STRUCTURAL STEEL NOTES:

PAINTED STEEL PLATE GIRDER

1. ALL STRUCTURAL STEEL PLATES SHALL BE STRUCTURAL LOW ALLOY STEEL AASHTO M 270 GRADE 50 OR 50S UNLESS NOTED OTHERWISE. ALL PLATES FOR FLANGE MATERIAL SHALL BE PURCHASED SUCH THAT THE RATIO OF REDUCTION OF THICKNESS FROM A SLAB TO PLATE SHALL BE AT LEAST 3.0:1. PLATES FOR FLANGE MATERIAL GREATER THAN 2" THICK SHALL BE SUPPLIED BASED ON ACCEPTABLE ULTRASONIC TESTING (UT) INSPECTION IN ACCORDANCE WITH ASTM A578. UT SCANNING AND ACCEPTANCE SHALL BE AS FOLLOWS:
   i) THE ENTIRE PLATE SHALL BE SCANNED IN ACCORDANCE WITH ASTM A578 AND SHALL MEET ACCEPTANCE STANDARD C. AND
   ii) PLATE MATERIAL WITHIN 12-INCHES OF FLANGE COMPLETE JOINT PENETRATION SPLICE WELDS SHALL BE SCANNED IN ACCORDANCE WITH ASTM A578 SUPPLEMENTARY S1 AND SHALL MEET ACCEPTANCE STANDARD C.

   ROLLED STEEL BEAMS MAY CONFORM TO ASTM A992 INCLUDING SUPPLEMENTAL REQUIREMENT S5 - CHARPY V-NOTCH IMPACT TESTS WHEN CVN TESTING IS REQUIRED. ROUND, SQUARE, OR RECTANGULAR TUBULAR MEMBERS SHALL CONFORM TO ASTM A1085. FOR SMALL QUANTITIES AND WITH THE APPROVAL OF THE ENGINEER. TUBULAR MEMBER MAY CONFORM TO ASTM A500 GRADE C WITH CHARPY V-NOTCH IMPACT TESTING MEETING ASTM A1085 WHEN CVN TESTING IS REQUIRED. WITH THE APPROVAL OF THE ENGINEER. ROLLED ANGLES. CHANNELS AND BARS MAY CONFORM TO ASTM A572 GR 50 WITH SUPPLEMENTAL REQUIREMENT S5 - CHARPY V-NOTCH IMPACT TESTS WHEN CVN TESTING IS REQUIRED. CVN TESTING SHALL MEET SECTION 6-03.2.

   Additional steel options that shall be included in Note 1 if used are AASHTO M270 GRADE HPS 70W or HPS 100W. Use of HPS 100W is not common.

2. ASTM A1011 GR 50 MAY BE USED FOR FILLER PLATES LESS THAN THICKNESS.

3. ALL FIELD AND SHOP CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS, WITH THE BOLT HEADS TOWARD THE OUTSIDE AND UNDERSIDE OF THE BRIDGE. ALL BOLT HOLES SHALL BE DRILLED FULL SIZE OR SUB PUNCHED AND REAMED. HIGH STRENGTH BOLTS SHALL BE GALVANIZED ASTM F3125 TYPE 1 OR 3, 7/8 INCH DIAMETER, EXCEPT AS NOTED OTHERWISE. NUTS AND WASHERS SHALL CONFORM TO SECTION 9-06.5(3). THE MINIMUM CENTER TO CENTER DIMENSION SHALL BE 3" UNLESS SHOWN OTHERWISE. ALL CONNECTIONS SHOWN ARE FOR FIELD BOLTING UNLESS OTHERWISE SHOWN OR APPROVED IN THE SHOP PLANS. SHOP INSTALLED BOLTS MAY BE BLACK CONFORMING TO ASTM F3125 GRADE A325 OR ASTM F3125 GRADE F1852 TYPE 1 OR 3 IF THE BOLTS WILL BE BLASTED AND PRIMED IN THE SHOP AFTER INSTALLATION.

   Size of bolts used may vary. Update size in note and minimum center to center spacing. Since all bolts are galvanized the use of 150 ksi bolts conforming to ASTM F3125 GRADE A490 are not permitted.

4. ALL WELDING SHALL BE DONE TO MINIMIZE DISTORTION. THE WELDING SEQUENCES AND PROCEDURES TO BE USED SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WELDING. TOP FLANGES, BOTTOM FLANGES AND WEBS SHALL BE FABRICATED TO FULL LENGTH BETWEEN FIELD SPLICES PRIOR TO WELDING FLANGES TO WEBS.

   WELDING SEQUENCE: a) FLANGE AND WEB SPLICES, b) FLANGES TO WEB, c) STIFF. TO WEBS AND FLANGES, d) GUSSET PLATES TO WEBS

   NOT COMMON. REMOVE IF N/A

5. ONE BUTT SPLICE WILL BE PERMITTED FOR FLANGE AND WEB PLATES EXCEEDING 60 FEET IN LENGTH. A PERMISSIBLE LOCATION WILL BE SHOWN IN THE PLANS. ANY PROPOSED BUTT SPLICE SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR ACCEPTANCE.

6. INTERMEDIATE TRANSVERSE STIFFENERS, WEB SPLICES AND ALL INTERMEDIATE CROSSFRAMES SHALL BE NORMAL TO THE FLANGES. AFTER COMPLETION OF TOTAL DEAD LOAD OF SUPERSTRUCTURE, BEARING AND JACKING STIFFENERS SHALL BE PLUMB.

7. CROSSFRAMES SHALL BE DETAILED TO FIT WITH THE GIRDERS IN THE NO LOAD CONDITION, UNLESS OTHERWISE NOTED.

   Occasionally there may be a case where the fit condition should be detailed at the steel dead load or total dead load condition these instances are rare (heavily skewed bridges). Consult with the steel specialist and guidance in AASHTO and NSBA documents.

8. ALL WELDED SHEAR CONNECTORS SHALL BE 7/8 INCH DIAMETER, UNLESS OTHERWISE NOTED.

9. MEMBERS MARKED Ⓥ ARE MAIN LOAD CARRYING TENSILE MEMBERS OR TENSION COMPONENTS OF FLEXURAL MEMBERS AND SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST AS DESCRIBED IN THE SECTION 6-03.2.

10. Ⓧ DENOTES TENSION BUTT SPLICE FOR FLANGES OR WEBS AND REQUIRES RADIOGRAPHIC (RT) INSPECTION.

11. MEMBERS MARKED [NSTM] ARE NONREDUNDANT STEEL TENSION MEMBERS AND SHALL MEET THE FRACTURE CONTROL REQUIREMENTS OF AWS D1.5 BRIDGE WELDING CODE, LATEST EDITION. THE REQUIREMENTS OF SECTION 6-03.3(25) SHALL GOVERN WHERE MORE STRINGENT. ALL MEMBERS DESIGNATED [NSTM] SHALL RECEIVE ADDITIONAL MILL TENSION TESTING PER SUPPLEMENTARY REQUIREMENTS OF AASHTO M270 S3.

    Only include this note if the bridge has nonredundant steel tension members specified.

    If the bridge includes System Redundant Members [SRM] or Internally Redundant Members [IRM], add to the [NSTM] designation in Note 11.

12. ALL STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 6-07, UNLESS OTHERWISE NOTED. WHEN SPECIFIED, GALVANIZING SHALL BE IN ACCORDANCE WITH AASHTO M111, M232, ASTM F2329, OR ASTM B695 CLASS 55 AS APPLICABLE. GALVANIZED BOLTS TO BE PAINTED SHALL BE PREPARED IN ACCORDANCE WITH SECTION 6-07.3(11)A. THE COLOR OF THE TOPCOAT SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

13. BOLT HOLES REMAINING IN GIRDER WEBS UPON REMOVAL OF DECK FORMWORK AND TEMPORARY BRACING SHALL BE TREATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS 6-02.3(17)K.

14. THE CONTRACTOR SHALL PROVIDE, AS REQUIRED, TEMPORARY BRACING AND/OR WEB STIFFENING AT LOCATIONS WHERE BRIDGE DECK FORMS ARE ATTACHED TO UNBRACED OR UNSTIFFENED WEBS.

15. CAUTION SHALL BE EXERCISED IN HANDLING AND PLACING GIRDERS IN ACCORDANCE WITH SECTION 6-03.3. ALL GIRDERS SHALL BE CHECKED BY THE CONTRACTOR TO ENSURE THAT THEY ARE BRACED ADEQUATELY TO PREVENT TIPPING AND TO CONTROL LATERAL BENDING DURING SHIPPING. ONCE ERECTED, ALL GIRDERS SHALL BE BRACED TO PREVENT TIPPING UNTIL THE CROSSFRAMES ARE ERECTED.

16. ALL DIMENSIONS ARE HORIZONTAL AND VERTICAL UNLESS OTHERWISE SHOWN.

17. THE FOLLOWING MEMBERS OR COMPONENTS ARE CLASSIFIED AS ANCILLARY PRODUCTS IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS D1.5 BRIDGE WELDING CODE: EXPANSION JOINTS (EXCEPT MODULAR), DRAINAGE COMPONENTS, BEARINGS, RAILINGS, OTHER MISC. ITEMS AS APPROVED BY THE ENGINEER.

    The designer may add other items to the list of ancillary products if they are minor elements not subject to tensile stress from live load and are not welded to main members in tension areas.

ADDITIONAL NOTES FOR PAINTED STEEL BOX GIRDER

18. REMOVE TEMPORARY CROSS FRAMES BETWEEN BOX GIRDERS AFTER THE ENTIRE BRIDGE DECK HAS BEEN PLACED AND ACHIEVED A MINIMUM STRENGTH OF 3500 PSI.

19. THE DESIGNATIONS Ⓥ AND [NSTM] MARKED IN PORTIONS OF THE BOTTOM FLANGE ALSO APPLY TO LONGITUDINAL STIFFENERS WELDED TO THE BOTTOM FLANGE.

20. THE COLOR OF THE TOP COAT ON THE INSIDE OF ALL BOX GIRDERS, WHEN DRY, SHALL BE WHITE, MATCHING SAE AMS STANDARD 595 COLOR NO. 17925.

= NOTES TO DESIGNER

LAST REVISED: 09/17/2026

6.4-A17

FILE NAME	6.4-A17_Structural Steel Notes - Painted.dgn		
BRIDGE DES. ENG.			
BRIDGE PROJ. ENG.			
SUPERVISOR			
DESIGNED BY			
CHECKED BY			
ENTERED BY			
PRELIM. PLAN BY			
ARCH. / SPEC.	REVISION	DATE	BY

REGION NO. 10 | STATE WASH
JOB NUMBER
CONTRACT NO.

WSDOT
PRELIMINARY PLAN
NOT FOR CONSTRUCTION

SEE CERTIFICATION SHEET
DATE
STAMP BOX

SEE CERTIFICATION SHEET
DATE
STAMP BOX

STANDARD DESIGN DRAWINGS
STRUCTURAL STEEL

STRUCTURAL STEEL NOTES
PAINTED

PLAN REF NO

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