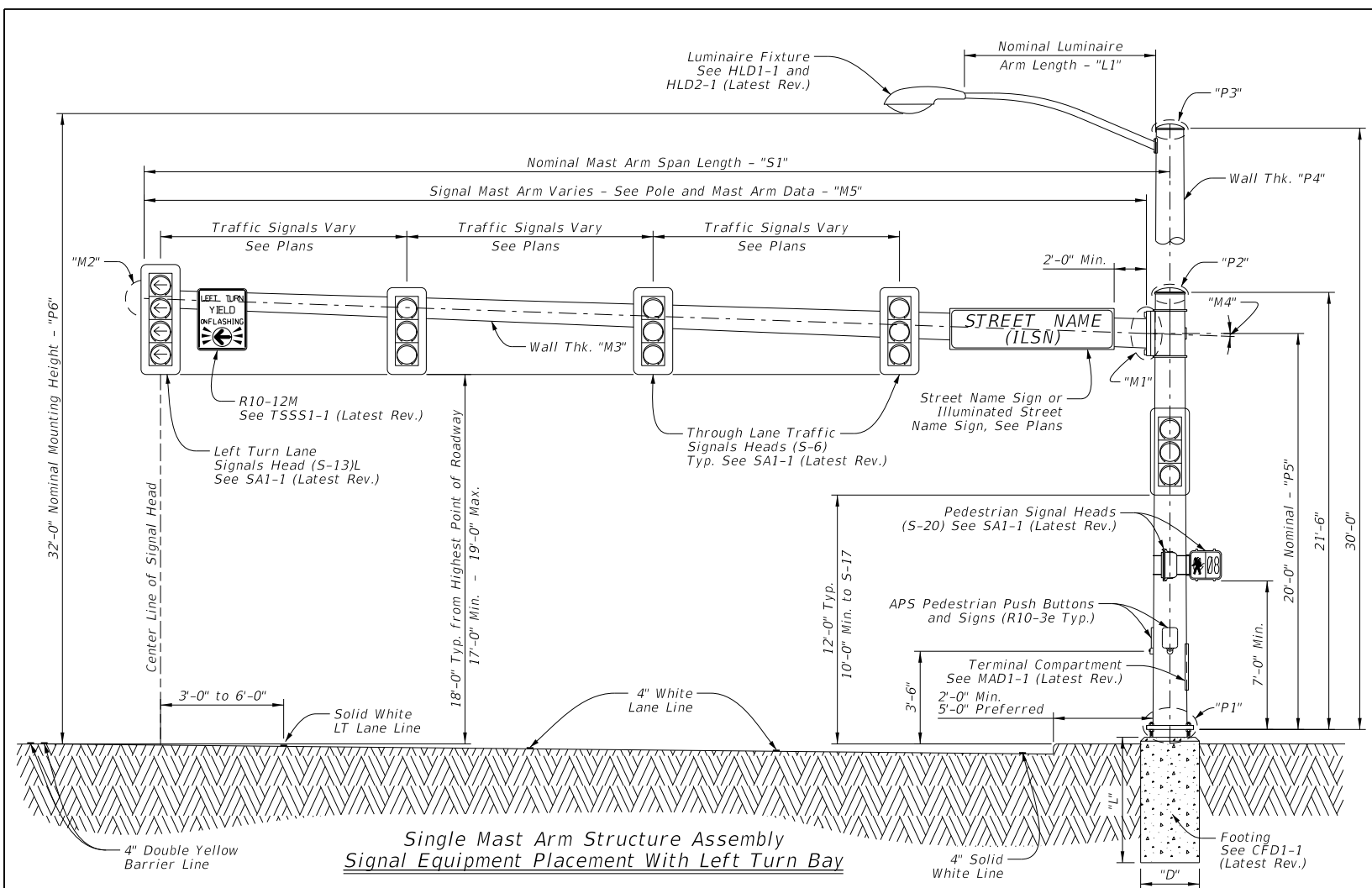
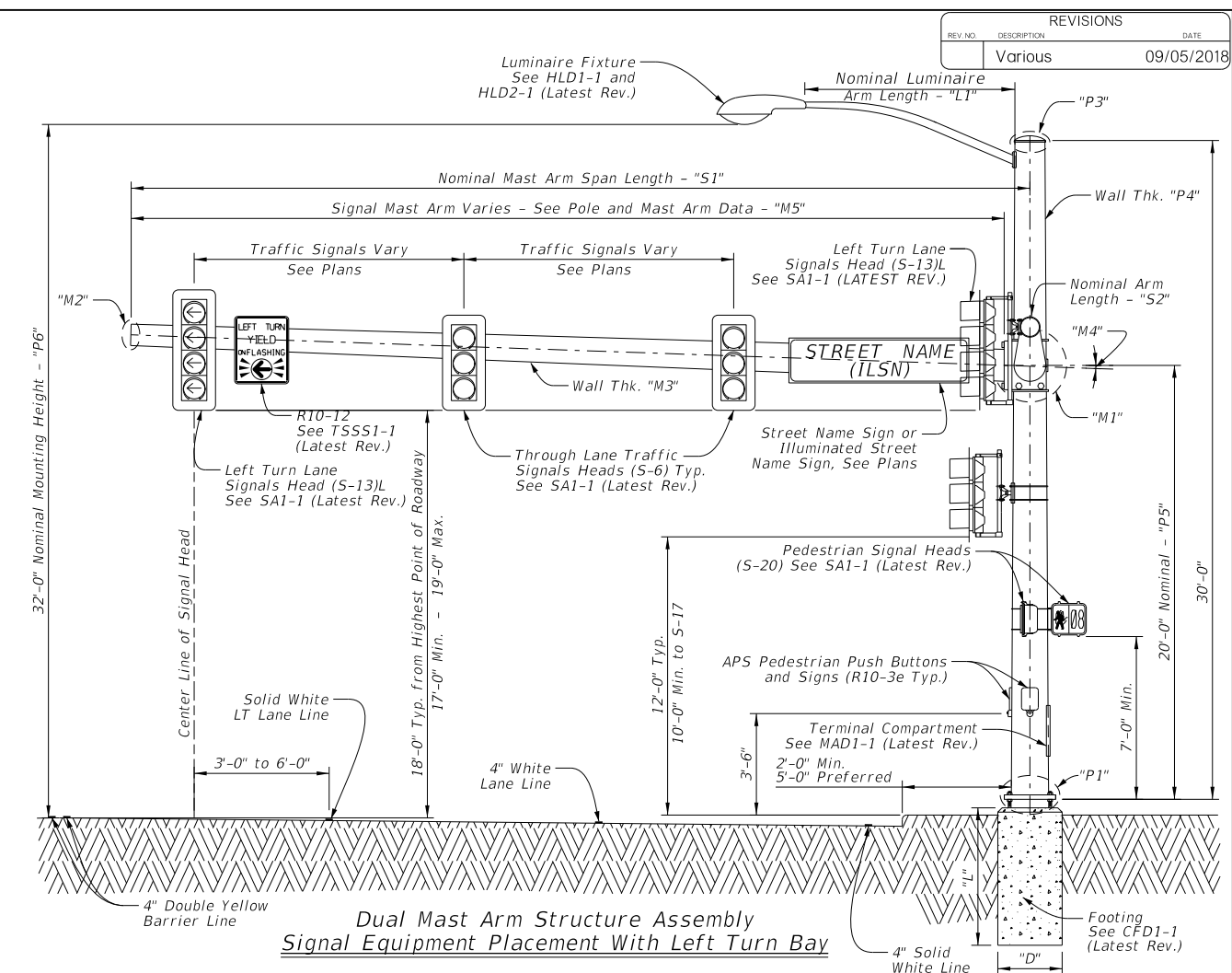


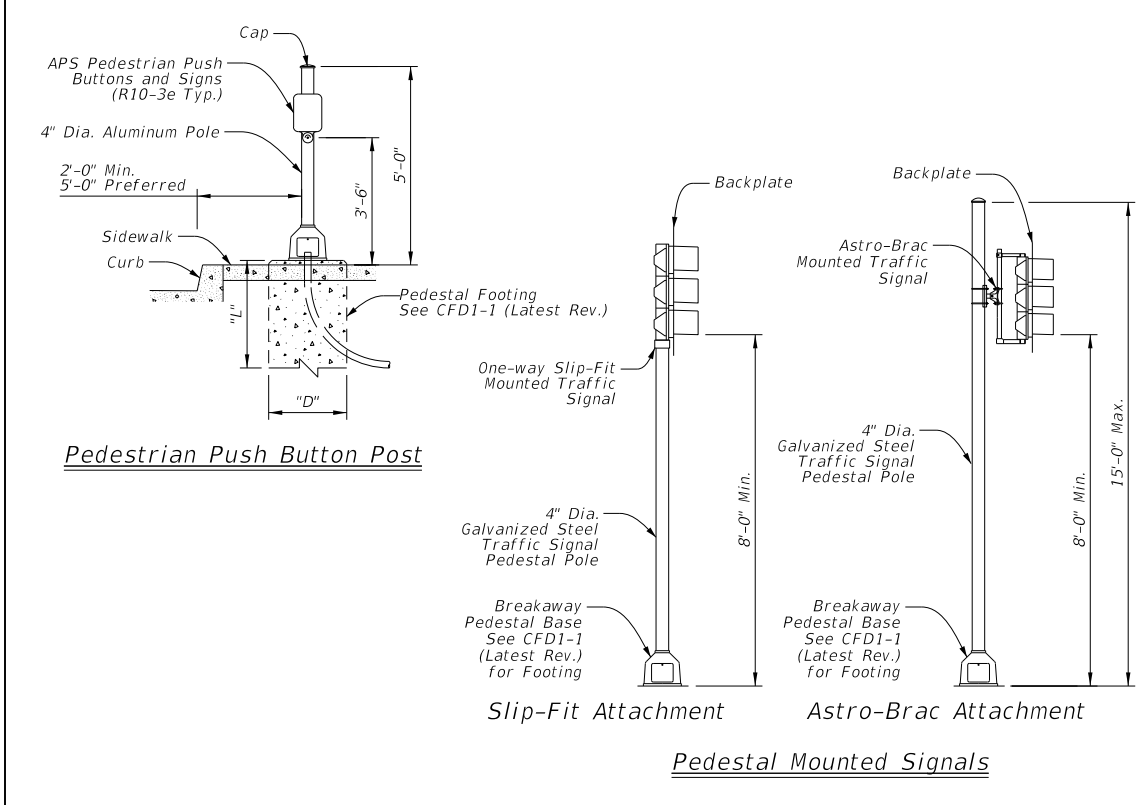
REV. NO.	DESCRIPTION	DATE
Various		09/05/2018



Single Mast Arm Structure Assembly
Signal Equipment Placement With Left Turn Bay



Dual Mast Arm Structure Assembly
Signal Equipment Placement With Left Turn Bay



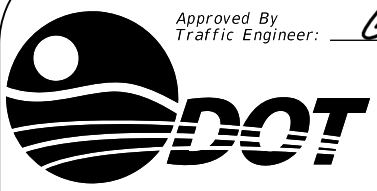
General Notes

- All work, materials and services not shown on the plans which may be necessary for complete and proper construction shall be performed, furnished and installed by the Contractor. Faulty fabrication or poor workmanship in any material, equipment or installation will be considered justification for rejection. Where manufacturers provide warranties or guarantees as a customary trade practice, Contractor shall furnish to the Department such warranties or guarantees. The location of poles and fixtures are diagrammatic only and may be shifted by the Engineer to accommodate local conditions. Erection and/or removal of signal pole assemblies located near overhead electrical lines shall be accomplished using established industry and utility safety practices and in accordance with laws governing such work. The Contractor shall consult with the appropriate utility company prior to beginning such work.
 - Standard Steel Pole and Mast Arm Designs: Steel poles and mast arms fabricated in accordance with the details and dimensions shown herein, shall be considered standard designs. Submission of shop drawings for standard designs are required for project records.
 - Optional Steel Pole Designs: Optional steel poles shall be limited to: 1) aesthetic steel poles (architectural treatments or ornamental designs) approved in Traffic Engineering Division's Qualified Product List or 2) round steel poles not covered by these Standards. In the case of #2, design alternatives to round steel poles shall not be allowed except if called for in the Plans or the Contractor obtained pre-approval from Traffic Engineering Division. Optional Steel Poles shall meet the following requirements as outlined below:
 - Shop Drawings: Optional designs require submission of shop drawings and design calculations bearing the seal of an Engineer registered in the State of Oklahoma, in accordance with Section 724, "Structural Steel." The Department may elect to pre-approve some shop drawings for optionally designed poles. Submission of shop drawings and design calculations is not required for structures fabricated in accordance with the details of shop drawings on the pre-approved list maintained by the ODOT Traffic Operations Division. Any deviation from the pre-approved shop drawings will require submission of shop drawings of the complete assembly and design calculations as described above.
 - Structural Design for Signal Poles: Designs conform to 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications. Designed for 3-second wind gust speed equal to 90 MPH with a 1.14 gust factor. A wind importance factor of 0.87 is applied to adjust the wind speed to a 50 year recurrence interval. Design moments listed in tables assume base of pole is less than 33' above natural ground level. Fatigue importance Category II is used for fatigue design. Fatigue design loads applied include galloping, natural wind gust pressure range based on a yearly mean wind velocity of 11.2 MPH, and truck-gust pressure range based on a truck speed of 65 MPH. Unless otherwise noted, all steel parts shall be galvanized in accordance with Section 724.06, "Galvanizing." Steel poles shall be fabricated in accordance with Section 724, "Structural Steel." Longitudinal seam welds for pole sections shall have 60% minimum penetration. All welding shall be in accordance with the ANSI/AWS Structural Welding Code D1.1. Two-section signal poles will not be permitted. Mast arms may be fabricated in two sections for lengths greater than 40 LF and field-assembled by the lap-joint method. The two sections shall telescope together with a lap length of not less than 1-1/2 times the shaft diameter at the lap joint. Ensure longitudinal seam welds that will be in contact at a slip joint splice are ground smooth for the length of splice plus a minimum of six inches.
 - Mast Arm Attachments: All poles and attachments shall be structurally designed to support the maximum loading shown on Std. MDL1-1 or MDL2-1, latest revision. Poles shall be supplied with mast arm combinations as shown in the plans. All luminaire mast arms shall be designed for a 50-pound luminaire having an effective projected area of 2.0 square feet.
 - Anchor Bolt Assembly: Anchor bolt assemblies for optionally designed poles shall be the same as those shown herein.
- Has been removed.

Basis of Payment		
Item No.	Item	Unit
806(A)	Traffic Signal Pole and Mastarm	EA
806(B)	Traffic Signal Pedestal Pole	EA

Approved By
Bridge Engineer: *Stump* Date: 9-14-18

Approved By
Traffic Engineer: *Ly AE* Date: 9/20/18



Traffic Standard
Traffic Signal
Support Structures
Signal Pole and
Mast Arm Details

2009 Specifications

PMAP1-2	01
T-200	