

SPECIAL INSPECTIONS - STEEL					
Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Steel Construction				Yes	
i. Structural Steel				Yes	
a. Inspection Tasks Prior To Welding				Yes	
iii. Manufacturer certifications for welding consumables available	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
i. Welder Qualification records and continuity records	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
ii. Welding Procedure Specifications (WPS) Available	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
iv. Material identification (type/grade)	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
v. Welder identification system	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
vi. Fit up of groove welds (including joint geometry)	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
vii. Fit up of CJP groove welds of HSS, T-, Y-, and K-joints without backing (including joint geometry)	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
viii. Configuration and finish of access holes	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
ix. Fit-up of fillet welds	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
x. Check Welding equipment	X	1705.2.1		Yes	AISC 360 Table N.5.4-1
b. Inspection Tasks During Welding				Yes	
i. Control and Handling of welding consumables.	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
ii. No welding over cracked tack welds.	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
iii. Environmental Conditions	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
iv. Verify WPS followed	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
v. Verify Welding Techniques	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
vi. Placement and installation of steel headed stud anchors	X	1705.2.1		Yes	AISC 360 Table N.5.4-2
c. Inspection Tasks after Welding				Yes	
i. Welds cleaned	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
ii. Size, length, and location of welds	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
iii. Welds meet visual acceptance criteria	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
iv. Arc strikes	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
v. K-area	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
vi. Weld access holes in rolled heavy shapes and built-up heavy shapes	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
vii. Backing removed and weld tabs removed (if required)	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
viii. Repair activities	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
iv. Document acceptance or rejection of welded joint or member	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
x. No prohibited welds have been added without the approval of the EOR	X	1705.2.1		Yes	AISC 360 Table N.5.4-3
d. Inspection Tasks Prior to Bolting				Yes	
i. Manufacturer's certification available for fastener materials	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
ii. Fasteners marked in accordance with ASTM requirements	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
iii. Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
iv. Proper bolting procedure selected for joint detail	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
v. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
vi. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
vii. Proper storage provided for bolts, nuts, washers and other fastener components. X 1705.2.1.1	X	1705.2.1		Yes	AISC 360 Table N.5.6-1
AISC 360 Table N5.6-1					
e. Inspection Tasks During Bolting				Yes	
i. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.	X	1705.2.1		Yes	AISC 360 Table N.5.6-2
ii. Joint brought to the snug-tight condition prior to the pretensioning operation.	X	1705.2.1		Yes	AISC 360 Table N.5.6-2
iii. Fastener component not turned by the wrench prevented from rotating.	X	1705.2.1		Yes	AISC 360 Table N.5.6-2
iv. Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges.	X	1705.2.1		Yes	AISC 360 Table N.5.6-2
f. Inspection Tasks After Bolting				Yes	
i. Document acceptance or rejection of bolted connections.	X	1705.2.1		Yes	AISC 360 Table N.5.6-3
2. Fabricated Items - Steel	X	1704.2.5; 1705.10		Yes	
3. Cold-Formed Steel Deck				Yes	

SPECIAL INSPECTIONS - STEEL					
Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
a. Inspection or Execution Tasks prior to Deck Placement				Yes	
i. Verify compliance of materials (deck and all deck accessories) with construction documents, including profiles, material properties, and base metal thickness.	X	1705.2.2		Yes	SDI QA/QC Table 1.1
ii. Document acceptance or rejection of deck and deck accessories	X	1705.2.2		Yes	SDI QA/QC Table 1.1
b. Inspection or Execution Tasks after Deck Placement				Yes	
i. Verify compliance of deck and all deck accessories installation with construction documents.	X	1705.2.2		Yes	SDI QA/QC Table 1.2
ii. Verify deck materials are represented by the mill certifications that comply with the construction documents.	X	1705.2.2		Yes	SDI QA/QC Table 1.2
iii. Document acceptance or rejection of installation of deck and deck accessories	X	1705.2.2		Yes	SDI QA/QC Table 1.2
6. Inspection or Execution Tasks Prior to Welding				No	
i. Welding Procedure Specifications (WPS) available.	X	1705.2.2		No	SDI QA/QC Table 1.3
ii. Manufacturer certifications for welding consumables available	X	1705.2.2		No	SDI QA/QC Table 1.3
iii. Material identification (type/grade).	X	1705.2.2		No	SDI QA/QC Table 1.3
iv. Check welding equipment.	X	1705.2.2		No	SDI QA/QC Table 1.3
d. Inspection or Execution Tasks during Welding				No	
i. Use of qualified welders.	X	1705.2.2		No	SDI QA/QC Table 1.4
ii. Control and handling of welding consumables.	X	1705.2.2		No	SDI QA/QC Table 1.4
iii. Environmental conditions (wind speed, moisture, temperature).	X	1705.2.2		No	SDI QA/QC Table 1.4
iv. Verify WPS followed.	X	1705.2.2		No	SDI QA/QC Table 1.4
e. Inspection or Execution Tasks after Welding				No	
i. Verify size and location of welds, including support, sidelap, and perimeter welds.	X	1705.2.2		No	SDI QA/QC Table 1.5
ii. Welds meet visual acceptance criteria	X	1705.2.2		No	SDI QA/QC Table 1.5
iii. Verify repair activities.	X	1705.2.2		No	SDI QA/QC Table 1.5
SDI QA/QC Table 1.5					
iv. Document acceptance or rejection of welds.	X	1705.2.2		No	SDI QA/QC Table 1.5
f. Inspection or Execution Tasks prior to Mechanical Fastening				Yes	
i. Manufacturer installation instructions available for mechanical fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.6
ii. Proper tools available for fastener installation.	X	1705.2.2		Yes	SDI QA/QC Table 1.6
iii. Proper storage for mechanical fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.6
g. Inspection or Execution Tasks during Mechanical Fastening				Yes	
i. Fasteners are positioned as required.	X	1705.2.2		Yes	SDI QA/QC Table 1.7
ii. Fasteners are installed in accordance with manufacturer's instructions.	X	1705.2.2		Yes	SDI QA/QC Table 1.7
h. Inspection or Execution Tasks after Mechanical Fastening				Yes	
i. Check spacing, type, and installation of support fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.8
ii. Check spacing, type, and installation of sidelap fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.8
iii. Check spacing, type, and installation of perimeter fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.8
iv. Verify repair activities.	X	1705.2.2		Yes	SDI QA/QC Table 1.8
v. Document acceptance or rejection of mechanical fasteners.	X	1705.2.2		Yes	SDI QA/QC Table 1.8
4. Cold-Formed Steel Trusses spanning 60 feet or Greater	X	1705.2.4		No	
5. Open-Web Steel Joists and Joist Girders				No	

SPECIAL INSPECTIONS - CONCRETE					
Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Concrete Construction				Yes	
1. Inspect reinforcement, including prestressing tendons, and verify placement.	X	1705.3		Yes	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3 IBC 1908.4
2. Reinforcing Bar Welding:				No	
a. Verify weldability of reinforcing bars other than ASTM A706.	X	1705.3		No	AWS D1.4 ACI 318: 26.6.4
b. Inspect single pass fillet welds, maximum 5/16" ACI 318: 26.6.4	X	1705.3		No	AWS D1.4 ACI 318: 26.6.4
c. Inspect all other welds	X	1705.3		No	AWS D1.4 ACI 318: 26.6.4
3. Inspect anchors cast in concrete.	X	1705.3		Yes	ACI 318: 17.8.2
4. Inspect anchors post-installed in hardened concrete members.				Yes	
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.	X	1705.3		Yes	ACI 318: 17.8.2.4
b. Mechanical anchors and adhesive anchors not defined in Item 4a	X	1705.3		Yes	ACI 318: 17.8.2
5. Verify use of required design mix	X	1705.3		Yes	ACI 318: Ch. 19, 26.4.3, 26.4.4; IBC 1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete.	X	1705.3		Yes	ASTM C172, ASTM C31; ACI 318: 26.5, 26.12, IBC 1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	1705.3		Yes	ACI 318: 26.5, IBC 1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	X	1705.3		Yes	ACI 318: 26.5.3-26.5.5 IBC: 1908.9
9. Inspect Prestressed concrete for:				No	
a. Application of prestressing forces	X	1705.3		No	ACI 318: 26.10
b. Grouting of bonded prestressing tendons	X	1705.3		No	ACI 318: 26.10
10. Inspect erection of precast concrete members	X	1705.3		No	ACI 318: Ch. 26.9
11. Verify in-situ concrete strength, prior to stressing tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	X	1705.3		No	ACI 318: 26.11.2
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	X	1705.3		Yes	ACI 318: 26.11.2b
13. Fabricated Items - Precast Concrete	X	1704.2.5; 1705.10		No	

SPECIAL INSPECTIONS - FOUNDATIONS					
Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Foundations				Yes	
A. Soils				Yes	
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	X	1705.6		Yes	
2. Verify excavations are extended to a proper depth and have reached proper material.	X	1705.6		Yes	
3. Perform classification and testing of compacted fill materials.	X	1705.6		Yes	
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	1705.6		Yes	
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	X	1705.6		Yes	
B. Driven Deep Foundations				No	
1. Verify element materials, sizes and lengths, comply with the requirements.	X	1705.7		No	
2. Determine capacities of test elements and conduct additional load tests, as required.	X	1705.7		No	
3. Inspect driving operations and maintain complete and accurate records for each element	X	1705.7		No	
4. 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.	X	1705.7		No	
5. For steel elements, perform additional special inspections in accordance with Section 1705.2.	--	--	1705.7	No	
6. For concrete elements and concrete-filled elements, perform tests and additional special inspections in accordance with Section 1705.3.	--	--	1705.7	No	
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge.	--	--	1705.7	No	
C. Cast-in-place Deep Foundations				No	
1. Inspect drilling operations and maintain complete and accurate records for each element.	X	1705.8		No	
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.	X	1705.8		No	
3. For concrete elements, perform tests and additional special inspections in accordance with Section 1705.3.	--	--	1705.8	No	
D. Helical Pile Foundations	X	1705.9		No	

SPECIAL INSPECTIONS - MASONRY - L3					
Inspections & Test	Cont.	Per.	IBC Ref.	Required For Project	Referenced Standard
Masonry Construction - L3				Yes	
3a. Prior to construction, verification of compliance submittals	X	1705.4		Yes	TMS 602 Table 3
3b. Prior to construction, verification of fm and faac, except where specifically exempted by code	X	1705.4		Yes	TMS 602 Table 3
3c. During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site	X	1705.4		Yes	TMS 602 Table 3
3d. During construction, verification of fm and faac for every 5,000sq. ft.	X	1705.4		Yes	TMS 602 Table 3
3e. 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.	X	1705.4		Yes	TMS 602 Table 3
3f. As masonry construction begins verify that the following are in compliance:				Yes	
i. Proportions of site-prepared mortar	X	1705.4		Yes	TMS 602 Table 4
ii. Grade and size of prestressing tendons and anchorages	X	1705.4		No	TMS 602 Table 4
iii. Grade, type and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages	X	1705.4		Yes	TMS 602 Table 4
iv. Pressing technique	X	1705.4		No	TMS 602 Table 4
v. Properties of thin-bed mortar for AAC masonry	X	1705.4		No	TMS 602 Table 4
vi. Sample panel construction	X	1705.4		Yes	TMS 602 Table 4
3g. Prior to grouting, verify that the following are in compliance:				Yes	
i. Grout space	X	1705.4		Yes	TMS 602 Table 4
ii. Placement of prestressing tendons and anchorages	X	1705.4		No	TMS 602 Table 4
iii. Placement of reinforcement, connectors, and anchor bolts	X	1705.4		Yes	TMS 602 Table 4
iv. Proportions of site-prepared grout and prestressing grout for bonded tendons	X	1705.4		Yes	TMS 602 Table 4
3h. Verify compliance of the following during construction:				Yes	
i. Materials and procedures with the approved submittals	X	1705.4		Yes	TMS 602 Table 4
ii. Placement of masonry units and mortar joint construction	X	1705.4		Yes	TMS 602 Table 4
iii. Size and location of structural members	X	1705.4		Yes	TMS 602 Table 4
iv. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	X	1705.4		Yes	TMS 602 Table 4
v. Welding of reinforcement	X	1705.4		No	TMS 602 Table 4
vi. Preparation, construction, and protection of masonry during cold weather or hot weather	X	1705.4		Yes	TMS 602 Table 4
vii. Application of measurement of prestressing force	X	1705.4		No	TMS 602 Table 4
viii. Placement of grout and prestressing grout for bonded tendons in compliance	X	1705.4		No	TMS 602 Table 4
iv. Placement of AAC masonry units and construction of thin bed mortar joints	X	1705.4		No	TMS 602 Table 4
3i. Observe preparation of grout specimens, mortar specimens, and/or prisms	X	1705.4		Yes	TMS 602 Table 4

SPECIAL INSPECTION AND TESTING:
1. SPECIAL INSPECTION WILL BE PROVIDED BY THE OWNER BASED ON THE REQUIREMENTS OF THE CURRENT EDITION OF THE NYSBC AS SUMMARIZED IN THE SPECIAL INSPECTION AND TESTING PROGRAM ON SHEET S003. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SPECIAL INSPECTOR TO PERFORM THESE INSPECTIONS.

STRUCTURAL OBSERVATION:
1. THE STRUCTURAL ENGINEER OF RECORD (SER) WILL PERFORM STRUCTURAL OBSERVATIONS BASED ON THE REQUIREMENTS OF THE IBC AT THE STAGES OF CONSTRUCTION LISTED BELOW. THE CONTRACTOR SHALL PROVIDE SUFFICIENT NOTICE AND ACCESS FOR THE SER TO PERFORM THESE OBSERVATIONS:

STRUCTURAL OBSERVATIONS		
CONSTRUCTION PHASE	OBSERVATION BY SER	COMMENTS
PRIOR TO FIRST CONCRETE POUR	X	REF FOOTNOTE A, B, C
AT MIDPOINT OF INSTALLATION OF CMU WALLS	X	REF FOOTNOTE A, B
AT MIDPOINT OF INSTALLATION OF STRUCTURAL STEEL ELEMENTS	X	REF FOOTNOTE A, B
AT COMPLETION OF HORIZONTAL ROOF DIAPHRAGM	X	REF FOOTNOTE A, B
PRIOR TO COVERING STRUCTURAL ELEMENTS	X	REF FOOTNOTE A, B
AS REQUIRED TO ADDRESS STRUCTURAL ISSUES	X	REF FOOTNOTE A, B

A. STRUCTURAL OBSERVATIONS ARE INTENDED TO VERIFY GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS. SPECIAL INSPECTIONS AND TESTING ARE STILL REQUIRED.
B. A FIELD REPORT WILL BE SUBMITTED TO THE BUILDING DEPARTMENT FOLLOWING EACH VISIT.
C. STRUCTURAL OBSERVATION TO OCCUR AFTER THE REINFORCING STEEL HAS BEEN INSTALLED.

SUBMITTALS:
1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE FABRICATION AND CONSTRUCTION OF ALL STRUCTURAL ITEMS INCLUDING BUT NOT LIMITED TO THE FOLLOWING, REFER TO MATERIAL SPECIFIC SPECIFICATIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

SUBMITTALS			
ITEM	SUBMITTAL (A, D)	DEFERRED SUBMITTAL (B, D)	COMMENTS
CONCRETE MIX DESIGNS	X		
CONCRETE REINFORCEMENT	X		
REINFORCING STEEL			