**NOTES TO ARCHITECT/ENGINEER (A/E) & DAS/CS PROJECT MANAGER:**

This version of the Division 01 General Requirements is for **ALL** CT Department of Administrative Services (DAS) Construction Services (CS) **Design-Bid-Build (DBB) AND Construction Manager at Risk (CMR) Capital Construction Projects.**

IMPORTANT NOTE: Section 01 45 00 Quality Control includes requirements for quality assurance and inspecting and testing laboratory services. It is appropriate for complex single contract work. Edit paragraphs carefully to reflect specific project requirements, or delete them if they do not apply.

**EDITING:** To Show the Editing Notes in this MS Word document the show/hide symbol (¶) button must be must turned on in the MS Word Toolbar. To print this document show/hide symbol (¶) must be turned off in the MS Word Toolbar, this will enable the document to indicate the correct number of total pages.

**TEXT:** The below **blue text** are project specific information that must be completed by the A/E as applicable to the specific project. When complete change **blue text** to **black text.** The ***bold and italicized text*** is for example purposes only and must be modified and edited by the A/E to make it project specific. For **text boxes**, left click on **Insert** and then insert project specific information over the word **Insert** in the underlined space.

**TABLES:** To view the Table Grid in this MS Word document, click inside any table, then go to the **Table Tools > Layout** tab, **Table** group, and click **View Gridlines.**

**HEADERS: The header** for each page of the Project Manual shall match the format, font (Arial), size (9 pt), font style (BOLD & CAPITALIZED) and line borders, of the header shown herein. The header of each page shall contain the Section Number, the Section Title, and the page number & number of pages as shown herein.

**FOOTERS: The footer** for each page of the Project Manual shall match the format, font (Arial), size (9 pt), font style (BOLD & CAPITALIZED) and line borders, of the footer shown herein. The footer shall contain the project number in the right hand side as shown herein. The revision date in the left side of the footer is to remain as it is for Department informational purposes only and should not be altered by the Architect/Engineer.

**SECTIONS AND PARAGRAPHS:** If a **Section** is not part of the project scope, **do not use** the Section in the General Requirements. Check “**NOT USED**” in the Table of Contents. **DO NOT delete** the Section title from the Table of Contents.

If a **Paragraph** is not applicable to the project, **delete the contents** of the Paragraph and renumber the subsequent Paragraphs. Edit **Paragraphs** carefully to reflect specific project requirements. DO NOT include Paragraphs or parts of Paragraphs in the project manual, which have no applicability to the specific project. KEEP IN NUMERICAL SEQUENCE and re-number as necessary.

**GENERAL CONDITIONS:** Please review the General Conditions carefully and coordinate the requirements of those Articles including the Definitions.

**DIVISION 01 SECTIONS** are the organizational key of the Project Manual. All revisions to this Division are the responsibility of the A/E. Division 01 must be closely coordinated with Division 00, Divisions 02 through 49, Division 50 (Project-Specific Available Information), the Drawings, and the Department’s Consultant Bid Data Statement (Form 6005, to be filled out by the A/E for bidding).

**IMPORTANT NOTE REGARDING “HIDDEN TEXT”:**

Each document contains Editing Notes in the form of “hidden text”. The Editing Notes assist the Architect in modifying and editing the document to make it project-specific. In order to show the “hidden text”, click the **Home** tab, and in the **Paragraph** group, click the **Show/Hide** symbol (¶). **Turn off** the Show/Hide symbol (¶) **before printing the document** in order to indicate the correct number of pages. **DELETE THIS NOTE.**

**IMPORTANT NOTE REGARDING FORMATTING:**

Insert a blank page at the end of all *odd numbered* specification sections that states “THIS PAGE INTENTIONALLY LEFT BLANK”. **DELETE THIS NOTE.**

# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

### A. This Section includes administrative and procedural requirements for quality-control services.

### B. Quality-Control services include fire alarm acceptance testing, inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by the Owner.

### C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.

### D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.

#### Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.

#### Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.

#### Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

### E. Related Sections: The following Sections contain requirements that relate to this Section:

#### Division 01 Section 01 33 00 "Submittal Procedures" specifies requirements for development of a schedule of required tests and inspections.

#### Division 01 Section 01 73 29 "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.

#### Division 01 Section 01 77 00 "Closeout Procedures", specific requirements for contract closeout procedures.

#### Division 28 Section 28 31 00 "Fire Detection and Alarm" specifies field quality control for the Alarm System.

## 1.3 RESPONSIBILITIES

### A. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, the Owner, through the Construction Administrator, shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. All tests required by the individual specification sections are required to be scheduled and notification given to the Construction Administrator **24/48** hours in advance of the test/inspection as applicable. Costs for these services are not included in the Contract Sum.

#### Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.

#### Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Owner's responsibility, the Owner will employ and pay a qualified independent testing agency to perform those services.

##### Such services include Special Inspections as required by the latest edition of the "Connecticut State Building Code".

##### Where the Owner has engaged a testing agency for testing and inspecting part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner. The Owner will engage the services of a qualified Special Inspector for this project. The Special Inspector, as a representative of the Owner, shall document and confirm compliance with the provisions of the Connecticut State Building Code for Special Inspections.

##### Materials and assemblies for this project will be tested and construction operations inspected as the work progresses. Failure to detect any defective work or material shall not in any way prevent later rejection when such defect is discovered nor shall it obligate the State for final acceptance.

##### The Owner’s use of testing and inspection services shall in no way relieve the Contractor of the responsibility to furnish materials and finished construction in full compliance with the Contract Documents and the Connecticut State Building Code.

### B. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.

#### The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated non-compliance with Contract Document requirements.

#### The Owner will issue a credit change order to cover all costs incurred related to all re-tests/re-inspections due to non-compliance to the Contract Documents, including but not limited to the Owner’s costs and the Consultant’s costs.

### Associated Services: Cooperate with agencies performing required inspections, tests, and similar services, and provide reasonable auxiliary services as requested. Notify the Agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include, but are not limited to, the following:

NOTE: Retain the following paragraph on duties of the testing agency when contractor employs the agency.

#### *Provide access to the Work.*

#### *Furnish incidental labor and facilities necessary to facilitate inspections and tests.*

#### *Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.*

#### *Provide facilities for storage and curing of test samples.*

#### *Deliver samples to testing laboratories.*

#### *Provide an approved design mix proposed for use for material mixes that require control by the testing agency.*

#### *Provide security and protection of samples and test equipment at the Project Site.*

### D. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Construction Administrator, Architect and the Contractor in performance of the testing agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.

#### The testing agency shall notify the Construction Administrator and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

#### The testing agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.

#### The testing agency shall not perform any duties of the Contractor.

NOTE: List any special requirements regarding testing.

### E. Owner will pay for the services of an independent testing agency laboratory to perform inspections, tests and other services required by the Specifications except as noted below, listed for which the Owner will issue a deduct change order to cover the cost associated with these tests:

#### When the Contractor notifies the Construction Administrator and/or Testing Agency less than 24 hours before the expected time of testing.

#### When the Contractor requires testing for his own convenience.

#### When the Contractor schedules a test and is not ready for the required test.

### F. Submit reports of tests that are part of the submittal requirements which indicate compliance or non-compliance with the specified standard.

### G. See also General Conditions Article 16 "Inspections & Tests".

NOTE: Amend the names, dates, specific section references of the below regulations based upon the either the date of the certificate of compliance for all Non-Threshold projects or the permit application date for all Threshold projects.

### **H. Fire Alarm/Acceptance Testing Procedures:**

#### For ***all*** buildings (exceeding the threshold limit and not exceeding the threshold limit), the fire alarm testing shall be as the authority having jurisdiction shall dictate. This will be as determined by the Office of the State Fire Marshal (OSFM), and shall include, but not be limited to, the requirements as set below:

#### **Note:** Amend the names, dates, specific section references:

##### Protective Signaling Systems: All protective signaling systems shall meet with acceptance testing requirements of the applicable standards listed in Section [**Insert**], NFPA 101/[**Insert**] and NFPA 13/[**Insert**].

##### Prior Test Notification: At least **five (5)** working days prior to testing, the Fire Alarm Contractor shall notify (in writing) the following people of the proposed date the acceptance tests are to be performed (Also, see Part 2 of Certificate of Compliance).

##### Department of Administrative Services – OSFM Representative

##### General Contractor

##### Engineer of Record

##### Equipment Supplier Representative

##### Sprinkler Contractor

##### **Certificates of Compliance:**

#### **Note:** Amend the names, dates, specific section references:

###### A Fire Alarm System Inspection and Testing Certification and Description form shall be prepared for each system (See NFPA 72/[**Insert**] Chapter [**Insert**] and Figure [**Insert**]).

###### 2) Parts 1 and 3 through 9, shall be completed after the system is installed and the installation of the wiring has been checked. Every alarm device must also be pre-tested to ensure proper operation and correct annunciation at each remote annunciator and control panel. Part 1 of the form (Certification of System Installation) shall be signed by the fire alarm contractor. The signed and completed preliminary copies of the Certification form shall be forwarded to all parties along with the Prior Test Notification.

###### 3) Part 2, of each applicable form, shall be completed after the operational tests have been completed.

###### 4) After the completion of the operational acceptance tests and sign-off of test witness (with stipulations noted), final copies of the Certificates shall be forwarded to the Department of Construction Services Representatives.

##### **Tests:**

###### 1) All tests shall be conducted in accordance with the Manufacturer’s Testing Recommendations.

###### 2) All testing equipment, apparatus (i.e. sound level decibel meter, 2-way radio communication, test devices, ladders, tools, lighting, etc.) and personnel shall be supplied by the Fire Alarm Contractor and Sprinkler Contractor.

##### **System Documentation:**  Every system shall include the following documentation, which shall be delivered to the Department of Construction Services Representatives upon final acceptance of the system. An owner's manual or manufacturer's installation instructions covering all system equipment, including the following:

1) A detailed narrative description of the system inputs, evacuation signaling, ancillary functions, annunciation, intended sequence of operations, expansion capability, application considerations, and limitations.

1. Operator’s instructions for basic systems operations including alarm acknowledgment, system reset, interpreting system output (LED's CRT display, and printout), operation of manual evacuation signaling and ancillary function controls, changing printer paper, etc.
2. A detailed description of routine maintenance and testing as required and recommended and as would be provided under a maintenance contract, including testing and maintenance instructions for each type of device installed. This information should include:
3. A listing of individual system components that require periodic testing and maintenance.
4. Step by step instructions detailing the requisite testing and maintenance procedures and the intervals at which those procedures should be performed.
5. A schedule that correlates the testing and maintenance procedures required by paragraph (2) above and with the listing required by paragraph (1) above.
6. Detailed troubleshooting instructions for each type of trouble condition recognized by the system, including opens, grounds, parity errors, "loop failures," etc. These instructions should include a list of all trouble signals, and step by step instructions describing how to isolate those problems and correct them (or call for service as appropriate).
7. A service directory, including a list of names and telephone numbers for those who should be called to service the system.

###### **f. As-Built Drawings:**

#### 1) The Contractor will produce two (2) sets of as-built drawings and specifications for the fire alarm system, indicating the location (and programmed address, if applicable) of all devices and appliances, the wiring sequences, wiring methods, connection of the components, and sequence of operation of the protective signaling system as installed, shall be given to the Department of Construction Services representatives. This shall be in Accordance with NFPA 72/[**Insert**]. Refer also to Section 01 77 00 "Closeout Procedures".

## 1.4 SUBMITTALS

### A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Construction Administrator. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.

#### Submit additional copies of each written report directly to the governing authority, when the authority so directs.

#### Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:

##### Date of issue.

##### Project title and number.

##### Name, address, and telephone number of testing agency.

##### Dates and locations of samples and tests or inspections.

##### Names of individuals making the inspection or test.

##### Designation of the Work and test method.

##### Identification of product and Specification Section.

##### Complete inspection or test data.

##### Test results and an interpretation of test results.

##### Ambient conditions at the time of sample taking and testing.

##### Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.

##### Name and signature of laboratory inspector.

##### Recommendations on re-testing.

## 1.5 QUALITY ASSURANCE

### **A. Qualifications for Service Agencies:** Engage inspection and testing service agencies, including independent testing laboratories, that are pre-qualified as complying with the National Voluntary Laboratory Accreditation Program and that specialize in the types of inspections and tests to be performed.

#### 1. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the state where the Project is located.

### **B. Mockups:** Provide full-size, physical assemblies that are constructed on-site. Mockups will be used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not samples. [**Approved mockups establish the standard by which the Work will be judged.**]

# PART 2 - PRODUCTS (Not Applicable)

# PART 3 - EXECUTION

## 3.1 MOCKUPS

### **A.** Build site-assembled mockups using installers who will perform same tasks for project.

### **B.** Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

#### **1.** Build mockups in location and of size indicated or, if not indicated, as directed by Architect [**or Construction Administrator**].

#### 2. Notify Architect [**and Construction Administrator**] seven (7) days in advance of dates and times when mockups will be constructed.

#### 3. Demonstrate the proposed range of aesthetic effects and workmanship.

#### 4. Obtain Architect's [**and Construction Administrator's**] approval of mockups before starting work, fabrication, or construction.

#### 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.

#### 6. Demolish and remove mockups when directed, unless otherwise indicated.

## 3.2 REPAIR AND PROTECTION

### A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 01 Section 01 73 29 "Cutting and Patching."

### B. Protect constructions exposed by or for quality-control service activities, and protect repaired construction.

### C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION 01 45 00