Design Standards Letter

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Section/Plan No.: P203.40, P203.41, P502.00, P606.00, P606.22, P616.10, P617.00, P703.35, P703.36, P902.50, P903.02, P903.03

Subject: Standard Plans Revisions and Revised D-2 Sheet

Body

The following standard drawings have been revised. These standard drawing revisions are effective with the January, 1995 letting. Listed below is a brief summary of revisions to the individual standard drawings. All of the following standard drawings have been transferred to CADAM.

Std. Dwg. 203.40F: Typical "On and Off Ramp" Details.
Sheet 1 of 1:
This drawing is revised for the new pavement design for other than 28 foot pavement structure. The beginning location of ramp pavement and shoulder is revised. Reference to specific pavement and ramp cross slopes is deleted. Specific superelevation transition lengths are deleted and reference to see roadway plans added. Constant taper lengths are added on the "Plan View On Ramps" detail, and the P.C. and P.T. of curve are revised to be consistent with Fig. 4-06.1 of the Design Manual.
Std. Dwg. 203.41F: Typical "On and Off Ramp" Details.
Sheet 1 of 1:
This drawing is revised for the new pavement design for 28 foot pavement structure. The beginning location of the ramp pavement and shoulder is revised. Reference to specific pavement and ramp cross slopes is deleted. Specific superelevation transition lengths are deleted and reference to see roadway plans added. Constant taper lengths are added. On the "Plan View On Ramps" detail, the P.C. and P.T. of curve are revised to be consistent with Fig. 4-06.1 of the Design Manual.
Std. Dwg. 502.00P: Concrete Pavement and Base Appurtenances.
Sheet 1 of 2: No Revisions
Sheet 2 of 2:
The detail for "Tongue and Groove Joints K and M" is revised. The 3 1/2" Joint Key dimension is revised to 3" +- 1/2".
Std. Dwg. 606.00AA: Guard Rail.

Sheet 1 of 6:
A note refering to the type of surfacing to be used for shoulder widening in areas where Type A & B guardrail is to be constructed is added. The shoulder widening for PCC shoulders is to be aggregate. The shoulder widening for bituminous shoulders is to be bituminous material.
Sheet 2 of 6: No Revisions
Sheet 3 of 6:
A note refering to the type of surfacing to be used for shoulder widening in areas where Type E guardrail is to be constructed is added. The shoulder widening for PCC shoulders is to be aggregate. The shoulder widening for bitinous shoulders is to be bituminous material.
Sheet 4 of 6: No Revisions
Sheet 5 of 6: No Revisions
Sheet 6 of 6: No Revisions
Std. Dwg. 606.22L: Bridge Anchor Section.
Sheet 1 of 1:
In the detail "Part Section Thru Slab At End of Wing" reference to safety barrier curb has been added to the limits of the Bridge Anchor Section.
Std. Dwg. 616.10R: Traffic Control Devices.
Sheet 1 of 4: No Revisions
Sheet 2 of 4:
Section A-A is revised to require a 3 inch minimum diameter flexible delineator. The note referencing the color bands is revised to revise white bands instead of yellow bands. The specifications for Type A, B, and C portable warning lights are revised to provide distance specifications based on visibility. The third paragraph of speed limit assembly requirements is revised to require strobe light activation when the work or hazard is within 10' of the edge of pavement instead of 10". In the first note for "Additional Requirements for Solar Powered Arrow Panels," the spelling of the word "concoming" is corrected to "oncoming."
Sheet 3 of 4:
Guidelines for "Equipment Crossing-Flaggers" is added to both the rural and urban chart. A note was added to provide guidance when the geometrics of the roadway during construction requires a lower speed limit than that indicated on the chart.
Sheet 4 of 4: No Revisions
Std. Dwg. 617.00Z: Concrete Traffic Barrier.
Sheet 1 of 3:
The typical section of Type A and B Concrete Barrier is revised to add dimensions for barrier width. The Type B Barrier note is revised to read "Type B - One Traffic Face."
Sheet 2 of 3:
The "Left Turn Lane Transistion" detail is revised. In the plan view of this detail the 2" offset dimension is revised to 2'.
Sheet 3 of 3:

The details of "Precast Barrier Height Transition" have been extensively revised to provide the option of producing the Transition Section in two sections and to require reinforcement as shown. Dowels are required as shown on the drawing.

Std. Dwg. 703.35C: Concrete Box Culverts, Cutting Details, Extension to Straight Wings

Sheet 1 of 1:

The cutting detail for "Extension to Flared Wings" is deleted from this drawing. A detail for wing-wall removal outside the head-wall is added to this drawing.

Std. Dwg. 703.36B: Concrete Box Culverts, Cutting Details, Extension to Flared Wings

Sheet 1 of 1:

A cutting detail for single box culverts with flared wings for all skews is added.

Std. Dwg. 902.50H: Traffic Signals, Detectors

Sheet 1 of 1:

A detail for "Abandoned Loops" is added to provide guidance for abandoning existing loops. "Loop Slot Detail" is revised to provide individual loops per traffic lane. Two general notes Number 9 and 10 are added. Note Number 9 requires that "E" joints or full depth joints be avoided as much as possible. Note number 10 requires typical dimensions be used. Detail "B" providing an optional corner for loop placement is added.

Std. Dwg. 903.02Z: Highway Signing.

Sheet 1 of 8:

This sheet is reorganized to include typical structural designed signs. They include interchange sequence, advance/exit guide, and miscellaneous guide signs. Sign heights are revised to the even foot dimension to enable fabrication of structural signs by use of extruded aluminum panels as shown on Standard Drawing 903.03AQ. Cardinal direction words on Typical Advance Guide Signs and Typical Exit Guide are revised to 18"/15" legend for ground mounted signs and 15"/12" legend for overhead signs. The name of place, street or highway word is revised to 20"/15" legend for ground mounted signs and 16"/12" legend for overhead mounted structural signs. The general notes are revised to indicate sign type. Typical interchange sequence sign details have been added.

Sheet 2 of 8:

This sheet is reorganized to include structural design signs consisting of Service Signs, Exit Only Panels, and lane Control Signs with route sheilds. The Gas, Food, Lodging Service Sign is revised to a symbol sign. Sign heights are revised to the even foot dimension to enable fabrication of structural signs of extruded aluminum panels as shown on Standard Drawing 903.03AQ.

Sheet 3 of 8:

This sheet is reorganized to include Exit Number Panels, Gore Exit Sign,

and Cross Road and Outer Road signs. Notes indicating that any sign greater than 6'-0" wide is to be of structural design fabricated of extruded aluminum panels as shown on Standard Drawing 903.03AQ.
Sheet 4 of 8:
This sheet is reorganized to include Warning Signs and Red Series Signs designed as sheet signs.
Sheet 5 of 8:
This sheet is reorganized to include Regulatory Signs designed as sheet signs. R2-1 with 55 MPM and R2-4 signs designated for urban interstate combination and R2-1 with 65MPH and R2-4a signs designated for rural inter-state combination are revised and added. R4-7d, Keep Right Sign is added.
Sheet 6 of 8:
This sheet is reorganized to include Cardinal Directional Markers, Auxiliary Markers, and Directional Arrows designed as sheet signs. The Cardinal Directional Markers are revised to include a 24" x 12" marker to be used with 24" wide route shield, and a 30" x 15" marker to be used with a 30" wide route shield. The first letter of the cardinal direction word is increased in each case to conform to MUTCD requirements. Stop signs are deleted from this sheet and included with "Red Series Signs" on sheet 4 of 8.
Sheet 7 of 8:
This sheet is essentially the same as sheet 6 of 7 of Standard Drawing 903.02Y. Minor revisions such as sign type and note numbering are provided.
Sheet 8 of 8:
This sheet is reorganized to divide the sheet into three areas; wide flange post mounting, pipe post mounting, and hole punching. The first letter of all cardinal direction markers is increased in size. Notes 4 thru 6 are added referencing Cardinal Directional Marker and Route Shield size. The minimum height requirement shown in "Pipe Post Mounting" detail is revised to 6'-6".
Std. Dwg. 903.03AQ: Highway Signing, Breakaway Assemblies for Ground Mounted Signs.
Sheet 1 of 5:
The 1/2" clip dimension on the stiffener plate detail of the "Two or More Post" breakaway assembly is revised to 1/4". The "A/2" dimension in Section A-A is revised to "A/w-t2/2". In the "Elevation Hinge Plate Detail" the post cut note is revised to "... cut 3" below the bottom elevation of the lower sign." The stub post length dimension location is revise on the "Foundation Detail Single Post." The general notes are revised as follows. The grade of steel required for hinge plates is deleted from the note stating grades of structural steel required. The hinge plate grade of steel is added to the note in elevation C-C of the hinge plate. The 5'-6" dimension from the top of footing to the hinge point is revised to 7'-0". The notes making reference to tightening nuts in a systematic manner and loosening and retightening nuts is revised to make reference to breakaway

assembly bolts. In the note referenceing shim stock, the use of aluminum shims is deleted. The note referencing anchor bolt galvanizing requirements is revised to require high strength bolts to be galvanized.

Sheet 2 of 5:

The note referencing the 1 1/2" diameter hole placed in the breakaway assembly plate in Section B-B is revised to provide a minimum diameter hole of 1 1/2" not to exceed inside diameter of pipe. Reference to aluminum hex-head bolts is deleted from all clamp and bracket details. The mounting detail showing aluminum channels is deleted.

Sheet 3 of 5:

Because structural signs are now being fabricated of extruded aluminum panels the detail for "Sign and Stringer Spacing" is deleted and details of "Sign and Panel Spacing" are added for signs fabricated of extruded aluminum panels. Vertical distance between top of footing and bottom of sign of 7'-9" +- 6" is added. Minimum laterial clearance from ditch edge to sign post of 2' is added to "Ditch Section."

Sheet 4 of 5:

This is a new sheet added to provide fabrication, mounting, and material details for structural signs fabricated of extruded aluminum panels. All reference to aluminum stud/incremental designed signs as shown on Sheet 4 of 5 of Standard Drawing 903.03AP are deleted.

Sheet 5 of 5:

The 60' dimension from gore points for placement of yellow delineators is added on "Typical Interchange" details. Editorial revisions to the "Typical Interchance" notes are provided for clarity. Reference to Type 2 post is deleted in the "Flexible Delineator Mounting" detail.

vij/sa