

SECTION 014535 - SPECIAL INSPECTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Perform the Special Inspection for structural system components and other items as specified. Special Inspector personnel shall be in addition to the quality control inspections and inspectors required elsewhere. Special inspection program shall be under direction of licensed Professional Engineer in the State of Maine.
- B. Continuous Special Inspection: Continuous special inspection is the full time observation of the work by the Special Inspector present in the work area whenever work is being performed. Perform continuous special inspection where specified for items as shown on the drawings.
- C. Periodic Special Inspection: Periodic special inspection is the intermittent observation of the work by a Special Inspector present in the work area while work is being performed. The intermittent observation periods shall be: at times of significant work; recurrent over the complete work period; and total at least 25 percent of the total work time. Perform periodic special inspection where specified for items as shown on the drawings.

1.3 INFORMATIONAL SUBMITTALS

- A. Submittals shall comply with the requirements of the Construction Contract Clauses, Section 007213 "General Conditions" and the individual sections specifying the work.
- B. Certificates:
 - 1. Special Inspector: Certification attesting that the licensed Professional Engineer and Special Inspector is qualified by knowledge and experience to perform the specified Special Inspections. Information, which provides evidence of the knowledge and experience necessary to qualify a person as a Special Inspector for the category of work being certified, shall accompany the qualification.
 - 2. Quality Assurance Plan: A copy of the Quality Assurance Plan covered by a certificate indicating that the plan meets the content specified in this section. Submit plan not less than 10 days prior to the preconstruction meeting.

1.4 QUALITY ASSURANCE PLAN

- A. Develop a quality assurance plan containing the following:

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1. A list of all items that require quality assurance Special Inspection and testing, including the type, frequency, extent, and duration of the special inspection for each item on this list.
2. A list of all items that require quality assurance testing, including the type and frequency of testing for each item on this list.
3. The content, distribution, and frequency of special inspection reports.
4. The content, distribution, and frequency of testing reports.
5. The procedures, controls, and people used within the Contractor's organization to develop, sign, and distribute Special Inspection and Testing reports along with the position title and pertinent qualifications of all Contractor personnel involved.

1.5 SPECIAL INSPECTOR

- A. Use a Special Inspector to perform Special Inspections required by this section. The Special Inspector is a person employed by the Contractor and approved by the Owner as being qualified by knowledge and experience to perform the Special Inspection for the category of work being constructed. Special Inspectors shall perform their duties independent from the construction quality control staff employed by the Contractor. More than one Special Inspector may be required to provide the varied knowledge and experience necessary to adequately inspect all of the categories of work requiring Special Inspection.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.1 PERFORMANCE OF INSPECTIONS

- A. Perform Special Inspections for the following:
 1. Reinforcing Steel: Periodic special inspection during and upon completion of the placement of reinforcing steel and anchor rods in foundation walls, footings, slabs, elevated slabs, and piers.
 2. Structural Concrete: Continuous special inspection during and on completion of the placement of concrete in foundation walls, footings, slabs, elevated slabs, and piers.
 3. Reinforced Masonry: Periodic special inspection during the preparation of mortar, the laying of masonry units, and placement of reinforcement and embedded anchor rods and plates prior to placement of grout. Continuous special inspection during grouting, consolidation and reconsolidation.
 4. Structural Steel and Steel Deck: Continuous special inspection for all structural welding, except that periodic special inspection is permitted for single-pass or resistance welds provided the qualifications of the welder and the welding electrodes are inspected at the beginning of the work and all welds are inspected for compliance with the approved construction documents at the completion of welding. Periodic special inspection in accordance with AISC 360 for the installation of bolts except that bolts not required to be

fully tensioned need not be inspected for bolt tension, other than to ensure that the plies of the connected elements have been brought into snug contact. Special inspection of stair fabrication facilities is not required.

5. Cold Formed Curtainwall Framing: Periodic special inspection during and upon completion of the metal stud framing including verification of materials used, stud size and spacing, header sizes, connections, and attachment to building structure.
6. Architectural Components: Perform special inspection of the architectural components ensuring that the methods of anchoring and fastening indicated on the drawings are being complied with at the onset of construction of the components, and that the specified or shown number, spacing, and types of fasteners were actually installed. Special inspection for architectural components shall be as follows:
 - a. Periodic special inspection during the erection and fastening of exterior cladding and interior nonloadbearing partition walls.
 - b. Periodic special inspection during the anchorage of suspended ceilings.

3.2 TESTING

- A. The special inspector(s) shall be responsible for verifying that the testing requirements are performed by an approved testing agency for compliance with the following, where shown on the drawings:
 1. Reinforcing Steel: Special testing of reinforcing steel shall be as follows:
 - a. Examine certified mill test reports for each shipment of reinforcing steel used in reinforced concrete and reinforced masonry walls. The special inspector shall determine conformance with the construction documents.
 2. Structural Concrete: Verify that samples of structural concrete obtained at the project site, along with all material components obtained at the batch plant, have been tested in accordance with the requirements of ACI 318 and comply with all acceptance provisions contained therein.
 3. Reinforced Masonry: Verify that all quality assurance testing of masonry along with all material components is in accordance with the requirements of ACI 530/530.1 and complies with all acceptance provisions contained therein.
 4. Structural Steel:
 - a. Verify that all quality assurance testing needed to confirm required material properties contained in Section 051200 "Structural Steel" has been done in accordance with applicable provisions in AISC 341 and AISC 360 and that the test results comply with all acceptance provisions contained therein.
 5. Subgrade Inspection and Compaction Testing: Perform as specified in Section 312000, Paragraphs 3.8 and 3.23.
 6. Asphalt Pavement Testing and Inspection: Perform as specified in Section 321216, Paragraph 3.9.
 7. Concrete Pavement Testing and Inspection: Perform as specified in Section 321313, Paragraphs 1.8 and 3.11.

8. Testing of Grounding for Chain Link Fences and Gates: Perform as specified in Section 323113, Paragraph 3.6.
9. Compaction Testing for Segmental Retaining Walls: Perform as specified in Section 323223, Paragraph 3.7.
10. Soil Testing for Planting Soils: Perform as specified in Section 329115, Paragraph 3.4.
11. Testing and Inspection of Pond and Reservoir Liners: Perform as specified in Section 334713, Paragraphs 1.7 and 3.4.

3.3 REPORTING AND COMPLIANCE PROCEDURES

- A. On the first day of each month, furnish to the Owner five copies of the combined progress reports of the special inspector's observations listing all special inspections of construction or reviews of testing performed during that month, noting all uncorrected deficiencies, and describing the corrections made both to these deficiencies and to previously reported deficiencies. Each monthly report shall be signed by all special inspectors who performed special inspections of construction or reviewed testing during that month, regardless of whether they reported any deficiencies. Each monthly report shall be signed by the Contractor.
- B. At completion of construction, each special inspector shall prepare and sign a final report attesting that all work they inspected and all testing and test reports they reviewed were completed in accordance with the approved construction documents and that deficiencies identified were satisfactorily corrected. Submit a combined final report containing the signed final reports of all the special inspectors. Sign the combined final report attesting that all final reports of special inspectors that performed work to comply with these construction documents are contained therein, and that the Contractor has reviewed and approved all of the individual inspector's final reports. Final report shall be sealed by licensed Professional Engineer overseeing Special Inspection Program.

END OF SECTION