NOTES:
1. Install DMS Foundation at location shown in Plans.
2. Extend Catwalk from DMS to outer edge of paved shoulder but not less than four feet in length.
3. If included, install guardrail at location shown in Plans and in accordance with Design Standards Index 400.

TYPICAL PLAN VIEW
DMS CANTILEVER SIGN STRUCTURE

TYPICAL PLAN VIEW
DMS SPAN SIGN STRUCTURE

TYPICAL ELEVATION VIEW
CANTILEVER SIGN STRUCTURE

TYPICAL ELEVATION VIEW
SPAN SIGN STRUCTURE

GENERAL LAYOUT
NOTES:

1. Conductors for grounding shall be connected to steel framework that has been cleaned to base metal by use of bonding plates having contact area of not less than 8 square inches or by welding or brazing. Drilling and tapping the steel structure to accept a threaded connector is also an acceptable method.

2. If steel framework is to be drilled and tapped to accept threaded connector, the threaded connector shall be galvanized and have at least 5 threads fully engaged and secured with a jam nut to the connector, the threaded connector shall be galvanized and have at least 5 threads fully engaged and secured with a jam nut to the steel framework.

3. Bends in the conduit shall not be less than the minimum bending radius for the cable contained in the conduit.

4. Catwalk and handrail design and installation shall comply with AISC, ASME, and OSHA requirements as applicable.

5. All data, fiber optic and power cables for the DMS shall be completely enclosed within the sign structure or in conduit.

6. Permanently stamp/mark foundation to conduit locations.

7. Transition conduit in foundation to underground conduit with appropriate reducer outside the limits of the foundation.
NOTES:
1. DMS Cabinet may be pole or ground mounted depending on project requirements.
2. See sheet 4 for additional conduits for grounding. The number and placement of conduits are approximate.
3. Field adjust pole-mounted DMS cabinet height to achieve best access for maintenance personnel given site conditions as directed by the Engineer. Avoid conflicts with stiffeners, handhole and maintenance of anchor bolts.

DESIGN STANDARDS
2016
DYNAMIC MESSAGE SIGN WALK-IN
INDEX NO. 18300
SHEET NO. 3 of 9
TYPICAL GROUND ROD DETAIL

- **Cableway**
- **Pole Mounted Cabinet**
- **Ground Wire From DMS Cabinet to Ground Rod**
- **#2 AWG Tin-Plated Bare Solid Copper Ground Wire**
  - To Air Terminal
  - To Ground Rod C As Required
  - To Ground Rod D As Required
- **Ground Rod A Primary Ground Rod Assembly** (See Inset A)
- **Ground Rod B As Required**
- **Pull Box**
  - Exothermic Weld
  - #2 AWG To Ground Rod C As Required
  - #3 AWG To Ground Rod D As Required

- **Finished Grade**
- **Power Conduit (2" PVC) To Power Service Assembly**
- **Spare Conduit (2" PVC)**
- **Grounding Conduit (2" PVC)**
- **Fiber Optic Communications Conduit (2" PVC) (As Shown on Plans)**

**GROUND ROD PLACEMENT DETAIL (TYPICAL)**

- **#2 AWG Tin-Plated Bare Solid Copper Wire**
  - Continuous to Air Terminal
- **Ground Rod D**
- **Ground Rod C**
- **Ground Rod B**
- **Shoulder**
- **Travel Lane**
- **Travel Lane**
- **Per Clear Zone Requirements**

**INSET 'A'**

- **#2 AWG Tin-Plated Bare Solid Copper Wire**
  - To Pole Mounted or Ground Mounted Cabinet
  - Driven Into Undisturbed Earth ⅛ Diameter By 20 Long Copper-Clad Steel Ground Rods Driven Into Undisturbed Earth
  - Min. 36" Max. 40"
NOTES


2. DMS and Hanger Design Wind Speed: 150 miles per hour. Maximum DMS weight for design: 4300 lb.

3. Shop drawings including the DMS connection are required and fabrication shall not begin until these shop drawings are approved.

4. Locate the sign horizontal on the structure as shown in the plans. Vertically center the sign enclosure with the centerline of the truss.

5. Before erection, after both the delivery of the DMS and the steel truss, the contractor shall carefully measure the exact locations for field drilling the 5⁄16" bolt holes in the vertical hangers and horizontal mounting member attached to the sign enclosure. Field locate holes to allow vertical hanger placement as shown on the plans with no conflicts with gusset or splice plates.

6. All steel items shall be galvanized as follows:
   - All nuts, bolts and washers: ASTM A123
   - All other steel items: ASTM A122

7. All bolt holes shall be equal to the bolt diameter plus 3⁄4" prior to galvanizing.

8. All bolts shall have single self-locking nuts, or locking nut system, installed in accordance with the manufacturer's recommendations.

9. Cost of the installation of the DMS on truss including the vertical hanger, associated members, and hardware shall be incidental to the cost of the sign structure.

10. Threaded couplings shall be located on sign side of column above the sign truss.

HANGER LOCATION DETAIL

(Cantilever Sign Structure Shown, Span Sign Structure Similar)
Dynamic Message Sign Walk-In

6061-T6 Structural Aluminum Zee 4x3.13x3.58 Horizontal Member Attached To The Internal Framework And Included With The DMS Sign

6" ± Lock Nuts Galvanized With Matching 2-½" Ø ASTM A325 Bolts Field Drill Holes And Provide Truss Chord Dia. + ƀ" ƀ" Ø Bolts Holes For Truss Chord 2-ƀ" Ø U-Bolts Holes For ƀ" Ø U-Bolts 2-ƀ" Ø Bolt ASTM A325 U-Bolts With Matching Lock Nuts

3 Zie Bama Equally Spaced

See Truss Data Sheet

Aluminum Zee

Back Face Of DMS Sign Enclosure

Truss Chord

2-½" Ø U-Bolts

Truss Chord

2-½" Ø ASTM A325 U-Bolts Galv. With Matching Lock Nuts

SECTION A-A

SECTION B-B

SECTION C-C

END VIEW

See Truss Data Sheet

2½" 2½" 2½" Truss Chord

6" Truss Chord

资产负债表
NOTES:
1. Provide single ethernet connection from the managed field ethernet switch to either the sign controller interface in cabinet or sign controller in sign enclosure.
2. Locate cabinet as shown in plans.
3. Serial data link is for communications directly to the DMS controller.
4. Cabinet must include at least one breaker to control all cabinet power.
5. AC service entrance may be located in cabinet or sign housing.
6. UPS equipment location may vary. Diagram indicates functional requirements that uninterrupted power must be available in cabinet and sign housing.
NOTES:

1. Cabinet layout is for pole or ground mounted installations.
2. All dimensions and equipment locations are approximate.
3. Conduit entrances are at bottom of cabinet.
4. Minimum number of duplex outlets is three, (2) SPD protected and (1) GFI protected.
5. Either an access controller or local access panel shall be provided to provide full access to DMS for control, programming and troubleshooting.
6. Load center shall be sized for connected equipment and convenience outlets with at least one main disconnect and three circuit breakers.
7. Batteries and UPS may be located in sign housing or cabinet.
8. Power Distribution Assembly component layout, orientation and location may vary.

CABINET LAYOUT 1