

## DESIGN DATA

CONTRACTOR DESIGNED OVERHEAD SIGN STRUCTURES SHALL BE DESIGNED ACCORDING TO THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", 1ST EDITION AND INTERIM SPECIFICATIONS, AND THE WISDOT BRIDGE MANUAL.

STANDARD FOUNDATIONS DESIGNED ACCORDING TO THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION.

DEAD LOAD: WT. OF SIGN AND SUPPORTING STRUCTURE  
 ICE LOAD: 3 PSF TO ONE FACE OF SIGN & SURFACE OF MEMBERS  
 WIND PRESSURE: 115 MPH (3-SEC. GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS (700 YEAR MEAN RECURRENCE INTERVAL)

WIND COMPONENTS	NORMAL	TRANSVERSE
LOAD CASE 1:	1.00	0.00
LOAD CASE 2:	0.00	1.00
LOAD CASE 3:	0.75	0.75

### LOAD COMBINATIONS

STRENGTH I:	1.25 DC + 1.6 LL
EXTREME I (MAX DC):	1.1 DC + 1.0 W + 1.0 ICE
EXTREME I (MIN DC):	0.9 DC + 1.0 W
SERVICE I:	1.0 DC + 1.0 W
FATIGUE:	1.0 NW (NATURAL WIND GUST) 1.0 TrG (TRUCK INDUCED GUST) 1.0 GVW (GALLOPING - CANTILEVER ONLY)

## MATERIAL PROPERTIES

CONCRETE MASONRY  $f'_c = 3,500$  PSI

HIGH STRENGTH STEEL REINFORCEMENT, GRADE 60  $f_y = 60,000$  PSI

STRUCTURAL ANGLES, PLATES & BARS - ASTM A709 GRADE 36  $f_y = 36,000$  PSI

HIGH STRENGTH BOLTS - ASTM A3125 GRADE A325  $f_y = 92,000$  PSI

ANCHOR RODS - ASTM F1554 GRADE 55  $f_y = 55,000$  PSI

HEAVY HEX NUTS - ASTM A563 GRADE DH OR ASTM A194 GRADE 2H

WASHERS - ASTM F436

DTI WASHERS - ASTM F959 TYPE 325

## FOUNDATION DATA

SIGN STRUCTURE FOUNDATIONS ARE SUPPORTED ON DRILLED SHAFTS THAT HAVE BEEN DESIGN FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 24° (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 750 PSF (COHESIVE SOILS) AND A UNIT WEIGHT OF 125 PCF. THE GROUND WATER TABLE FOR DESIGN IS ASSUMED TO BE AT A DEPTH OF 10'-0" BELOW THE GROUND SURFACE, ACTUAL WATER LEVEL AT SITE MAY VARY. THE REGION GEOTECHNICAL ENGINEER SHALL VISUALLY INSPECT THE SUBSURFACE SOILS DURING THE DRILLING OF THE SHAFT HOLE TO CONFRIM THESE PROPERTIES PRIOR TO PLACEMENT OF THE DRILLED SHAFT CONCRETE.

## TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	S-XX-XXXX	S-XX-XXXX
204.024X	REMOVING ANCILLARY STRUCTURE XXXXXXXX (STRUCTURE)	EA		
531.20XX	DRILLING SHAFT XX-INCH	LF		
531.5XXX	FOUNDATION SINGLE-SHAFT TYPE XX-XX	EA		
532.51XX	MONOTUBE CANTILEVER TYPE XX-XX	EA		
532.52XX	MONOTUBE FULL SPAN TYPE XX-XX	EA		
532.53XX	TRUSS CANTILEVER 2-CHORD TYPE XX-XX	EA		
532.54XX	TRUSS FULL SPAN 2-CHORD TYPE XX-XX	EA		

PROVIDE QUANTITIES FOR EACH SIGN STRUCTURE IN THE PLAN SET.

SUPER AND SUBSTRUCTURE QUANTITY BID ITEMS SHOULD MATCH UNLESS NON-STANDARD FOUNDATIONS ARE USED

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALTERNATE DESIGNS ARE NOT ALLOWED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), XXXX COUNTY ZONE, NAD 83 (1997). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007).

ALL REINFORCING BARS ARE IN ENGLISH UNITS. THE FIRST DIGIT OF A THREE-DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR-DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

SIGN BRIDGE ID PLAQUES SHALL BE CONSIDERED INCIDENTAL TO THE TRUSS OR MONOTUBE BID ITEMS FOR EACH APPLICABLE SIGN STRUCTURE IN THE PLAN SET. LOCATE THE ID PLAQUE ON THE FREEWAY SIDE OF THE SUPPORT COLUMN SO THAT IT CAN BE SEEN FROM THE ROADWAY. FABRICATE AND INSTALL THE ID PLAQUE IN ACCORDANCE WITH S.D.D. 12 A4-3.

UNLESS DETAILED OTHERWISE IN THE PLANS, ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH  $\frac{3}{4}$ " DIA. A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF A TRUSS UNIT CAN BE GALVANIZED IN ONE PIECE.

WELD TEST AS PER AWS D1.1.

SEE SIGN PLATE NO. A4-6, A4-7A & A4-7B OF THE SIGN PLATE MANUAL FOR INSTRUCTIONS ON CENTERING SIGNS VERTICALLY ON THE TRUSS.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. BLANKS SHALL BE  $\frac{1}{4}$  THE LENGTH OF THE CANTILEVER SPAN, 2'-0" DEEPER THAN THE C/L TO C/L OF CHORDS, AND SHALL BE CENTERED ON THE BRIDGE. SIGNS SHALL BE AS DESIGNATED ON THE PLANS.

THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION OF THE TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE.

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS PRIOR TO FABRICATION OF THE STRUCTURE. CONTRACTOR SHALL SHOW SIGNS ON THE SHOP DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DRILLING OR EXCAVATING AND MAINTAINING A STABLE AND OPEN HOLE FOR SUBSEQUENT INSTALLATION OF CONCRETE MASONRY FOR THE DRILLED SHAFTS. PARTIAL OR FULL DEPTH TEMPORARY CASING MAY BE REQUIRED TO MAINTAIN THE STABILITY OF THE EXCAVATED HOLE FOR THE SIGN SUPPORT PRIOR TO FILLING THE HOLE WITH CONCRETE. PERMANENT CASING MADE FROM STEEL OR CORRUGATED METAL PIPE MAY BE USED IN LIEU OF TEMPORARY CASING. TEMPORARY/PERMANENT CASING, IF USED, SHALL BE INCIDENTAL TO THE BID ITEM "DRILLING SHAFT (DIA.)".

## STRUCTURE DATA

STRUCTURE ID	SIGN AREA	SIGN DEPTH	FOUNDATION TYPE	TRUSS TYPE
S-XX-XXX	XXX SF	X'-X"	TYPE XX	TYPE XX

SIGN AREA AND DEPTH ARE TO BE LARGER OF ACTUAL SIGN AREA OR EXPECTED FUTURE SIGN (IF KNOWN), THIS SHOULD MATCH LAYOUT SHEET. CONTRACTOR WILL DESIGN TO LIMITS AND SIGN LOCATIONS ON LAYOUT SHEETS.

## LIST OF DRAWINGS:

- GENERAL NOTES & DESIGN DATA
- LAYOUT S-XX-XXXX

## LIST OF STANDARD DESIGN DRAWINGS

- MONOTUBE & 2-CHORD TRUSS CONNECTIONS 1
- MONOTUBE & 2-CHORD TRUSS CONNECTIONS 2
- MONOTUBE & 2-CHORD TRUSS ELECTRICAL DETAILS
- MONOTUBE & 2-CHORD TRUSS FOUNDATIONS

STATE PROJECT NUMBER

XXXX-XX-XX

## TRAFFIC VOLUME

A.D.T. ((20XX) = X,XXX  
 R.D.S. = XX MPH

## DESIGNER NOTES:

A RED BOX INDICATES DATA TO BE EDITED BY THE PERSON EDITING THE SHEET. SOME ARE BLOCKS THAT INCLUDE VISIBILITY STATES AND TEXT ATTRIBUTES.

CONSULTANTS .ADD STAMP AND UPDATE TITLE BLOCK INCLUDING LOGO AND DESIGNER CONTACT INFORMATION

THESE ARE STANDARD DESIGN PLANS DEVELOPED AND MAINTAINED BY THE WISDOT. THE DESIGNER CERTIFIES THAT THE DESIGN AND PLAN DETAILS CHOSEN ARE CONSISTENT WITH THE GUIDANCE PROVIDED IN THE CURRENT WISDOT BRIDGE MANUAL CHAPTER 39.

### STRUCTURE DESIGN CONTACTS:

AARON BONK 608-261-0261  
 CONSULTANT PHONE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_ DATE \_\_\_\_\_  
 CHIEF STRUCTURES DESIGN ENGINEER

## MONOTUBE & 2-CHORD

LOCATION DESCRIPTION

COUNTY TOWN/CITY/VILLAGE

DESIGN SPEC.  
 AASHTO LRFD BRIDGE DESIGN SPECIFICATION  
 DESIGNED BY DESIGNED CK'D DRAWN BY PLANS CK'D

GENERAL NOTES  
 & DESIGN DATA

SHEET 1 OF

I.D.

DATE: