

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. W9127826RA012-0007		3. EFFECTIVE DATE 11 JUN 2026	4. REQUISITION/PURCHASE	5. PROJECT NO. (If applicable) MEF22007
6. ISSUED BY USACE - Mobile District 100 Canal Street Mobile, AL 36602		CODE	7. ADMINISTERED BY (If other than item 6) CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code)			<input checked="" type="checkbox"/>	9A. AMENDMENT OF SOLICITATION NO. W9127826RA012 9B. DATED (SEE ITEM 11) 16 MARCH 2026
CODE			<input type="checkbox"/>	10A. MODIFICATION OF CONTRACT/ORDER NO. 10B. DATED (SEE ITEM 13)
FACILITY CODE			11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS	
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (if required)				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
<input type="checkbox"/>	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A			
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b)			
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:			
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)			
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible)				
The subject solicitation for: LRSO HARDWARE SOFTWARE DEVELOPMENT FACILITY EGLIN AIR FORCE BASE, FLORIDA Is modified in the following: REFER TO THE ENCLOSED REVISED SPECIFICATIONS FOR AMENDMENT NO. 0007 NOTE: THE RECEIPT OF PROPOSAL DATE IS HEREBY REVISED BY THIS AMENDMENT. REFER TO THE ENCLOSED SF1442, SOLICITATION, OFFER & AWARD FORM. Except as provided herein, all terms and conditions of the document reference in item 9A or 10A, as Heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME AND TITLE OF CONTRACTING OFFICE (Type or print)	
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		_____	_____ (Signature of contracting officer)	_____

PART I - REVISIONS MADE BY ADDED AND/OR REPLACEMENT PARAGRAPHS/PAGES/SECTIONS

The items listed below are to be replaced by the corresponding added and/or revised paragraphs/pages or sections. Added and/or revised paragraphs/pages or sections are indicated by a note in bottom right-hand corner of each paragraph or page. Added sections are hereby made a part of the contract and are to be inserted in the specification in the proper numerical/alphabetical sequence.

Within the specifications, deletions from the specifications are indicated by strikethrough, e.g.: ~~deletions are marked with strikethrough~~ and additions to the specifications including revisions/substitutions are indicated in bold, italic and underlined, e.g.: ***additions are indicated thus.***

<u>SECTION</u>	<u>Corresponding Added or Revised Paragraph Page, and/or Section</u>
<u>Volume 1</u>	
01 45 35	Replaced Attachment B in its entirety.
05 40 00	Revised Paragraphs 2.1 and Added Paragraph 3.3.5 as indicated herein.

PART II - NOTE: Revised, replacement and added drawings are listed below. These revised, replacement and added drawings are to be inserted into the folio in the proper numerical sequence. Drawings that have been revised or replaced by this amendment shall be deleted from the folio. All drawings listed below are revised unless indicated otherwise.

<u>Sheet Reference Number</u>	<u>Title</u>
G-001	COVER SHEET
S-003	GENERAL NOTES
S-525	COLD FORM DETAILS

Encl as stated:

Revised and Replaced pages of the specifications as indicated in Part I.
3 Revised drawings as indicated in Part II.

SCHEDULE OF SPECIAL INSPECTIONS

Reference UFGS 01 45 35 for all requirements not noted as part of this schedule.

INSPECTION DEFINITIONS:

- PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and noted verification.
- OBSERVE:** Observe these items randomly during the course of each work day to insure that applicable requirements are being met. Operations need not be delayed pending these inspections at contractor's risk.
- DOCUMENT:** Document, with a report, that the work has been performed in accordance with the contract documents. This is in addition to any other reports required in the Special Inspections guide specification.
- CONTINUOUS:** Constant monitoring of identified tasks by a special inspector over the duration of performance of said tasks.

STRUCTURAL - STEEL – WELDING SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

STEEL INSPECTION <u>PRIOR TO WELDING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.4-1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Welder qualification records and continuity records	PERFORM	
2. Verify that the welding procedures specification (WPS) is available	PERFORM	
3. Verify manufacturer certifications for welding consumables are available	PERFORM	
4. Verify material identification	PERFORM	Type and grade.
5. Welder Identification System	PERFORM	The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.
6. Fit-up of groove welds (including joint geometry)	OBSERVE	<ul style="list-style-type: none"> ✓ Joint preparation ✓ Dimensions (alignment, root opening, root face, bevel) ✓ Cleanliness (condition of steel surfaces) ✓ Tacking (tack weld quality and location) ✓ Backing type and fit (if applicable)
7. Fit-up of CJP groove welds of HSS T-, Y-, & K-joints without backing (including joint geometry)	OBSERVE	<ul style="list-style-type: none"> ✓ Joint preparation ✓ Dimensions (alignment, root opening, root face, bevel) ✓ Cleanliness (condition of steel surfaces) ✓ Tacking (tack weld quality and location) ✓ Backing type and fit (if applicable)
8. Configuration and finish of access holes	OBSERVE	
9. Fit-up of fillet welds	OBSERVE	<ul style="list-style-type: none"> ✓ Dimensions (alignment, gaps at root) ✓ Cleanliness (condition of steel surfaces) ✓ Tacking (tack weld quality and location)
10. Check welding equipment	OBSERVE	

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

STRUCTURAL - STEEL – WELDING SECTION (CONTINUED)

STEEL INSPECTION <u>DURING</u> WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.4-2		
TASK	INSPECTION TYPE	DESCRIPTION
1. Use of qualified welders	PERFORM	Welding by welders, welding operators, and tack welders who are qualified in conformance with requirements.
2. Control and handling of welding consumables	OBSERVE	<ul style="list-style-type: none"> ✓ Packaging ✓ Electrode atmospheric exposure control
3. No welding over cracked tack welds	OBSERVE	
4. Environmental conditions	OBSERVE	<ul style="list-style-type: none"> ✓ Wind speed within limits ✓ Precipitation and temperature
5. Welding Procedures Specification (WPS) followed	OBSERVE	<ul style="list-style-type: none"> ✓ Settings on welding equipment ✓ Travel speed ✓ Selected welding materials ✓ Shielding gas type/flow rate ✓ Preheat applied ✓ Interpass temperature maintained (min./max.) ✓ Proper position (F, V, H, OH) ✓ Intermix of filler metals avoided
6. Welding techniques	OBSERVE	<ul style="list-style-type: none"> ✓ Interpass and final cleaning ✓ Each pass within profile limitations ✓ Each pass meets quality requirements

STRUCTURAL - STEEL – WELDING SECTION (CONTINUED)

STEEL INSPECTION AFTER WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.4-3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Welds cleaned	OBSERVE	
2. Size, length, and location of all welds	PERFORM	Size, length, and location of all welds conform to the requirements of the detail drawings.
3. Welds meet visual acceptance criteria	PERFORM AND DOCUMENT	<ul style="list-style-type: none"> ✓ Crack prohibition ✓ Weld/base-metal fusion ✓ Crater cross section ✓ Weld profiles ✓ Weld size ✓ Undercut ✓ Porosity
4. Arc strikes	PERFORM	
5. -area	PERFORM	When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. of the weld.
6. Weld access holes in rolled heavy shapes and built-up heavy shapes	PERFORM	After rolled heavy shapes and built-up heavy shapes are welded, visually inspect the weld access hole for cracks.
7. Backing removed, and weld tabs removed (if required)	PERFORM	
8. Repair activities	PERFORM AND DOCUMENT	
9. Document acceptance or rejection of welded joint or member	PERFORM	
10. Verify no prohibited welds have been added without the approval of the EOR.	OBSERVE	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.

DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - STEEL – BOLTING SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

STEEL INSPECTION TASKS PRIOR TO BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.6-1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Manufacture’s certifications available for fastener materials	PERFORM	
2. Fasteners marked in accordance with ASTM requirements	OBSERVE	
3. Correct fasteners selected for joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	OBSERVE	
4. Correct bolting procedure selected for joint detail	OBSERVE	
5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	OBSERVE	
6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	PERFORM	
7. Protected storage provided for bolts, nuts, washers, and other fastener components	OBSERVE	
STEEL INSPECTION TASKS DURING BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.6-2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Fastener assemblies placed in all holes and washers (if required) are positioned as required	OBSERVE	
2. Joint brought to the snug-tight condition prior to pretensioning operation	OBSERVE	
3. Fastener component not turned by the wrench prevented from rotating	OBSERVE	
4. Fasteners are pretensioned in accordance with a method approved by RCSC and progressing systematically from the most rigid point toward free edges	OBSERVE	
STEEL INSPECTION TASKS AFTER BOLTING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Table N5.6-3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Document acceptance or rejection of all bolted connections	PERFORM AND DOCUMENT	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - STEEL - NON DESTRUCTIVE TESTING SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

NONDESTRUCTIVE TESTING OF WELDED JOINTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 360-16: Section N5.5		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Use of qualified nondestructive testing procedures	PERFORM AND DOCUMENT	Visual weld inspection and nondestructive testing (NDT) shall be conducted by personnel qualified in accordance with AWS D1.1 clause 6.1.4.
2. CJP groove welds	PERFORM AND DOCUMENT	<ul style="list-style-type: none"> For structures in risk category III or IV, ultrasonic testing (UT) shall be performed on 100% of CJP groove welds for materials 5/16" (8mm) thick or greater. For structures in risk category II, UT shall be performed on 10% of CJP welds for materials 5/16" (8mm) thick or greater.. Weld discontinuities shall be accepted/rejected on the basis of AWS D1.1 Table 6.2. Magnetic particle testing (MT) shall be performed on 25% of all beam-to-column CJP groove welds.
3. Welded joints subject to fatigue	PERFORM AND DOCUMENT	Dye penetrant testing (DT), Ultrasonic testing (UT) or radiographic testing (RT) shall be performed on 100% of welded joints identified on contract drawings as being subject to fatigue to verify internal soundness. Acceptance requirements shall meet AWS D1.1 clause 6.12 or 6.13, as appropriate. (From AISC Code: When required by Appendix 3, Table A-3.1, welded joints requiring weld soundness to be established by radiographic or ultrasonic inspection shall be tested by QA as prescribed. Reduction in the rate of UT is prohibited.)
4. Reduced beam section repair	PERFORM AND DOCUMENT	MT shall be performed on any weld and adjacent area of reduced beam section (RBS) cut surfaces that have been repaired by welding, or on the base metal of the RBS cut surface if a sharp notch has been removed by grinding.
5. Weld tab removal sites	PERFORM AND DOCUMENT	At the end of welds where weld tabs have been removed, MT shall be performed on the same beam-to-column joints receiving UT as required under Item 2, CJP groove welds. The rate of MT is permitted to be reduced in accordance with Item 8 in Section STRUCTURAL - STEEL – AISC 341 REQUIREMENTS (SEISMIC PROVISIONS) SECTION, NONDESTRUCTIVE TESTING OF WELDED JOINTS (if applicable).
6. UT rejection rate	PERFORM AND DOCUMENT	The UT testing rejection rate shall be determined as the number of welds containing defects divided by the number of welds completed. Welds that contain acceptable discontinuities shall not be considered as having defects when determining the rejection rate. For continuous welds over 3ft (1m) in length, where the effective throat is 1" (25mm) or less, each 12" (300mm) increment or fraction thereof shall be considered as one weld. For continuous welds where the effective throat is over 1" (25mm), each 6" (150mm) of length or fraction thereof, shall be considered as one weld.

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

<p>7. Reduction of percentage of UT</p>	<p>PERFORM AND DOCUMENT</p>	<p>If the project has 40 or fewer welds, no reduction in UT is allowed. The rate of UT is permitted to be reduced if approved by the EOR and the AHJ. Where the initial rate is 100%, the UT rate for an individual welder or welding operator is permitted to be reduced to 25%, provided the rejection rate, the number of welds containing unacceptable defects divided by the number of welds completed, is demonstrated to be 5% or less of the welds tested for the welder or weld operator. A sampling of at least 40 completed welds shall be made for such a reduced evaluation on the project.</p>
<p>8. Increase in UT rate</p>	<p>PERFORM AND DOCUMENT</p>	<p>For risk category II and higher structures, where the initial rate for UT is 10%, the NDT rate for an individual welder or welding operator shall be increased to 100% should the rejection rate (the number of welds containing unacceptable defects divided by the number of welds completed) exceeds 5% of the welds tested for the welder or weld operator. A sampling of at least 20 welds on the project shall be made prior to implementing such an increase.</p>

END SECTION

STRUCTURAL - STEEL – AISC 341 REQUIREMENTS (SEISMIC PROVISIONS) SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

STEEL INSPECTION <u>PRIOR TO WELDING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Table J6.1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Verify material identification	PERFORM	Type and grade.
2. Welder Identification System	PERFORM	The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.
3. Fit-up of groove welds (including joint geometry)	PERFORM/OBSERVE²	<ul style="list-style-type: none"> ✓ Joint preparation ✓ Dimensions (alignment, root opening, root face, bevel) ✓ Cleanliness (condition of steel surfaces) ✓ Tacking (tack weld quality and location) ✓ Backing type and fit (if applicable)
4. Configuration and finish of access holes	OBSERVE	
5. Fit-up of fillet welds	PERFORM/OBSERVE²	<ul style="list-style-type: none"> ✓ Dimensions (alignment, gaps at root) ✓ Cleanliness (condition of steel surfaces) ✓ Tacking (tack weld quality and location)
STEEL INSPECTION <u>DURING WELDING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Table J6.2		
TASK	INSPECTION TYPE	DESCRIPTION
1. Use of qualified welders	PERFORM	Welding by welders, welding operators, and tack welders who are qualified in conformance with requirements.
2. Control and handling of welding consumables	OBSERVE	<ul style="list-style-type: none"> ✓ Packaging ✓ Electrode atmospheric exposure control
3. No welding over cracked tack welds	OBSERVE	
4. Environmental conditions	OBSERVE	<ul style="list-style-type: none"> ✓ Wind speed within limits ✓ Precipitation and temperature
5. Welding Procedures Specification (WPS) followed	OBSERVE	<ul style="list-style-type: none"> ✓ Settings on welding equipment ✓ Travel speed ✓ Selected welding materials ✓ Shielding gas type/flow rate ✓ Preheat applied ✓ Interpass temperature maintained (min./max.) ✓ Proper position (F, V, H, OH) ✓ Intermix of filler metals avoided
6. Welding techniques	OBSERVE	<ul style="list-style-type: none"> ✓ Interpass and final cleaning

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

² Following performance of this inspection task for ten welds to be made by a given welder, with the welder demonstrating understanding of requirements and possession of skills and tools to verify these items, the Perform designation of this task shall be reduced to Observe, and the welder shall perform this task. Should the inspector determine that the welder has discontinued performance of this task, the task shall be returned to Perform until such time as the inspector has re-established adequate assurance that the welder will perform the inspection tasks listed.

		<ul style="list-style-type: none"> ✓ Each pass within profile limitations ✓ Each pass meets quality requirements
STEEL INSPECTION AFTER WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Table J6.3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Welds cleaned	OBSERVE	
2. Size, length, and location of all welds	PERFORM	Size, length, and location of all welds conform to the requirements of the detail drawings.
3. Welds meet visual acceptance criteria	PERFORM AND DOCUMENT	<ul style="list-style-type: none"> ✓ Crack prohibition ✓ Weld/base-metal fusion ✓ Crater cross section ✓ Weld profiles ✓ Weld size ✓ Undercut ✓ Porosity
4. K-area	PERFORM AND DOCUMENT	When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. of the weld. The visual inspection shall be performed no sooner than 48 hours following the completion of the welding.
5. Placement of reinforcing or contouring fillet welds (if required)	PERFORM AND DOCUMENT	
6. Backing removed, weld tabs removed and finished, and fillet welds added (if required)	PERFORM AND DOCUMENT	
7. Repair activities	PERFORM AND DOCUMENT	

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.

DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - STEEL – AISC 341 REQUIREMENTS (SEISMIC PROVISIONS) SECTION (CONTINUED)

NONDESTRUCTIVE TESTING OF WELDED JOINTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Section J6		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Use of qualified nondestructive testing procedures	PERFORM AND DOCUMENT	Visual weld inspection and nondestructive testing (NDT) shall be conducted by personnel qualified in accordance with AWS D1.8 clause 7.2.
2. CJP groove welds	PERFORM AND DOCUMENT	<ul style="list-style-type: none"> • UT shall be performed on 100% of CJP groove welds for materials 5/16” (8mm) thick or greater. • Weld discontinuities shall be accepted/rejected on the basis of AWS D1.1 Table 6.2. • Magnetic particle testing (MT) shall be performed on 25% of all beam-to-column CJP groove welds.
3. Column splice and column to base plate PJP groove welds	PERFORM AND DOCUMENT	UT shall be performed on 100% of partial-joint-penetration (PJP) groove welds in column splices and column to base plate welds. Reduction in the rate of UT is allowed. UT shall be performed using written procedures and UT technicians qualified in accordance with AWS D1.8.
4. Base metal for lamellar tearing and laminations	PERFORM AND DOCUMENT	For base metal thicker than 1 1/2” (38mm) and containing CJP groove welds shall be ultrasonically tested for discontinuities behind and adjacent to the fusion line of such welds for joints identified on the contract drawings. Any base metal discontinuities found with t/4 of the steel surface shall be accepted/rejected based on the criteria in AWS D1.1, Table 6.2, where t is the thickness of the part subjected to through-thickness strain.
5. Beam cope and access hole	PERFORM AND DOCUMENT	At welded splices and connections, thermally cut surfaces of beam copes and access holes shall be tested using magnetic particle testing (MT) or dye penetrant testing (DT), when the flange thickness exceeds 1 1/2 in. (38mm) for rolled shapes, or when the web thickness exceeds 1 1/2 in. (38mm) for built-up shapes.
6. Reduced beam section repair	PERFORM AND DOCUMENT	MT shall be performed on any weld and adjacent area of reduced beam section (RBS) cut surfaces that have been repaired by welding, or on the base metal of the RBS cut surface if a sharp notch has been removed by grinding.
7. Reduction of percentage of UT	PERFORM AND DOCUMENT	UT reduction percentage is permitted to be reduced in accordance with Item 7, Structural – Steel – Non Destructive Testing Section. No reduction is permitted for demand critical welds.
8. Reduction of percentage of MT	PERFORM AND DOCUMENT	The rate of MT on CJP groove welds is permitted to be reduced if approved by the EOR and the AHJ. The MT rate for an individual welder or welding operator is permitted to be reduced to 10%, provided the rejection rate, the number of welds containing unacceptable defects divided by the number of welds completed, is demonstrated to be 5% or less of the welds tested for the welder or weld operator. A sampling of at least 20 completed welds shall be made for such a reduced evaluation on the project. This reduction is

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

		prohibited on welds in the k-area, at repair sites, backing removal sites and access holes.
9. K-area NDT (AISC 341)	PERFORM	Where welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, the web shall be tested for cracks using magnetic particle testing (MT). The MT inspection area shall include the k-area base metal within 3-inches of the weld. The MT shall be performed no sooner than 48 hours following completion of the welding.
10. Placement of reinforcing or contouring fillet welds	DOCUMENT	

STRUCTURAL - STEEL – AISC 341 REQUIREMENTS (SEISMIC PROVISIONS) SECTION (CONTINUED)

STEEL INSPECTION TASKS <u>PRIOR TO BOLTING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Table J7.1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Manufacture’s certifications available for fastener materials	PERFORM	
2. Fasteners marked in accordance with ASTM requirements	OBSERVE	
3. Correct fasteners selected for joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	OBSERVE	
4. Correct bolting procedure selected for joint detail	OBSERVE	
5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	OBSERVE	
6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	PERFORM AND DOCUMENT	
7. Protected storage provided for bolts, nuts, washers, and other fastener components	OBSERVE	
STEEL INSPECTION TASKS <u>DURING BOLTING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC 341-16: Table J7.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Fastener assemblies placed in all holes and washers (if required) are positioned as required	OBSERVE	
2. Joint brought to the snug-tight condition prior to pretensioning operation	OBSERVE	
3. Fastener component not turned by the wrench prevented from rotating	OBSERVE	
4. Fasteners are pretensioned in accordance with a method approved by RCSC and progressing systematically from the most rigid point toward free edges	OBSERVE	
STEEL INSPECTION TASKS <u>AFTER BOLTING</u> – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, 1705.13.1, 1705.14.1, AISC-16: Table J7.3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Document acceptance or rejection of all bolted connections	PERFORM AND DOCUMENT	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - STEEL - COMPOSITE CONSTRUCTION ¹

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

COMPOSITE CONSTRUCTION <u>PRIOR TO</u> CONCRETE PLACEMENT – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 341-16: Table N5.4-2 and Table J9.1		
TASK	INSPECTION TYPE ²	DESCRIPTION
1. Placement and installation of steel headed stud anchors	PERFORM	
2. Material identification of reinforcing steel (Type/Grade)	OBSERVE	
3. Determination of carbon equivalent for reinforcing steel other than ASTM A706/A706M	OBSERVE	
4. Proper reinforcing steel size, spacing, clearances, support, and orientation	OBSERVE	
5. Reinforcing steel has not been rebent in the field	OBSERVE	
6. Required reinforcing steel clearances have been provided	OBSERVE	
7. Reinforcing steel has been tied and supported as required	OBSERVE	
8. Composite member has required size	OBSERVE	
COMPOSITE CONSTRUCTION <u>DURING</u> CONCRETE PLACEMENT – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 341-16: Table J9.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Concrete: Material identification	OBSERVE AND DOCUMENT	<ul style="list-style-type: none"> ✓ Mix design ✓ Compressive strength ✓ Maximum large aggregate size ✓ Maximum slump
2. Joint brought to the snug-tight condition prior to pretensioning operation	OBSERVE	
3. Fastener component not turned by the wrench prevented from rotating	OBSERVE	
4. Fasteners are pretensioned in accordance with a method approved by RCSC and progressing systematically from the most rigid point toward free edges	OBSERVE	
COMPOSITE CONSTRUCTION <u>AFTER</u> CONCRETE PLACEMENT – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC-16: Table J9.3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Achievement of minimum specified concrete compressive strength at specified age	DOCUMENT	

END SECTION

¹ See Concrete Construction Section for all concrete related inspection of composite steel construction.

STRUCTURAL - STEEL - OTHER INSPECTIONS**ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:**

OTHER STEEL INSPECTIONS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.1, AISC 341-16: Tables J8.1 & J10.1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Anchor rods and other embedments supporting structural steel	PERFORM	Verify the diameter, grade, type, and length of the anchor rod or embedded item, and the extent or depth of embedment prior to placement of concrete.
2. Fabricated steel or erected steel frame	OBSERVE	Verify compliance with the details shown on the construction documents, such as braces, stiffeners, member locations and proper application of joint details at each connection.
3. Reduced beam sections (RBS) where/if occurs	DOCUMENT	✓ Contour and finish ✓ Dimensional tolerances
4. Protected zone	PERFORM AND DOCUMENT	No holes and unapproved attachments made by fabricator, erector and others including those involving curtainwall, mechanical, electrical, plumbing and interior partitions, as applicable
5. H-piles where/if occurs	PERFORM AND DOCUMENT	No holes or unapproved attachments made by the responsible contractor, as applicable

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.

OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor's risk.

DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - COLD-FORMED METAL DECK - PLACEMENT SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

METAL DECK INSPECTION <u>PRIOR TO</u> DECK PLACEMENT – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.1		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Verify compliance of materials (deck and all deck accessories) with construction documents, including profiles, material properties, and base metal thickness	PERFORM	
2. Document acceptance or rejection of deck and deck accessories	DOCUMENT	
METAL DECK INSPECTION <u>AFTER</u> DECK PLACEMENT – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
3. Verify compliance of deck and all deck accessories installation with construction documents	PERFORM	
4. Verify deck materials are represented by the mill certifications that comply with the construction documents	PERFORM	
5. Document acceptance or rejection of installation of deck and deck accessories	DOCUMENT	
METAL DECK INSPECTION <u>PRIOR TO</u> WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
6. Welding procedure specification (WPS) available	PERFORM	
7. Manufactures certifications for welding consumables available	OBSERVE	
8. Material identification (type/grade)	OBSERVE	
9. Check welding equipment	OBSERVE	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - COLD-FORMED METAL DECK – WELDING SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

METAL DECK INSPECTION <u>DURING</u> WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.4		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Use of qualified welders	OBSERVE	
2. Control and handling of welding consumables	OBSERVE	
3. Environmental conditions (wind speed, moisture, temperature)	OBSERVE	
4. WPS followed	OBSERVE	
METAL DECK INSPECTION <u>AFTER</u> WELDING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.5		
TASK	INSPECTION TYPE ¹	DESCRIPTION
5. Verify size and location of welds, including support, sidelap, and perimeter welds.	PERFORM	
6. Welds meet visual acceptance criteria	PERFORM	
7. Verify repair activities	PERFORM	
8. Document acceptance or rejection of welds	DOCUMENT	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - COLD-FORMED METAL DECK – FASTENING SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

METAL DECK INSPECTION <u>PRIOR TO</u> MECHANICAL FASTENING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.6		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Manufacturer installation instructions available for mechanical fasteners	OBSERVE	
2. Proper tools available for fastener installation	OBSERVE	
3. Proper storage for mechanical fasteners	OBSERVE	
METAL DECK INSPECTION <u>DURING</u> MECHANICAL FASTENING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.7		
TASK	INSPECTION TYPE ¹	DESCRIPTION
4. Fasteners are positioned as required	OBSERVE	
5. Fasteners are installed in accordance with manufacturer's instructions	OBSERVE	
METAL DECK INSPECTION <u>AFTER</u> MECHANICAL FASTENING – VERIFY THE FOLLOWING ARE IN COMPLIANCE SDI QA/QC-2017, Appendix 1, Table 1.8		
TASK	INSPECTION TYPE ¹	DESCRIPTION
6. Check spacing, type, and installation of support fasteners	PERFORM	
7. Check spacing, type, and installation of sidelap fasteners	PERFORM	
8. Check spacing, type, and installation of perimeter fasteners	PERFORM	
9. Verify repair activities	PERFORM	
10. Document acceptance or rejection of mechanical fasteners	DOCUMENT	

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.

STRUCTURAL - LIGHT GAUGE STEEL FRAMING AND/OR LIGHT GAUGE TRUSSES SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

LIGHT GAUGE STEEL CONSTRUCTION AND CONNECTIONS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.2.4, 1705.12.2, 1705.13.3, UFC 4 023 03: Appendix H		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Trusses spanning 60-feet or greater where/if applies	PERFORM	Verify that temporary and permanent truss restraint/bracing is installed in accordance with approved truss submittal package.
2. Welded connections (seismic and/or wind resisting system)	OBSERVE	Visually inspect all welds composing part of the main wind or seismic force resisting system, including shearwalls, braces, collectors (drag struts), and hold-downs.
3. Connections (seismic and/or wind resisting system)	OBSERVE	Visually inspect all screw attachment, bolting, anchoring and other fastening of components within the main wind or seismic force resisting system, including roof deck, roof framing, exterior wall covering, wall to roof/floor connections, shear walls, braces, diaphragms, collectors (drag struts) and hold-downs. IBC section 17005.12.2, exception 2 does not apply.
4. Cold-formed steel (progressive collapse resisting system where/if applies)	OBSERVE	Verify proper welding operations, screw attachment, bolting, anchoring and other fastening of components within the progressive collapse resisting system, including horizontal tie force elements, vertical tie force elements and bridging elements (UFC 4 023 03: Appendix H).

END SECTION

STRUCTURAL - OPEN-WEB STEEL JOISTS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

OPEN-WEB STEEL JOISTS AND JOIST GIRDERS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC TABLE 1705.2.3		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Installation of open-web steel joists and joist girders	OBSERVE	<ul style="list-style-type: none"> ✓ End connections – welded or bolted ✓ Bridging – horizontal and diagonal (standard bridging and bridging that differs from the SJI specifications listed in Section 2207.1)

END SECTION

¹ **PERFORM:** Perform these tasks for each weld, fastener or bolted connection, and required verification.
OBSERVE: Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

STRUCTURAL - CONCRETE CONSTRUCTION SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

CONCRETE CONSTRUCTION, INCLUDING COMPOSITE DECK – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC TABLE 1705.3, ACI 318-19 Section 26.7.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Inspect reinforcement, including prestressing tendons, and verify placement.	OBSERVE	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and unacceptable rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer’s instructions and/or evaluation report.
2. Reinforcing bar welding	OBSERVE	<ul style="list-style-type: none"> ✓ Verify weldability of reinforcing bars other than ASTM A 706 ✓ Inspect single-pass fillet welds, maximum 5/16” in accordance with AWS D1.4
3. All other welding	CONTINUOUS	Visually inspect all welds in accordance with AWS D1.4
4. Inspect anchors cast in concrete	OBSERVE	<ul style="list-style-type: none"> ✓ Verify anchors, attachments and reinforcement is securely positioned in formwork and oriented in accordance with construction documents prior to concrete placement. ✓ Concrete is consolidated around anchors and anchor reinforcement using suitable means during concrete placement.
5. Inspect adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads post-installed in hardened concrete members ⁽²⁾	CONTINUOUS AND DOCUMENT	<ul style="list-style-type: none"> ✓ Inspect as required per approved ICC-ES report ✓ Verify anchors installed in accordance with the Manufacturer’s Printed Installation Instructions (MPII) ✓ Verify that installer is certified for installation of horizontal and overhead installation applications ✓ Verify concrete has minimum age of 21 days at time of anchor installation. ✓ Inspect proof loading as required by the contract documents
6. Inspect mechanical anchors and adhesive anchors not defined in 5 post-installed in hardened concrete members ⁽²⁾	OBSERVE	<ul style="list-style-type: none"> ✓ Verify anchors installed in accordance with manufacturer’s instructions. ✓ Verify installer is qualified to install specified anchors. ✓ Verify post installed drilled anchors have proper embedment, spacing and edge distance.
7. Verify use of required mix design	OBSERVE	Verify that all mixes used comply with the approved construction documents

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.
DOCUMENT: Document in a report that the work has been performed as required. This is in addition to all other required reports.
CONTINUOUS: Constant monitoring of identified tasks by a special inspector over the duration of performance of said tasks.

² Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 26.7.2 in ACI 318-19 or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

8. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete	CONTINUOUS	At the time fresh concrete is sampled to fabricate specimens for strength test verify these tests are performed by qualified technicians.
9. Inspect concrete and/or shotcrete placement for proper application techniques	CONTINUOUS	Verify proper application techniques are used during concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.
10. Verify maintenance of specified curing temperature and technique	OBSERVE	Inspect curing, cold weather protection, and hot weather protection procedures.
11. Inspect Pre-stressed concrete	CONTINUOUS	Verify application of prestressing forces and grouting of bonded prestressing tendons.
12. Inspect erection of precast concrete members	OBSERVE	Grouting of bonded prestressing tendons
13. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category C, D, E, or F, inspect such connections and reinforcement in the field for:	CONTINUOUS	<ul style="list-style-type: none"> ✓ Installation of the embedded parts ✓ Completion of the continuity of reinforcement across joints ✓ Completion of connections in the field
14. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5	OBSERVE	
15. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	OBSERVE	
16. Inspect formwork for shape, location and dimensions of the concrete member being formed.	OBSERVE	

END SECTION

STRUCTURAL - MASONRY CONSTRUCTION SECTION (ALL RISK CATEGORIES)

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

MINIMUM QUALITY ASSURANCE LEVEL 2021 IBC 1705.4, TMS 402-16: TABLE 3.1		
Designed in accordance with:	Risk Category I, II, III	Risk Category IV
Part 3 or Appendix B or Appendix C	Level 2	Level 3
Part 4	Level 1	Level 2
Appendix A	Level 1	Not permitted

MINIMUM VERIFICATION REQUIREMENTS 2021 IBC 1705.4, TMS 602-16: TABLE 3				
Minimum Verification	Required for Quality Assurance ^(a)			Reference for Criteria
	Level 1	Level 2	Level 3	TMS 602
Prior to construction, verification of compliance of submittals.	R	R	R	Art. 1.5
Prior to construction, verification of f'_m and f'_{AAC} , except where specifically exempted by the Code.	NR	R	R	Art. 1.4 B
During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site.	NR	R	R	Art. 1.5 & 1.6.3
During construction, verification of f'_m and f'_{AAC} for every 5,000 sw. ft. (465 sq. m).	NR	NR	R	Art. 1.4 B
During construction, verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout.	NR	NR	R	Art. 1.4 B

(a) R = Required, NR = Not Required

STRUCTURAL - MASONRY CONSTRUCTION SECTION (ALL RISK CATEGORIES) (CONTINUED)

MASONRY CONSTRUCTION IBC 1705.4, TMS 602: Table 4					
TASK	Frequency ^(a)			Reference for Criteria	
	Level 1	Level 2	Level 3	TMS 402	TMS 602
1. As masonry construction begins, verify that the following are in compliance:					
a. Proportions of site-prepared mortar	NR	P	P		Art. 2.1, 2.6A, & 2.6C
b. Grade and size of prestressing tendons and anchorages	NR	P	P		Art. 2.4B & 2.4H
c. Grade, type and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages	NR	P	P		Art. 3.4 & 3.6A
d. Prestressing technique	NR	P	P		Art. 3.6B
e. Properties of thin-bed mortar for AAC masonry	NR	C ^(b) /P ^(c)	C		Art. 2.1C.1
f. Sample panel construction	NR	P	C		Art. 1.6D
2. Prior to grouting, verify that the following are in compliance:					
a. Grout space	NR	P	C		Art. 3.2D & 3.2F
b. Placement of prestressing tendons and anchorages	NR	P	P	Sec. 10.8 & 10.9	Art. 2.4 & 3.6
c. Placement of reinforcement, connectors, and anchor bolts	NR	P	C	Sec. 6.1, 6.3.1, 6.3.6, & 6.3.7	Art. 3.2E & 3.4
d. Proportions of site-prepared grout and prestressing grout for bonded tendons	NR	P	P		Art 2.6B & 2.4G.1.b
3. Verify compliance of the following during construction:					
a. Materials and procedures with he approved submittals	NR	P	P		Art. 1.5
b. Placement of masonry units and mortar joint construction	NR	P	P		Art. 3.3B
c. Size and location of structural members	NR	P	P		Art. 3.3F
d. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	NR	P	C	Sec. 1.2.1(e), 6.2.1, & 6.3.1	
e. Welding of reinforcement	NR	C	C	Sec. 6.1.6.1.2	
f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))	NR	P	P		Art. 1.8C & 1.8D
g. Application and measurement of prestressing force	NR	C	C		Art. 3.6B
h. Placement of grout and prestressing grout for bonded tendons is in compliance	NR	C	C		Art. 3.5 & 3.6C
i. Placement of AAC masonry units and construction of thin-bed mortar joints	NR	C ^(b) /P ^(c)	C		Art. 3.3B.9 & 3.3F.1.b

4. Observe preparation of grout specimens, mortar specimens, and/or prisms	NR	P	C		Art. 1.4B.2.a.3, 1.4B.2.b.3, 1.4B.2.c.3, 1.4B.3, & 1.4B.4
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- (a) Frequency refers to the frequency of inspection, which may be continuous during the listed task or periodically during the listed task, as defined in the table. NR = Not Required, P = Periodic, C = Continuous
- (b) Required for the first 5000 square feet (465 square meters) of AAC masonry.
- (c) Required after the first 500 square feet (465 square meters) of AAC masonry.

END SECTION

STRUCTURAL - WOOD CONSTRUCTION – SPECIALTY ITEMS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

WOOD CONSTRUCTION – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.5		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. High-load diaphragms where applicable	OBSERVE	Verify thickness and grade of sheathing, size of framing members at panel edges, nail or staple diameters and length, the number of fastener lines and that fastener spacing in each line and at edge margins is per approved contract documents.
2. Metal-plate connected wood trusses spanning 60 feet or greater	OBSERVE	Verify that the temporary installation restraint/bracing and the permanent individual truss member restraint/bracing are installed in accordance with the approved truss submittal package

END SECTION

STRUCTURAL - WOOD CONSTRUCTION - SEISMIC & WIND SECTION

THIS SECTION IS APPLICABLE IF BOX IS CHECKED:

WOOD CONSTRUCTION SEISMIC AND WIND – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.12.1 & 1705.13.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Nailing, bolting, anchoring and other fastening of elements of the main wind/seismic force-resisting system	OBSERVE (CONTINUOUS FOR FIELD GLUING)	Includes connectors for: shearwall sheathing, roof/floor sheathing, drag struts/collectors (double top plates), braces, hold downs, roof connections to exterior walls.

END SECTION

STRUCTURAL – ISOLATION AND ENERGY DISSIPATION SYSTEMS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

ISOLATION AND ENERGY DISSIPATION SYSTEMS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.13.8 & 1705.14.4		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Fabrication and installation	OBSERVE	Verify that fabrication and installation of isolator units and energy dissipation devices conform to manufacturer’s recommendations and approved construction documents
2. Testing of seismic isolation systems in seismically isolated structures		Seismic Isolation systems in seismically isolated structures shall be tested accordance with ASCE 7, Section 17.8

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

GEOTECHNICAL - SOILS INSPECTION SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

SOILS INSPECTION – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.6: Table 1705.6		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Materials below shallow foundations are adequate to achieve the design bearing capacity.	OBSERVE	
2. Excavations are extended to proper depth and have reached proper material	OBSERVE	
3. Perform classification and testing of compacted fill materials	OBSERVE	
4. Verify use of proper materials and procedures, densities and lift thicknesses during placement and compaction of compacted fill	CONTINUOUS	During fill placement, the special inspector shall verify that proper materials and procedures are used in accordance with the provisions of the approved geotechnical report
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	OBSERVE	

END SECTION

GEOTECHNICAL - DRIVEN DEEP FOUNDATION ELEMENTS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

DEEP DRIVEN FOUNDATION CONSTRUCTION – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.7: Table 1705.7		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Verify element materials, sizes and lengths comply with requirements	CONTINUOUS	
2. Inspect driving operations and maintain complete and accurate records for each element	CONTINUOUS	
3. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	CONTINUOUS	
4. Determine capacities of test elements and conduct additional load tests if required.	CONTINUOUS	
5. For steel or concrete elements, perform additional special inspections in accordance with the Steel and Concrete sections in this schedule		
6. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge		Conduct in accordance with Statement of Special Inspections

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

CONTINUOUS: Constant monitoring of identified tasks by a special inspector over the duration of performance of said tasks.

GEOTECHNICAL - HELICAL PILE FOUNDATIONS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

HELICAL PILE FOUNDATIONS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.9		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Record installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent installation data as required. The approved geotechnical report and the contract documents shall be used to determine compliance	CONTINUOUS	

END SECTION

GEOTECHNICAL - CAST IN PLACE DEEP FOUNDATION ELEMENTS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

CAST IN PLACE DEEP FOUNDATION ELEMENTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.8: Table 1705.8		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Inspect drilling operations and maintain complete and accurate records for each element.	CONTINUOUS	
2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	CONTINUOUS	For concrete elements, perform additional special inspections in accordance with the Concrete section in this schedule

END SECTION

¹ **CONTINUOUS:** Constant monitoring of identified tasks by a special inspector over the duration of performance of said tasks.

FIRE PROTECTION - SPRAYED FIRE-RESISTANT MATERIALS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

SPRAYED FIRE RESISTANT MATERIALS (SFRM) – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.15		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Substrate condition	OBSERVE	Prior to application, confirm that surfaces have been prepared according to the approved fire-resistance design and manufacturer’s instructions.
2. Material thickness	OBSERVE	Verify SFRM thickness according to 2021 IBC 1705.15.4
3. Material density	OBSERVE	Verify SFRM density according to 2021 IBC 1705.15.5
4. Bond strength	OBSERVE	Verify bond strength of cured SFRM according to 2021 IBC 1705.15.6

END SECTION

FIRE PROTECTION - MASTIC AND INTUMESCENT COATINGS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.16		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Inspect according to AWCI 12-B and the contract documents	OBSERVE	Inspections shall be performed in accordance with AWCI 12-B, Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-Resistive Materials.

END SECTION

FIRE PROTECTION – FIRE RESISTANT PENETRATIONS AND JOINTS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

FIRE RESISTANT PENETRATIONS AND JOINTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.18.1 and 1705.18.2		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Inspections of penetration firestop systems conducted in accordance with ASTM E 2174.	OBSERVE	
2. Inspections of fire-resistant joint systems conducted in accordance with ASTM E 2393	OBSERVE	

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

FIRE PROTECTION – SMOKE CONTROL SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

SMOKE CONTROL – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.19		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Verify device locations and perform leakage testing	OBSERVE	Perform during erection of ductwork and prior to concealment
2. Pressure difference testing, flow measurements and detection and control verification	OBSERVE	Perform prior to occupancy and after sufficient completion

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

ARCHITECTURAL - EXTERIOR INSULATION AND FINISH SYSTEMS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.17		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Water resistive barrier coating applied over a sheathing substrate.	OBSERVE	Verify that water resistive barrier coating complies with ASTM E 2570.

END SECTION

ARCHITECTURAL – ARCHITECTURAL COMPONENTS

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

ARCHITECTURAL COMPONENTS – VERIFY THE FOLLOWING ARE IN COMPLIANCE 2021 IBC 1705.13.5, 1705.13.7: Table 1705.13.7		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Erection and fastening of exterior cladding and interior and exterior veneer.	OBSERVE	Verify appropriate materials, fasteners and attachment at commencement of work and at completion. Inspector Note: Inspection not required if height is less than 30 feet or weight is 5psf or less
2. Interior and exterior non-load bearing walls	OBSERVE	Verify appropriate materials, fasteners and attachment at commencement of work and at completion. Inspector Note: Inspection not required if height is less than 30 feet or interior non-load bearing walls weigh 15psf or less
3. Access floors	OBSERVE	Verify that anchorage complies with approved construction documents.
4. Storage racks 8 feet in height or greater and assigned to Seismic Design Category D, E or F	OBSERVE	<ul style="list-style-type: none"> ✓ Verify materials used comply with one or more of the material test reports in accordance with approved construction documents. ✓ Verify fabricated storage rack elements ✓ Verify storage rack anchorage installation. See other sections within this schedule for additional special inspection requirements based on the type of anchorage used. ✓ Verify completed storage rack system is in compliance with approved construction documents.

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor’s risk.

PLUMBING/MECHANICAL/ELECTRICAL DESIGNATED SEISMIC SYSTEMS SECTION

ALL OR PORTIONS OF THIS SECTION ARE APPLICABLE IF BOX IS CHECKED:

PLUMBING, MECHANICAL AND ELECTRICAL 2021 IBC 1705.13.6		
TASK	INSPECTION TYPE ¹	DESCRIPTION
1. Anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D, E or F.	OBSERVE	✓ Check for general conformance
2. Anchorage of all other electrical equipment in Seismic Design Categories E and F only (See first page of this schedule for Seismic Design Category)	OBSERVE	✓ Check for general conformance
3. Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units. For Seismic Design Category C, D, E, or F.	OBSERVE	✓ Check for general conformance
4. Installation and anchorage of ductwork designed to carry hazardous materials in structures. For Seismic Design Category C, D, E, or F.	OBSERVE	✓ Check for general conformance
5. Installation and anchorage of vibration isolation systems where the construction documents require a nominal clearance of ¼" or less between support framing and restraint. For Seismic Design Category C, D, E, or F.	OBSERVE	✓ Check for general conformance
6. Installation of mechanical and electrical equipment, including duct work, piping systems and their structural supports, where automatic sprinkler systems are installed in structures assigned to Seismic Design Category C, D, E or F to verify one of the following:	OBSERVE	<ul style="list-style-type: none"> ✓ Minimum clearances noted in Section 13.2.3, ASCE7/SEI 7 ✓ A nominal clearance of not less than 3 inches has been provided between automatic sprinkler system drops and sprigs and: structural members not used collectively or independently to support the sprinklers; equipment attached to the building structure; and other systems' piping.

END SECTION

¹ **OBSERVE:** Observe these items on a random sampling basis daily to insure that applicable requirements are met. Operations need not be delayed pending these inspections at contractor's risk.

SECTION 05 40 00

COLD-FORMED METAL FRAMING

05/15, CHG 1: 08/18

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI S100	(2016) North American Specification for the Design of Cold-Formed Steel Structural Members
AISI S202	(2020) Code of Standard Practice for Cold-formed Steel Structural Framing
AISI S220	North American Standard for Cold-Formed Steel Nonstructural Framing
AISI S240	(2015) North American Standard for Cold-Formed Steel Structural Framing
AISI S310	North American Standard for the Design of Profiled Steel Diaphragm Panels

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	(2020; Errata 1 2021) Structural Welding Code - Steel
AWS D1.3/D1.3M	(2018) Structural Welding Code - Sheet Steel

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	(2024) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A153/A153M	(2023) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A307	(2021) Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength
ASTM A370	(2023) Standard Test Methods and Definitions for Mechanical Testing of Steel Products
ASTM A1003/A1003M	(2023) Standard Specification for Steel

	Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members
ASTM C955	(2017) Standard Specification for Cold-Formed Steel Structural Framing Members
ASTM C1007	(2020) Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories
ASTM C1513	(2018) Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
ASTM E119	(2022) Standard Test Methods for Fire Tests of Building Construction and Materials
ASTM E329	(2023) Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
ASTM F1554	(2020) Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
ASTM F1941	(2010) Standard Specification for Electrodeposited Coatings on Threaded Fasteners (Unified Inch Screw Threads (UN/UNR))
ASTM F2329/F2329M	(2015) Standard Specification for Zinc Coating, Hot-Dip, Requirements for Application to Carbon and Alloy Steel Bolts, Screws, Washers, Nuts, and Special Threaded Fasteners

1.2 SUBMITTALS

Government approval is required for submittals with a "G" or classification. Submittals not having a "G" or classification are for information only. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Framing Components; G

SD-03 Product Data

Steel Studs, Joists, Tracks, Bracing, Bridging and Accessories

Recycled Content of Steel Products; S

SD-07 Certificates

Load-Bearing Cold-Formed Metal Framing

Welds

1.3 DELIVERY, STORAGE, AND HANDLING

Steel framing and related accessories shall be stored and handled in accordance with the AISI S202, "Code of Standard Practice for Cold-Formed Steel Structural Framing".

1.4 LOAD-BEARING COLD-FORMED METAL FRAMING

Include top and bottom tracks, bracing, fastenings, and other accessories necessary for complete installation. Framing members shall have the structural properties indicated. Where physical structural properties are not indicated, they shall be as necessary to withstand all imposed loads.

Submit mill certificates or test reports from independent testing agency, qualified in accordance with ASTM E329, showing that the steel sheet used in the manufacture of each cold-formed component complies with the minimum yield strengths and uncoated steel thickness specified. Test reports shall be based on the results of three coupon tests in accordance with ASTM A370.

1.5 QUALITY ASSURANCE

- a. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E329 for testing indicated.
- b. Product Tests: Mill certificates or data from a qualified independent testing agency, or in-house testing with calibrated test equipment indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.
- c. Welding Qualifications: Qualify procedures and personnel according to the following:
 - (1) AWS D1.1/D1.1M, "Structural Welding Code - Steel".
 - (2) AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel".
- d. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E119 by, and displaying a classification label from, a testing and inspecting agency acceptable to authorities having jurisdiction.
- e. AISI Specifications and Standards: Comply with:
 - (1) AISI S100, "North American Specification for the Design of Cold-Formed Steel Structural Members".
 - (2) AISI S202, "Code of Standard Practice for Cold-Formed Steel Structural Framing".
 - (3) AISI S220, North American Standard for Cold-Formed Steel Nonstructural Framing

- (4) AISI S240, North American Standard for Cold-Formed Steel Structural Framing
- (5) AISI S310, North American Standard for the Design of Profiled Steel Diaphragm Panels

1.5.1 Drawing Requirements

Submit framing components to show sizes, thicknesses, layout, material designations, methods of installation, and accessories including the following:

- a. Cross sections, plans, and/or elevations showing component types and locations for each framing application; including shop coatings and material thicknesses for each framing component.
- b. Connection details showing fastener type, quantity, location, and other information to assure proper installation.
- c. Drawings depicting panel configuration, dimensions, components, locations, and construction sequence if the Contractor elects to install prefabricated/prefinished frames.

PART 2 PRODUCTS

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2.1 STEEL STUDS, JOISTS, TRACKS, BRACING, BRIDGING, SHEETING AND ACCESSORIES

Framing components shall comply with ASTM C955 and the following.

- a. Provide products with an average recycled content of steel products so postconsumer recycled content plus one half of preconsumer recycled content not less than 25 percent.
- b. Steel Sheet: ASTM A1003/A1003M, Structural Grade, Type H, metallic coated, of grade and coating weight as follows:
 - (1) Grade: As required by structural performance and as indicated on the drawings.
 - (2) Coating: G90 (Z275).
- c. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, unpunched, with stiffened flanges, and as follows:
 - (1) Minimum Base-Metal Thickness: 0.0538 inch.
 - (2) Flange Width: 2 inches.
- d. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with straight flanges, and as follows:
 - (1) Minimum Base-Metal Thickness: Matching steel studs.
 - (2) Flange Width: 1-1/2 inches minimum or as indicated on the

drawings..

- e. Roof Truss Members: Manufacturer's standard C-shaped steel sections, of web depths indicated, unpunched, with stiffened flanges, and as follows:

- (1) Minimum Base-Metal Thickness: 0.0538 inch.
- (2) Flange Width: 1-5/8 inches, minimum at top and bottom chords connecting to sheathing or directly fastened construction.

f. Steel Sheet Sheathing: ASTM A1003/A1003M, Structural Grade, Type H, metallic coated, of thickness, grade and coating weight as follows:

- (1) Minimum Metal Thickness: 0.030 inch.**
- (2) Grade: Structural Grade 33 minimum.**
- (3) Coating: G90 (Z275).**

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2.1.1 Sizes, Thickness, Section Modulus, and Other Structural Properties

Size and thickness as indicated.

2.2 MARKINGS

Studs and track shall have product markings stamped on the web of the section. The markings shall be repeated throughout the length of the member at a maximum spacing of 4 feet on center and shall be legible and easily read. The product marking shall include the following:

- a. An ICC number.
- b. Manufacturer's identification.
- c. Minimum delivered uncoated steel thickness.
- d. Protective coating designator.
- e. Minimum yield strength.

2.3 CONNECTIONS

2.3.1 Steel-To-Concrete Connections

- a. Anchor Rods: ASTM F1554, Grade 36 or Grade 55; galvanized per ASTM A153/A153M.
- b. Post-Installed Concrete Anchors: Refer to Section 05 05 20 POST-INSTALLED CONCRETE AND MASONRY ANCHORS.
- c. Power-Actuated Fasteners: Fabricated from corrosion-resistant materials with allowable load capacities in accordance with ICC-ES AC 70 greater than or equal to the design load as determined by testing per ASTM E1190 conducted by a qualified testing agency.

2.3.2 Steel-To-Steel Connections

- a. Screws: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping steel screws of the type and size indicated. Provide low-profile head beneath sheathing and manufacturer's standard elsewhere. Electroplated to a minimum of 5 micron zinc coating per ASTM F1941 or hot-dipped galvanized per ASTM A123/A123M or ASTM A153/A153M.
- b. Bolts: ASTM A307 coated by hot-dip process per ASTM F2329/F2329M or zinc-coated by mechanical-deposition process per ASTM B695, Class 55.
- c. Welding Electrodes: Comply with AWS standards.

2.4 PLASTIC GROMMETS

Supply plastic grommets for stud webs as recommended by stud manufacturer, to protect electrical wires and plumbing piping. Prevent metal-to-metal contact between wiring/piping and studs.

2.5 SEALER GASKET

Closed-cell neoprene foam, 1/4-inch thick, selected from manufacturer's standard widths to match width of bottom track on concrete slab or foundation.

PART 3 EXECUTION

3.1 TRUSS FABRICATION

- a. Fabricate cold-formed steel trusses and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
- b. Truss must be fabricated either on site or off site prior to erection.
- c. Fabricate trusses using jigs or templates.
- d. Splices can only occur at joints.
- e. Cut truss members by sawing or shearing: do not torch cut.
- f. Fasten cold-formed steel truss members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator.
- g. Fasten other materials to cold-formed steel trusses by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.
- h. Reinforce, stiffen, and brace trusses to withstand handling, delivery, and erection stresses. Lift fabricated trusses to prevent damage or permanent distortion.

3.2 FASTENING

Fasten framing members together by welding or by using self-drilling,

self-tapping screws. Electrodes and screw connections shall be as required and indicated in the design calculations.

3.2.1 Welds

All welding shall be performed in accordance with AWS D1.3/D1.3M, as modified by AISI S100. All welders, welding operations, and welding procedures shall be qualified according to AWS D1.3/D1.3M. Submit certified copies of welder qualifications test records showing qualification in accordance with AWS D1.3/D1.3M. All welds shall be cleaned and coated with rust inhibitive galvanizing paint. Do not field weld materials lighter than 43 mils.

3.2.2 Screws

Screws shall be of the self-drilling self-tapping type, size, and location as indicated. Screw penetration through joined materials shall not be less than three exposed threads. Minimum spacings and edge distances for screws shall be as specified in AISI S100. Screws covered by sheathing materials shall have low profile heads.

3.2.3 Anchors

Anchors shall be of the type, size, and location as indicated.

3.2.4 Powder-Actuated Fasteners

Powder-actuated fasteners shall be of the type, size, and location as indicated.

3.3 INSTALLATION

Install cold-formed framing in accordance with ASTM C1007 and AISI S240.

Install cold-formed steel framing according to AISI S202 and to manufacturer's written instructions unless more stringent requirements are indicated.

3.3.1 Tracks

Provide accurately aligned runners at top and bottom of studs. Install sealer gasket under bottom of track on concrete slab or foundation. Anchor tracks as indicated in design calculations. Butt weld joints in tracks or splice with stud inserts. Fasteners shall be at least 3 inches from the edge of concrete slabs.

3.3.2 Studs

Cut studs square and set with firm bearing against webs of top and bottom tracks. Position studs vertically in tracks and space as indicated in design. Do not splice studs. Provide at least two studs at jambs of doors and other openings 2 feet wide or larger. Provide jack studs over openings, as necessary, to maintain indicated stud spacing. Provide tripled studs at corners, positioned to receive interior and exterior finishes. Fasten studs to top and bottom tracks by welding or screwing both flanges to the tracks. Framed wall openings shall include headers and supporting components as shown on the drawings. Headers shall be installed in all openings that are larger than the stud spacing in a wall. In curtain wall construction, provide for vertical movement where

studs connect to the structural frame. Provide horizontal bracing in accordance with the design calculations and AISI S100. Bracing shall be not less than the following:

<u>LOAD</u>	<u>HEIGHT</u>	<u>BRACING</u>
Wind load only	Up to 10 feet	One row at mid-height
	Over 10 feet	Rows 5'-0" o.c. maximum
Axial load	Up to 10 feet	Two rows at 1/3 points
	Over 10 feet	Rows 3'-4" o.c. maximum

3.3.3 Joists and Trusses

- a. Provide a stud directly under each joist or truss. The maximum spacing of studs as indicated shall be maintained.
- b. Install, bridge, and brace cold-formed steel trusses according to AISI S202, AISI S240, AISI's "Code of Standard Practice for Cold-Formed Steel Structural Framing," and manufacturer's written instructions unless more stringent requirements are indicated.
- c. Install temporary bracing and supports. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- d. Do not alter, cut, or remove framing members or connections of trusses.

3.3.4 Erection Tolerances

- a. Framing members which will be covered by finishes such as wallboard, plaster, or ceramic tile set in a mortar setting bed, shall be within the following limits:
 - (1) Layout of walls and partitions: 1/4 inch from intended position;
 - (2) Plates and runners: 1/4 inch in 8 feet from a straight line;
 - (3) Studs: 1/4 inch in 8 feet out of plumb, not cumulative; and
 - (4) Face of framing members: 1/4 inch in 8 feet from a true plane.
- b. Framing members which will be covered by ceramic tile set in dry-set mortar, latex-portland cement mortar, or organic adhesive shall be within the following limits:
 - (1) Layout of walls and partitions: 1/4 inch from intended position;

- (2) Plates and runners: 1/8 inch in 8 feet from a straight line;
- (3) Studs: 1/8 inch in 8 feet out of plumb, not cumulative; and
- (4) Face of framing members: 1/8 inch in 8 feet from a true plane.

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3.3.5 Steel Sheet Sheathing

Cut steel sheet sheathing panels square and set with firm bearing against flanges of studs, blocking and top and bottom tracks. Position steel sheet sheathing on studs and tracks to provide the minimum edge distances for screws on the sheathing panels and the studs or tracks to which the panels are attached.

All vertical sheathing panel edges must attach to their own stud as indicated in the drawings. Adjacent sheathing panels cannot share a stud for attachment.

All horizontal edges must attach to blocking installed between studs as indicated in the drawings. Adjacent sheathing panels cannot share blocking for attachment. All blocking must match stud gage and width.

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-- End of Section --