STRUCTURAL STEEL NOTES:

WEATHERING STEEL PLATE GIRDER

1. ALL STRUCTURAL STEEL PLATES SHALL BE STRUCTURAL LOW ALLOY STEEL AASHTO M 270 GRADE 50W 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.

   WITH THE APPROVAL OF THE ENGINEER AND FOR SMALL QUANTITIES OF STEEL SHAPES AND BARS, THE STRUCTURAL LOW ALLOY STEEL MAY CONFORM TO ASTM A588 INCLUDING SUPPLEMENTAL REQUIREMENT S5 - CHARPY V-NOTCH IMPACT TESTS WHEN CVN TESTING IS REQUIRED. ROUND, SQUARE, OR RECTANGULAR TUBULAR MEMBERS SHALL BE ASTM A847 INCLUDING SUPPLEMENTAL REQUIREMENT S1 - CHARPY V-NOTCH IMPACT TESTS WHEN CVN TESTING IS REQUIRED. ALTERNATIVELY, SQUARE AND RECTANGULAR TUBES MAY CONFORM TO ASTM A1065 PROVIDED THE BASE METAL IS AASHTO M270/ASTM A709 GR 50W. CVN TESTING SHALL MEET SECTION 6-03.2.

   Additional weathering 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 A606 MAY BE USED FOR FILLER PLATES LESS THAN ¼ INCH 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 ASTM F3125 GRADE A325 TYPE 3 OR ASTM F3125 GRADE F1852 TYPE 3, ⅞ 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. SHOP BOLTING MAY BE USED WHERE APPROVED IN THE SHOP PLANS.

   Size of bolts used may vary. Update size in note and minimum center to center spacing. If 150 ksi bolts are used to replace or in addition to 120 ksi bolts listed in note 3, call out ASTM F3125 GRADE A490 TYPE 3 or ASTM F3125 GRADE F2280 TYPE 3.

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 CROSS FRAMES SHALL BE NORMAL TO THE FLANGES. AFTER COMPLETION OF TOTAL DEAD LOAD OF SUPERSTRUCTURE, BEARING AND JACKING STIFFENERS SHALL BE PLUMB.

7. CROSS FRAMES 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, but 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 ⅞ 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 NONREDUNANT 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 nonreduntant steel tension members specified.

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

12. ALL STRUCTURAL STEEL SHALL BE UNPAINTED UNLESS OTHERWISE NOTED. WHEN SPECIFIED, GALVANIZING SHALL BE IN ACCORDANCE WITH AASHTO M 111, M 232, ASTM F2329, OR ASTM B695 CLASS 55 AS APPLICABLE. ALL FAYING SURFACES SHALL BE ABRASIVE BLASTED TO SSPC-SP6 OR BETTER.

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 CROSS FRAMES ARE ERECTED.

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

17. ALL UNPAINTED WEATHERING STEEL SHALL BE ABRASIVE BLASTED TO SSPC-SP6 PRIOR TO LEAVING THE SHOP. AFTER STEEL ERECTION AND DECK PLACEMENT, STEEL SURFACES SHALL BE CLEANED PER SSPC-SP1 OR BY ANY MEANS NECESSARY AS NEEDED TO REMOVE ANY CONCRETE DRIPS, FORM OIL, CURING COMPOUND, OR ANY OTHER DEBRIS ON THE STEEL SURFACES. CLEANING METHODS SHALL NOT DAMAGE STEEL SURFACES. ACID BASED CLEANERS ARE NOT PERMITTED.

18. PROTECT ABUTMENT AND PIER CONCRETE FROM STAINING FROM THE GIRDERS UNTIL THE DECK IS CAST AND CURED. THE CONTRACTOR SHALL SUBMIT FOR ACCEPTANCE THE PROTECTION METHOD(S) IN A TYPE 2 WORKING DRAWING.

19. ENDS OF GIRDERS AT EXPANSION JOINTS AND GIRDER ABUTMENTS SHALL BE PAINTED FOR A DISTANCE 1.5 TIMES THE GIRDER DEPTH FROM THE END OF THE GIRDER OR EXPANSION JOINT OR TO THE LIMITS SHOWN IN THE PLANS. THE GIRDERS, AND ALL CROSS FRAMES, STIFF. ETC. WITHIN THE LIMITS SHALL BE PRIMED IN THE SHOP WITH THE REMAINING COATS APPLIED IN THE FIELD AFTER ERECTION. ANY BOLTS WITHIN THE PAINT LIMITS SHALL BE GALVANIZED AND PAINTED. ALL AREAS EMBEDDED IN CONCRETE, EXCEPT TOP FLANGES, SHALL BE PRIME PAINTED FOR THE LENGTH EMBEDDED AND AN ADDITIONAL 6 INCHES PAST THE SURFACE OF THE CONCRETE. THE TOP COAT COLOR SHALL BE SAE AMS STANDARD 595 COLOR NO. 20045.

20. 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 WEATHERING STEEL BOX GIRDER

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

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

    Consult with the Bridge Preservation Office to determine if the inside of box girders should be painted white for ease of inspection or left as weathering. Add painting note if required.

= NOTES TO DESIGNER

LAST REVISED: 09/27/2026

6.4-A18

FILE NAME	6.4-A18_Structural Steel Notes - Weathering.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
WEATHERING STEEL

PLAN REF NO

SHEET OF SHEETS

PLOT DATE: 10-Nov-2026 PLOT TIME: 11:05:57 AM PLOTTED BY: deboejak FILE PATH: pw://projectstore.wsdot.wa.gov:WSDOT/Documents/_HQ/Bridge & Structures/Bridge Design/_Design Standards/Standard Drawings and Details/Structural Steel/_DGN/6.4-A18_Structural Steel Notes - Weathering.dgn