READ THIS FIRST

This Project Spec Document may need additional modifications to suit your project. It is recommended that you proofread each section, paying attention to any “Notes” boxes such as this one--you should remove these “Notes” sections as you go. Also, do a search for all bracket characters “ [ ] “ as they are used to show you areas containing options or project specific details (you can use Microsoft Word’s Find feature {Ctrl-F} to jump to an open bracket “ [ “ character quickly). Again, these bracket characters should be removed.

It is important that every paragraph be numbered to allow for easy referencing. If you use the document’s built in styles and formatting your outline should be fine (turn on the formatting toolbar by going to View > Toolbars > Formatting). Most paragraphs will use the style “Numbered Material” and can be promoted (Shift) or demoted (Shift-Tab).

You should not have to manually enter extra spaces, carriage returns or outline characters such as A, B, C, or 1.01, 1.02; the formatting will do this for you. The entire document is 11 pt. Arial. If you paste items in, you may need to reapply the “Numbered Material” format.

1. GENERAL
   1. SUMMARY OF WORK
      1. The extent and location of the “Steel Joists” Work is indicated in the Contract Documents. . The Work includes the requirements for providing all steel joists, anchorage systems materials, bearing pads, fastening between joists or adjacent structures, bracing, blocking and all other appurtenances necessary for a complete joist system.
   2. GOVERNING CODES, STANDARDS, AND REFERENCES
      1. American Institute of Steel Construction (AISC)
         1. Standard Specifications and Load Tables for Open Web Steel Joists, Longspan Steel Joists, and Deep Longspan Steel Joists
      2. Steel Joist Institute (SJI)
         1. SJI Load Tables, Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders
   3. SUBMITTALS
      1. Submit materials data in accordance with Section 01 33 00 - Submittals. Furnish manufacturers’ technical literature, standard details, product specifications, and installation instructions for all products.
      2. Submittals shall include the following:
         1. Shop Drawings
            1. Submit shop drawings to the Engineer.
            2. Submittal Requirements

Show all shop and erection details, including cuts, copes, connections, holes, threaded fasteners, rivets and welds.

Show all welds, both shop and field, by the currently recommended symbols of the A.W.S.

Furnish detail drawings or list indicating the designation mark, number, type, location and spacing of all joists on a plan layout. Indicate bridging type, mark, method of attachment to the joist and anchorage at the ends. Indicate type of paint and all accessories.

Provide design data from SJI Load Tables for the joist girders series indicated

1. MATERIALS

A. If only one product is acceptable (single or sole source product), obtain an approved Competition Waiver and submit to the CPO Construction, Contract Administrator. The language shall read as: “Manufacturer Name, Product # XXXXX, No Equal.” Refer to CPO-6 Competition Waiver Policy for more information.

B. If a Competition Waiver is not approved or more than one product is acceptable, this section must list a minimum of 2 products plus the language “Or Approved Equal,” along with salient characteristics. Refer to CPO Construction’s Salient Characteristics Guidelines for more information.

* 1. MATERIAL REQUIREMENTS
     1. Joists
        1. Steel joists shall conform to the Standard Specifications for [note series designation] joists in the locations designated on the approved drawings. When standard-series designated joists are modified to meet special requirements, dimensional or structural, the modification must be noted and approved by a licensed Structural Engineer.
     2. Shop Paint
        1. Conform to Section 09 90 00 - Paints and Coatings of these specifications [except that black asphalt is not permitted in areas where field painting is required].

OR

* + - 1. Shop paint shall be manufacturer’s standard [color] conforming to the requirements of Section 09 90 00 - Paints and Coatings of these specifications.
    1. Extended Ends
       1. Extended ends shall have a load carrying capacity at least equal to the loads indicated on the drawings.
    2. Bridging
       1. Member sizes and end anchorage shall be in accordance with the requirements of the Steel Joist Institute unless otherwise indicated on the drawings.
       2. J and H Series Joists: Use horizontal bridging attached to joists by [welding] [bolting] [welding] [wraparound].

OR

* + - 1. Use sag rods attached to joists in accordance with the manufacturer’s standard detail.
      2. LJ and LH Series Joists: Use diagonal bridging attached to joists by bolting.
    1. Other Materials
       1. All other materials not specifically described but required for a complete and proper installation of structural steel, shall be new, free from oxidation, first quality of their respective kinds and subject to the approval of the Engineer.
  1. FABRICATION & SUPPLY OF MATERIALS
     1. General
        1. Fabricate all steel joists in strict accordance with the approved shop drawings and the reference standards.
        2. All material stored at the plant, prior to or after fabrication, shall be protected from rust or an accumulation of dirt, oil, or other foreign matter. Material which shows any signs of pitting due to rust will not be accepted.
        3. All steel joists shall be delivered to the job in good condition. Joists which, in the opinion of the Engineer, have been damaged by the elements shall be sandblasted and repainted with the specified shop coat.
        4. The workmanship and finish shall be first-class and equal to the best practice. Welding, shearing and chipping shall be neatly and accurately done and all portions of the Work exposed to view shall be neatly finished.
     2. Straightening Materials
        1. Straighten all deformed material, prior to fabrication, by methods which are non-injurious. Sharp kinks or bends shall be cause for rejection. The use of heat for straightening members by stress-relieving or stress-induction will not be allowed.
  2. MATERIAL HANDLING & STORAGE
     1. Protection: Handle, transport, and store joist girders in a manner to prevent damage affecting their structural integrity. Store all items off the ground in a well-drained location protected from the weather and easily accessible for inspection and handling. Steel joists that are to be [finish-painted] [epoxy-coated] [or otherwise shop-coated] in the shop shall have lifting eyes or pad eyes appropriately located to facilitate erection of the steel with a minimum of damage to the finished surface.
  3. QUALITY ASSURANCE & INSPECTIONS
     1. Inspection and Testing: Sampling and testing to assure compliance with the contract provisions shall be in accordance with [Section 01 45 29 - Quality Control; Testing Laboratory Services] [Section 01 45 16.13 – Contractor’s Quality Control Program] of these specifications. The Contractor may obtain copies of results of tests performed by the Port of Seattle from the office of the Engineer at no cost. Tests conducted for the sole benefit of the Contractor shall be at the Contractor's expense.

Use paragraph above when the project does not utilize Contractor’s Quality Control (CQC). Coordinate closely with Section 01 45 29 - Quality Control; Testing Laboratory Services to assure Sampling and Testing on materials called for in that section agree with intent of this section.

OR

Use paragraph above when project utilizes CQC and Section 01 45 16.13 – Contractor’s Qua;ity Control Program. Provide text for inspectin and testing to be performed by the Contractor with specifics on frequency and scope.

* + 1. Testing and Inspection for Contractor Quality Control: The Contractor shall perform the inspection and tests described below and, based upon the results of these inspections and tests, shall take the action required and shall submit specified reports.
    2. Welding:
    3. Reports:
    4. Standards: All materials of this section shall comply with the pertinent provisions of the “Specifications and Load Tables for Open Web Steel Joists, Longspan Steel Joists and Deep Longspan Steel Joists, of the Steel Joist Institute and American Institute of Steel Construction, Inc.”
    5. Welding: All welding shall be performed by welders who are currently certified by the Washington Association of Building Officials.

1. EXECUTION
   1. PROJECT INFORMATION
   2. PREPARATION FOR EXECUTION
      1. Inspections
         1. Prior to installation of the Work of this section, carefully inspect the installed Work of all other trades affecting this Work and verify that all such Work is complete to the point where this Work will properly commence.
   3. EXECUTION OF WORK
      1. Erection
         1. General: Erect all steel joists in strict accordance with the drawings, the approved shop drawings and all pertinent regulations and standards.
         2. Tolerances: Align all steel joists straight, plumb and level within a tolerance of 1 in [500].
         3. Touch-up: After erection is complete, touch up all shop priming coats damaged during transportation or erection and prime all field welds on members requiring priming with primary paint specified for shop priming.
            1. When epoxy or other special coatings are specified, apply them per manufacturer’s recommendations.
         4. Loading: Secure all joist bridging and anchoring in place prior to the application of any construction loads. Distribute temporary loads so that joist capacity is not exceeded. Do not apply loads to bridging.
   4. QUALITY ASSURANCE & INSPECTIONS
      1. Welding
         1. Conform to Section 05 05 23 – Welding for all certification, material, and procedural requirements.
   5. DELIVERABLES
2. MEASUREMENT AND PAYMENT
   1. GENERAL
      1. No separate measurement or payment will be made for the Work required by this section. The cost for this portion of the Work will be considered incidental to, and included in the payments made for the applicable bid items in the [Schedule of Unit Prices] [Lump Sum price bid for the Project].

End of Section

Revision History:

05/01/2014 Conversion to 2004 CSI Numbering System

10/15/2014 Added Sole Source and Salient Characteristics Note to Part 2

01/12/2025 Revised 2.04 Quality Assurance & Inspections