FILE NAME = H:\6913 IDOT DB Ver-\6913d89 WO 9 1-2550\ver-log\Revised\CADD_Sheets\D876F10-sht-nascade.dgn
USER NAME = kschaefer,john
PLOT SCALE = 1.02000 ' / in.
PLOT DATE = 9/24/2013
DESIGNED - K.J.S
DRAWN - K.D.J/K.J.S
CHECKED - S.A.R
DATE - 7/19/13
REVISED - -
REVISED - -
REVISED - -
REVISED - -
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
OVERHEAD SIGN STRUCTURE REPAIR DETAILS
SCALE: -
SHEET 2 OF 3 SHEETS STA. TO STA.
F.A.I. RTE. 255
SECTION 60-1(B,S)RS-1
COUNTY MADISON
TOTAL SHEETS 206
SHEET NO. 106
CONTRACT NO. 76F10
ILLINOIS FED. AID PROJECT

Hexagon locknut and washer (top), levelling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.

Stainless Steel Standard Grade Wire Cloth, 3" wide, ¼" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with ¾" stainless steel banding.

DETAIL B

Ribs shall be cut to fit slope of pipe.

6"ϕ hole in each base plate

Base ℄ 1½" x 1'-8" x 1'-8"

Parallel to ℄ of truss

SECTION B-B

5/8" Rib Plate, typ.

Rib-Col. ¼"

Typ. Col-Base, and Rib-Base 5/16

1" x 1"

** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib ¼" from snip.

4" At base

½" typ.

⅜", max. gap before fillet welding (Adj. weld size per code)

No snip req'd. at rib inside corner if placed before col. to base plate welding.**

SECTION D-D

D = Outside Diameter of Chord. For W, see Base Sheet OS-A-6.

SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	¾"
5½"	13/16"
6"	⅞"
6½"	15/16"
7"	1"

Anchor Plate

℄ 1⅜" ϕ holes

℄ 1¼" ϕ rods

Provide 2 uncoated nuts per rod. Nuts shall be "snug tight" against anchor plate.

All Thread = NC (National Coarse)

Anchor plate

ANCHOR ROD DETAIL

Spread Footing Foundation

℄ 1" ϕ holes for U-bolts

*R= D/2 + 1/32 at 90°

POSITIONING PLATE(S)

Optionally may use four (4) separate bars. Weld to maintain perpendicularity.

At each location, provide ¼" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.

¼" plate and extra nuts become Contractor's property. Cost included in Drilled Shaft Concrete Foundations.

℄ 1¼" ϕ rod

All Thread = NC (National Coarse)

Provide 1 nut per rod. Deform thread or use chemical thread lock to secure.

ANCHOR ROD DETAIL

Drilled Shaft Foundation

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

1½" ϕ pipe coupling for conduit attachment (plug for shipping)

℄ Bottom Chord

¾" ϕ U-bolts. Provide washers and hexagon locknuts. (2 required)

Saddle shim

W8x28

Field drill 13/16" ϕ holes Touch up holes with galvanizing point.

Drain hole (See Base Sheet OS-A-2.)

¼" fabric or neoprene pad.

SECTION C-C

(Handhole cover not shown)

DETAIL C

10" ϕ PIPE SUPPORT FRAME DETAILS

OS-A-6A 6-1-12

Sncp

Eyebolt

Chain ③

4" sag (Approx.)

WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6

Grating tie down

1'-4" 2'-0" Standard Aluminum Grating 7½" Standard 8" Alternate

SIDE ELEVATION

(Showing safety chain w/o sign)

½" Minimum gap

Length as required

Length as required rail and grating shall span a minimum of three brackets

1¼" ϕ Sch. 40 aluminum pipe

Typ. on verticals

2'-0" grating

① Install standard force-fit end caps or weld ⅛" end plates with ⅛" c.f.w. and grind smooth. (All rail ends)

Fittings-ASTM B26, Alloy 356-T7 or 1½" ϕ aluminum pipe

② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" ϕ hole in fitting for ⅜" ϕ bolt. Field drill 7/16" ϕ hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use ⅝" eyebolts in 7/16"ϕ holes on top rail at ends only.)

FRONT ELEVATION

HANDRAIL DETAILS

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

℄ Light Support

WF(A-N)4x3.06

5½"

⅝" ϕ holes for ⅝" ϕ bolts. (Drill in Field)

DETAIL F

DETAIL G

⅝" ϕ bolt round head, hexagon locknut, two stainless steel washers.

ASTM B221, Alloy 6062-T6 or Alloy 6061-T6

⅜" gap ± ¼" ⑤

6½"

SECTION F-F

SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

℄ ⅜" x 3" x 7"

℄ ⅞" ϕ hole in angle for ⅝" ϕ eyebolt with one nut and washer.

℄ 7/16" ϕ holes for ⅜" ϕ hex head bolts, each with nut and two stainless steel washers.

Sign panel

ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

SIDE ELEVATION

℄ ⅜" ϕ hole for pin chain ring

2½" x 1½" x ¼" L5" long (Each side) ④

¼" plate 1½" ϕ

FRONT ELEVATION

See "Elevation" at right for dimensions.

Flat, out-out

No back gouge

Extension bar ¼" x 2" x 6" Each side

ELEVATION AT HANDRAIL JOINT ④

℄ ⅜" x 3" x 7"

L2½" x 2½" x 5/16

℄ 7/16" ϕ holes for ⅜" ϕ hex head bolts

WF(A-N)4x3.06 web

℄ ⅜" ϕ eyebolt hole

SECTION P-P

Drill and ream for ⅜" ϕ bolt with hexagon locknut and two stainless steel washers.

Drill ⅝" ϕ hole for ¼" ϕ ring-grip quick release self-locking stainless steel pin

1¼" ϕ Sch. 40 aluminum pipe

⅜" ϕ pin keeper hole typ.

⅛" stainless steel chain, 6" loop, with 1/16" stainless steel ring each end

PLAN

DETAIL E HANDRAIL HINGE

½", typ.

PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"

L2½" x 2½" x 5/16

Eyebolt

③ 3'-10" chain (Approx.)

Sign panel

Walkway bracket

Eyebolt

Stainless steel swivel eye snap at handrail end

ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details (Walkway omitted for clarity)

Field drill ⅜" ϕ hole for ⅝" ϕ eye-bolt. (At approximately elevation of upper handrail pipe.)

③ 3'-6" of chain required for each location. (Approx.)

Stainless steel swivel eye snap at handrail end

Vertical member of walkway bracket (No sign interference)

5/16" ϕ stainless steel eye-bolts. Provide hexagon locknut and stainless steel washer.

SAFETY CHAIN

One required for each end of each walkway.

③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

OS-A-11 6-1-12

OVERHEAD SIGN STRUCTURE DETAILS – ALUMINUM