

## SECTION 05 12 00

### STRUCTURAL STEEL FRAMING

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction, and General Provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to this Section.

##### 1.02 SECTION INCLUDES

- A. Structural steel framing members.
  - 1. Steel will be fireproofed with spray-on fireproofing.
  - 2. Steel will not be fireproofed.
  - 3. A portion of the steel will be fireproofed with spray-on fireproofing and the remainder will not.
  - 4. Verify fireproofing requirements with the Code Plans and the work of Section 07 8100.
- C. Base plates and headed studs.

##### 1.03 RELATED REQUIREMENTS

- A. Section 01 4533 - Structural Testing and Special Inspection.
- B. Section 03 1510 - Post-Installed Anchors.
- E. Section 05 4000 - Cold Formed Metal Framing. Cold formed framing affecting structural steel work.
- F. Section 05 5000 - Metal Fabrications: Steel fabrications affecting structural steel work.
- G. Section 07 8100 - Applied Fireproofing: Fireproof protection to framing systems.

##### 1.04 REFERENCE STANDARDS

- A. AISC (MAN) - Steel Construction Manual; American Institute of Steel Construction, Inc.; 2005.
- B. AISC 360 - Specification for Steel Buildings; American Institute of Steel Construction, Inc.; 2005.
- C. AISC S303 - Code of Standard Practice for Steel Buildings and Bridges; American Institute of Steel Construction, Inc.; 2005.
- D. AISC S348 (Research Council on Structural Connections) - Specification for Structural Joints Using ASTM A325 or A490 Bolts; 2004.
- E. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel; 2005.
- F. ASTM A 53/A 53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2007.
- G. ASTM A 108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished; 2007.
- H. ASTM A 123/A 123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2002.
- I. ASTM A 307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength; 2007b.
- J. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2009.
- K. ASTM A 325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Tensile Strength (Metric); 2009.
- L. ASTM A496-02 - Steel Wire, Deformed, for Concrete Reinforcement

- M. ASTM A 500/A 500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2007.
- N. ASTM A 563 - Standard Specification for Carbon and Alloy Steel Nuts; 2007a.
- O. ASTM A 563M - Standard Specification for Carbon and Alloy Steel Nuts [Metric]; 2007.
- P. ASTM A780 - Standard Specification for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings; 2001
- Q. ASTM A 992/A 992M - Standard Specification for Structural Steel Shapes; 2006a.
- R. ASTM E 709 - Standard Guide for Magnetic Particle Testing; 2008.
- S. ASTM F 436 - Standard Specification for Hardened Steel Washers; 2009.
- T. ASTM F 959 - Standard Specification for Compressible-Washer-Type Direct Tension Indicators for Use with Structural Fasteners; 2007a.
- U. ASTM F 1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2007a.
- V. ASTM F1852 - Twist Off Type Tension Control Structural Bolt/Nut/Washer Assemblies, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2002
- W. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; American Welding Society; 2007.
- X. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2008.
- Y. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

#### **1.05 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings:
  - 1. Review the Contract Documents prior to preparing shop drawings to determine if the structure is in conflict with OSHA requirements or any other safety regulation. Notify the Architect if any conflicts are noted. Do not prepare shop drawings affected by the conflict until the conflict is resolved.
  - 2. Prepare complete shop and setting drawings based on referenced AISC Specifications.
  - 3. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
  - 4. Indicate type and location of shop and field connections. Detail all required field welds.
  - 5. Indicate cambers.
  - 6. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.
  - 7. If shop drawings are resubmitted after the original review, identify all changes made to the shop drawings after the original submittal with clouds or similar markings.
- C. Submit AISC Quality Certification Program certificates (for reduction in shop special inspections only if the fabricator is so certified) and welder qualifications to the Special Inspector-Technical.
- D. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

#### **1.06 QUALITY ASSURANCE**

- A. Fabricate structural steel members in accordance with AISC "Manual of Steel Construction".

- B. Fabricator: Company specializing in performing the Work of this Section with minimum five years of documented experience. Fabrication plant shall be certified in category I or II according to the requirements of the AISC Quality Certification Program and shall be acceptable to and approved in writing by the structural engineer, Architect, and building official. Do not proceed with steel fabrication until the Architect has provided final written approval.
  - 1. As an alternative to fabricator certification, the Contractor may pay for full time inspection during the fabrication of the Project steel. This inspection shall be conducted by the Owner's inspection company at the fabrication plant. In addition, the fabrication plant shall also be acceptable to and approved in writing by the Structural Engineer, Architect, and Building Official. Do not proceed with the Work until the A/E has provided final written approval.
- C. Design connections not detailed on the drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.
- D. Codes and Standards:
  - 1. AISC - Manual of Steel Construction.
  - 2. AISC 360 - Specification for Structural Steel Buildings
  - 3. AISC - Code of Standard Practice for Steel Buildings and Bridges
  - 4. AWS D1.1.
  - 5. AISC S348 - Specification for Structural Joints Using ASTM A325 or A490 Bolts
  - 6. SSPC - SSPC Painting Manual - Volume 2
- E. Provide personnel qualified according to AWS D1.1 for all shop and field welding.

#### **1.08 PROJECT/SITE CONDITIONS**

- A. Verify all dimensions given on the Drawings and make such field measurements as are necessary to lay out the work properly and assure proper elevations. Be fully responsible for accuracy of all measurements and laying out of the work.
- B. Upon execution of a licensing agreement and payment of a service fee determined by engineer, the engineer will make electronic versions of structural framing plans available to the contractor for the purpose of preparing erection drawings.

### **PART 2 PRODUCTS**

#### **2.01 MATERIALS**

- A. Steel Angles, Plates, and Channels: ASTM A 36/A 36M.
- B. Steel W Shapes and Tees: ASTM A 992/A 992M.
- C. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B.
- D. Pipe: ASTM A 53/A 53M, Grade B, Finish black.
- E. Structural Bolts and Nuts: Carbon steel, ASTM A 307, Grade A.
- F. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, medium carbon, plain.
  - 1. Tension control bolts meeting ASTM F1852 are also acceptable.
- G. Unheaded Anchor Rods: ASTM F 1554, Grade 36, plain, with matching ASTM A 563 or A 563M nuts and ASTM F 436 Type 1 washers. Hot dip galvanize where noted.
- H. Load Indicator Washers: Provide washers complying with ASTM F 959 at all connections requiring high-strength bolts. Not required if tension control bolts are used.
- I. Welding Materials: AISC Specification A35 and referenced AWS specifications, type required for materials being welded, E70 electrodes.

- J. Shop and Touch-Up Primer: Fabricator's standard, compatible with finish coatings, complying with VOC limitations of authorities having jurisdiction.
- K. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.
- L. Post-installed anchors: See Section 03 1510
- M. Deformed Bar Anchors: ASTM A496, AWS D.1, Chapter 7, arc stud welded.

## **2.02 FABRICATION**

- A. Fabricate according to referenced AISC publications.
- B. Shop fabricate to greatest extent possible.
- C. Do not substitute sections or modify details without written approval of the Structural Engineer. Provide full-length pieces between connections or splices indicated on the drawings. Do not permit built-up lengths. Do not use warped or damaged sections.
- D. Design shop and field connections unless detailed on the Drawings. Use standard connections as shown in Part 9 of the AISC Manual where possible. Bolt field connections, unless otherwise indicated on the Drawings.
- E. Perform bracing, blocking, cutting, fitting, drilling, tapping, welding, punching, etc., as required to complete work and to join work of others. Weld clip angles and plates to beams and punch holes for fastening work of other trades as shown on the Drawings.
- F. Furnish anchor bolts of size and type shown on the drawings for all field connections to be permanently bolted to concrete or masonry.

## **2.03 FINISH**

- A. Prepare structural component surfaces in accordance with SSPC SP 3 unless otherwise indicated.
- B. Prepare faying surfaces at slip-critical bolted connections according to the requirements of AISC S348.
- C. Shop prime structural steel members to a DFT of 2.0 - 3.5 mils. Do not prime surfaces that will be fireproofed or field welded.
- D. Galvanize structural steel exposed to weather, lintels in exterior masonry walls, embedded in concrete (exterior or interior), and shelf angles and plates in exterior masonry walls to comply with ASTM A123/A123M
  - 1. Prepare items to be galvanized in accordance with ASTM A385.
  - 2. Close and seal weld vent holes in pipes, tubes, and other closed members. Touch up damaged areas using procedures and products from ASTM A780.

## **2.04 SOURCE QUALITY CONTROL**

- A. If Fabricator is not a Category I AISC certified fabricator, see field quality control section of Part 3 for special inspection requirements of shop fabricated work.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

### **3.02 ERECTION**

- A. Erect structural steel in compliance with AISC "Code of Standard Practice for Steel Buildings and Bridges".
- B. Allow for erection loads, and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Exercise care in handling structural steel during unloading, storage, and erection to prevent bends, twists, or other damage.

- D. Place structural steel stored at the site on substantial shores or blocking. Provide shores or blocking of sufficient size and strength to prevent any part of the steel from touching the ground.
- E. Remove dirt, oil, loose scale, burrs, pits, paint and other defects that would prevent solid seating of parts.
- F. Field weld components indicated on shop drawings.
- G. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts".
- H. Where A307 bolts are used, tighten to a snug tight fit as obtained with the full effort of a man using an ordinary spud wrench. Verify that all parts are in contact. Use self-locking nuts or upset bolt threads to prevent nuts from bracing off.
- I. Where A325 bolts are used, tighten bolts and provide washers in accordance with "Specification for Structural Joints Using ASTM A325 or A490 Bolts". Use tension control bolts or direct tension indicators for slip-critical (SC) and fully tensioned bolts (FT).
- J. Pre-heat material to be welded and maintain interpass temperatures as required. Do not weld below 0 degrees F.
- K. Remove all ceramic welding ferrules from shear studs.
- L. Do not cut steel or enlarge holes without written approval of the Structural Engineer.
- M. Do not field cut or alter structural members without approval of Architect and Structural Engineer.
- N. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete or specified to be unprimed.
- O. Repair or replace structural steel damaged during shipment, unloading, or erection at no cost to the Owner.
- P. Install expansion and adhesive anchors in strict accordance with manufacturer's recommendations.

### **3.03 CLEANING AND REPAIR**

- A. After erection and welding of steel, remove clay, mud or other foreign materials from all members.
- B. Apply a field touch-up coat of paint on all welded connections and damaged areas using the same color and type of paint used on the shop coat.
- C. Repair damaged galvanized members with procedures and products from ASTM A780.

### **3.04 FIELD QUALITY CONTROL**

- A. Structural Testing and Special Inspection
  - 1. Structural Special Inspection shall be performed by qualified parties as specified herein, and in accordance with the provision of Section 01 4533.
  - 2. If special inspection of Fabricator's work is required, special inspector may test and inspect structural steel at plant before shipment.
  - 3. Definitions:
    - a. ASNT - American Society for Non-Destructive Testing
    - b. CAWI - American Welding Society Certified Associate Weld Inspector
    - c. CWI - American Welding Society Certified Weld Inspector
  - 4. Personnel Qualifications
    - a. Special Inspector Technical I: CAWI or ASNT Level I, employed by a testing agency and supervised by a CWI or ASNT Level III with a minimum of 10 years experience.

- b. Special Inspector Technical II: CAWI with minimum 3 years experience or ASNT Level II, employed by a testing agency and supervised by a CWI or ASNT Level III with a minimum of 10 years experience.
  - c. Special Inspector – Structural I: Graduate civil/structural engineer, or other personnel acceptable to the SER, with experience in design of structural systems of the project type. Inspections shall be performed under the direct supervision of a licensed structural engineer, as defined in Section 01 4533. The licensed engineer shall review and approve all inspection reports.
  - d. Individuals performing welding inspection must be AWS certified.
5. The Owner will provide the following tests and inspections:
- a. Shop Fabricated Work: Perform tests and inspections required below, except bolt and welding inspections may be reduced or deleted, if fabrication shop satisfies AISC Quality Certification Program - Category I, or more stringent criteria, or is approved by Building Official and SER.
  - b. Test high strength bolted connections according to the requirements of RCSC "Specification for Structural Joints Using ASTM A325 or ASTM A490 Bolts", and as follows:
    - 1) Preparation: Visually inspect mating surfaces and bolt type for all bolted connections for general conformance with the contract documents prior to bolting. Qualifications: Technical II.
    - 2) Slip Critical Bolts and Fully Tensioned Bolts: Visually observe all connections. Verify that all plies of connected elements have been brought into contact. Verify all tips are removed from "twist-off" bolts or direct tension indicators show fully tensioned bolts. Qualifications: Technical II.
    - 3) Bearing Bolts: Visually observe all connections to confirm all plies of connected elements have been brought into contact. (Applies only to bolts designed with threads included in failure plane; all other bolts require testing as for fully tensioned bolts.) Qualifications: Technical II.
  - c. Welding Procedures and Preparation: Qualifications: Technical II. Verify the following:
    - 1) Qualifications of all welders as AWS certified.
    - 2) Proposed welding procedures and materials.
    - 3) Adequate preparation of fraying surfaces.
    - 4) Preheat and interpass temperatures of steel, proper technique and sequence of welding, and cleaning and number of passes.
  - d. Test and inspect welding as follows
    - 1) Fillet Welds: Visually inspect 100% of all fillet welds, for size, length, and quality, per AWS D1.1. Qualifications: Technical II.
    - 2) Partial Penetration Welds: Test 100% of all partial penetration welds exceeding 5/16 inch, using Ultrasonic Testing per AWS D1.1, Section 6. Visually inspect 100 % and test 25% of all penetration welds less than 5/16 inch using Magnetic Particle Testing per ASTM E 709 performed on root pass and on finished weld. Qualifications: Technical II.
    - 3) Full Penetration Welds: Test 100% of all full penetration welds exceeding 5/16 inch, using Ultrasonic Testing per AWS D1.1 Section 6. Visually inspect 100% and test 25% of all full penetration welds less than 5/16 inch, using Magnetic Particle Testing per ASTM E 709 performed on root pass and on finished weld. Qualifications: Technical II.
  - e. Submittals: Verify mill test reports and other submitted documentation for compliance with contract documents. Qualifications: Structural I
  - f. Materials: Verify materials delivered to site comply with contract documents and approved shop drawings. Qualifications: Technical I
  - g. Detail Compatibility: On a periodic basis, inspect the following to verify member orientation, configuration, type, and size comply with details indicated on the contract documents and shop drawings. Qualifications: Structural I.
    - 1) Permanent bracing and stiffening members.
    - 2) Proper applications of joint details and conditions. Observations need not exceed 25% at standard connections.
    - 3) Other work critical to the integrity of the building structure.

**END OF SECTION 05 12 00**

## SECTION 05 50 00

### METAL FABRICATIONS

#### PART 1: GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings, Details of Construction and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work specified in this section.

##### 1.02 SUMMARY

- A. Section includes: All labor, material necessary to complete all items of miscellaneous metal as listed on the schedule in Part 2 and shown on the Drawings.
1. The design, fabrication, transportation to the project site, and associated operations required to complete miscellaneous metals, including all the various metal items manufactured to more or less standard details in sizes conforming to specific requirements of the project.
  2. Stainless Steel for use in swimming pool environment.

##### 1.03 REFERENCE STANDARDS

- A. The following specifications and standards are incorporated by reference. Materials and operations shall comply with requirements of the specified issue of published reference. Where provisions of these Project Specifications are at variance with those reference specifications, the maximum criteria or requirements shall govern.
1. ASTM A36-03a, "Carbon Structural Steel"
  2. ASTM A53-02, "Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless"
  3. ASTM A123-02, "Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products"
  4. ASTM A307-02, "Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength"
  5. ASTM A325-02, "Structural Bolts, Steel, Heat Treated, 120/105 KSI Minimum Tensile Strength"
  6. ASTM A500-03, "Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes"
  7. ASTM A563-00, "Carbon and Alloy Steel Nuts"
  8. ASTM A666-00, "Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar"
  9. ASTM A992-02, "Steel for Structural Shapes for Use in Building Framing"
  10. ASTM F1554-99, "Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength"
  11. AWS D1.1-2002, "Structural Steel Welding Code"

#### **1.04 SUBMITTALS**

- A. Submit in accordance with Section 01 33 00.
  - 1. Shop drawings required for all items. Show all work to be fabricated with all construction details shown in appropriate scale, methods of attachment to other materials, finished dimensions, shop welds and grinding of welds, field assembly joints, etc. Indicate welded connections, including net weld lengths, using standard AWS welding symbols.
  - 2. Calculations: Accompany shop drawings with a complete structural design and analysis prepared and certified by a Professional Engineer (P.E.) licensed in the State in which the project is located. The design and analysis shall show all design loads, reactions, forces or stresses, and structural characteristics of members and connections for the items listed in section 2.01.B. Include a certified letter stating that shop drawings as submitted conform to the requirements on the design calculations.
  - 3. Coordinate work with other suppliers and subcontractors; obtain their approved shop drawing where necessary, or obtain any necessary additional detail information regarding mounting conditions or other aspects of related work.
- B. Contract Closeout Submittals for stainless steel:
  - 1. Manufacturer's cleaning and regular maintenance instructions. Submit per Section 01 78 23.

#### **1.05 PRODUCT PROTECTION**

- A. Package, handle, deliver and store at the job site in a manner that will avoid damage or deformation. Damaged material will be rejected.
- B. Furnish items to be built into concrete, masonry, carpentry, etc. as the work progresses.

#### **1.06 JOB CONDITIONS**

- A. Verify dimensions in field, as required, for pre-cut or prefabricated items.
- B. Examine job conditions and adjoining construction which may affect the acceptability of the work.

### **PART 2: PRODUCTS**

#### **2.01 DESIGN**

- A. All materials shall be free from defects impairing strength, durability, appearance, and shall be of the best commercial quality for the purposes indicated. Structural properties shall be such to withstand safely all strains and stresses to which they will be normally subjected.
- B. Metal railings, stairs, catwalks, ladders, and other items specified in this section shall be designed to resist self-weight and the more stringent of:
  - 1. Superimposed Dead and Live Loads indicated on the Contract Documents, and
  - 2. Loads set forth by the governing Building Code.
- C. The maximum Live Load deflection shall be  $L/360$ . Deflection determined based on structural section(s) alone.



## **2.02 MATERIALS**

- A. Structural Steel: ASTM A36 or A992.
- B. Fastenings: Bolts, welds, rivets or other fastenings as required.
- C. Steel Tubing: ASTM A500 Grade B.
- D. Shop Paint Primer: Manufacturer's standard rust inhibiting primer.
- E. Stainless Steel:
  - 1. In chlorine environments (swimming pools) provide grade 316L (low carbon) with #4 satin finish conforming to ASTM A167 Standards.
  - 2. In all other areas where stainless steel is noted, provide grade 302 or 304, #4 satin finish conforming to ASTM A167 standards.
- F. Galvanizing: ASTM A123.
- G. Expansion and Adhesive Anchors.
  - 1. Wedge Anchors: Hilti "Kwik Bolt II" or Ramset/Redhead "Trubolt" or equal.
  - 2. Heavy Duty Sleeve Anchors: Hilti "HSL" or equal.
  - 3. Adhesive Anchors: Hilti "HVA" or "HIT", Ramset/Redhead "EPCON" or equal.

## **2.03 GENERAL REQUIREMENTS FOR FABRICATION**

- A. Weld permanent connections wherever possible; use continuous welds where exposed and grind smooth, straighten members after welding.
- B. Perform welding in accordance with AWS D1.1.
- C. Perform shop cutting, drilling, fitting and assembly wherever possible. Take field measurements before fabrication when required.
- D. Provide all supporting members, fasteners, framing, hangers, bracing, brackets, straps, bolts, angles, etc. required to set, connect the work rigidly and properly to other construction.
- E. Install welded end caps at all handrail terminations.

## **2.04 SHOP COATS PROTECTIVE TREATMENT**

- A. Clean free of all mill scale, rust and foreign matter by wire brushing, scraping, sandblasting or flame cleaning. Remove grease, oil with solvent. Dust, dirt: Remove with air blast or brush.
- B. Apply one shop coat of specified primer to all ferrous metal products, except galvanized. Provide primer for field touch up. Be responsible for quality and adhesion of shop prime finish.
- C. Hot-dip galvanize all ferrous metal items exposed to weather in the finish work and shop prime with primer recommended for use on galvanized metal.

## **2.05 SCHEDULE OF MISCELLANEOUS METAL ITEMS**

- A. Items listed in this Section are intended only as a guide, but do not relieve responsibility for verifying quantities and inclusion of all similar items. Thoroughly examine all Drawings for items of miscellaneous metal fabrications.
1. Loose and fixed masonry lintels, as scheduled.
  2. Galvanized steel grating and galvanized grating angle supports.
  3. Overhead bracing for masonry walls.
  4. Aluminum grating.
  5. Other miscellaneous metal items shown on Drawings.

## **PART 3: EXECUTION**

### **3.01 INSTALLATION GENERAL REQUIREMENTS**

- A. Anchor to concrete and masonry with expansion or adhesive anchors where built-in anchorage is not provided; do not fasten to wood plugs set in masonry.
- B. Vertical members set into concrete or masonry: As shown.
- C. Bolts, screws, etc., for field connections: Same material, finish as base material.

### **3.02 FIELD SPLICES, WELDS**

- A. Perform field welding in accordance with AWS D1.1.
- B. Welders shall be certified by AWS.
- C. Continuously weld field splices and grind smooth where exposed to view.
- D. Fill exposed splice joints with body filler and sand smooth.
- E. Touch-up joints, welds with specified primer.
- F. Touch-up damaged hot dipped galvanizing with Galvanizing Repair Compound per manufacturer's requirements.

### **3.03 FIELD QUALITY CONTROL**

- A. Structural Testing and Special Inspection
1. Comply with the requirements of Section 05 10 00 – Structural Steel Framing
  2. The Owner will employ a Special Inspector for the following:
    - a. Visual inspect 100% of all fillet welds, for size, length, and quality, per AWS D1.1. Qualifications: Technical II.

**END OF SECTION 05 50 00**