

## SECTION 01411 - SPECIAL INSPECTIONS & STRUCTURAL TESTING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 GENERAL REQUIREMENTS

- A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the Building Code of State of Maine ICC (IBC 2003).
- B. Special Inspections and Structural Testing shall be in accordance with *CASE National Practice Guideline for Special Inspections*.
- C. The program of Special Inspection and Structural Testing is a Quality Assurance program intended to ensure that the work is performed in accordance with the Contract Documents.
- D. This specification section is intended to inform the Contractor of the Owner's quality assurance program and the extent of the Contractor's responsibilities. This specification section is also intended to notify the Special Inspector, Testing Laboratory, and other Agents of the Special Inspector of their requirements and responsibilities.

#### 1.3 SCHEDULE OF INSPECTIONS AND TESTS

- A. Required inspections and tests are described in the attached *Schedule of Special Inspections* (Attachment B) and in the individual specification Sections for the items to be inspected or tested.

#### 1.4 QUALIFICATIONS

- A. The Special Inspector shall be a licensed Professional Engineer or Structural Engineer who is approved by the Registered Design Professional for Structural Engineering (RDPSE) and Code Enforcement Official.
- B. The Testing Laboratory and individual technicians shall be approved by the Registered Design Professional for Structural Engineering (RDPSE) and Code Enforcement Official.
- C. The Testing Laboratory shall maintain a full time licensed Professional Engineer or Structural Engineer on staff who shall certify all test reports. The Engineer shall be responsible for the

training of the testing technicians and shall be in responsible charge of the field and laboratory testing operations.

- D. Special Inspections shall be performed by inspectors who are either licensed Professional Engineers (P.E.), Structural Engineers (S.E.), or Engineers-In-Training (EIT) with an education and background in structural engineering except as indicated below.
1. Special Inspections of soils and foundations may be performed by inspectors with an education and background in geotechnical engineering in lieu of a background in structural engineering.
  2. Technicians performing sampling and testing of concrete shall be ACI certified *Concrete Field Testing Technicians – Grade 1*.
  3. Inspectors performing inspections of concrete work such as inspections of concrete placement, batching, reinforcing placement, curing and protection, may be ACI certified *Concrete Construction Inspectors* or ICC certified *Reinforced Concrete Special Inspector* in lieu of being a licensed P.E., S.E., or EIT.
  4. Inspectors performing inspections of prestressed concrete work may be ICC certified *Prestressed Concrete Special Inspector*.
  5. Inspectors performing inspections of masonry may be ICC certified *Structural Masonry Special Inspector*.
  6. Technicians performing visual inspection of welding shall be AWS *Certified Welding Inspectors* or ICC certified *Structural Steel and Welding Special Inspectors*, technicians performing non-destructive testing such as ultrasonic testing, radiographic testing, magnetic particle testing, or dye-penetrant testing shall be certified as an ASNT-TC Level II or Level III technician.
  7. Inspectors performing inspections of spray fireproofing may be ICC certified *Spray-Applied Fireproofing Special Inspector*.
  8. Technicians performing standard tests described by specific ASTM Standards shall have training in the performance of such tests and must be able to demonstrate either by oral or written examination competence for the test to be conducted. They shall be under the supervision of a licensed Professional Engineer and shall not be permitted to independently evaluate test results.

## 1.5 SUBMITTALS

- A. The Special Inspector and Testing Laboratory shall submit to the Registered Design Professional for Structural Engineering (RDPSE) and Code Enforcement Official for review a copy of their qualifications which shall include the names and qualifications of each of the individual inspectors and technicians who will be performing inspections or tests.
- B. The Special Inspector and Testing Laboratory shall disclose any past or present business relationship or potential conflict of interest with the Contractor or any of the Subcontractors whose work will be inspected or tested.

## 1.6 PAYMENT

- A. The Owner shall engage and pay for the services of the Special Inspector, Agents of the Special Inspector, and Testing Laboratory.
- B. If any materials which require Special Inspections are fabricated in a plant which is not located within 100 miles of the project, the Contractor shall be responsible for the travel expenses of the Special Inspector or Testing Laboratory.
- C. The Contractor shall be responsible for the cost of any retesting or reinspection of work which fails to comply with the requirements of the Contract Documents.

## 1.7 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall cooperate with the Special Inspector and his agents so that the Special Inspections and testing may be performed without hindrance.
- B. The Contractor shall review the *Statement of Special Inspections* (Attachment A) and shall be responsible for coordinating and scheduling inspections and tests. The Contractor shall notify the Special Inspector or Testing Laboratory at least 24 hours in advance of a required inspection or test. Uninspected work that required inspection may be rejected solely on that basis.
- C. The Contractor shall provide incidental labor and facilities to provide access to the work to be inspected or tested, to obtain and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
- D. The Contractor shall keep at the project site the latest set of construction drawings, field sketches, approved shop drawings, and specifications for use by the inspectors and testing technicians.
- E. The Special Inspection program shall in no way relieve the Contractor of his obligation to perform work in accordance with the requirements of the Contract Documents or from implementing an effective Quality Control program. All work that is to be subjected to Special Inspections shall first be reviewed by the Contractor's quality control personnel.
- F. The Contractor shall be solely responsible for construction site safety.

## 1.8 LIMITS ON AUTHORITY

- A. The Special Inspector or Testing Laboratory may not release, revoke, alter, or enlarge on the requirements of the Contract Documents.
- B. The Special Inspector or Testing Laboratory will not have control over the Contractor's means and methods of construction.
- C. The Special Inspector or Testing Laboratory shall not be responsible for construction site safety.

- D. The Special Inspector or Testing Laboratory has no authority to stop the work.

#### 1.9 STATEMENT OF SPECIAL INSPECTIONS

- A. The attached *Statement of Special Inspections* (Attachment A), prepared by the Registered Design Professional for Structural Engineering (RDPSE), shall be submitted with the application for Building Permit.

#### 1.10 RECORDS AND REPORTS

- A. Detailed daily reports shall be prepared of each inspection or test and submitted to the Special Inspector. Reports shall include:
  - 1. Date of test or inspection.
  - 2. Name of inspector or technician.
  - 3. Location of specific areas tested or inspected.
  - 4. Description of test or inspection and results.
  - 5. Applicable ASTM standard.
  - 6. Weather conditions.
  - 7. Engineer's signature and license number.
- B. The Special Inspector shall submit interim reports to the Code Enforcement Official at the end of each week that include all inspections and test reports received that week. Copies shall be sent to the RDPSE, Architect, and Contractor.
- C. Any discrepancies from the Contract Documents found during a Special Inspection shall be immediately reported to the Contractor. If the discrepancies are not corrected, the Special Inspector shall notify the RDPSE and Code Enforcement Official. Reports shall document all discrepancies identified and the corrective action taken.
- D. The Testing Laboratory shall immediately notify the Special Inspector and the RDPSE by telephone or fax of any test results that fail to comply with the requirements of the Contract Documents.
- E. Reports shall be submitted to the Special Inspector within 7 days of the inspection or test. Hand written reports may be submitted if final typed copies are not available.
- F. At the completion of the work requiring Special Inspections, each inspection agency and testing laboratory shall provide a statement to the Special Inspector that all work was completed in substantial conformance with the Contract Documents and that all appropriate inspections and tests were performed.

#### 1.11 FINAL REPORT OF SPECIAL INSPECTIONS

- A. The attached *Final Report of Special Inspections for Special Inspectors Final Report* (Attachment C) and *Agent's Final Report* (Attachment D) shall be completed by the Special Inspector and

Special Inspector's Agents and submitted to the RDPSE and Code Enforcement Official prior to the issuance of a Certificate of Use and Occupancy.

- B. The *Final Report of Special Inspections* (Attachment C and D) will certify that all required inspections have been performed and will itemize any discrepancies that were not corrected or resolved.

PART 2 - PRODUCTSS – (NOT APPLICABLE)

PART 3 - EXECUTION – (NOT APPLICABLE)

END OF SECTION 01411