

SECTION 05 12 00
STRUCTURAL STEEL

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Supply, fabrication, and installation of galvanized steel splice plates at timber piles.
- B. Related Sections:
 - 1. Section 31 62 19 - Timber Piles

1.2 REFERENCES

- A. Reference Standards: Latest edition as of Specification date.
 - 1. American Institute of Steel Construction (AISC):
 - a. Code of Standard Practice for Steel Buildings and Bridges.
 - b. AISC 360 Specification for Structural Steel Buildings.
 - 2. American Welding Society (AWS):
 - a. D1.1: Structural Welding Code.
 - 3. ASTM International:
 - a. A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - b. A36 - Standard Specification for Carbon Structural Steel.
 - c. A325 - Standard Specification for Structural Bolts.
 - d. A780- Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
 - e. A992 - Standard Specification for Structural Steel Shapes.
 - 4. Research Council on Structural Connections (RCSC): Specification for Structural Joints Using ASTM A325 or A490 Bolts.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication of structural-steel components.
 - 1. Include details of cuts, holes, and other pertinent data.
- C. Mill Test Reports: Signed by manufacturers certifying that the following products comply with requirements of this Section:
 - 1. Structural steel including chemical and physical properties.
- D. Field quality control reports and special inspection reports.

1.4 QUALITY ASSURANCE

- A. Fabricator: AISC certified.
- B. Comply with applicable provisions of the referenced specifications.

- C. Testing Agency: As required by the applicable building code or the Contract Documents, Owner will engage an approved agency to inspect field welds and bolting.
 - 1. Bolted Connections: Bolt inspection shall be in accordance with IBC and RCSC.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. Plates: ASTM A572 Gr. 50, hot dip galvanized.

2.2 ACCESSORIES

- A. Steel Bolts: F1554, hot dip galvanized.
- B. Nuts and Washers: ASTM A 563, Grade C, heavy-hex carbon-steel nuts; and ASTM F 436 Type 1, hardened carbon-steel washers; all with hot dip galvanized finish

2.3 GALVANIZING REPAIR PAINT

- A. Galvanizing Repair Paint: MPI#18, MPI#19, SSPC-Paint 20, or equivalent product in accordance with ASTM A780 and approved by Engineer.

2.4 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel assemblies according to ASTM A123.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify locations of splice plates and thru bolts for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Notify Owner and Engineer at least 5 working days prior to first instance of installation for each steel assembly and connection type.

3.2 FIELD CONNECTIONS

A. Bolted Connections:

1. Steel Bolts: Install bolts according to RCSC's "Specification for Structural Joints Using ASTM A325 or A490 Bolts" for type of bolt and type of joint specified. Install snug tightened.

3.3 RECOATING WITH GALVANIZING REPAIR PAINT

A. Recoat galvanizing coatings on damaged galvanized items and field welded connections with galvanized repair paint according to ASTM A780 and manufacturer's written instructions.

B. Coating with galvanizing repair paints:

1. Surfaces to be reconditioned with paint shall be clean, dry, and free of oil, grease, and corrosion products.
2. Perform surface preparation in accordance with paint manufacturer's written instructions.
3. Apply paint to all exposed surfaces of steel struts and embed plates in accordance with manufacturer's written instructions.
4. Apply two coats of galvanizing coating over all welds and areas where the hot-dipped galvanized coating was removed for installation, as well as existing uncoated steel embed plates.
5. Apply one coat of galvanizing coating to all other damaged areas.

3.4 FIELD QUALITY CONTROL

A. Testing agency: Owner will engage a qualified testing agency to perform special inspections and testing consistent with IBC requirements including:

1. Verify structural-steel materials and connection materials.

END OF SECTION

