Section 01 46 00 - SCHEDULE OF SPECIAL INSPECTIONS

P – Perform these Special Inspections tasks for each welded joint or member. (AISC 360 & AISC 341)

O – Observe these Special Inspections items on a random daily basis. Operations need not be delayed pending these inspections. (AISC 360 & AISC 341)

D – Document, with a report, that the work has been performed in accordance with the contract documents. (AISC 341)

C – Continuous Special Inspections is the constant monitoring of specific tasks by a special inspector. These inspections must be carried out continuously over the duration of the particular tasks. (IBC)

P – Periodic Special Inspections is Special Inspections by the special inspector who is intermittently present where the work to be inspected has been or is being performed. (IBC)

CONCRETE CONSTRUCTION

IBC TABLE 1705.3, 1705.12.1:				
Required	Task	Continuous	Periodic	Description
☒	1. Reinforcing steel, including prestressing tendons	-	P	Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and 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. Anchors cast in concrete	-	P	Verify prior to placing concrete that cast in anchors have proper embedment, spacing and edge distance.
☒	3. Post-installed anchors or dowels	C		Inspect all post-installed anchors/dowels as required by the approved ICC-ES report.
☒	4. Use of required mix design	-	P	Verify that all mixes used comply with the approved construction documents

CONCRETE CONSTRUCTION

IBC TABLE 1705.3, 1705.12.1:				
Required	Task	Continuous	Periodic	Description
☒	5. Concrete slump, air content, and temperature	C	-	At the time fresh concrete is sampled to fabricate specimens for strength test verify these tests are performed.
☒	6. Concrete & shotcrete placement	C	-	Verify proper application techniques are used during concrete conveyance and depositing avoids segregation or contamination. Verify that concrete is properly consolidated.
☒	7. Curing temperature and techniques	-	P	Inspect curing , cold weather protection and hot weather protection procedures.
☐	8. Pre-stressed concrete	C	-	Verify application of prestressing forces and grouting of bonded prestressing tendons in the seismic force-resisting system.
☐	9. Erection of precast concrete	-	P	Verify that all precast elements are lifted, assembled and braced in accordance with the approved construction documents.
☒	10. In-situ concrete strength verification	-	P	Prior to the removal of shores and forms or the stressing of post-tensioned tendons verify that adequate strength has been achieved.
☒	11. Formwork	-	P	Inspect the forms to ensure that they are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.

IBC TABLE 1705.3, 1705.12.1:				
Required	Task	Continuous	Periodic	Description
☒	12. Reinforcement complying with ASTM A 615 in special moment frames, special structural walls and coupling beams (**)	-	P	Verify that ASTM A 615 reinforcing steel used in these areas complies with ACI 318: 21.1.5.2 by means of certified mill test reports. If this reinforcing steel is to be welded chemical tests shall be performed in accordance with ACI 318: 3.5.2.
☐	13. Reinforcement placement within progressive collapse resisting system (#)	C	-	Visual inspect reinforcing steel placement with a particular emphasis on reinforcing steel anchorages, laps and other details within the progressive collapse resisting system, including horizontal tie force elements, vertical tie force elements and bridging elements.

MASONRY CONSTRUCTION – LEVEL B

PRIOR TO CONSTRUCTION (SPEC ARTICLE 1.5, TMS-602/ACI 530.1-11):				
Required	Task	Continuous	Periodic	Description
☒	Review material certificates, mix designs, test results and construction procedures	-	P	Verify that materials conform to the requirements of the approved construction documents.
AS CONSTRUCTION BEGINS (TABLE 1.19.2, TMS-402/ACI 530-11):				
Required	Task	Continuous	Periodic	Description
☒	1. Proportions of site-prepared mortar	-	P	Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C 270, and that it is mixed in accordance with Article 2.6 A of TMS-602/ACI 530.1.
☒	2. Construction of mortar joints	-	P	Verify that mortar joints comply with Article 3.3 B of TMS-602/ACI 530.1.
☐	3. Grade and size of prestressing tendons and anchorages	-	P	Verify that prestressing tendons comply with Article 2.4 B of TMS-602/ACI 530.1 and that anchorages, couplers, and end blocks comply with Article 2.4 H.
☒	4. Location of reinforcement, connectors, and prestressing tendons and anchorages	-	P	Verify that reinforcement is placed in accordance with Article 3.4 of TMS-602/ACI 530.1. Prestressing tendons shall be placed per Article 3.6 A.
☐	5. Prestressing technique	-	P	Verify that prestressing technique complies with Article 3.6 B of TMS-602/ACI 530.1.
☒	6. Properties of thin-bed mortar for AAC masonry	C	P	Verify that mortar complies with Article 2.1 C of TMS-602/ACI 530.1. Continuous inspection for the first 5000 square feet of wall and periodic for all following applications.

MASONRY CONSTRUCTION – LEVEL B

PRIOR TO GROUTING (TABLE 1.19.2, TMS-402/ACI 530-11):				
Required	Task	Continuous	Periodic	Description
☒	1. Grout space	-	P	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per Article 3.2 D and 3.2 F of TMS-602/ACI 530.1.
☒	2. Grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	-	P	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors comply with the approved construction documents and Section 1.16 of TMS 402/ACI 530.
☒	3. Placement of reinforcement, connectors, and prestressing tendons and anchorages	-	P	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and Articles 3.2 E, 3.4, and 3.6 A of TMS 602/ACI 530.1.
☒	4. Proportions of site-prepared grout and prestressing grout for bonded tendons	-	P	Verify that grout is proportioned per ASTM C 476 and has a slump between 8-11 inches. Self-consolidated grout shall not be proportioned onsite.
☒	5. Construction of mortar joints	-	P	Verify that mortar joints are placed in accordance with Article 3.3 B of TMS 602/ACI 530.1.

MASONRY CONSTRUCTION – LEVEL B

DURING MASONRY CONSTRUCTION (TABLE 1.19.2, TMS-402/ACI 530-11):				
Required	Task	Continuous	Periodic	Description
☒	1. Size and location of structural elements	-	P	Verify the locations of structural elements with respect to the approved plans and confirm that tolerances meet the requirements of Article 3.3 F of TMS 602/ACI 530.1.
☒	2. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.	-	P	Verify that correct anchorages and connections are provided per the approved plans and Sections 1.16.4.3 and 1.17.1 of TMS 402/ACI 530.
☒	3. Welding of reinforcement	C	-	Verify welded reinforcement meet the requirements of Section 2.1.7.7.2, 3.3.3.4(c), and 8.3.3.4(b) of TMS 402/ACI 530.
☒	4. Preparation, construction, and protection of masonry during cold weather (<40°F) or hot weather (>90°F).	-	P	Verify that cold-weather construction is performed in accordance with Article 1.8 C of TMS 602/ACI 530.1 and hot weather construction per Article 1.8 D of TMS 602/ACI 530.1.
☒	5. Application and measurement of prestressing force	C	-	Verify the proper prestressting force is applied per Article 3.6 B of TMS 602/ACI 530.1.
☒	6. Placement of grout and prestressing grout for bonded tendons is in compliance	C	-	Verify placement of grout is done in accordance with Article 3.5 of TMS 602/ACI 530.1 and placement of grout for bonded tendons is in accordance with Article 3.6 C of TMS 602/ACI 530.1.
☒	7. Placement of AAC masonry units and construction of thin-bed mortar joints	C	P	Verify that mortar is placed in accordance with Article 3.3 B.8 of TMS-602/ACI 530.1. Continuous inspection for the first 5000 square feet of wall and periodic for all following applications.
☒	8. Observation of grout specimens, mortar specimens, and/or prisms	-	P	Confirm that specimens/prisms are performed as required by Article 1.4 of TMS-602/ACI 530.1.

MASONRY CONSTRUCTION – LEVEL B

MINIMUM TESTING (TABLE 1.19.2, TMS-402/ACI 530-11):				
Required	Task	Continuous	Periodic	Description
☒	1. Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout	-	-	Compressive strength tests should be performed in accordance with ASTM C 1019 for slump flow and ASTM C 1611 for VSI.
☒	2. Verification of f'm and f'AAC	-	-	Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in Article 1.4 B of TMS 602/ACI 530.1 prior to construction.

WOOD CONSTRUCTION

IBC 1705.5, 1705.10.1 & 1705.11.2				
Required	Task	Continuous	Periodic	Description
☒	1. Diaphragms	-	P	Verify thickness and grade of sheathing, size of framing members at panel edges, nail/staple diameters and length, and the number of fastener lines and fastener spacing are per approved plans.
☒	2. Metal-plate-connected wood trusses	-	P	Verify that temporary and permanent truss bracing is installed in accordance with approved truss package.
☐	3. Field Gluing (*, **)	C	-	Inspect all field gluing of structural wood element within the main wind-force resisting system.
☐	4. Nailing, bolting, anchoring and other fastening of components (*, **)	-	P	If fasteners within the main wind-force resisting system are spaced less than 4-inches, verify that proper nailing, bolting, anchoring and other fastening of shear walls, diaphragms, drag struts, braces, and holdowns.
☐	5. Nailing, bolting, anchoring and other fastening of components (#)	-	P	Verify proper nailing, bolting, anchoring, and other fastening components within the progressive collapse resisting system, including horizontal tie force elements, vertical tie force elements and bridging elements.

SOILS CONSTRUCTION

IBC TABLE 1705.6				
Required	Task	Continuous	Periodic	Description
☒	1. Foundation bearing capacity	-	P	Verify the materials below foundations are adequate to achieve the design bearing capacity.
☒	2. Excavations	-	P	Verify the excavations are extended to the proper depth and have reached proper material.
☒	3. Perform classification and testing of compacted fill materials	-	P	
☒	4. Compacted fill material	C	-	Verify the use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.
☒	5. Subgrade	-	P	Prior to placement of compacted fill, observe sub-grade and verify that site has been prepared properly.

END OF SECTION