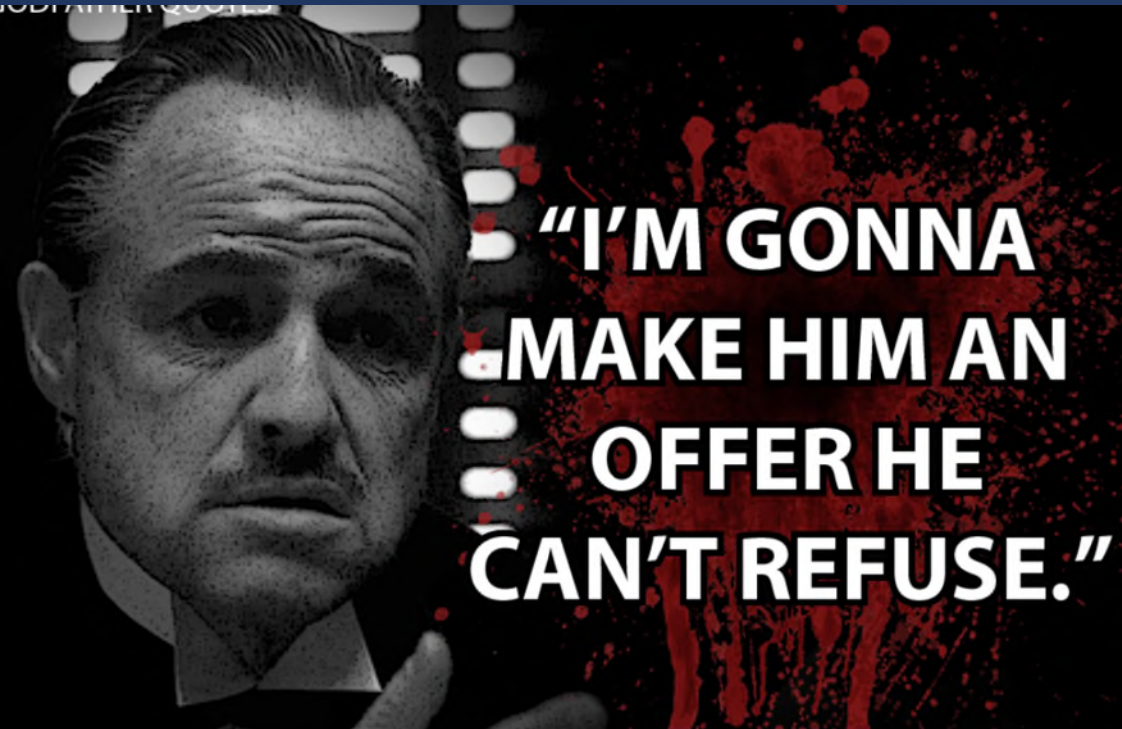


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Lessons Learned from the Godfather, or in this case the Code of Standard Practice

January 10, 2023



Angela M. Richie, Esq.
Denise M. Motta, Esq.

Happy New Year!



- Save the Date – Second Tuesdays of each month.
 - 2/14 – Back to the Future: How to manage the legal risks associated with BIM, scanning technology, and smart contracts.
 - 3/14 – Battleship: Negotiation strategies for upstream agreements to avoid getting your battleship sunk.
 - 4/11 – *See you at NASCC!*
 - 5/19 – “Don’t go chasing Waterfalls, please stick to the rivers and the lakes that you’re used to.” Best practices in selecting, negotiating with, and managing downstream subcontractors and vendors.
 - 6/13 – Heffalumps & Woozles: “Beware! Beware! Be a very wary bear!” OSHA lessons learned.
 - 7/11 – Avoid the Wolf in Sheep’s Clothing. Best practices for defending against bogus backcharge claims.
 - 8/8 – “The Times They Are A-Changin’”: Putting together change orders that will get paid.
 - 9/12 - Alphabet Soup and the Insurance Industry: What do you need to know about OCIP, CCIP, GCL, Builder’s Risk, Subguard, and Bonding to protect your company from upstream and downstream risks.

Happy New Year

- We are always making improvements. Contact us for updated agreements if you are already using our standard forms.

- Updated Agreements:
 - Proposal Forms

 - Downstream Forms
 - » Erector
 - » Detailer/Engineer
 - » Sub-fab
 - » And more ...



2022 CoSP Preface – Summarizes the Changes

PREFACE

16.3-v

- Structural Design Drawings
- Shop Drawings/RFIs
- Change Orders
- Schedule Considerations
- Contractor Obligations
- Inspections

- Section 1.1 provisions were revised to strengthen the Code and provide clear requirements when specific instructions to the contrary are included in contract documents.
- Commentary to Section 1.1 was expanded and clarified to achieve a common understanding of the responsibilities and expectations of each party.
- New Section 1.7 was added with provisions on construction scheduling.
- New commentary to Section 1.10 was added to provide guidance on erector safety.
- Steel used as piling or other piling accessories was added to Section 2.2 as “Other steel, iron, or metal items”.
- Section 3.0 and commentary was revised to coordinate with ANSI/AISC 360-22.
- New Section 3.1 was added with provisions on structural design documents and specifications issued for construction. This section also contains updated requirements and guidance on painting responsibilities.
- New Section 3.2 was added with provisions for structural design documents and specifications issued as contract documents.
- In Section 4.5, requirements were added for the review of fabrication and erection documents, including additional commentary guidance.
- In Section 6.1, preferred material specifications were updated to parallel what will appear in the 16th Edition AISC *Steel Construction Manual*.
- In Section 6.4 the paint and steel cleaning provisions were expanded.
- In Section 10.4, the AESS fabrication requirements were updated.
- Table 10.1 was revised to align with Section 10.4 AESS requirement revisions.
- New commentary was added to Section 10.6 to provide guidance on weld access holes.
- New Section 11 was added to compile all fabrication and erection tolerances. This addition also included the removal of Section 6.4 and 7.13 from the 2016 Code.
- Section 11.2 includes new and expanded fabrication tolerances, included those applicable to camber. Additional guidance was added to the commentary.
- Section 11.3 includes new and expanded erection tolerances.
- All figures in Section 11 were updated to align with code language revisions and glossary terms.

Application of the Code

1.1. Scope

The Code of Standard Practice sets forth criteria for the trade practices involved in the design and construction of steel buildings, bridges and other structures, and shall apply to all projects that involve fabricated structural steel. In the absence of specific instructions to the contrary in the contract documents, the trade practices that are defined in this Code shall govern the fabrication and erection of structural steel.

Specific instructions to the contrary shall not violate any provisions of applicable building codes.

The contract with the fabricator or erector shall identify by Code section number any specific instructions to the contrary not contained in the design documents or specifications.

If specific instructions to the contrary have not been provided as required in this section, the provisions of the Code shall apply as written herein.

“The richest man is the one with the most powerful friends.” – Don Altobello

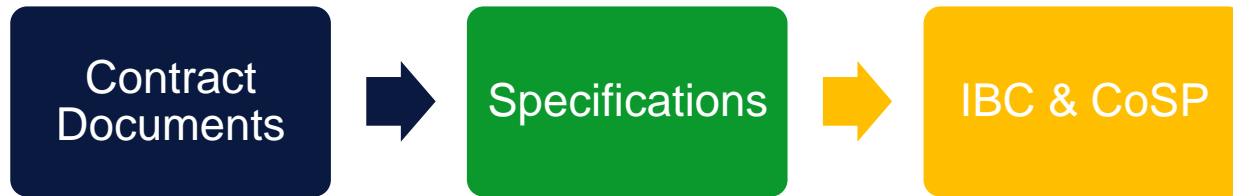
Section 1.1 Commentary

The Code is a balanced, consensus document written in a “party-neutral” manner and should not be modified for the purpose of dictating a commercial advantage. To that end, Section 1.1 requires any specific instructions to the contrary unrelated to design elements (e.g., relating to commercial terms) to include a reference to the specific Code section number. This requirement is intended to ensure that all parties are aware of and specifically agree to specific instructions to the contrary that may work to the advantage of one party and to the disadvantage of another.

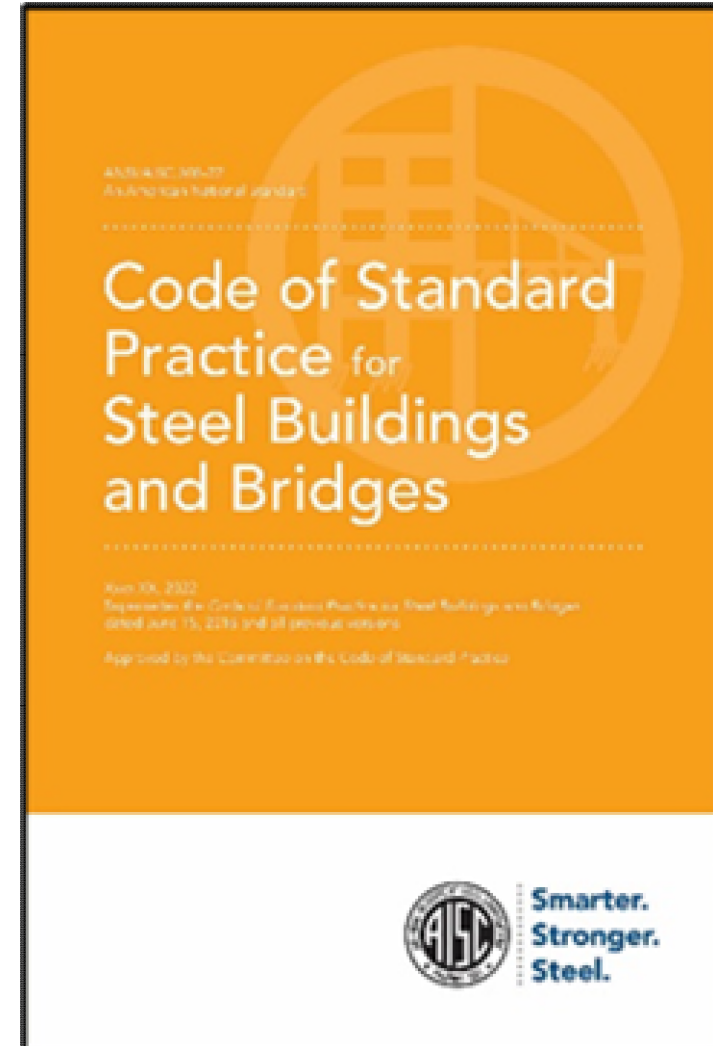
Extreme care should be taken to ensure that any modification is written in mandatory code language where applicable and is consistent with all other sections of *the Code* to result in a unified document. No modifications should be made to any Code section that violates the life safety or serviceability provisions of the *applicable building code* or results in a commercial advantage for any party that violates the intention of *the Code* to serve as a fair, balanced consensus document.

Code of Standard Practice

Ways you can
use the code.



- Adoption of IBC by state.
- IBC requires compliance with AISC 360
- AISC 360, A.4: “the structural design drawings and specifications shall meet the requirements of the Code of Standard Practice.”



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Structural Design Drawings



Section 1 - General Provisions

- Responsibility for Design (1.6)

1.6.1. When the *owner's designated representative for design* provides the design, *design documents and specifications*, the *fabricator* and the *erector* are not responsible for the suitability, adequacy or building-code conformance of the design.

1.6.2. When the *owner* enters into a direct contract with the *fabricator* to both design and fabricate an entire, completed steel structure, the *fabricator* shall be responsible for the suitability, adequacy, conformance with *owner-established* performance criteria, and building-code conformance of the *structural steel* design. The *owner* shall be responsible for the suitability, adequacy and building-code conformance of the *nonstructural steel* elements and shall establish the performance criteria for the *structural steel* frame.

CoSP 3.4 Discrepancies

- “It is not the fabricator’s responsibility to discovery discrepancies, including those that are associated with the coordination of various design disciplines.”



2016 CoSP

3.1 Structural Design Documents and Specifications

- “The **structural design documents shall clearly show or note** the work that is to be performed
- and shall give the following information with **sufficient dimensions**
- to accurately convey the **quantity and complexity** of the structural steel to be fabricated:
 - (A) the size, section, material grade and location
 - (I) **The information required in Sections 3.1.1 through 3.1.6**
- The structural steel specifications shall include any special requirements for the fabrication and erection of structural steel.

2022 – Section 3 of CoSP

SECTION 3. DESIGN DOCUMENTS AND SPECIFICATIONS

The *issuing of design documents and specifications* shall be by the owner's designated representative for design (ODRD). The *releasing of design documents and specifications* shall be by an owner, owner's designated representative for construction (ODRC), or other party. *Design documents and specifications shall be released in accordance with Section A4.2 of ANSI/AISC 360.*



2022 – Section 3.1

3.1. Structural Design Documents and Specifications **Issued for Construction**

Structural *design documents and specifications* **issued for construction** for all or a portion of the work **shall be based upon a completed design** for the scope of work represented and provide the following information, as applicable, to define the work to be fabricated and erected:

- (a) Information as required by the *applicable building code*.
- (b) **Information as required in ANSI/AISC 360 Section A4 and ANSI/AISC 341 Section A4.**

2022 – Issued for Construction

- **Issued for Construction.** The engineer of record's designation that the design documents and specifications are authorized to be used to construct the steel structure depicted in the design documents and specifications, and that these design documents and specifications incorporate information that is to be provided per the requirements of Section A4.



AISC 360 – A4.1 DESIGN DOCUMENTS AND SPECIFICATIONS

1. Information as required by the applicable building code – AISC 341 Section A4.1
 - a. Statement of the method of design used: LRFD or ASD
 - b. The section, size, material grade, and location of all members
 - c. All geometry and work points necessary for layout
 - d. Column base, floor, and roof elevation
 - e. Column centers and offsets
 - f. Identification of the lateral force-resisting system and connecting diaphragm elements that provide for lateral strength and stability in the completed structure
 - g. Design provisions for initial imperfections, if different than specified in Chapter C for stability design
 - h. Fabrication and erection tolerances not included in or different from the *Code of Standard Practice*

AISC 360 – A4.1 DESIGN DOCUMENTS AND SPECIFICATIONS

- j. **Any special erection conditions** or other considerations that are required by the design concept, such as identification of a condition when the structural steel frame in the fully erected and fully connected state requires interaction with nonstructural steel elements for strength or stability, the use of shores, jacks, or loads that must be adjusted as erection progresses to set or maintain camber, position within specified tolerances, or prestress
- k. Preset elevation requirements, if any, at free ends of cantilevered members relative to their fixed-end elevations
- l. Column differential shortening information, including performance requirements for monitoring and adjusting for column differential shortening
- m. Requirements for all connections and member reinforcement
- n. Joining requirements between elements of built-up members

AISC 360 – A4.1 DESIGN DOCUMENTS AND SPECIFICATIONS

- o. Camber requirements for members, including magnitude, direction, and location
- p. Requirements for material grade, size, capacity, and detailing of steel headed stud anchors as specified in Chapter I
- q. Anticipated deflections and the associated loading conditions for major structural elements (such as transfer girders and trusses) that support columns and hangers
- r. **Requirements for openings in structural steel members for other trades**
- s. Shop painting and surface preparation requirements as required for the design of bolted connections
- t. Requirements for approval documents in addition to what is specified in the *Code of Standard Practice* Section 4.

AISC 360 – A4.1 DESIGN DOCUMENTS AND SPECIFICATIONS

- u. Charpy V-Notch toughness (CVN) requirements for rolled heavy shapes or built-up heavy shapes, if different than what is required in Section A3
- v. Identification of members and joints subjected to fatigue
- w. Identification of members and joints requiring nondestructive testing in addition to what is required in Chapter N
- x. Additional project requirements, as deemed appropriate by the engineer of record, that impact the life safety of the structure

2022 – Back to Section 3.1 (cont.)

c) Shop painting and surface preparation requirements.

Specific members or portions thereof that are to be left unpainted shall be identified.

When shop painting is required, the paint system requirements shall be specified, including (1) The identification of specific members or portions thereof to be painted, (2) The surface preparation that is required for these members, (3) The paint specifications and manufacturer's product identification, including color requirements, if any, that are required for these members, (4) The minimum dry-film shop-coat thickness that is required for these members, (5) Identification of compatible shop applied and field applied paint systems in multi-coat application, (6) The party or subcontractor responsible for field touch-up including repair of shipping and handling damage after shop application(s).

The absence of the foregoing information for bidding purposes shall result in provisions for related work to be absent from the bid. When the actual information becomes available subsequent to bidding, the contract price and schedule shall be adjusted equitably in accordance with Sections 9.4 and 9.5

2022 - 3.2. Structural Design Documents and Specifications Issued for Contract Documents

3.2.1. Traditional Design-Bid-Build Delivery Method

Structural design documents and specifications issued as the basis for contract documents shall provide the information as specified in Section 3.1 for structural design documents and specifications issued for construction.

3.2.2. Alternate Delivery Methods

When an alternative delivery method is implemented and structural design documents and specifications not meeting all the listed requirements of Section 3.2.1 are issued for contract documents, the listed information not specified shall be acknowledged in the contract with the fabricator and the erector. **The contract documents shall convey the character, quantity and complexity of the structural steel to be fabricated and erected so that the fabricator and erector can provide bids that are accurate and complete.** The information furnished shall include the following items as minimum requirements:

- The section, size, material grade and location of all members

- All geometry and work points necessary for layout

- Column base, floor and roof elevations

- Column centers and offsets

- When the requirements of ANSI/AISC 341 are applicable, the information required in ANSI/AISC 341 Section A4

- The lateral force-resisting system and connecting diaphragm elements that provide for lateral strength and stability in the completed structure.



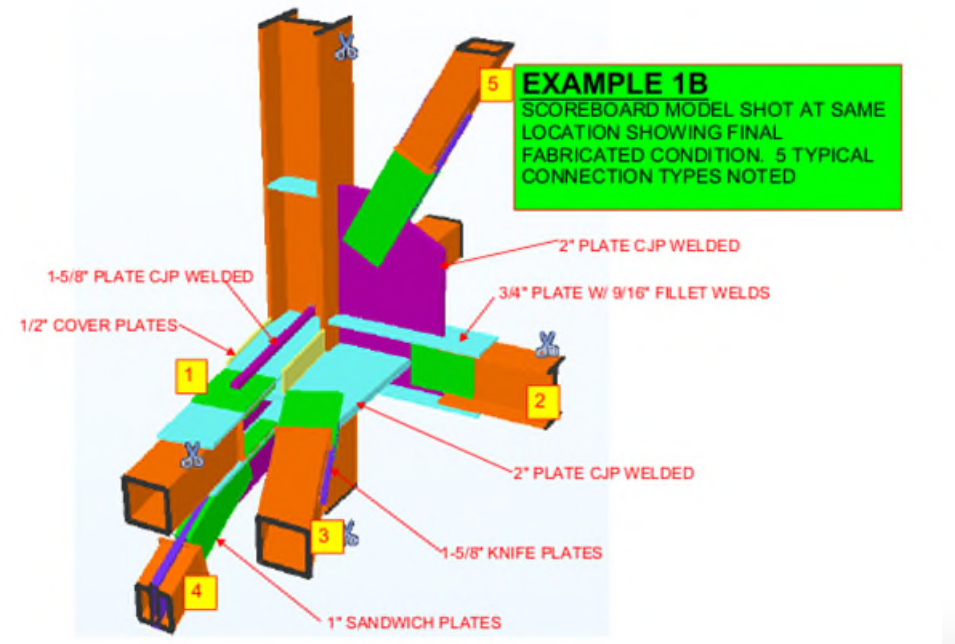
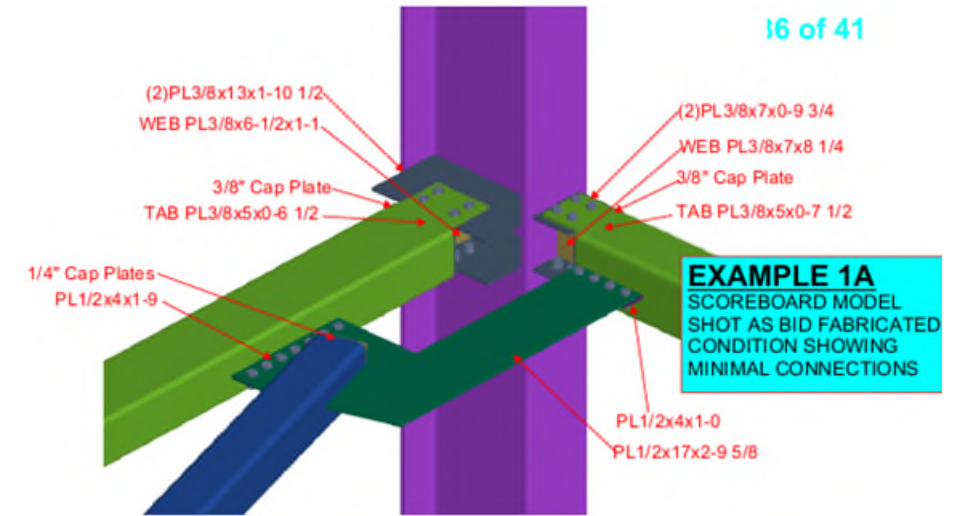
3.2 – Incomplete Design under Alternative Delivery Method

- If design information is missing – allowances shall be specified
- When the actual quantity and/or details ...differ ... final contract price and schedule shall be adjusted...
- Commentary – Release of structural design documents to the fabricator = release for construction = may begin work = order materials



3.2.3 – Connection Design

- Options
 - Complete connection shown
 - Steel detailer to select connection
 - Connection designated in structural design or specs to be designed by licensed engineer



3.2.4 – Member Reinforcement

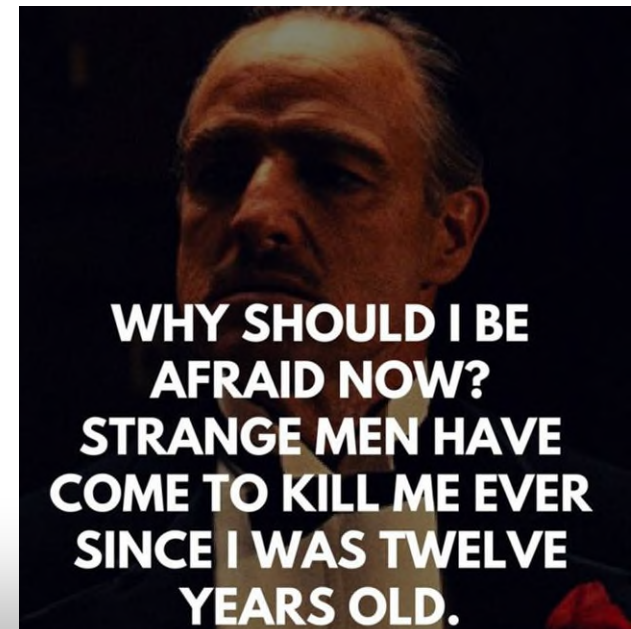
- At locations away from connections
 - Stiffeners, doublers, etc. shall be designed by ODRD and shown in sufficient detail so quantity, detailing, and fab requirements can be readily understood
- At connection – either
 - Designed by ODRD
 - Or ODRD shall provide details with sufficient info for fabricator to understand quantity and complexity
- If no reinforcement is indicated – pursue a change to schedule and contract amount



Tolerances

CoSP 1.11 Tolerances - changes

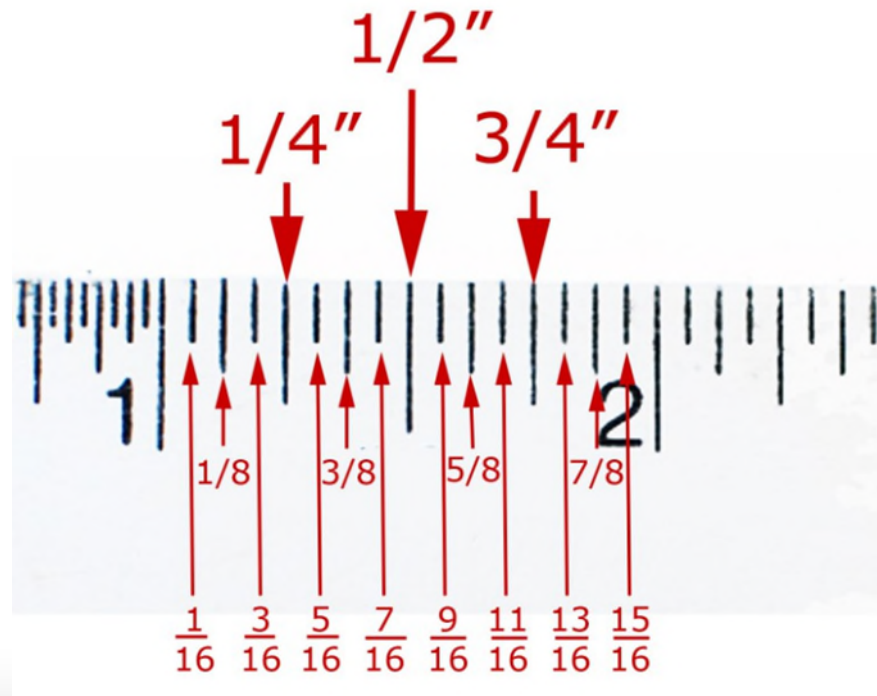
- “Tolerances for materials, fabrication and erection shall be as stipulated in Sections 5, 6, ~~7~~, and ~~10~~, and 11. **Tolerances absent from this Code or the contract documents shall not be considered zero by default.**”
 - 6 and 7 were moved to Section 11
- Commentary: “The absence of a tolerance in this Code for a particular condition does not mean that the tolerance is zero; **rather, it means that no tolerance has been established. In any case, the default tolerance is not zero.**”
- Section 5.1.2 through 5.1.4 – Mill Material Tolerances
- Section 7.5.1 – Anchor rod tolerances
- Section 7.6.4 – bearing device tolerance



CoSP 7.12 Structural Steel Frame Tolerances – same as 2016 code

- “The accumulation of the mill tolerances and fabrication tolerances shall not cause the erection tolerances to be exceeded.”

Adding in the 1/16's



CoSP 11.3.2 – EOR to provide Adjustability to Account for Tolerances

- “In the design of steel structures, the ODRD
 - shall provide for the necessary clearances and adjustments
 - for material furnished by other trades
 - to accommodate the mill tolerances, fabrication tolerances and erection tolerances in this Code for the structural steel frame.”
- Commentary: “In spite of all efforts to minimize inaccuracies, deviations will still exist.”

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Shop Drawing Preparation, Approval, and RFIs



Section 4.1 – Approval Documents

- Owner shall furnish complete structural design drawings and specifications which have been RFC.

Commentary:

When the owner issues design documents and specifications that are released for construction, the fabricator and the erector rely on the fact that these are the owner's requirements for the project. This release is required by the fabricator prior to the ordering of material and the preparation and completion of the *approval documents*.

To ensure the orderly flow of material procurement, detailing, fabrication and erection activities, on phased construction projects, it is essential that designs are not continuously revised after they have been *released for construction*. In essence, once a portion of a design is *released for construction*, the essential elements of that design should be “frozen” to ensure adherence to the contract price and construction schedule. Alternatively, all parties should reach a common understanding of effects of future changes, if any, as they affect scheduled deliveries and added costs.

Fabricator Responsibility (4.2)

- Fabricator “shall produce the approval documents” which must include:
 - “Transfer of information from the contract documents into accurate and complete approval documents”
 - “The development of accurate, detailed, dimensional information for the fit-up of parts in the field.”
- Copyright/proprietary rights remain with the fabricator (4.2.3) – most contracts change this

CoSP 4.4 Approval

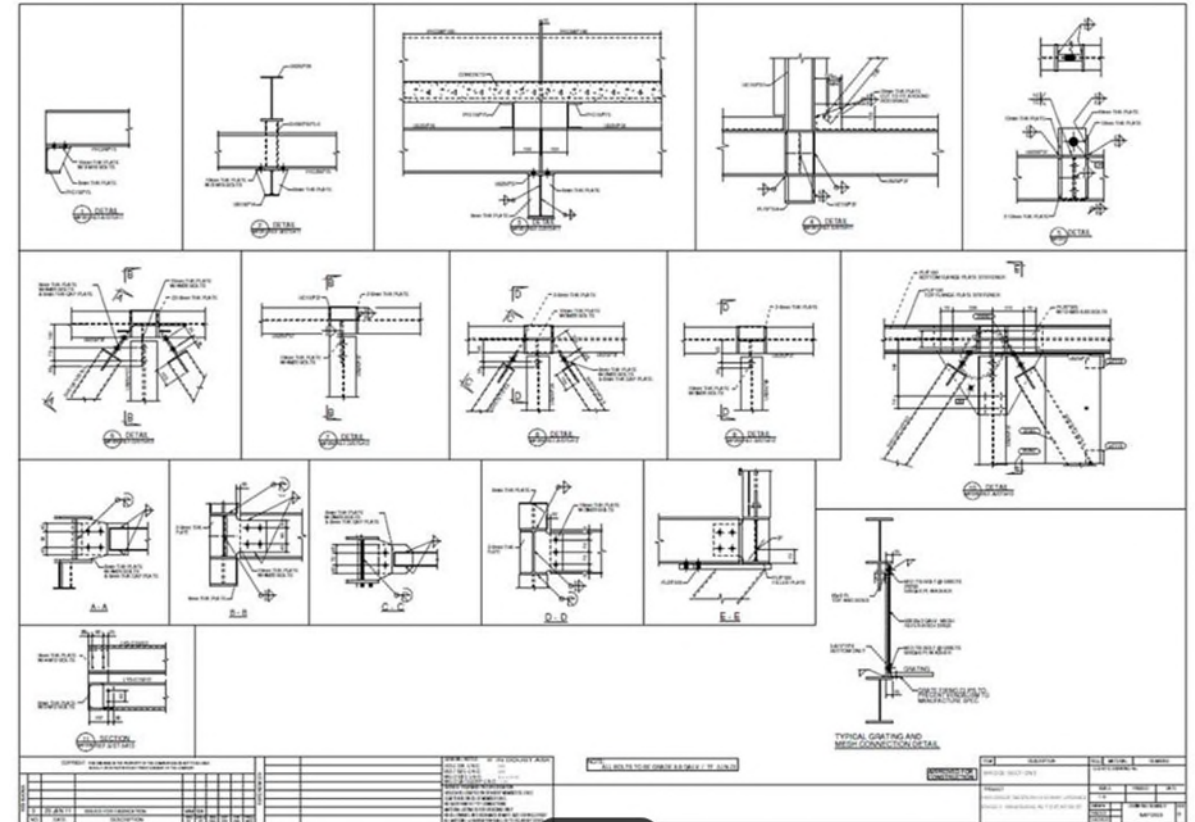
- “The approval documents shall be returned to the fabricator within **14 calendar days.**”
 - Commentary:
 - » “fabricator’s portal-to-portal time”
 - » “The intent in this Code is that, in the absences of information to the contrary in the contract documents, 14 days may be assumed for the purposes of bidding, contracting, and scheduling.”
- Required to be approved or approved subject to corrections noted.

| | |
|---|---|
| <input type="checkbox"/> Reviewed | <input type="checkbox"/> Furnish as Corrected |
| <input type="checkbox"/> Rejected | <input type="checkbox"/> Revise and Resubmit |
| <input type="checkbox"/> Submit Specified Item | |
| <p>This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the job site; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.</p> | |
| Company Name Here | |
| By: _____ | Date: _____ |
| Notes: _____ | |

Shop Drawing Review (4.4.1)

- Approval means:
 - You correctly interpreted the contract docs
 - ODRD reviewed connection details
 - Release to begin fabrication

- Approval does not mean:
 - Accuracy of dimensions
 - Fit-up of parts in the field



CoSP 4.6 – RFI Response and Released for Construction

- “RFIs shall not be used for the incremental release for construction of the design documents.”
- Commentary:
 - “RFIs should be prepared and responded to in a **timely fashion** so as not to delay the work of the steel detailer, fabricator, and erector.”
 - “[I]f the response will result in an increase in cost or a delay in schedule, Section 4.4.2 requires that the fabricator and/or erector promptly inform the owner’s designated representatives for design and construction.”



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Change Orders



Changes to Scope



- When there are changes, the CoSP says you shall be entitled to a change order

Lump Sum and Unit Price Changes

- CoSP 9.4.1 (Lump Sum): When the scope of work is changed, “an appropriate modification of the contract price shall be made.”
- “In computing the contract price adjustment, the fabricator and erector shall consider
 - The quantity of work that is added or deleted,
 - The **modifications in the character of the work**
 - **And the timeliness of the change** with respect to the status of material ordering, detailing, fabrication and erection operations.
 - » ALWAYS PAY ATTENTION TO SCHEDULE IMPLICATIONS
- CoSP 9.4.3 (Unit Prices): When changes are made
 - **to the character of the work at any time,**
 - or when additions or deletions are made to the quantity of the work **after it is released for detailing, fabrication, or erection,**
 - the contract price shall be equitably adjusted.”

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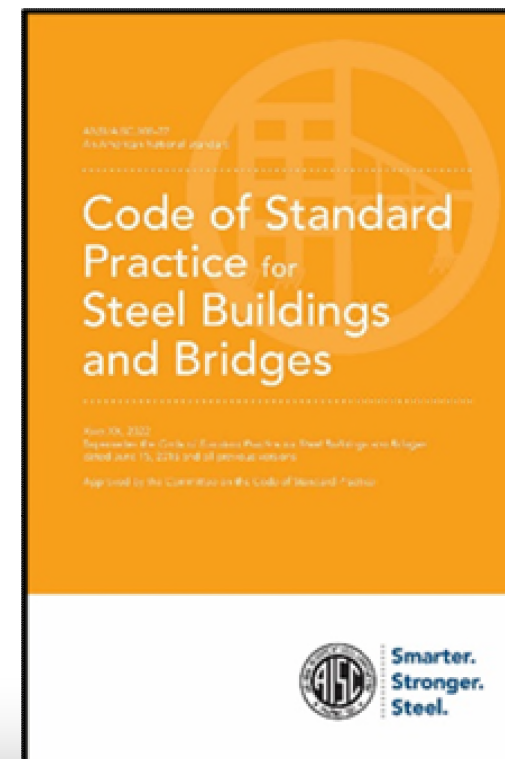
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SCHEDULE CONSIDERATIONS



1.7 Construction Schedule

- The ODRC shall provide a construction schedule in the bid documents. The period of performance by the steel fabricator and erector shall be mutually agreed upon with the ODRC **prior to contract award.**



CoSP 9.5.1 - Release for Construction Date

- “The contract schedule shall state
 - when the design documents will be released for construction, if the design documents are not available at the time of bidding,
 - And when the job site, foundations, piers and abutments will be ready, free from obstructions and accessible to the erector,
 - So that the erection can start at the designated time and continue without interference or delay caused by the owner’s designated representative for construction or other trades.”

CoSP 4.1

- “The owner shall furnish,
 - in a timely manner
 - and in accordance with the contract documents,
 - complete structural design drawings and specifications
 - that have been released for construction.”



CoSP 6.6.1 – Fabricator Determines Sequence Unless Contract Docs State Otherwise

- “Fabricated structural steel shall be delivered in a sequence that will
 - Permit efficient and economical fabrication and erection,
 - AND is consistent with the requirements in the contract documents.
 - » [Note: most contracts allow GC to alter sequence; if this happens make sure your contract allows you to seek adjustment to contract sum and time for such changes.](#)
- If the owner or owners designated representative for construction wishes to prescribe or control the sequence of delivery of materials, that entity shall specify the required sequence in the contract documents.



CoSP 9.5.3 – Delays to Fabricator

“If the fabrication or erection is significantly delayed,

- due to revisions to the requirements of the contract,
- or for other reasons that are the responsibility of others,

the fabricator and/or erector shall be compensated for the additional costs incurred.”



CoSP 7.2 Job site conditions

- The owner's designated representative for construction shall provide and maintain the following for the fabricator and erector:
 - (A) Adequate access roads into and through the job site. . .
 - (B) **A firm, properly graded, drained, convenient and adequate space** at the job site . . .
 - (C) Adequate storage space, when the structure does not occupy the full available job site, to enable the fabricator and erector to operate at maximum practical speed.
- Otherwise, the owner's designated representative for construction **shall inform the fabricator and erector of the actual job site conditions . . . Prior to bidding.**"



Mill Materials (5.1)

- Fabricator can order materials when released for construction drawings are received, unless otherwise noted in the contract documents.



The Contractor's Obligations

“KEEP YOUR
friends
CLOSE, BUT YOUR
enemies
CLOSER”



CoSP 7.3 – Foundations, Piers, Abutments

- “The accurate location, strength and suitability of, and access to, all foundations, piers and abutments shall be the responsibility of the owner’s designated representative for construction.”



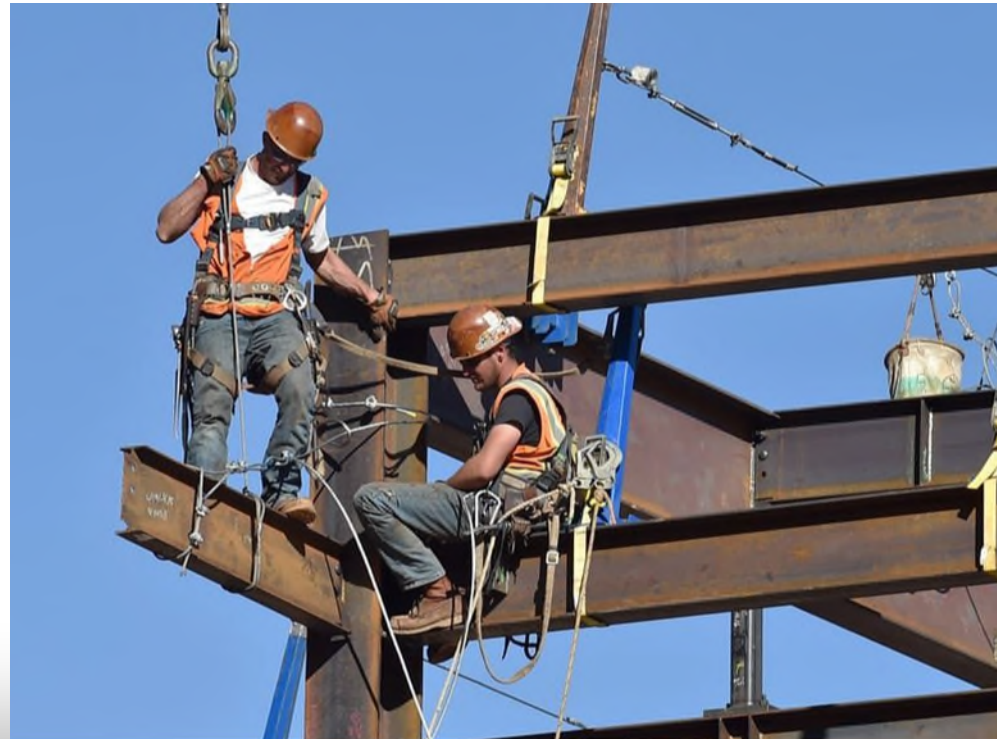
CoSP 7.4 – Lines and Benchmarks

- “The ODRC shall be responsible for the accurate location of lines and benchmarks at the job site
...
• The ODRC shall establish offset lines and reference elevations at each level for the erector’s use in the positioning of adjustable items.”



CoSP 7.13 – GC to confirm Steel is Acceptable Prior to Other Work

- “Prior to placing or applying any other materials, the ODRC shall determine that the location of the structural steel is acceptable for plumbness, elevation and alignment.”



CoSP 7.5.4 - Surveys

- “All work that is performed by the owner’s designated representative for construction **shall be completed so as not to delay or interfere with the work of the fabricator and erector.**
- The **owner’s designated representative for construction shall conduct a survey of the as-built locations of anchor rods, foundation bolts and other embedded items,** and shall verify that all items covered in Section 7.5 meet the corresponding tolerances.



Inspections

“I want reliable people, people who aren’t going to be carried away.” – Don Vito Corleone

7.14 – Correction of Errors

- Correction of minor misfits by moderate amounts of reaming, grinding, welding, or cutting and the drawing of elements into alignment with drift pins = normal erection operations
 - Based on project as a whole
- Major changes beyond this are to be reported to the fabricator and erector to allow them to correct in the most efficient manner.

Quality Control (Section 8)

- Fabricator must maintain QC program (8.1.1)
- Owner may require more extensive QC procedures (8.1.3)
- Outside inspections (8.5)

8.5.1 The *fabricator* and the *erector* shall provide the *inspector* with access to all places where the work is being performed. **A minimum of 24 hours notification shall be given prior to commencement of work.**

CoSP 8.5.2 - Inspections

- “Inspection of shop work by the inspector shall be performed in the fabricator’s shop to the fullest extent possible.
- Such inspections shall be
 - timely,
 - in-sequence, and
 - performed in such a manner as
 - » will not disrupt fabrication operations
 - » and will permit the repair of nonconforming work prior to any required painting while the material is still in-process in the fabrication shop.”

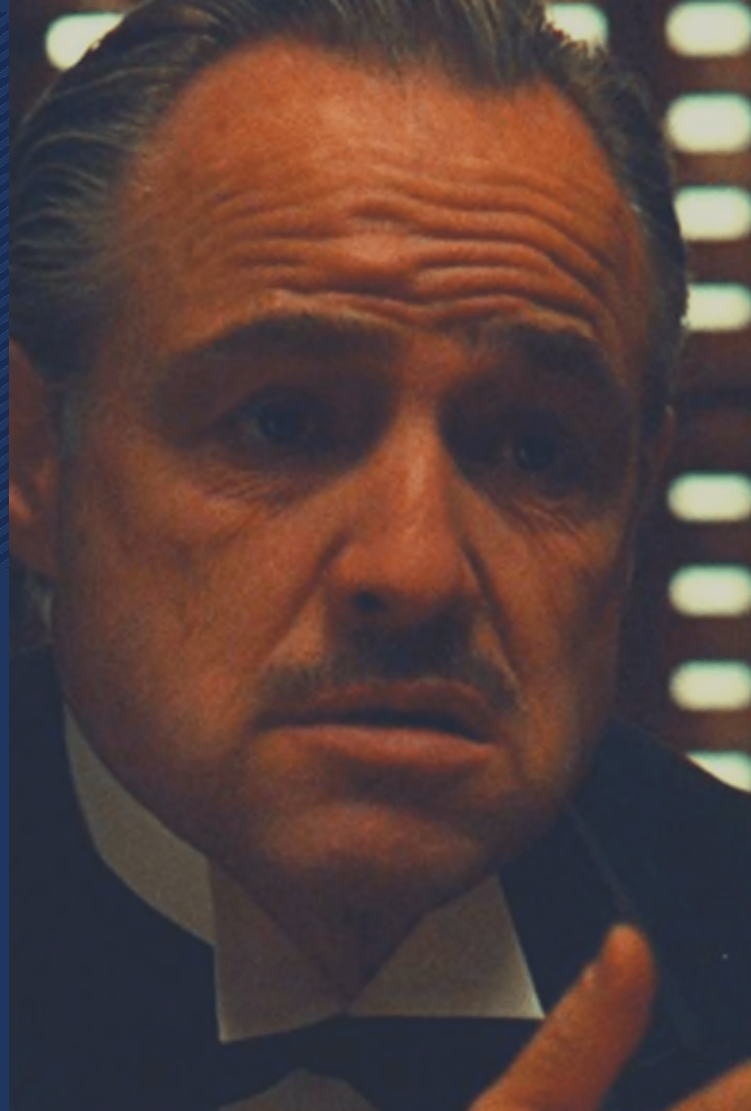


CoSP 8.5.5 Copies of Inspections

- “The fabricator, erector, and ODRD and ODRC shall be informed of deficiencies that are noted by the inspector promptly after the inspection.
- Copies of all reports prepared by the inspector shall be promptly given to the fabricator, erector ODRD and ODRC .”

| MAIN CONSTRUCTION WORK | | | | | | | | |
|---|-------------|-----------------------------|-------------------|------------------------------|--------------------|-------------------------|--------------------|---------|
| STEEL STRUCTURE FABRICATION INSPECTION REPORT | | | | | | PROJECT NO. | | |
| REPORT NO.: | | | | | | REV. NO. | PAGE / OF | |
| | | | | | | 1 | 1/1 | |
| | | | | | | CONTRACTOR'S DOC NO. | | |
| LOCATION | | | | | | MC: | | |
| Material Code | Drawing No. | Dimensions | Marking/ Item No. | Quantity | ID Marking control | Dimensional Examination | Visual Examination | Remarks |
| | | Refer to Draving | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |
| | | PERSON WHO EXECUTE THE WORK | | CONTRACTOR'S QA & QC MANAGER | | | COMPANY | |
| COMPANY NAME | | | | | | | | |
| SIGNATURE | | | | | | | | |

Payment



“

**A lawyer with a
briefcase can
steal more
money than
the man with
the gun**

Don Vito Corleone

Terms of Payment (9.6)

9.6 Terms of Payment

The fabricator shall be paid for mill materials and fabricated product that is stored off the job site. Other terms of payment for the contract shall be outlined in the contract documents.



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