

1 **(September 8, 2020)**

2 **Furnishing St. Piling**

3 Welding for steel pipe piling shall conform to AWS D1.1/D1.1M, latest edition,
4 Structural Welding Code, and Section 6-03.3(25), except that all weld filler metal
5 shall be low hydrogen material selected from Table 4.1 in AASHTO/AWS
6 D1.5M/D1.5:2020 Bridge Welding Code.

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8 Welding and joint geometry for splices shall be qualified in accordance with Clause
9 4, Qualification, of the AWS D1.1/D1.1M, latest edition, Structural Welding Code.
10 In addition, charpy V-notch (CVN) testing in accordance with Clause 4, Part D, of
11 the AWS D1.1/D1.1M, latest edition, Structural Welding Code, shall be performed.
12 CVN testing shall include five tests at 0°F. The acceptance threshold for the five
13 samples shall meet an average value of 20-foot-pounds CVN for the set of test
14 coupons and a minimum value of 15-foot-pounds CVN for any individual test
15 coupon. The Contractor may submit documentation of prior qualification to the
16 Engineer to satisfy this requirement.

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18 Ends of steel pipe piling shall be prepared for splicing in accordance with AWS
19 D1.1/D1.1M, latest edition, Structural Welding Code.

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21 All splices shall be complete penetration groove welds using continuous backing
22 rings of 1/4 inch minimum thickness. Tack welds shall be located in the root of the
23 complete penetration groove weld.

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25 Shop splices shall be 100 percent visually and ultrasonically inspected in
26 accordance with the acceptance criteria for statically loaded non-tubular
27 connections in Table 6.1 and the acceptance criteria in Table 6.2 in AWS
28 D1.1/D1.1M, latest edition, Structural Welding Code. Repairs for shop and field
29 splices shall conform to Section 5.26 of AWS D1.1/D1.1M, latest edition, Structural
30 Welding Code, using approved repair and weld procedures.

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32 Field splice welds and welders shall be further qualified, tested and inspected as
33 follows:

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- 35 1. Welder qualification shall be performed on sample full girth sections of
36 steel pipe pile to be used, in the same position and using the same weld
37 joint as for production pile splicing. At the Contractor's option, these tests
38 may be performed on the test piles during test pile installation.
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40 2. Weld qualification tests shall be conducted in the presence of the
41 Contractor's CWI and a representative of the Contracting Agency.
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43 3. Field welded test joints for welder qualification shall be inspected as
44 specified above for shop splices.
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46 4. Production pile field splices shall be inspected as specified above for shop
47 splices, within the limits designated for UT inspection as shown in the
48 Plans. All welds shall be 100 percent visually inspected. The Engineer
49 and the Contractor's CWI reserve the right to request UT inspection of
50 splices in any pile location.
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1 Quality control for field welding shall be conducted by an AWS Certified Welding
2 Inspector (CWI). The Contractor shall not begin pile splicing operations until
3 receiving the CWI's approval of the joint fit-up. The CWI shall inspect 100 percent
4 of all field welds in accordance with the criteria and requirements specified above.
5 All field splices shall have received the CWI's approval prior to Engineer
6 acceptance.
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8 The CWI shall prepare a Type 1 Working Drawing documenting the results of the
9 nondestructive quality control inspection of all field welds, and shall submit the
10 report to the Engineer within five working days of the completion of the final pile
11 splice in the project or as otherwise requested by the Engineer.