

SECTION 01010  
SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract Description.
- B. Project Description.
- C. Contractor use of site and premises.
- D. Definitions.

1.2 CONTRACT DESCRIPTION

- A. Contract Type: The Form of Agreement shall be the AIA Document A111 - 1997, "Standard Form of Agreement Between Owner and Contractor where the basis for payment is the Cost of the Work Plus a Fee with a negotiated Guaranteed Maximum Price."

1.3 PROJECT DESCRIPTION

- A. New one and two story buildings comprise the new 7,941 gross square foot Duck Town Hall Complex. Buildings will be used for office space and meeting rooms. Site work included parking for 20 spaces and building utilities.

1.4 CONTRACTOR USE OF SITE AND PREMISES

- A. Access to Site: Refer to Site Plans.
- B. Observe all posted Town of Duck parking requirements on adjacent streets.

1.5 DEFINITIONS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.
- B. Furnish or Supply: To supply and deliver, unload, inspect for damage.
- C. Install: To unpack, assemble, erect, apply, place,

finish, cure, protect, clean and ready for use.

D. Provide: To furnish or supply, plus install.

1.6 SCHEDULING OF THE WORK

A. Refer to Section 00811 - Supplementary Conditions.

END OF SECTION

## SECTION 01011-ENVIRONMENTAL REQUIREMENTS

### PART 1 GENERAL

#### 1.1 SUMMARY

- 1.2 Related Sections
- 1.3 Quality Assurance
- 1.4 Environmental Goals

#### 1.2 RELATED SECTIONS

1. 01039 - Coordination and Meetings.
2. 01090 - Reference Standards
3. 01300 - Submittals.
4. 01350 - Construction Waste Management Program
5. 01700 - Project Closeout.
6. 01745 - Indoor Air Quality Management Plan
7. 01810 – Commissioning

#### 1.2 QUALITY ASSURANCE

- A. This project shall comply with the United States Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program and has the goal to achieve LEED 'Silver' Status, LEED V3. Within the program there are specific site, water, energy, indoor environmental quality and materials section criteria that must be met in order to attain certification.
- B. Environmental Issues Criteria: Provide environmental protection as required by authorities having jurisdiction and as indicated in the Contract Documents. Coordinate with requirements of sections listed in 'Related Sections'.
- C. The Contractor and all subcontractors are required to comply with sustainable building practices during construction and when considering materials for substitutions. Refer to Article 1.3 – Environmental Goals.

#### 1.3 ENVIRONMENTAL GOALS

- A. The Owner has established the following environmental goals for the design and construction of the project. These goals are general in nature; refer to specific specification sections for more detailed requirements.
  1. The intent is for environmental goals to be achieved in manner that ultimately provides a safe and healthy environment for building occupants with minimal impact on local, regional and global environment.

2. Contract Documents are not intended to limit alternative means of achieving environmental goals. Suggestions and input for implementing and achieving these environmental goals are encouraged. Team approach is highly encouraged.

B. Environmental Goals:

1. Refer to specific Specification sections for more detailed construction requirements related to specific materials and systems.
  - a. Energy Efficiency (Operations Throughout Project Life): Materials and systems are intended to maximize energy efficiency for operation of Project throughout service life (substantial completion to ultimate disposition – reuse, recycling or demolition).
  - b. Indoor Environmental and Air Quality: Materials are selected and processes specified, such as preconditioning and temporary ventilation, to maximize healthy indoor air quality. Cleaning, surface coating and renewal or replacement of interior materials should be feasible with lowest practical use of toxic, irritating or odorous compounds. Ventilation system design, construction and commissioning ensure adequate outside air supply under all anticipated conditions of use. Documentation of system design assumptions is included in Project Manuals to enable the Owner to use and modify the system as required to provide continued assurance of indoor air quality. Additionally, materials are selected to provide appropriate indoor environmental qualities such as good acoustics and lighting.
  - c. Resource Efficiency (Project Construction): Materials and systems are to maximize environmentally-benign construction techniques, including construction waste recycling, reusable delivery packaging and reusability of selected materials.

C. Energy Conservation: Maximize energy conservation strategies in order to reduce life-cycle energy requirements.

D. Sustainable Site Planning and Landscape:

E. Resource Efficient Materials: Use resource Efficient materials; consider energy use over life cycle of material including harvesting, mining, manufacturing, transport, installation, use, operations, recycling and disposal.

F. Scarce, Irreplaceable and Endangered Resources:

1. Select renewable or replaceable materials and materials which can be replenished.
2. Select materials from abundant, well-managed resources.



7. Select materials with the least burdensome maintenance requirements.
8. Select low-toxic products and materials and without toxic maintenance requirements.
9. Specify mechanical equipment that will provide fresh air and will not trap water or pollutants.
10. Recycle job site waste to greatest extent possible.

H. Wood Products:

1. Use woods from Forest Stewardship council (FSC) accredited certified sustainably harvested sources.
2. Composite wood products with high-recycled content, which meet the indoor air quality data requirements, are acceptable.

I. Water Efficiency:

1. Reduce the use of municipally supplied portable water. Use water-conserving appliances and equipment.
2. Reduce dependence on municipal storm water system for plumbing fixtures and irrigation. Eliminate irrigation or use micro-irrigation. Use no moisture sensors or clock times on irrigation systems. Use trigger operated spray nozzles for water hoses.
3. Maintain natural aquifer conditions. Landscape for water conservation.
4. Use construction practices that achieve the most efficient use of water.
5. Reduce water use with water efficient irrigation systems and local vegetation.

PART 2 - PRODUCTS

(Not Used – See Specific Sections)

PART 3 - EXECUTION

(Not Used – See Related Section.)

SECTION 01039

COORDINATION AND MEETINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. Field engineering.
- C. Pre-construction meeting.
- D. Site mobilization meeting.
- E. Weekly Progress meetings.
- F. Monthly Owner -Architect-Contractor (OAC) Meetings.
- G. Pre-installation meetings.
- H. Equipment electrical characteristics and components.
- I. Examination.
- J. Preparation.
- K. Cutting and Patching.

1.2 RELATED SECTIONS

- A. Section 01045 - Cutting and Patching.

1.3 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements. It is the Contractor's responsibility to be thoroughly familiar with all of the work and its proper sequencing in order to complete work in a timely fashion and to anticipate any problems related to the proper sequencing.
- B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing,

connecting to, and placing in service, such equipment, prior to commencing the work.

- C. Coordinate space requirements, supports, and installation of mechanical and electrical Work, which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance and for repairs. Do not run pipes, ducts, conduits, etc., if there is a conflict between other work or trades. Promptly notify the Owner's Representative and the Architect of any conflicts so as not to delay the progress of the work.
- D. In finished areas conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- E. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial Completion.
- F. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

#### 1.4 FIELD ENGINEERING

- A. The Contractor shall employ a Surveyor or Engineer registered in the State of Virginia and acceptable to the Owner's Representative, to layout and verify this work.
- B. Contractor shall locate and protect survey control and reference points.
- C. Control datum for survey is that established by Owner and shown on Drawings.
- D. Verify set-backs and easements; confirm drawing dimensions and elevations. Verify existing building floor to floor heights.
- E. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- F. Submit a copy of certificate signed by the Surveyor or Engineer that the elevations and locations of the Work are in conformance with the Contract Documents.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to other field and home office administrative and supervisory personnel required for performance of the work, provide specific coordinating personnel as specified herein.
- B. Construction Superintendent: Provide a full-time, on-site Construction Superintendent who is experienced in the day-to-day on-site coordination and supervision of trades, including mechanical and electrical work and is authorized to resolve field conflicts between trades including preparation of coordination sketches.
- C. Administrative Project Manager: Provide an Administrative Project Manager, who is experienced in administration and supervision of building construction including mechanical and electrical work, and who is authorized to act as the general coordinator of interfaces between units of work. For purpose of this provision, "interface" is defined to include the scheduling and sequencing of work, preparation and checking of shop drawings, sharing access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning selections for compatibility, preparation of coordination drawings, inspections, test, and temporary facilities and services.
- D. Supervision of Work Nearing Completion: The Contractor's key supervisory and administrative personnel including the Construction Superintendent and Administrative Project Manager shall give special attention to work nearing completion and shall remain in active control, until all phases of work have been completed, tested and cleaned, and are acceptable to the Owner.
  - 1. The Construction Superintendent shall be present each day at the job site between the time of Substantial Completion and Final Completion for supervision of Punch List work.

1.6 PRE-CONSTRUCTION MEETING

- A. The Owner's Representative and Architect will schedule a meeting after Notice to Proceed.
- B. Attendance Required: Owner, Owner's Representative, Architect, Contractor: Construction Superintendent, Administrative Project Manager and major

subcontractors (Site, Demolition, Masonry, Storefront, Roofing, Mechanical and Electrical).

C. Agenda:

1. Execution of Owner-Contractor Agreement, if not previously executed.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents, if not previously distributed.
4. Submission of list of Subcontractors, list of Products, Schedule of Values, and Progress Schedule, if not previously submitted.
5. Procedures and processing of field decisions, submittals, substitutions, Applications for Payments, Requests for Information (RFI's), Change Order Proposals, and other items that may be discussed.
6. Scheduling and ordering of major materials that are considered "critical path" items, materials, and/or equipment.
7. Project Safety.

- D. The Contractor shall record minutes and distribute typed copies by the end of three working days after all meetings to participants, with one copy to the Owner, one copy to the Owner's Representative, one copy to the Architect, copies to all participants, and those affected by decisions made.

1.7 SITE MOBILIZATION MEETING

- A. The Owner's Representative and Architect will schedule a meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required: Owner's Representative, Architect, Engineers, Construction Superintendent, Administrative Project Manager and major Subcontractors.

C. Agenda:

1. Use of premises by Contractor.
2. Owner's requirements and occupancy.
3. Construction facilities and controls provided by Owner.
4. Temporary utilities.
5. Survey and building layout.
6. Safety, security and housekeeping procedures.

7. Schedules.
  8. Application for Payment procedures.
  9. Procedures for testing.
  10. Procedures for maintaining record documents.
  11. Requirements for start-up of equipment.
  12. Inspection and acceptance of equipment put into service during construction period.
  13. Construction personnel decorum.
- D. The Contractor shall record minutes and distribute typed copies by the end of three working days after all meetings to participants as identified in 1.6.D.
- 1.8 MONTHLY OWNER, ARCHITECT, CONTRACTOR (OAC) MEETINGS
- A. Schedule and administer meetings throughout progress of the Work at monthly intervals.
  - B. The Contractor shall make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
  - C. Attendance Required: Owner, Owner's Representative, Architect, Contractor; Construction Superintendent, Administrative Project Manager, and those as appropriate to agenda topics for each meeting.
  - D. Agenda:
    1. Review minutes of previous OAC meetings.
    2. Review Monthly Application for Payment.
    3. Review Work completed to date.
    4. Field observations, problems, and decisions.
    5. Identification of problems, which impede planned progress.
    6. Review of submittals schedule and status of submittals.
    7. Review of off-site fabrication, storage and delivery schedules, including purchase and delivery schedule of all "critical path" items.
    8. Review updated Progress Schedule.
    9. Review outstanding and any new RFI's.
    10. Corrective measures to regain projected schedules, if required.
    11. Planned progress during succeeding work period. Four week "Look Ahead" schedule.
    12. Maintenance of quality and work standards.
    13. Effect of proposed changes on progress schedule and coordination, if required.
    14. Other business relating to Work as may be required or requested by Owner and/or Architect.

- E. The Contractor shall record minutes and distribute typed copies by the end of three working days after all meetings to participants, as per 1.6.D.

#### 1.9 PRE-INSTALLATION MEETING

- A. When required in individual specification sections, or discussed during the Pre-construction or OAC Meetings, convene a pre-installation meeting at the site prior to commencing work of the section.
- B. Require attendance of Construction Superintendent, Administrative Project Manager, parties directly affecting, or affected by, work of the specific section.
- C. Notify Owner's Representative and Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
  - 1. Review conditions of installation, preparation and installation procedures.
  - 2. Review coordination with related work.
- E. The Contractor shall record minutes and distribute typed copies by the end of three working days after all meetings to participants, as per 1.6.D.

#### 1.10 WEEKLY PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work each Tuesday throughout the duration of the work.
- B. The Contractor shall make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Owner's Representative, Tenant, Construction Superintendent, Administrative Project Manager, Subcontractors with on-going concerns, and those as appropriate to agenda topics for each meeting.
- D. Agenda:
  - 1. Review minutes of previous week's meeting.
  - 2. Review of Work in progress.
  - 3. Field observations, problems, and decisions.
  - 4. Identification of problems that impede planned progress.

5. Review of submittals schedule and status of submittals.
  6. Review of RFI responses and identify any new RFI's.
  7. Review of off-site fabrication, storage and delivery schedules.
  8. Maintenance of progress schedule.
  9. Corrective measures to regain projected schedules, if required.
  10. Planned progress for the week.
  11. Maintenance of quality and work standards.
  12. Effect of proposed changes on progress schedule and coordination, if required.
  13. Tenant build-out.
- E. The Contractor shall record minutes and distribute typed copies by the end of three working days after all meetings to participants, with two copies to the Owner, one copy to Architect, participants, as per 1.6.D.
- 1.11 DAILY RECORD
- A. Contractor shall provide a full-time Construction Superintendent on Site through the duration of the project, including Punch List.
  - B. Maintain Daily Reports indicating the following:
    1. List of subcontractors at the site
    2. Approximate count of personnel at the site.
    3. High and low temperatures, general weather conditions.
    4. Accidents and unusual events.
    5. Meetings and significant decisions.
    6. Any work stoppages, delays, shortages, and losses.
    7. Meter readings and similar recordings.
    8. Emergency procedures.
    9. Orders and requests of governing authorities.
    10. Change Orders received, implemented.
    11. Services connected, disconnected.
    12. Equipment or system tests and start-ups.
    13. Partial Completions, occupancies.
  - C. Provide copies of Daily Record to Owner's Representative, if requested.
- 1.12 EXISTING SITE UTILITIES
- A. Relocation: Existing utilities, encompassing all

water systems, storm and sanitary sewer systems, electric systems, gas, telephone and communication systems, etc. and all accessories thereto, underground, on the surface or overhead, located in or affected by the construction of the work shall be relocated or modified as indicated, the cost of which shall be included in the Bid.

- B. **Notice:** Give advance written notice to the Utility Owner of work to be removed, relocated or abandoned. No excavation or demolition shall begin until utility companies are notified. Utility companies shall be notified at least 48 hours in advance of any excavation in the proximity to their utilities. The Contractor or Utility Owner shall perform the work with arrangements and payment for this work being made by the Contractor.
- C. **Conflicts:** If existing concealed utilities not shown or incorrectly indicated by the Contract Documents are encountered, Contractor shall immediately notify the Owner's Representative, Architect and Utility Owner. Do not proceed until written direction is received from the Utility Owner.
- D. **Field Identification and Damages:** Contractor shall verify all locations, sizes, and inverts of all underground utilities before starting work. The plans do not guarantee the existence or non-existence of underground utilities. Prior to any excavation the Contractor shall verify the location of underground utilities by contacting "Miss Utility" at 1-800-552-7001. The Contractor shall be responsible for repairing, at his expenses, any existing utilities damaged as the result of the construction operations or related activities.
- E. The Contractor agrees to comply with all the provisions of the Virginia Underground Utility Damage Prevention Act (Section 56-265.14, et seq, Code of Virginia, 1950, as amended, and hereby agrees to hold the Owner and Architect harmless against any loss, damage, or claims of any nature whatsoever arising out of the Contractor's failure to so comply with the requirements of this Act.

## PART 2 PRODUCTS

### 2.1 EQUIPMENT ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. **Motors:** Refer to Section 16155, NEMA MG1 Type. Specific motor type is specified in individual specification sections.
- B. **Wiring Terminations:** Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Size terminal lugs to NFPA 70, include lugs for terminal box.
- C. **Cord and Plug:** Provide minimum 6-foot cord and plug including grounding connector for connection to electric wiring system. Cord of longer length is specified in individual specification sections.

### PART 3 EXECUTION

#### 3.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements, which affect:
  - 1. Structural integrity of element.
  - 2. Integrity of weather-exposed or moisture-resistant elements.
  - 3. Efficiency, maintenance, or safety of element.
  - 4. Visual qualities of sight exposed elements.
  - 5. Building Security
- C. Execute cutting, fitting, and patching including excavation and fill, to complete Work, and to:
  - 1. Fit the several parts together, to integrate with other Work.
  - 2. Uncover Work to install or correct ill-timed Work.
  - 3. Remove and replace defective and non-conforming Work.
  - 4. Remove samples of installed Work for testing.
  - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new Products in accordance with requirements of Contract Documents.

- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids. Fire rated materials shall be installed to maintain Fire rated wall and ceiling assemblies.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.
- J. Identify hazardous substances or conditions exposed during the Work to the Architect.

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

1.2 RELATED SECTIONS

- A. Section 01010 - Summary of Work
- B. Section 01300 - Submittals.
- C. Section 01600 - Material and Equipment: Product options and substitutions.
- D. Individual Product Specification Sections:
  - 1. Cutting and patching incidental to work of the section.
  - 2. Advance notification to other sections of openings required in work of those sections.

1.3 SUBMITTALS

- A. Submit written request in advance of cutting or alteration that affects:
  - 1. Structural integrity of any element of Project.
  - 2. Integrity of weather exposed or moisture resistant element.
  - 3. Efficiency, maintenance, or safety of any operational element.
  - 4. Visual qualities of sight exposed elements.
- B. Include in request:
  - 1. Identification of Project.
  - 2. Location and description of affected Work.
  - 3. Necessity for cutting or alteration.
  - 4. Description of proposed Work and Products to be used.
  - 5. Alternatives to cutting and patching.
  - 6. Effect on work of Owner or separate Contractor.
  - 7. Written permission of affected separate Contractor.
  - 8. Date and time work will be executed.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Primary Products: Those required for original installation.
- B. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01600. NO SUBSTITUTIONS WILL BE CONSIDERED AFTER RECEIPT OF BIDS.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing Work, review conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas that may be exposed by uncovering work.
- C. Maintain excavations free of water.

3.3 CUTTING

- A. Execute cutting and fitting including excavation and fill to complete the Work.
- B. Uncover work to install improperly sequenced work.
- C. Remove and replace defective or non-conforming work.
- D. Remove samples of installed work for testing when requested.
- E. Provide openings in the Work for penetration of mechanical and electrical work.

- F. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- G. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

#### 3.4 PATCHING

- A. Execute patching to complement adjacent Work.
- B. Fit Products together to integrate with other Work.
- C. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- D. Employ skilled or original installer to perform patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- E. Restore work with new Products in accordance with requirements of Contract Documents.
- F. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- G. At penetrations of fire rated walls, partitions, and ceiling completely seal voids with fire resistant material in accordance with Section 07270 - Firestopping, to full thickness of the penetrated element.
- H. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

END OF SECTION

SECTION 01090

REFERENCE STANDARDS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Assurance.

1.2 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents.
- C. Obtain copies of standards when required by the Contract Documents.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the Architect/Engineer before proceeding.
- F. Neither the contractual relationship, duties, and responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

END OF SECTION

SECTION 01100 - SUMMARY

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 the following:

- 1. Work covered by the Contract Documents.
- 2. Work phases.
- 3. Work under other contracts.
- 4. Use of premises.
- 5. Owner's occupancy requirements.
- 6. Work restrictions.
- 7. Specification formats and conventions.

- B. Related Sections include the following:

- 1. Division 01 Section "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Duck New Town Hall Complex

- 1. Project Location: Duck, North Carolina

- B. Owner: Town of Duck, North Carolina

- 1. Owner's Representative: Chris Layton

- C. Architect: Tymoff + Moss Architects, 512 Botetourt Street, Norfolk, VA 23510

- D. Construction Manager: TBD

- 1. Construction Manager for this Project is Project's Constructor. In Divisions 01 through 49 Sections, the terms "Construction Manager" and "Contractor" are synonymous.

- E. The Work consists of the following:

- 1. The work consists of a 7,941GSF town hall complex and associated site work.

1.4 WORK PHASES

- A. The Work shall be conducted in one phase

1.5 WORK UNDER OTHER CONTRACTS

- A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract. Coordinate the Work of this Contract with work performed under separate contracts.

1.6 USE OF PREMISES

- A. General: Contractor shall have limited use of premises for construction operations as indicated on Drawings by the Contract limits. Please note that the surrounding public streets are controlled by the Town of Duck, NC.
- B. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
  - 2. Driveways and Entrances: Keep driveways parking areas, loading areas, and entrances serving adjacent premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.7 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will the existing adjacent buildings during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
  - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
  - 2. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

1.8 WORK RESTRICTIONS

- A. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Architect and Owner not less than thirty days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Owner's permission.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 01100**

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Schedule of Values.
- D. Proposed Products list.
- E. Product Data.
- F. Shop Drawings.
- G. Samples.
- H. Design data.
- I. Test reports.
- J. Certificates.
- K. Manufacturer's instructions.
- L. Manufacturer's field reports.
- M. Erection drawings.

1.2 RELATED SECTIONS

- A. Section 01027 - Applications for Payment
- B. Section 01700 - Contract Closeout: Contract warranties, and manufacturers' certificates.

1.3 REFERENCES

- A. AGC (Associated General Contractors of America) publication "The Use of CPM in Construction - A Manual for General Contractors and the Construction Industry".

1.4 SUBMITTAL PROCEDURES

- A. Transmit each submittal with AIA Form G810, or Architect approved, typed form.
- B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the Project, and deliver to Architect at 512 Botetourt Street, Norfolk, Virginia 23510. Coordinate submissions of related items.
- F. For each submittal for review, allow an average of 14 days excluding delivery time to and from the Contractor. Where variations from Contract Documents and Product or systems occur, longer review times may be required. Structural component and major mechanical and electrical submittals will require longer review time. All "critical path" submittals will be reviewed expeditiously.
- G. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work. Failure to identify variations from the Contract Documents does not relieve the Contractor from his contractual responsibility to provide materials in accordance with the Contract Documents.
- H. Provide space for Contractor and Architect review stamps.
- I. When revised for resubmission, identify all changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

#### 1.5 SCHEDULE OF VALUES

- A. Within ten (10) days of Owner-Contractor Agreement submit five (5) Schedule of Values as required by the General Conditions, to the Owner and Architect for review and approval.
- B. Breakdown principal subcontracts, including Division 15 and 16 into a detailed line item format. The minimum breakdown shall be by individual specification section per the Table of Contents of the Project Manual.
  - 1. Where deemed necessary to facilitate payments, individual specification sections shall be further broken down at the request of the Owner or Architect.

#### 1.6 PROPOSED PRODUCTS LIST

- A. Within fourteen (14) days after date of Owner-Contractor Agreement submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product. Provide a written Schedule for submittals to be included in this first submittal.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

#### 1.7 PRODUCT DATA

- A. Product Data For Review:
  - 1. Submitted to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Product Data For Information:
  - 1. Submitted for the Architect's knowledge.
- C. Product Data For Project Close-out:
  - 1. Submitted for the Owner's benefit during and after project completion.

- D. Submit the number of copies that the Contractor requires, plus three copies, which will be retained by the Owner, the Owner's Representative, and the Architect.
- E. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- F. Indicate Product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- G. After review distribute in accordance with the Submittal Procedures article above and provide copies for record documents described in Section 01700 - CONTRACT CLOSEOUT.

#### 1.8 SHOP DRAWINGS

- A. Shop Drawings For Review:
  - 1. Submitted to Architect/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
  - 2. Architect's review of shop drawings does not relieve the Contractor from his responsibility to provide materials in accordance with the Contract Documents, unless a specific request is made to do so in writing.
  - 3. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.
- B. Shop Drawings For Information:
  - 1. Submitted for the Architect's knowledge.
- C. Shop Drawings For Project Close-out:
  - 1. Submitted for the Owner's benefit during and after project completion.
- D. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances. If products have been substituted, indicate any electrical, plumbing or mechanical variances required.
- E. SUBMIT IN THE FORM OF FIVE OPAQUE REPRODUCTIONS.

## 1.9 SAMPLES

### A. Samples For Review:

1. Submitted to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
2. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

### B. Samples For Information:

1. Submitted for the Architect's knowledge.

### C. Samples For Selection:

1. Submitted to Architect for aesthetic, color, or finish selection.
2. Submit samples of finishes from the full range of manufacturers' standard colors, textures, and patterns for Architect selection.
3. After review, produce duplicates and distribute in accordance with SUBMITTAL PROCEDURES article above and for record documents purposes described in Section 01700 - CONTRACT CLOSEOUT.

### D. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

### E. Include identification on each sample, with full Project information.

### F. Submit the number of samples specified in individual specification sections; one of which will be retained by Architect.

### G. Reviewed samples that may be used in the Work are indicated in individual specification sections.

### H. Samples will not be used for testing purposes unless specifically stated in the specification section.

## 1.10 DESIGN DATA

### A. Submit for the Architect/Engineer's knowledge.

### B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.11 TEST REPORTS

- A. Submit for the Owner and Architect/Engineer's knowledge.
- B. Submit test reports for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.12 CERTIFICATES

- A. When specified in individual specification sections, submit certification by the manufacturer, installation/application Subcontractor, or the Contractor to Architect/Engineer, in quantities specified for Product Data.
- B. Indicate that material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Owner and Architect/Engineer.
- D. Written certification from Norfolk Building Official shall be based on the International Building Code, 2003.

1.13 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect/Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- C. Refer to Section 01400 - Quality Control, Manufacturers' Field Services article.

1.14 MANUFACTURER'S FIELD REPORTS

- A. Submit reports to the Architect/Engineer.

- B. Submit report in duplicate within 30 days of observation.
- C. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.15 ERECTION DRAWINGS

- A. Submit drawings for the Architect/Engineer.
- B. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by the Architect/Engineer or Owner.

1.16 REQUEST FOR INFORMATION

- A. All Requests for Information (RFI's) shall be submitted in writing by the Contractor to the Architect.
- B. RFI format will be distributed by the Architect at the Pre-Construction conference.

END OF SECTION

SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION

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 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Conservation.
  - 3. Coordination Drawings.
  - 4. Administrative and supervisory personnel.
  - 5. Project meetings.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. General Conditions of the Construction Contract.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's Construction Schedule.
  - 2. Preparation of the Schedule of Values.
  - 3. Installation and removal of temporary facilities and controls.
  - 4. Delivery and processing of submittals.
  - 5. Progress meetings.
  - 6. Preinstallation conferences.
  - 7. Project closeout activities.
- D. Conservation: See Section 01 "Construction and Demolition Waste Management".

#### 1.4 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within 3 days of the meeting.
  - 4. Indicate at end of each minutes to have all parties review (edit and / or correct) statements within 5 working days, then General Contractor to distribute revised minutes to all.
- B. Preconstruction Conference: As indicated in the General Conditions of the Construction Contract.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each major construction activity that requires coordination with other construction.
  - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
  - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    - a. Contract Documents.
    - b. Options.
    - c. Related Change Orders.
    - d. Purchases.
    - e. Deliveries.
    - f. Submittals.
    - g. Review of mockups.
    - h. Possible conflicts.
    - i. Compatibility problems.

- j. Time schedules.
  - k. Weather limitations.
  - l. Manufacturer's written recommendations.
  - m. Warranty requirements.
  - n. Compatibility of materials.
  - o. Acceptability of substrates.
  - p. Temporary facilities and controls.
  - q. Space and access limitations.
  - r. Regulations of authorities having jurisdiction.
  - s. Testing and inspecting requirements.
  - t. Required performance results.
  - u. Protection of construction and personnel.
- 3. General Contractor to record significant conference discussions, agreements, disagreements and submit to all parties for review and comments. Correct minutes accordingly and re-distribute.
  - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress Meetings: Conduct progress meetings as indicated in the General Conditions of the Construction Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 0310**

SECTION 01400  
QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance - control of installation.
- B. Tolerances
- C. References and standards.
- D. Mock-up (Sample Panels).
- E. Inspecting and testing laboratory services.

1.2 RELATED SECTIONS

- A. Section 01090 - Reference Standards.
- B. Section 01300 - Submittals: Submission of manufacturers' instructions and certificates.
- C. Section 01410 - Testing Services.
- D. Section 01600 - Material and Equipment: Requirements for material and product quality.
- E. Section 01650 - Starting of Systems.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

- E. Perform Work by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure Products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

#### 1.4 TOLERANCES

- A. Monitor fabrication and installation tolerance control of Products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.
- C. Adjust Products to appropriate dimensions; position before securing Products in place.

#### 1.5 REFERENCES AND STANDARDS

- A. For Products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date of Contract Documents except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect/Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

#### 1.6 MOCK-UP (SAMPLE PANEL)

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.

- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Architect/Engineer and is specified in product specification sections to be removed; remove mock-up and clear area when directed to do so.

#### 1.7 TESTING SERVICES

- A. The Owner shall provide and pay for services of an independent firm to perform testing. Contractor shall notify Owner, Owner's Representative, and Engineer 24 hours prior to testing or inspections. The Owner will provide and pay for Agent 1 and Agent 2 Special Inspections. See Section 01410. The Owner will provide and pay for testing related to pavement, concrete walks, and site foundations soils and concrete testing. Testing required by sub-contractors, as identified in individual specification sections, shall remain the responsibility of each subcontractor (i.e., Sprinkler subcontractor is responsible for testing fire suppression system).
- B. The independent firm will perform tests and other services specified in individual specification sections requiring an independent firm and as may be required by the Architect/Engineer and authority having jurisdiction.
- C. Testing and source quality control may occur on or off the project site.
- D. Certified written reports will be submitted by the independent firm to the Owner, Owner's Representative, Architect/Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
  - 1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
  - 2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:

- a. Date of issue.
  - b. Project title and number.
  - c. Name, address, and telephone number of testing agency.
  - d. Dates and locations of samples and tests or inspections.
  - e. Name of individuals making the inspection or test.
  - f. Designation of the Work and test method.
  - g. Identification of product and Specification Section.
  - h. Complete inspection or test data.
  - i. Test results and an interpretation of test results.
  - j. Ambient conditions at the time of sample taking and testing.
  - k. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
  - l. Name and signature of laboratory inspector.
  - m. Recommendations on retesting.
- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify Owner, Owner's Representative, Architect/Engineer and independent firm 24 hours prior to expected time for operations requiring services.
  2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing does not relieve Contractor to perform Work to contract requirements.
- G. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Architect/Engineer. Payment for re-testing will be the responsibility of the Contractor.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for testing Work.
- B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Verify that utility services are available, of the correct characteristics, and in the correct locations.

### 3.2 EXECUTION

#### A. REPAIR AND PROTECTION

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 1 Section 01045 - Cutting and Patching.

- 1. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- 2. Repair and protection is Contractor's responsibility, regardless of the assignment of inspection, testing or similar services.

END OF SECTION

SECTION 01410  
TESTING SERVICES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Selection and payment.
- B. Contractor submittals.
- C. Agency responsibilities.
- D. Agency reports.
- E. Limits on testing authority.
- F. Contractor responsibilities.
- G. Schedule of tests.
- H. Special Structural Inspections.
- I. Schedule of Special Inspections.

1.2 RELATED SECTIONS

- A. Document 00701 - General Conditions - AIA:  
Testing and approvals required by public authorities.
- B. Section 01300 - Submittals: Manufacturer's  
certificates.
- C. Section 01700 - Contract Closeout: Project record  
documents.

1.3 REFERENCES

- A. ASTM C1077 - Practice for Laboratories Testing  
Concrete and Concrete Aggregates for Use in  
Construction and Criteria for Laboratory Evaluation.
- B. ASTM C1093 - Practice for Accreditation of Testing  
Agencies for Unit Masonry.
- C. ASTM D3740 - Practice for Evaluation of Agencies  
Engaged in Testing and/or Inspection of Soil and Rock  
as Used in Engineering Design and Construction.

- D. ASTM E329 - Practice for Use in the Evaluation of Inspection and Testing Agencies as Used in Construction.
- E. ASTM E543 - Practice for Determining the Qualification of Nondestructive Testing Agencies.
- F. ASTM E548 - Practice for Preparation of Criteria for Use in the Evaluation of Testing Laboratories and Inspection Bodies.
- G. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

#### 1.4 SELECTION AND PAYMENT

- A. Employment and payment for services of an independent testing agency or laboratory to perform specified testing (Agent 2), shall be by Owner.
- B. Employment of testing agency or laboratory in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.

#### 1.5 QUALITY ASSURANCE

- A. Comply with requirements of ASTM C802, ASTM C1021, ASTM C1077, ASTM C1093, ASTM D290, ASTM D3740, ASTM D4561, ASTM E329, ASTM E543, ASTM E548 and ASTM E699.
- B. Laboratory: Authorized to operate in State of North Carolina.
- C. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.
- D. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

#### 1.6 CONTRACTOR SUBMITTALS

- A. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time registered Engineer and responsible officer.
- B. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Bureau of Standards during most recent

inspection, with memorandum of remedies of any deficiencies reported by the inspection.

#### 1.7 AGENCY RESPONSIBILITIES

- A. Test samples of mixes submitted by Contractor.
- B. Provide qualified personnel at site. Cooperate with Architect/Engineer and Contractor in performance of services.
- C. Perform specified sampling and testing of Products in accordance with specified standards.
- D. Ascertain compliance of materials and mixes with requirements of Contract Documents.
- E. Promptly notify Owner's Representative, Architect/Engineer and Contractor of observed irregularities or non-conformance of Work or Products.
- F. Perform additional tests required by Owner's Representative, or Architect/Engineer.
- G. Attend pre-construction meetings and progress meetings.

#### 1.8 AGENCY REPORTS

- A. After each test, promptly submit two copies of report to Owner's Representative, Architect/Engineer, and to Contractor.
- B. Include:
  - 1. Date issued.
  - 2. Project title and number.
  - 3. Name of inspector.
  - 4. Date and time of sampling or inspection.
  - 5. Identification of product and specifications section.
  - 6. Location in the Project.
  - 7. Type of inspection or test.
  - 8. Date of test.
  - 9. Results of tests.
  - 10. Conformance with Contract Documents.
- C. When requested by Architect/Engineer, provide interpretation of test results.

#### 1.9 LIMITS ON TESTING AUTHORITY

- A. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
- B. Agency or laboratory may not approve or accept any portion of the Work.
- C. Agency or laboratory may not assume any duties of Contractor.
- D. Agency or laboratory has no authority to stop the Work.

#### 1.10 CONTRACTOR RESPONSIBILITIES

- A. Deliver to agency or laboratory at designated location, adequate samples of materials proposed to be used which require testing, along with proposed mix designs.
- B. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
- C. Provide incidental labor and facilities:
  - 1. To provide access to Work to be tested.
  - 2. To obtain and handle samples at the site or at source of Products to be tested.
  - 3. To facilitate tests.
  - 4. To provide storage and curing of test samples.
- D. Notify Owner's Representative, and Architect/Engineer and laboratory 24 hours prior to expected time for operations requiring testing services.
- E. Employ services of an independent qualified testing laboratory and pay for additional samples and tests required by Contractor beyond specified requirements.

#### 1.11 SPECIAL INSPECTIONS

- A. This Section includes administrative and procedural requirements for Special Structural Inspection services.
- B. Certain structural components of the Project will be subject to the requirements for Special Inspections. Special Inspections will include, but not be limited to following specification sections:
  - 1. Section 02200 - Earthwork.
  - 2. Section 03300 - Cast-in-Place Concrete.

3. Section 04200 - Unit Masonry
  4. Section 05120 - Structural Steel
  5. Section 05210 - Steel Joists
  6. Section 05310 - Steel Deck
- C. Requirements for Special Inspections are outlined in the Schedule of Special Inspections included at the end of this section. In addition, testing of soils and concrete for site work, including pavement, walks and concrete foundations will be required.
- D. The Owner will procure and bear all costs of the Special Inspector and will procure and bear all costs of the Special Inspector's Testing Laboratory, except as otherwise noted. The Special Inspector will be the manager of the Special Inspection process. He or she checks the certification of all other inspecting agents required by Special Inspections and coordinates their activities. The Special Inspector carries the exclusive responsibility for assuring that the inspections indicated are performed. The Statement of Special Inspections will be required by the Building Official as a condition for building permit issuance.
- E. Special Inspections are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
- F. Related Sections: The following Sections contain requirements that relate to this Section:
1. Division 1 Section 01400 "Quality Control" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.

#### 1.11.2 RESPONSIBILITIES

- A. The Owner shall provide inspections, tests, and other similar quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction except where they are specifically indicated to be the Contractor's responsibility, or are provided by another identified entity. These services include those specified to be performed by

the Special Inspector or by an independent agency and not by the Contractor. Costs for these services are not included in the Contract Sum.

1. The Owner will engage and pay for the services of the Special Inspector or an independent agency, as specified, to perform inspections specified as the Owner's responsibility.
  2. The Owner shall pay for all Agent 2 Testing required and specified in the following schedule.
- B. Re-testing: The Contractor is responsible for re-testing where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements. Re-testing required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Special Inspector and Architect/Engineer. Payment for retesting will be the responsibility of the Contractor.
1. The Contractor shall correct deficiencies in work that inspections and laboratory test reports have indicated to be not in compliance with requirements.
  2. The cost of re-testing construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
- C. Associated Services: The Contractor shall 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, but not less than 24 hours. Auxiliary services required include, but are not limited to, the following:
1. Provide access to the Work.

2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
  3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
  4. Provide and maintain for the sole use of the Special Inspector or Special Inspectors adequate facilities for safe storage and proper curing of test samples on the Project Site.
  5. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
  6. Provide security and protection of samples and test equipment at the Project Site.
  7. The Contractor shall designate a representative (the superintendent or an assistant to the superintendent) who shall be the direct point-of-contact with the Special Inspector during each phase of the work. Discrepancies noted during the progress of the work will be reported to the Contractor's representative for corrective action. Communications given by the Special Inspector to the Contractor's representative shall be as binding as if given to the Contractor.
- D. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
1. The agency shall notify the Owner's Representative, Architect, and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the Work.
  3. The agency shall not perform any duties of the Contractor.

E. Duties of the Special Inspector:

1. The Special Inspector shall conduct and interpret tests, state in each report whether test specimens comply with requirements, specifically state any deviations therefrom, and record work required and performed to correct deficiencies.
2. The Special Inspector will keep records of all inspections and tests which will be furnished to the Building Official, the Architect, and the Structural Engineer of Record. All discrepancies will be brought to the immediate attention of the Contractor for correction. If discrepancies are not corrected, the discrepancies will be brought to the attention of the Building Official and the Structural Engineer of Record.
3. A final report documenting completion of all required special inspections and corrections of any discrepancies noted will be submitted to the Building Official by the Special Inspector prior to, and as a condition of, issuance of the Certificate of Use and Occupancy.
4. The special Inspector shall not perform any duties of the Contractor.

F. Coordination: The Contractor and each agency engaged to perform inspection, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.

1. The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.

1.11.3 SUBMITTALS

A. The Special Inspector or the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Architect, Owner's Representative and Contractor.

1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
3. Date of issue.
4. Project title and number.
5. Name, address, and telephone number of testing agency.
6. Dates and locations of samples and tests or inspections.
7. Names of individuals making the inspection or test.
8. Designation of the Work and test method.
9. Identification of product and Specification Section.
10. Complete inspection or test data.
11. Test results and an interpretation of test results.
12. Ambient conditions at the time of sample taking and testing.
13. Comments or professional opinion on whether inspected or tested Work complies with Contract Document requirements.
14. Name and signature of laboratory inspector.
15. Recommendations on re-testing.

1.11.4 QUALITY ASSURANCE

A. Qualification for Special Inspector: The Special Inspector, if other than the Engineer of Record, shall be a Registered Professional Engineer, Licensed in the State of North Carolina, experienced in performing special inspections and shall be approved by the Architect.

- B. **Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are pre-qualified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" 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.
  2. Each independent Inspection and Testing Agency engaged on the Project shall demonstrate that it has the experience and capability to conduct the required field and laboratory testing without delaying the progress of the work.

#### 1.11.5 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 1 Section "Cutting and Patching."**
- B. **Protect construction 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

SECTION 01420 - REFERENCES

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 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used in conjunction with Architect's action on Contractor's submittals, applications, and requests, is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Architect, requested by Architect, and similar phrases.
- D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.
- J. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown

on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of the date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from the publication source and make them available on request.
- E. Abbreviations and Names: Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, and authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of these entities. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.
- F. Abbreviations and Names: Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, and authorities having jurisdiction, or other entity in the context of referencing a standard or publication. The following abbreviations and acronyms, as referenced in the Contract Documents, mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

AA Aluminum Association (202) 862-5100  
900 19th St., NW, Suite 300  
Washington, DC 20006  
www.aluminum.org

AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 104 Schaumburg, IL 60173-4268 www.aamanet.org	(847) 303-5664
AAN	American Association of Nurserymen (See ANLA)	
AASHTO	American Association of State Highway and Transportation Officials 444 North Capitol St., NW, Suite 249 Washington, DC 20001 www.aashto.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists P.O. Box 12215 One Davis Dr. Research Triangle Park, NC 27709-2215 www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association (Formerly: Anti-Friction Bearing Manufacturers Association) 1200 19th St., NW, Suite 300 Washington, DC 20036-2401 www.abma-dc.org	(202) 429-5155
ABMA	American Boiler Manufacturers Association 950 North Glebe Rd., Suite 160 Arlington, VA 22203-1824 www.abma.com	(703) 522-7350
ACI	American Concrete Institute P.O. Box 9094 Farmington Hills, MI 48333-9094 www.aci-int.org	(248) 848-3700
ACIL	ACIL: The Association of Independent Scientific, Engineering, and Testing Firms 1629 K St., NW, Suite 400 Washington, DC 20006 www.acil.org	(202) 887-5872
ACPA	American Concrete Pipe Association 222 West Las Colinas Blvd., Suite 641	(972) 506-7216

ADC	Air Diffusion Council 104 South Michigan Ave., Suite 1500 Chicago, IL 60603	(312) 201-0101
AEIC	Association of Edison Illuminating Companies 600 N. 18th St. P.O. Box 2641 Birmingham, AL 35291-0992 www.aeic.org	(205) 250-2530
AFBMA	Anti-Friction Bearing Manufacturers Association (See ABMA)	
AFPA	American Forest and Paper Association (Formerly: National Forest Products Association) 1111 19th St., NW, Suite 800 Washington, DC 20036 www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association 1515 Wilson Blvd. Arlington, VA 22209 www.aga.com	(703) 841-8400
AHA	American Hardboard Association 1210 W. Northwest Hwy Palatine, IL 60067-1897	(847) 934-8800
AHAM	Association of Home Appliance Manufacturers 20 N. Wacker Dr., Suite 1231 Chicago, IL 60606 www.aham.org	(312) 984-5800
AI	Asphalt Institute P.O. Box 14052 Lexington, KY 40512-4052 www.asphaltinstitute.org	(606) 288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	(202) 626-7300
AIA	American Insurance Association 1130 Connecticut Ave., NW, Suite 1000 Washington, DC 20036	(202) 828-7100
AIHA	American Industrial Hygiene Association	(703) 849-8888

AISC	American Institute of Steel Construction One East Wacker Dr., Suite 3100 Chicago, IL 60601-2001 www.aisc.web.com	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute 1101 17th St., NW, Suite 1300 Washington, DC 20036-4700 www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction 7012 S. Revere Pkwy, Suite 140 Englewood, CO 80112 www.aitc-glulam.org	(303) 792-9559
ALA	American Laminators Association (See LMA)	
ALCA	Associated Landscape Contractors of America 150 Elden St., Suite 270 Herndon, VA 20170-4831 www.alca.org	(800) 395-2522 (703) 736-9666
ALI	Associated Laboratories, Inc. P.O. Box 152837 Dallas, TX 75315 www.assoc-labs.com	(214) 565-0593
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875	(301) 972-1700
AMCA	Air Movement and Control Association International, Inc. 3 0 W. University Dr. Arlington Heights, IL 60004-1893 www.amca.org	(847) 394-0150
ANLA	American Nursery and Landscape Association (Formerly: American Association of Nurserymen) 1250 Eye St., NW, Suite 500 Washington, DC 20005 www.anla.org	(202) 789-2900
ANSI	American National Standards Institute 11 West 42nd St., 13th Floor New York, NY 10036-8002 www.ansi.org	(888) 267-4783 (212) 642-4900

AOSA	Association of Official Seed Analysts P.O. Box 81152 Lincoln, NE 68501-1152 <a href="http://www.zianet.com/AOSA">www.zianet.com/AOSA</a>	(402) 476-3852
APA	APA-The Engineered Wood Association (Formerly: American Plywood Association) P.O. Box 11700 Tacoma, WA 98411-0700 <a href="http://www.apawood.org">www.apawood.org</a>	(253) 565-6600
APA	Architectural Precast Association P.O. Box 08669 Fort Myers, FL 33908-0669 <a href="http://www.archprecast.org">www.archprecast.org</a>	(941) 454-6989
API	American Petroleum Institute 1220 L St., NW, Suite 900 Washington, DC 20005-8029 <a href="http://www.api.org">www.api.org</a>	(202) 682-8000
ARI	Air-Conditioning and Refrigeration Institute 4301 Fairfax Dr., Suite 425 Arlington, VA 22203 <a href="http://www.ari.org">www.ari.org</a>	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association Center Park 4041 Powder Mill Rd., Suite 404 Calverton, MD 20705 <a href="http://www.asphaltroofing.org">www.asphaltroofing.org</a>	(301) 348-2002
ASA	Acoustical Society of America 500 Sunnyside Blvd. Woodbury, NY 11797 <a href="http://asa.aip.org">//asa.aip.org</a>	(516) 576-2360
ASC	Adhesive and Sealant Council 1627 K St., NW, Suite 1000 Washington, DC 20006-1707 <a href="http://www.ascouncil.org">www.ascouncil.org</a>	(202) 452-1500
ASCA	Architectural Spray Coaters Association 895 Doncaster Dr. West Deptford, NJ 08066	(609) 848-6120
ASCE	American Society of Civil Engineers World Headquarters	(800) 548-2723 (703) 295-6000

ASHES	American Society for Healthcare Environmental Services Division of the American Hospital Association One North Franklin, Suite 2700 Chicago, IL 60606	(312) 422-3860
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 www.ashrae.org	(800) 527-4723 (404) 636-8400
ASLA	American Society of Landscape Architects 636 Eye St., NW Washington, DC 20001-3736 www.asla.org	(202) 898-2444
ASME	American Society of Mechanical Engineers 345 East 47th St. New York, NY 10017-2392 www.asme.org	(800) 843-2763 (212) 705-7722
ASPA	American Sod Producers Association (See TPI)	
ASPE	American Society of Plumbing Engineers 3617 Thousand Oaks Blvd., Suite 210 Westlake Village, CA 91362-3649	(805) 495-7120
ASQ	American Society for Quality 611 East Wisconsin Ave. Milwaukee, WI 53201-3005 www.asq.org	(800) 248-1946 (414) 272-8575
ASSE	American Society of Sanitary Engineering 28901 Clemens Rd. Westlake, OH 44145 www.asse-plumbing.org	(440) 835-3040
ASTM	American Society for Testing and Materials 100 Barr Harbor Dr. West Conshohocken, PA 19428-2959 www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions (Formerly: Exchange Carriers Standards Association) 1200 G St., NW, Suite 500 Washington, DC 20005	(202) 628-6380



	www.atis.org	
AWCI	Association of the Wall and Ceiling Industries-- International 803 West Broad St., Suite 600 Falls Church, VA 22046 www.awci.org	(703) 534-8300
AWCMA	American Window Covering Manufacturers Association (See WCMA)	
AWI	Architectural Woodwork Institute 1952 Isaac Newton Sq. West Reston, VA 20190 www.awinet.org	(800) 449-8811 (703) 733-0600
AWPA	American Wood-Preservers' Association P.O. Box 5690 Granbury, TX 76049 www.awpa.com	(817) 326-6300
AWPB	American Wood Preservers' Bureau (This organization is now defunct.)	
AWS	American Welding Society 550 NW LeJeune Rd. Miami, FL 33126 www.amweld.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association 6666 W. Quincy Ave. Denver, CO 80235 www.awwa.org	(800) 926-7337 (303) 794-7711
BAC	Brick Association of the Carolinas (Formerly: Brick Association of North Carolina) P.O. Box 13290 Greensboro, NC 27415-3290 www.gobrick.com	(800) 622-7425 (336) 273-5566
BHMA	Builders Hardware Manufacturers Association 355 Lexington Ave., 17th Floor New York, NY 10017-6603	(212) 661-4261
BIA	Brick Industry Association 11490 Commerce Park Dr. Reston, VA 22091-1525	(703) 620-0010



CANADA

CISCA	Ceilings and Interior Systems Construction Association 1500 Lincoln Hwy, Suite 202 St. Charles, IL 60174 www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Rd., Suite 419 Chattanooga, TN 37421 www.cispi.org	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Pkwy, Suite 300 Columbia, MD 21046 www.baileadership.com	(301) 596-2584
CPA	Composite Panel Association (Formerly: National Particleboard Association) 18928 Premiere Ct. Gaithersburg, MD 20879-1569 www.pbmdf.com	(301) 670-0604
CPPA	Corrugated Polyethylene Pipe Association 3621 Secor Rd., Suite 320 Toledo, OH 436046 www.cppa-info.org	(800) 510-2772 (419) 241-2221
CRI	Carpet and Rug Institute 310 S. Holiday Ave. Dalton, GA 30722-2048 www.carpet-rug.com	(800) 882-8846 (706) 278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Rd. Schaumburg, IL 60173-4758 www.crsi.org	(847) 517-1200
CSSB	Cedar Shake and Shingle Bureau 515 116th Ave., NE, Suite 275 Bellevue, WA 98004-5294 www.cedarbureau.org	(206) 453-1323
CTI	Ceramic Tile Institute of America 12061 West Jefferson Blvd. Culver City, CA 90230-6219	(310) 574-7800
CTI	Cooling Tower Institute P.O. Box 73383	(281) 583-4087

Houston, TX 77273  
www.cti.org

DASMA	Door and Access Systems Manufacturers Association, International (Formerly: National Association of Garage Door Manufacturers) c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/dasma	(216) 241-7333
DHI	Door and Hardware Institute (Formerly: National Builders Hardware Association) 14170 Newbrook Dr. Chantilly, VA 20151-2223 www.dhi.org	(703) 222-2010
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Pkwy East, Suite O Birmingham, AL 35244 www.dipra.org	(205) 402-8702
DLPA	Decorative Laminate Products Association (Dissolved in 1995 - Now part of KCMA.)	
ECSA	Exchange Carriers Standards Association (See ATIS)	
EIA	Electronic Industries Association 2500 Wilson Blvd. Arlington, VA 22201 www.eia.org	(703) 907-7500
EIMA	EIFS Industry Members Association 3000 Corporate Center Dr., Suite 270 Morrow, GA 30260-4116 www.eifsfacts.com	(800) 294-3462 (770) 968-7945
EJMA	Expansion Joint Manufacturers Association 25 N. Broadway Tarrytown, NY 10591-3201 www.ejma.org	(914) 332-0040
ETL	ETL Testing Laboratories, Inc. (Now part of ITS)	

FCI	Fluid Controls Institute c/o Thomas Associates, Inc 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/fci	(216) 241-7333
FCICA	Floor Covering Installation Contractors Association P.O. Box 948 Dalton, GA 30722-0948	(706) 226-5488
FGMA	Flat Glass Marketing Association (See GANA)	
FM	Factory Mutual System 1151 Boston-Providence Tnpk. P.O. Box 9102 Norwood, MA 02062-9102 www.factorymutual.com	(781) 762-4300
GA	Gypsum Association 810 First St., NE, Suite 510 Washington, DC 20002 www.usg.com	(202) 289-5440
GANA	Glass Association of North America (Formerly: Flat Glass Marketing Association) 2945 Southwest Wanamaker Dr., Suite A Topeka, KS 66614 www.glasswebsite.com/gana	(913) 266-7013
GRI	Geosynthetic Research Institute 475 Kedron Ave. Folsom, PA 19033 www.drexel.edu/gri	(610) 522-8440
HEI	Heat Exchange Institute c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/hei	(216) 241-7333
HI	Hydraulic Institute 9 Sylvan Way Parsippany, NJ 07054-3802	(888) 786-7744 (973) 267-9700
HI	Hydronics Institute Division of Gas Appliance Manufacturers Association P.O. Box 218 35 Russo Pl.	(908) 464-8200

Berkeley Heights, NJ 07922  
[www.gamanet.org](http://www.gamanet.org)

HMA

Hardwood Manufacturers Association  
(Formerly: Southern Hardwood Lumber Manufacturers  
Association)  
400 Penn Center Blvd., Suite 530  
Pittsburgh, PA 15235-5605  
[www.hardwood.org](http://www.hardwood.org)

(412) 829-0770

HPVA	Hardwood Plywood and Veneer Association 1825 Michael Farraday Dr. P.O. Box 2789 Reston, VA 22195-0789 www.hpva.org	(703) 435-2900
IAS	International Approval Services Division of Canadian Standards Association 8501 East Pleasant Valley Rd. Cleveland, OH 44131 www.iasapprovals.org	(216) 524-4990
IBD	Institute of Business Designers (Now part of IIDA)	
ICC	International Code Council 5203 Leesburg Pike #708 Falls Church, VA 22041 www.intlcode.org	(703) 931-4533
ICEA	Insulated Cable Engineers Association P.O. Box 440 South Yarmouth, MA 02664 www.icea.net	(508) 394-4424
IEC	International Electrotechnical Commission (Available from ANSI) 11 West 42nd St., 13th Floor New York, NY 10036-8002 www.ansi.org	(888) 267-4783 (212) 642-4900
IEEE	Institute of Electrical and Electronics Engineers 345 E. 47th St. New York, NY 10017-2394 www.ieee.org	(800) 678-4333 (212) 705-7900
IESNA	Illuminating Engineering Society of North America 120 Wall St., 17th Floor New York, NY 10005-4001 www.iesna.org	(212) 248-5000
IGCC	Insulating Glass Certification Council P.O. Box 9 Henderson Harbor, NY 13651	(315) 938-7444

IIDA	International Interior Design Association 341 Merchandise Mart Chicago, IL 60654-1104 www.iida.com	(800) 888-4432 (312) 467-1950
ILI	Indiana Limestone Institute of America Stone City Bank Building, Suite 400 Bedford, IN 47421 www.iliai.com	(812) 275-4426
IMSA	International Municipal Signal Association P.O. Box 539 165 E. Union St. Newark, NY 14513 www.imsasafety.org	(800) 723-4672 (315) 331-2182
INCE	Institute of Noise Control Engineering P.O. Box 3206, Arlington Branch Poughkeepsie, NY 12603 www.ince.org	(914) 462-4006
IRI	HSB Industrial Risk Insurers P.O. Box 5010 85 Woodland St. Hartford, CT 06102-5010 www.industrialrisk.com	(800) 520-7300 (860) 520-7300
ISA	ISA - International Society for Measurement and Control P.O. Box 12277 67 Alexander Dr. Research Triangle Park, NC 27709 www.isa.org	(919) 549-8411
ISEA	Industrial Safety Equipment Association 1901 N. Moore St., Suite 808 Arlington, VA 22209 www.safetycentral.org/isea	(703) 525-1695
ISS	Iron and Steel Society 410 Commonwealth Dr. Warrendale, PA 15086-7512 www.issource.org	(412) 776-1535
ITS	Intertek Testing Services (Formerly: Inchcape Testing Services) P.O. Box 2040 3933 US Route 11 Cortland, NY 13045-7902 www.itsglobal.com	(800) 345-3851 (607) 753-6711

KCMA	Kitchen Cabinet Manufacturers Association (Formerly: National Kitchen Cabinet Association) 1899 Preston White Dr. Reston, VA 22191 www.kema.org	(703) 264-1690
LGSI	Light Gage Structural Institute P.O. Box 560746 The Colony, TX 75056	(972) 625-4560
LIA	Lead Industries Association, Inc. 295 Madison Ave., Suite 808 New York, NY 10017 www.leadinfo.com	(800) 422-5323 (212) 578-4750
LMA	Laminating Materials Association (Formerly: American Laminators Association) 116 Lawrence St. Hillsdale, NJ 07642-2730 www.lma.org	(201) 664-2700
LPI	Lightning Protection Institute 3335 N. Arlington Heights Rd., Suite E Arlington Heights, IL 60004-7700 www.lightning.org	(800) 488-6864 (847) 577-7200
MBMA	Metal Building Manufacturers Association c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/mbma	(216) 241-7333
MCAA	Mechanical Contractors Association of America 1385 Piccard Dr. Rockville, MD 20850-4329 www.mcaa.org	(301) 869-5800
MFMA	Maple Flooring Manufacturers Association (Formerly: Wood and Synthetic Flooring Institute) 60 Revere Dr., Suite 500 Northbrook, IL 60062 www.maplefloor.com	(847) 480-9138
MFMA	Metal Framing Manufacturers Association 401 N. Michigan Ave. Chicago, IL 60611	(312) 644-6610
MHIA	Material Handling Industry Association 8720 Red Oak Blvd., Suite 201	(800) 345-1815 (704) 676-1190

Charlotte, NC 28217-3957  
[www.mhia.org](http://www.mhia.org)

MIA	Marble Institute of America 30 Eden Alley, Suite 301 Columbus, OH 43215 <a href="http://www.marble-institute.com">www.marble-institute.com</a>	(614) 228-6194
MIA	Masonry Institute of America 2550 Beverly Blvd. Los Angeles, CA 90057 <a href="http://www.masonryinstitute.org">www.masonryinstitute.org</a>	(213) 388-0472
ML/SFA	Metal Lath/Steel Framing Association 8 South Michigan Ave., Suite 1000 Chicago, IL 60603	(312) 456-5590
MRCA	Midwest Roofing Contractors Association 4840 W. 15th St., Suite 1000 Lawrence, KS 66049 <a href="http://www.mrca.org">www.mrca.org</a>	(913) 843-4888
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park St., NE Vienna, VA 22180-4602 <a href="http://www.mss-hq.com">www.mss-hq.com</a>	(703) 281-6613
NAA	National Arborist Association P.O. Box 1094 Amherst, NH 03031-1094 <a href="http://www.natlarb.com">www.natlarb.com</a>	(800) 733-2622 (603) 673-3311
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Ave., Suite 1000 Chicago, IL 60603 <a href="http://www.gss.net/naamm">www.gss.net/naamm</a>	(312) 322-0405
NAAMM	North American Association of Mirror Manufacturers (See GANA) 2945 Southwest Wanamaker Dr., Suite A Topeka, KS 66614 <a href="http://www.glasswebsite.com/naamm">www.glasswebsite.com/naamm</a>	(913) 266-7013
NACE	NACE International (Formerly: National Association of Corrosion Engineers) P.O. Box 218340 Houston, TX 77218-8340	(281) 492-0535 (281) 492-8254

NAGDM	National Association of Garage Door Manufacturers (See DASMA)	
NAIMA	North American Insulation Manufacturers Association (Formerly: Thermal Insulation Manufacturers Association) 44 Canal Center Plaza, Suite 310 Alexandria, VA 22314 www.naima.org	(703) 684-0084
NAMI	National Accreditation & Management Institute, Inc.  P.O. Box 366 207 S. Washington St. Berkeley Springs, WV 25411	(304) 258-5100
NAPA	National Asphalt Pavement Association NAPA Building 5100 Forbes Blvd. Lanham, MD 20706-4413 www.hotmix.org	(888) 468-6499 (301) 731-4748
NBHA	National Builders Hardware Association (See DHI)	
NBGQA	National Building Granite Quarries Association, Inc. 1220 L. St., NW, Suite 100-167 Washington, DC 20005	(800) 557-2848
NCAC	National Council of Acoustical Consultants 66 Morris Ave., Suite 1A Springfield, NJ 07081 www.ncac.com	(973) 564-5859
NCCA	National Coil Coaters Association 401 N. Michigan Ave. Chicago, IL 60611 www.coilcoaters.org	(312) 321-6894
NCMA	National Concrete Masonry Association 2302 Horse Pen Rd. Herndon, VA 20171-3499 www.ncma.org	(703) 713-1900
NCPI	National Clay Pipe Institute P.O. Box 759 253- 80 Center St. Lake Geneva, WI 53147 www.ncpi.org	(414) 248-9094
NCRPM	National Council on Radiation Protection and Measurements 7910 Woodmont Ave., Suite 800 Bethesda, MD 20814-3095	(800) 229-2652 (301) 657-2652

www.ncrp.com

NCSPA	National Corrugated Steel Pipe Association 1255 23rd St., NW, Suite 850 Washington, DC 20037 www.ncspa.org	(202) 452-1700
NEBB	Natural Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877-4121 www.mcaa.org/nebb.htm www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814-3299 www.necanet.org	(301) 657-3110
NEI	National Elevator Industry 185 Bridge Plaza North, Suite 310 Fort Lee, NJ 07024	(201) 944-3211
NELMA	Northeastern Lumber Manufacturers Association 272 Tuttle Rd. P.O. Box 87A Cumberland Center, ME 04021 www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association 1300 N 17th St., Suite 1847 Rosslyn, VA 22209 www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association P.O. Box 687 106 Stone St. Morrison, CO 80465-1526 www.electricnet.com/neta	(303) 697-8441
NFPA	National Fire Protection Association One Batterymarch Park P.O. Box 9101 Quincy, MA 02269-9101 www.nfpa.org	(800) 344-3555 (617) 770-3000
NFPA	National Forest Products Association (See AFPA)	
NFRC	National Fenestration Rating Council Incorporated 1300 Spring St., Suite 500	(301) 589-6372

Silver Spring, MD 20910  
www.nfrc.org

NGA	National Glass Association 8200 Greensboro Drive, 3rd Floor McLean, VA 22102-3881	(703) 442-4890
NHLA	National Hardwood Lumber Association P.O. Box 34518 Memphis, TN 38184-0518 www.natlhardwood.org	(901) 377-1818
NIA	National Insulation Association (Formerly: National Insulation and Abatement Contractors Association) 99 Canal Center Plaza, Suite 222 Alexandria, VA 22314 www.insulation.org	(703) 683-6422
NIAC	National Insulation and Abatement Contractors Association (See NIA)	
NKCA	National Kitchen Cabinet Association (See KCMA)	
NLGA	National Lumber Grades Authority #406-First Capital Pl. 960 Quayside Dr. New Westminster, BC V3M 6G2 CANADA	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association P.O. Box 3009 Memphis, TN 38173-0009 www.nofma.org	(901) 526-5016
NPA	National Parking Association 1112 16th Street, NW, Suite 300 Washington, DC 20036	(202) 296-4336 (800) 647-7275
NPCA	National Paint and Coatings Association 1500 Rhode Island Ave., NW Washington, DC 20005-5597 www.paint.org	(202) 462-6272
NRCA	National Roofing Contractors Association O'Hare International Center	(800) 323-9545 (847) 299-9070

10255 W. Higgins Rd., Suite 600  
Rosemont, IL 60018-5607  
www.roofonline.org

NRMCA	National Ready Mixed Concrete Association 900 Spring St. Silver Spring, MD 20910 www.nrmca.org	(301) 587-1400
NSA	National Stone Association 1415 Elliot Pl., NW Washington, DC 20007 www.aggregates.org	(800) 342-1415 (202) 342-1100
NSF	NSF International (Formerly: National Sanitation Foundation) 3475 Plymouth Rd. Ann Arbor, MI 48105 www.nsf.org	(734) 769-8010
NSSEA	National School Supply and Equipment Association 8300 Colesville Rd., Suite 250 Silver Spring, MD 20910 www.nssea.org	(800) 395-5550 (301) 495-0240
NTMA	National Terrazzo and Mosaic Association 110 E. Market St., Suite 200-A Leesburg, VA 20176-3122 www.ntma.com	(800) 323-9736 (703) 779-1022
NUSIG	National Uniform Seismic Installation Guidelines P.O. Box 0933 Alamo, CA 94507	(925) 555-6331
NWMA	National Woodwork Manufacturers Association (See NWWDA)	
NWWDA	National Wood Window and Door Association (Formerly: National Woodwork Manufacturers Association) 1400 E. Touhy Ave. Des Plaines, IL 60018 www.nwwda.org	(800) 223-2301 (847) 299-5200
PATMI	Powder Actuated Tool Manufacturers' Institute 1603 Boonslick Rd. St. Charles, MO 63301-2244	(314) 947-6610
PCA	Portland Cement Association 5420 Old Orchard Rd.	(847) 966-6200

Skokie, IL 60077-1083  
[www.portcement.org](http://www.portcement.org)

PCI	Precast/Prestressed Concrete Institute 175 W. Jackson Blvd. Chicago, IL 60604 <a href="http://www.pci.org">www.pci.org</a>	(312) 786-0300
PDCA	Painting and Decorating Contractors of America 3913 Old Lee Hwy, Suite 33-B Fairfax, VA 22030 <a href="http://www.pdca.com">www.pdca.com</a>	(800) 332-7322 (703) 359-0826
PDI	Plumbing and Drainage Institute 45 Bristol Dr., Suite 101 South Easton, MA 02375 <a href="http://pdi-online.org">//pdi-online.org</a>	(800) 589-8956 (508) 230-3516
PEI	Porcelain Enamel Institute 4004 Hillsboro Pike, Suite 224-B Nashville, TN 37215 <a href="http://www.porcelainenamel.com">www.porcelainenamel.com</a>	(615) 385-5357
PGI	PVC Geomembrane Institute/Technology Program University of Illinois-Urbana Champaign 205 N. Mathews Ave. 2215 Newmark Civil Engineering Lab Urbana, IL 61801 <a href="http://pgi-tp.ce.vivc.edu">//pgi-tp.ce.vivc.edu</a>	(217) 333-3929
PIMA	Photographic and Imaging Manufacturers Association 550 Mamaroneck Ave., Suite 307 Harrison, NY 10528 <a href="http://www.pima.net">www.pima.net</a>	(914) 698-7603
PPFA	Plastic Pipe and Fittings Association 800 Roosevelt Rd., Building C, Suite 20 Glen Ellyn, IL 60137-5833	(888) 314-6774 (630) 858-6540
PPI	Plastics Pipe Institute (The Society of the Plastics Industry, Inc.) 1801 K St., NW, Suite 600K Washington, DC 20006 <a href="http://www.plasticpipe.org">www.plasticpipe.org</a>	(202) 974-5306
RCMA	Roof Coatings Manufacturers Association Center Park 4041 Powder Mill Rd., Suite 404 Calverton, MD 20705	(301) 348-2003

[www.roofcoatings.org](http://www.roofcoatings.org)

RCSC	Research Council on Structural Connections Sargent & Lundy 55 E. Monroe St. Chicago, IL 60603	(312) 269-2424
RFCI	Resilient Floor Covering Institute 966 Hungerford Dr., Suite 12-B Rockville, MD 20850-1714	(301) 340-8580
RMA	Rubber Manufacturers Association 1400 K St., NW, Suite 900 Washington, DC 20005 <a href="http://www.rma.org">www.rma.org</a>	(800) 220-7620 (202) 682-4800
SAE	SAE International  400 Commonwealth Dr. Warrendale, PA 15096-0001 For publications: Call (724) 776-4970 <a href="http://www.sae.org">www.sae.org</a>	(724) 776-4841
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 <a href="http://www.sdi.org">www.sdi.org</a>	(847) 462-1930
SDI	Steel Door Institute 30200 Detroit Rd. Cleveland, OH 44145-1967 <a href="http://www.steeldoor.org">www.steeldoor.org</a>	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association 7 Wildbird Lane Hilton Head Island, SC 29926 <a href="http://www.sefalabfurn.com">www.sefalabfurn.com</a>	(843) 689-6878
SEGD	Society for Environmental Graphic Design 401 F St., NW, Suite 333 Washington, DC 20001-2728	(202) 638-5555
SGCC	Safety Glazing Certification Council P.O. Box 9 Henderson Harbor, NY 13651	(315) 938-7444
SHLMA	Southern Hardwood Lumber Manufacturers Association (See HMA)	

SIGMA	Sealed Insulating Glass Manufacturers Association 401 N. Michigan Ave. Chicago, IL 60611-4267 <a href="http://www.sigmaonline.org/sigma">www.sigmaonline.org/sigma</a>	(312) 644-6610 x3279
SJI	Steel Joist Institute 3127 10th Ave., North Ext. Myrtle Beach, SC 29577-6760	(803) 626-1995
SMA	Screen Manufacturers Association 2850 S. Ocean Blvd., Suite 114 Palm Beach, FL 33480-5535	(561) 533-0991
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association 4201 Lafayette Center Dr. P.O. Box 221230 Chantilly, VA 20151-1209 <a href="http://www.smacna.org">www.smacna.org</a>	(703) 803-2980

SPI	The Society of the Plastics Industry, Inc. Spray Polyurethane Division 1801 K St., NW, Suite 600K Washington, DC 20006 www.socplas.org	(800) 951-2001 (202) 974-5200
SPIB	Southern Pine Inspection Bureau 4709 Scenic Hwy Pensacola, FL 32504-9094 www.spib.org	(850) 434-2611
SPRI	SPRI (Formerly: Single Ply Roofing Institute) 200 Reservoir St., Suite 309A Needham, MA 02494-3034 www.spri.org	(781) 444-0242
SSINA	Specialty Steel Industry of North America c/o Collier, Shannon Rill & Scott 3050 K St., NW, Suite 400 Washington, DC 20007 www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings 40 24th St., 6th Floor Pittsburgh, PA 15222-4656 www.sspc.org	(800) 837-8303 (412) 281-2331
SSPMA	Sump and Sewage Pump Manufacturers Association P.O. Box 647 Northbrook, IL 60065-0647	(847) 559-9233
STI	Steel Tank Institute 570 Oakwood Rd. Lake Zurich, IL 60047-1559 www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/swi	(216) 241-7333
SWPA	Submersible Wastewater Pump Association 1806 Johns Dr. Glenview, IL 60025-1657	(847) 729-7972

SWRI	Sealant, Waterproofing and Restoration Institute 2841 Main St. Kansas City, MO 64108 www.swrionline.org	(816) 472-7974
TCA	Tile Council of America P.O. Box 1787 Clemson, SC 29633 www.tileusa.com	(864) 646-8453
TIMA	Thermal Insulation Manufacturers Association (See NAIMA)	
TPI	Truss Plate Institute 583 D'Onofrio Dr., Suite 200 Madison, WI 53719	(608) 833-5900
TPI	Turfgrass Producers International (Formerly: American Sod Producers Association) 1855- A Hicks Rd. Rolling Meadows, IL 60008 www.turfgrassod.org	(800) 405-8873 (847) 705-9898
UFAC	Upholstered Furniture Action Council P.O. Box 2436 High Point, NC 27261	(910) 885-6085
UL	Underwriters Laboratories Inc. 333 Pfingsten Rd. Northbrook, IL 60062 www.ul.com	(800) 704-4050 (847) 272-8800
UNI	Uni-Bell PVC Pipe Association 2655 Villa Creek Dr., Suite 155 Dallas, TX 75234 members.aol.com/unibell	(972) 243-3902
USITT	USITT: The American Association of Design and Production Professionals in the Performing Arts 6443 Ridings Rd. Syracuse, NY 13206-1111 www.culturenet.ca/usitt	(800) 938-7488 (315) 463-6463
USP	U.S. Pharmacopeia (Formerly: U.S. Pharmacopoeial Convention) 12601 Twinbrook Pkwy Rockville, MD 20852-1790 www.usp.org	(800) 227-8772 (301) 881-0666

WA	Wallcoverings Association 401 N. Michigan Ave. Chicago, IL 60611-4267	(312) 644-6610
WASTEC	Waste Equipment Technology Association 4301 Connecticut Ave. NW, Suite 300 Washington, DC 20008	(202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281-3145	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association (Formerly: American Window Covering Manufacturers Association) 355 Lexington Ave., 17th Floor New York, NY 10017-6603	(212) 661-4261
WEF	Water Environment Federation (Formerly: Water Pollution Control Federation) 601 Wythe St. Alexandria, VA 22314-1994 <a href="http://www.wef.org">www.wef.org</a>	(800) 666-0206 (703) 684-2400
WIC	Woodwork Institute of California P.O. Box 980247 West Sacramento, CA 95798-0247 <a href="http://www.wicnet.org">www.wicnet.org</a>	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association 507 First St. Woodland, CA 95695 <a href="http://www.wmmpa.com">www.wmmpa.com</a>	(800) 550-7889 (530) 661-9591
WPCF	Water Pollution Control Federation (See WEF)	
WRI	Wire Reinforcement Institute 301 E. Sandusky St. Findlay, OH 45840 <a href="http://www.bright.net/~rreiter">www.bright.net/~rreiter</a>	(419) 425-9473
WSC	Water Systems Council Building C, Suite 20 800 Roosevelt Rd. Glen Ellyn, IL 60137	(630) 545-1762
WSFI	Wood and Synthetic Flooring Institute (See MFMA)	
WWPA	Western Wood Products Association Yeon Building	(503) 224-3930

Duck Town Hall  
Duck, North Carolina

522 SW 5th Ave.  
Portland, OR 97204-2122  
[www.wvpa.org](http://www.wvpa.org)



DOT	Department of Transportation 400 Seventh St., SW Washington, DC 20590 <a href="http://www.dot.gov">www.dot.gov</a>	(202) 366-4000
EPA	Environmental Protection Agency 401 M St., SW Washington, DC 20460 <a href="http://www.epa.gov">www.epa.gov</a>	(202) 260-2090
FAA	Federal Aviation Administration (U.S. Department of Transportation) 800 Independence Ave., SW Washington, DC 20591 <a href="http://www.faa.gov">www.faa.gov</a>	(202) 366-4000
FCC	Federal Communications Commission 1919 M St., NW Washington, DC 20554 <a href="http://www.fcc.gov">www.fcc.gov</a>	(202) 418-0126
FDA	Food and Drug Administration 5600 Fishers Lane Rockville, MD 20857 <a href="http://www.fda.gov">www.fda.gov</a>	(301) 443-1544
FHA	Federal Housing Administration (U.S. Department of Housing and Urban Development) 451 Seventh St., SW Washington, DC 20410 <a href="http://www.hud.gov">www.hud.gov</a>	(202) 401-0388
FS	Federal Specification Unit (Available from GSA) 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 <a href="http://www.gsa.gov">www.gsa.gov</a>	(202) 619-8925
GSA	General Services Administration F St. and 18th St., NW Washington, DC 20405 <a href="http://www.gsa.gov">www.gsa.gov</a>	(202) 708-5082
MIL	Military Standardization Documents (U.S. Department of Defense) Defense Automated Printing Service 700 Robbins Ave., Building 4D Philadelphia, PA 19111 <a href="http://www.dodssp.daps.mil">www.dodssp.daps.mil</a>	(215) 697-2179



**END OF SECTION 01420**

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Controls: Barriers, enclosures and fencing, and protection of the Work.

1.2 RELATED SECTION

- A. Section 00811 - Supplementary General Conditions: Temporary Utilities, Construction Facilities.
- B. Section 01700 - Contract Closeout: Final cleaning.

1.3 TEMPORARY ELECTRICITY

- A. Contractor shall provide temporary electrical panels and Power for all work, including power to all Field Offices. Provide temporary lighting. Provide temporary Heating.

1.4 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service.

1.5 FACSIMILE SERVICE

- A. Provide, maintain and pay for facsimile service.

1.6 COMPUTER SERVICE

- A. Provide e-mail service for project communication With Owner, Architect, Engineer and Contractor's Project Manager.

1.7 TEMPORARY WATER SERVICE

- A. Provide temporary water.

1.8 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures.

1.9 BARRIERS

- A. A painted plywood construction fence shall be installed around all work and staging areas. Limits of the construction fence are shown on the Civil Site Plan.
  - B. At the Contractor's option, and at his sole expense, the Contractor shall provide all necessary safety equipment, including but not limited to, barrier fencing, covered walkways, and barricades, to insure the health, safety, and well being of pedestrians, vehicular traffic, construction workmen, and visitors to the construction site. Contractor shall comply with all local, state, and federal safety codes or ordinances, including OSHA requirements.
  - C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- 1.10 WATER CONTROL
- A. Grade construction site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment, as required.
  - B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion. Protect all trees that remain. Provide erosion control. See Site Plan.
  - C. Clean Duck Road, and all construction entrances, on a regular basis. Sweep and power wash dirt back onto site, as required, to keep the road in clean condition.
- 1.10 PROTECTION OF INSTALLED WORK
- A. Protect installed Work and provide special protection where specified in individual specification sections.
  - B. Provide temporary and removable protection for installed Products. Control activity in immediate work area to prevent damage.
  - C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
  - D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- 1.11 SECURITY

- A. Provide security and facilities to protect new Work.
- B. Protect entire construction premises from vandalism and trespassers.
- C. Provide security lighting of site staging and building area. Provide a minimum of 1 foot candle across site. Light fixtures shall be aimed away from all adjacent property.

#### 1.12 SITE SIGNAGE

- A. The General Contractor may erect one 4 x 8 foot Project Sign. The sign shall be 3/4 inch MDO board, painted on all sides. Support shall be 4 x 4 wood posts, embedded in concrete. Sign shall be erected straight and plumb. The Architect will provide artwork for the sign. It will list the project, the Owner, the General Contractor, the Architect, and the Engineers. A rendering of the front of the building will be required. Colors: White background with green text.
- B. No other site signage, identification, banners, flags, names, product description, etc. will be permitted without the written permission of the Owner.

#### 1.13 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Special attention will be direct to this requirement.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove all waste materials, debris, and rubbish from site on an "as needed" basis (to prevent an unsightly appearance), and dispose off-site.
- E. Provide gravel entry drives at all vehicular gates. Hose entry drives down to prevent build-up of dirt and accumulated dust. Maintain street entrances in a clean and neat appearance during all construction activity.

1.14 FIELD OFFICES AND SHEDS

- A. Provide one Field Office: The Field Office shall be freshly painted. One identification sign or graphic will be permitted on the Contractor's Field Office. The office shall be weather tight. The Office shall have lighting, electrical outlets, heating, cooling and ventilating equipment, telephone, facsimile, computer, and bottled water. The office shall be equipped with sturdy furniture, drawing rack and drawing display table and Conference Table to accommodate a maximum of 10 Chairs.
- B. Provide a separate area for marked-up "record drawings" and specifications. This set shall be separate from the set of drawings used daily.
- C. Provide first aid kits, temporary fire protection, and emergency procedure posters.
- D. Provide temporary storage trailers to house construction supplies and materials as required to secure material.

1.15 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion.
- B. Clean and repair damage caused by installation or use of temporary work.

END OF SECTION

SECTION 01505 – CONSTRUCTION WASTE MANAGEMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The provisions of the Contract Documents apply to the work of this section.

1.2 WASTE MANAGEMENT GOALS FOR THE PROJECT

- A. Minimize the creation of construction and demolition waste on the job site. Minimize factors that contribute to waste such as over packaging, improper storage, breakage, mishandling, and contamination. Of the inevitable waste that is generated, salvage, donate to charities, or recycle as many of the waste materials as economically feasible. Minimize waste disposal in landfills.

- B. Diversion Requirement: Divert a minimum of fifty-five percent (55%) by weight of all construction, demolition, and land-clearing waste from landfills. Waste includes but is not limited to:

1. Land clearing debris
2. Clean dimensional wood, palette wood
3. Plywood, OSB, and particleboard
4. Concrete
5. Bricks
6. Concrete Masonry Units (CMU)
7. Asphaltic Concrete
8. Cardboard, paper, packaging
9. Metals
10. Gypsum Drywall (unpainted)
11. Paint
12. Glass
13. Plastics
14. Carpet and pad
15. Beverage containers
16. Other, as applicable

### 1.3 REFERENCES, RESOURCES

#### A. Websites

1. Construction and Demolition Waste Recycling Information ([www.ciwmb.ca.gov/ConDemo](http://www.ciwmb.ca.gov/ConDemo)): A program by the California Integrated Waste Management Board including case studies, fact sheets, and links (916.255.2296)
2. Construction Waste ([www.greenbuilder.conilsourcebook/ConstructionWaste.html](http://www.greenbuilder.conilsourcebook/ConstructionWaste.html)): A guide to construction waste management from the Sustainable Building Sourcebook.
3. Contractors' Guide to Preventing Waste and Recycling ([www.resourceventure.org/publications.htm](http://www.resourceventure.org/publications.htm)): A guidebook on waste prevention in construction from the Business and Industry Resource Venture.
4. Recycling and Waste Management During Construction ([www.metrokc.gov/procure/qxeen/wastemgt.htm](http://www.metrokc.gov/procure/qxeen/wastemgt.htm)): Information from City of Seattle and Portland Metro projects on construction waste management.
5. North Carolina Directory of Markets for Recyclable Materials ([www.p2pays.org/dnar.m/](http://www.p2pays.org/dnar.m/))
6. Mid-Atlantic Consortium of Recycling and Economic Development Officials (<http://llmacrodo.libertynet.org/~macrodo/database/index.html>).

#### B. Print Media

1. Waste Spec: Model Specifications for Construction Waste Reduction, Reuse and Recycling by Triangle 3. Council of Governments, P.O. Box 12276, Research Triangle Park, NC, 27709.
2. Environmental Building News  
122 Birge Street, Suite 30  
Brattleboro, VT 05301
  - a. "Dealing with Construction Waste: Innovative Solutions for a Tough Problem" (Vol. 1, No. 3, Nov/Dec 1992)
  - b. "What's New in Construction Waste Management?" (Vol. 4, No. 6, Nov/Dec 1995)
3. C&D Recycler  
C/o GIE Publications  
4012 Bridge Avenue  
Cleveland, OH 44113
  - a. "Money in the Dumpster" (May 2002)

#### C. Consultants

1. Wilmot & Associates  
3654 Knollwood Road  
Nashville, TN 37215 V  
615.533,0696

### 1.4 SUBMITTALS

- A. Submit to the Owner and Architect a Waste Management Plan within 45 days after Notice to Proceed.
- B. Provide receipts from landfill, recycling center, or other approved recipient for all materials disposed of off-site.
- C. Provide photographs of materials being reused on-site.

#### 1.5 WASTE MANAGEMENT PLAN

- A. The Waste Management Plan shall contain the following:
  - 1. Estimate of total project waste to be generated, name of the landfill(s) where Project waste would normally be disposed of, tipping fees, and estimated cost of disposing of project waste in landfill(s).
  - 2. Estimate total tons of the following waste categories to be diverted from landfill:
    - a. Concrete
    - b. Asphaltic Concrete
    - c. Brick
    - d. Other
  - 3. Estimate of total cubic yards of the following waste categories to be diverted from landfill:
    - a. Land clearing debris
    - b. Clean dimensional wood, palette wood
    - c. Plywood, OSB, and particleboard
    - d. Cardboard, paper, packaging
    - e. Gypsum drywall (unpainted)
    - f. Other
  - 4. Estimate of the amounts (weight, feet, square yards, gallons, or similar measure) of the following waste categories to be diverted from landfill:
    - a. Metals
    - b. Carpet
    - c. Paint
    - d. Glass
    - e. Plastic
    - f. Other
  - 5. Estimate of net cost savings or additional costs resulting from separating and recycling (versus landfilling) each material. "Net" means that the following have been subtracted from the cost of separating and recycling:
    - a. Revenue from the sale of recycled or salvaged materials
    - b. Landfill tipping fees saved due to diversion of materials from the landfill
  - 6. Description of how each waste type is to be diverted from landfill
  - 7. List of materials deemed not salvageable and/or not recyclable. Include description of why it is unfeasible to salvage and/or recycle materials.

#### 1.6 WASTE MANAGEMENT PLAN IMPLEMENTATION

##### CONSTRUCTION WASTE MANAGEMENT

- A. Plan Distribution: Provide copies of the Waste Management Plan to the Superintendent, Foremen, each Subcontractor, the Owner, and the Architect.
- B. Instruction: Provide On-site instruction of appropriate separation, handling, and recycling, salvage, and return methods to be used by all parties at the appropriate stages of the Project.
- C. Meetings: Meetings shall include subcontractors affected by the Waste Management Plan. At a minimum, waste management goals and issues shall be discussed at the following meetings:
  - 1. Pre-construction meeting
  - 2. Regularly scheduled job-site progress meetings
- D. Separation Facilities: Designate a specific area or areas to facilitate separation of materials for potential salvage, recycling, and return. Keep recycling and waste bin areas neat and clean and clearly marked in order to avoid commingling of materials. Protect bins during non-working hours from off site contamination. Separation facility to remain inside the “disturbance” zone (within 40 feet of building perimeter, and/or within 5 feet beyond primary roadway curbs, walkways, and main utility branch trenches).
- E. Materials Handling Procedures: Protect materials to be recycled from contamination, and handle, store, and transport in a manner that meets the requirements set by the designated facilities for acceptance.
- F. Transportation: Provide a description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials. Provide an estimate of how often bins will need to be emptied.
- G. Hazardous wastes: Separate, store, and dispose of hazardous wastes according to local regulations. Ensure that liquid wastes are stored in clearly marked and sealed containers.
- H. Application for Progress Payments: Submit with each Application for Progress Payment a Summary of the project waste generated. The Summary shall contain the following information:
  - 1. The amount (in tons or cubic yards) of each type of material landfilled from the Project, the identity of the landfill, the total amount of tipping fees paid at the landfill, and the total disposal cost. Include receipts from landfill facility.
  - 2. The amount (in tons or cubic yards) of each type of material recycled from the Project, the identity of the recycling center, and the total amount of fees or revenue associated with recycling. Include receipts from recycling facility.
  - 3. The amount (in tons or cubic yards) of each type of material diverted from landfill through reuse on site or donation to charitable organization, and total amount of tipping fees avoided by material reuse. Include receipts from receiving organization or photographs of reuse on site.

PART 2 - PRODUCTS (Not Used)

PART 3- EXECUTION (Not Used)

**END OF SECTION 01505**

SECTION 01600

MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 PRODUCTS

- A. All products shall be new. All products shall be as specified unless otherwise provided for in the Contract Documents.

1.3 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle Products to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with Manufacturers', Owner's Representative and Architect's instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive Products in weather tight, climate controlled enclosures in an environment favorable to Product.
- D. For exterior storage of fabricated Products, place on sloped supports above ground.

- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- F. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of Products.
- G. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store Products to prevent soiling, disfigurement, or damage.
- I. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

#### 1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any Product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a written request for substitution for any manufacturer not named in accordance with the following article.

#### 1.6 SUBSTITUTIONS

- A. Substitutions to specified products must be submitted to the Architect 10 days prior to bidding. The Architect may consider and approve a substitution if all of the following criteria are met in Paragraph C and D below.
- B. Substitutions will be considered if a Product becomes unavailable through no fault of the Contractor. Written documentation from the Manufacturer shall be submitted with any such claim.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

- D. A request constitutes a representation that the Bidder or Contractor:
1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
  2. Will provide the same warranty for the Substitution as for the specified Product.
  3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost or delay to Owner.
  4. Waives claims for additional costs or time extension that may subsequently become apparent.
  5. Will reimburse Owner and Architect/Engineer for review or redesign services associated with re-approval by authorities.
- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Approval of Substitutions do not relieve Contractor of responsibilities inherent in the Contract Documents.
- G. Substitution Submittal Procedure:

Unless the request for substitution is related to unforeseen conditions, requests for substitutions shall be made in writing and shall be submitted to the Architect ten (10) days or more prior to bid opening only. No substitutions will be considered after the Agreement Between Owner and Contractor has been executed.

1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed Product equivalence. Burden of proof is on proposer.
3. Submit complete cost information, including anticipated cost savings.
4. The Architect will notify Contractor in writing of decision to approve or disapprove each request prior to bid opening.

END OF SECTION

Duck Town Hall  
Duck, North Carolina

SECTION 01650

STARTING OF SYSTEMS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Starting systems.
- B. Demonstration and instructions.
- C. Testing, adjusting, and balancing.

1.2 RELATED SECTIONS

- A. Section 00811 - Supplementary General Conditions.
- B. Section 01700 - Contract Closeout: System operation and maintenance data and extra materials.

1.3 STARTING SYSTEMS

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Notify Architect and Owner seven days prior to start-up of each item.
- C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- D. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- E. Verify that wiring and support components for equipment are complete and tested.
- F. Execute start-up under supervision of applicable Contractors' sub-contractors in accordance with manufacturers' instructions.
- G. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

- H. Submit a written report in accordance with Section 01300 that equipment or system has been properly installed and is functioning correctly.

#### 1.4 DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of Products to Owner's designated representative(s) two weeks prior to date of Substantial Completion.
- B. Demonstrate Project equipment and instruct in a classroom environment located at the building.
- C. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owners' representative(s) in detail to explain all aspects of operation and maintenance. Submit manuals to Owner two weeks prior to meeting.
- D. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time at designated location.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- F. The amount of time required for instruction on each item of equipment and system is specified in individual sections.
- G. Video tape all mechanical equipment instructional sessions. Provide tape to the Owner, after editing.

#### 1.5 TESTING, ADJUSTING, AND BALANCING

- A. The Contractor shall appoint, employ, and pay for services of an independent firm to perform testing, adjusting, and balancing of all mechanical equipment.
- B. Reports will be submitted by the independent firm to the Owner's Representative, Architect and Engineer listing observations and results of tests and indicating compliance or non-compliance with the requirements of the Contract Documents.

END OF SECTION

SECTION 01700  
PROJECT CLOSEOUT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Adjusting.
- D. Project record documents.
- E. Operation and maintenance data.
- F. Spare parts and maintenance Products.
- G. Warranties and bonds.
- H. Maintenance service.

1.2 RELATED SECTIONS

- A. Section 00811 - Supplementary General Conditions.
- B. Section 01500 - Construction Facilities and Temporary Controls: Progress cleaning.
- C. Section 01650 - Starting of Systems: System start-up, testing, adjusting, and balancing.

1.3 CLOSEOUT PROCEDURES

- A. Submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Architect's review.
- B. Provide submittals to the Architect that are required by governing or other authorities.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.4 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment to satisfaction of Owner's Representative and Architect. Follow all cleaning requirements of each individual specification section.
  - B. Professionally clean interior and exterior glass, and all other surfaces exposed to view. Remove temporary labels, stains and foreign substances. Polish transparent and glossy surfaces. Vacuum carpeted and soft surfaces. Clean all tile surfaces and polish haze from grout. Professionally clean (wash) any carpet that will not come clean from vacuuming, from construction dirt, dust, debris, etc.
  - C. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned. Clean with soap and water all resilient and tile floors.
  - D. Replace all construction filters in operating equipment. Install permanent filters.
  - E. Clean debris from roofs, roof drains, and drainage systems.
  - F. Clean site; sweep paved areas, then wash with high-pressure hose. Rake clean landscaped surfaces. All lawn areas shall be free of rocks, stones, and other construction materials and debris.
  - G. Remove waste and surplus materials, rubbish, and construction facilities from the site.
- 1.5 ADJUSTING
- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.
- 1.6 PROJECT RECORD DOCUMENTS
- A. Maintain on-site one set of the following record documents. Record all revisions to the Work on, or in, the following:
    - 1. Drawings.
    - 2. Specifications.
    - 3. Addenda.
    - 4. Change Orders and other modifications to the Contract.
    - 5. Reviewed Shop Drawings, Product Data, and Samples.
    - 6. Manufacturer's instruction for assembly, installation, and adjusting.

7. Pre Punch List and Final Punch List.

- B. Ensure entries are complete and accurate, enabling future reference by Owner. Date all entries.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
  - 1. Manufacturer's name and product model and number.
  - 2. Product substitutions or alternates utilized.
  - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
  - 1. Measured depths of foundations in relation to finish floor datum.
  - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 4. Field changes of dimensions and details.
  - 5. Details not on original Contract drawings.
  - 6. Tape copies of all sketches received during the Project to the back side of drawing sheets, in proximity to similar details.
- G. Submit documents to Owner at time of final Application for Payment.

1.7 OPERATION AND MAINTENANCE DATA

- A. Submit data bound in 8-1/2 x 11 inch (A4) text pages, in three D side-ring binders with durable plastic covers. All data shall be for the specific equipment installed on the Duck Town Hall Complex project. It shall not be a manufacturer's generic data.
- B. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.

- C. Internally sub-divide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
  - D. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, typed on 24 pound white paper, in three parts as follows:
    - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.
    - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification sections. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
      - a. Significant design criteria.
      - b. List of equipment.
      - c. Parts list for each component.
      - d. Operating instructions.
      - e. Maintenance instructions for equipment and systems.
      - f. Maintenance instructions for finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
    - 3. Part 3: Project documents and certificates, including the following:
      - a. Shop drawings and product data.
      - b. Air and water balance reports.
      - c. Certificates.
      - d. Originals of warranties and bonds.
  - E. Submit two sets of final volumes, within 10 days after Substantial Completion.
- 1.8 SPARE PARTS AND MAINTENANCE PRODUCTS
- A. Provide spare parts, maintenance, and extra Products in quantities specified in individual specification sections.
  - B. Deliver to Project site and place in location as directed. Obtain receipt prior to final payment.
- 1.9 WARRANTIES AND BONDS

- A. Provide duplicate notarized copies.
  - B. Execute and assemble transferable warranty documents from Subcontractors, suppliers, and manufacturers.
  - C. Provide Table of Contents and assemble in three D side ring binders with durable plastic cover.
  - D. Submit 10 days after Substantial Completion.
  - E. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing date of acceptance as start of warranty period.
- 1.10 MAINTENANCE SERVICE
- A. Furnish service and maintenance of components indicated in specification sections for 1 year from date of Substantial Completion, unless specified for a longer period.
  - B. Examine system components every three months. Clean, adjust, and lubricate as required. Submit to the Owner a written record of any work performed.
  - C. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
  - D. Maintenance service shall not be assigned or transferred to any agent or Subcontractor without prior written consent of the Owner.
- 1.11 CERTIFICATES OF OCCUPANCY
- A. Provide Town of Duck Certificates of Temporary and Final Occupancy to Owner.

END OF SECTION

SECTION 01710 - CLEANING

PART 1 - GENERAL

1.1 REQUIREMENTS, CODES

- A. All applicable portions of Division 1 - General Requirements are to be considered as included with this section.
- B. The following are minimum requirements and shall govern except that all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.

1.2 DURING CONSTRUCTION

- A. Execute daily cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish, and windblown debris resulting from construction operations, and legally dispose of off site.

1.3 COMPLETION

- A. Use only those cleaning materials and methods recommended by manufacturer of the surface materials to be cleaned. Upon project completion, the Contractor shall:
  - 1. Remove grease, mastic adhesives, dust, dirt, stains, finger prints, paint in unscheduled areas, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
  - 2. Wash and shine all glazing.
  - 3. Clean all fascia and gutters, leaders and scuppers associated with this work.
  - 4. Remove all construction debris from the site.

1.4 TRASH RECEPTICLES

- A. Provide a minimum of one large debris box.

PART 2 – Not Used

PART 3 – Not Used

**END OF SECTION 01710**

## SECTION 01741 - WARRANTIES

### 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.
- B. Following are minimum requirements, and shall govern, except that all Federal, Local, and/or State codes and ordinances shall govern when their requirements are in excess hereof.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers standard warranties on products and special warranties.
  - 1. Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Divisions 2 through 16 Sections for specific requirements for warranties on products and installations specified to be warranted.
  - 2. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

#### 1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.

- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of the Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Expressed warranties made to the Owner are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available under the law. Expressed warranty periods shall not be interpreted as limitations on the time in which the Owner can enforce such other duties, obligations, rights, or remedies.
  - 1. Rejection of Warranties: The Owner reserves the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
- E. Where the Contract Documents require a special warranty, or similar commitment on the Work or part of the Work, the Owner reserves the right to refuse to accept the Work, until the Contractor presents evidence that entities required to countersign such commitments are willing to do so.

#### 1.5 SUBMITTALS

- A. Submit written warranties to the Architect ten (10) days prior to request for Certificate of Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
- B. When the Contract Documents require the Contractor, or the Contractor and a subcontractor, supplier or manufacturer to execute a special warranty, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner, through the Architect, for approval prior to final execution.
  - 1. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Form of Submittal: At Final Completion compile 2 copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
- D. Bind warranties and bonds in heavy-duty, commercial-quality, durable 3-ring, vinyl-covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch

(115-by-280-mm) paper.

1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the Installer.
2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project title or name, and name of the Contractor.
3. When warranted construction requires operation and maintenance manuals, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

**END OF SECTION 01741**

SECTION 01745 – INDOOR AIR QUALITY MANAGEMENT PLAN

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. The provisions of the Contract Documents apply to the work of this section.

1.2 SUMMARY

- A. Moisture and air pollutants associated with construction activity can affect the health of building occupants and lead to occupant health problems and Sick Building Syndrome. This Contract requires the Contractor to develop an Indoor Air Quality (IAQ) Management Plan to remain in force during the construction period. The general guidelines and requirements are described below for during-construction protective measures and post-construction building flushout with fresh air. Each sub-contractor, and the construction personnel generally, must be familiar with these requirements. The Architect will take photographs of Contractor-provided protective measures to document compliance with IAQ management plan objectives.
- B. B. Additional information about protecting Indoor Air Quality during the construction process can be found in the Sheet Metal and Air Conditioning National Contractors' Association (SMACNA) IAQ Guideline for Occupied Buildings Under Construction, 1995, available from SMACNA (703-803-2980 or [www.smacna.org](http://www.smacna.org)).

1.3 SUBMITTALS

- A. Construction Indoor Air Quality Management Plan: Submit to the Owner and Architect a completed and approved Construction Indoor Air Quality Management Plan within 60 days after Notice to Proceed.
- B. Related Submittals: Submittals required for individual technical specification sections include the following materials for interior applications:
1. Adhesives: Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each adhesive used in the building highlighting VOC limits,
  2. Sealers: Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each sealer used in the building highlighting VOC limits.
  3. Field-Applied Interior Paint: Provide a cut sheet and a Material Safety Data Sheet (MSDS) for each paint or coating used in the building highlighting VOC limits and chemical component limits.
  4. Carpet: Provide a cut sheet for each carpet product used in the building highlighting the VOC limits.
  5. Composite Wood Products: Provide a cut sheet for each composite wood or agrifiber product used in the building highlighting urea-formaldehyde resin limits.

#### 1.4 REFERENCES, RESOURCES

- A. Environmental Building News  
122 Birge Street, Suite 30  
Brattleboro, VT 05301

1. "Construction IAQ Management: Job-site Strategies for Ensuring a Healthy Building"  
(Vol. II, No. 5, May 2002)

#### PART 2 - PRODUCTS (Not Used.)

#### PART 3- EXECUTION

##### 3.1 PROTECTION

- A. Store all materials and equipment in a protected area (inside warehouse or storage trailer). Protect materials and equipment that are too large or heavy to store in a job site trailer from water and dirt/dust/debris.

1. Large equipment and materials (such as pipe, conduit, brick, block, and air handling equipment) may be stored outside provided that two (2) layers of 8 mil poly are placed on the ground and the equipment or material is then elevated at least 4 inches to allow water to run off. The top and sides shall also be securely covered with two (2) layers of 8-mil poly to prevent water penetration and dust/dirt accumulation.

- B. Protect HVAC equipment from collected dust and odors (which can "stick" to porous materials in the system and later be released). Units may not be stored in areas near painting, pressure washing, or excavation. Units may not be operated during cutting or grinding of masonry or concrete.

1. Refer to Division 15 Sections for construction filter requirements for protection of mechanical duct systems during construction.

2. Ductwork shall be clean when installed. Cap ends with poly during construction to prevent contamination. 1

3. Do not operate the HVAC system until the building walls, roof, glass, doors and filters are properly installed to prevent the induction of pollutants.

4. The Architect must inspect and approve of the cleanliness of the building before temporary filters are removed at Substantial Completion.

5. Do not perform Testing and Balancing when dust or odor generating activities are occurring.

##### 3.2 SOURCE CONTROL

- A. Minimize IAQ contaminants introduced by construction materials.

1. The Architect has generally attempted to control the introduction of contaminants at the source by selecting materials to minimize such contamination. Some of the leading building

product sources of air contamination are carpet, adhesives, paints, caulks, cleaning solutions, wall coverings, and furniture.

- B. The building and HVAC system shall be completed and ready for Testing and Balancing a minimum of 2 weeks prior to occupancy to allow materials to off-gas. (See Building Flushout article.)
- C. Store waste construction materials a sufficient distance (a minimum of 30 feet away) from the building to avoid any contamination of building indoor air quality.
- D. Adhesives: Adhesives used in the building must comply with the VOC limits of South Coast Air Quality Management District Rule #1168, available from the South Coast Air Quality Management District (909- 396-2000 or [http://www.aqmd.gov/rules!htmlrl 168 .html](http://www.aqmd.gov/rules!htmlrl%20168.html))
- E. Sealers: Sealers must meet or exceed Bay Area Air Quality Management District Regulation 8, Rule 51, available from the Bay Area Air Quality Management District (415-771-6000 or <http://www.baaqmd.gov/regs/rg0851.pdf>). This standard uses the term “sealant” to describe surface filler/sealer type materials commonly referred to as “sealers” in the construction industry, and this specification.
- F. Field-Applied Interior Paints and Coatings: Field-applied paints and coatings used within the building must comply with the chemical component limits and the VOC limits of Green Seal requirements, available from Green Seal (202-872-6400 or <http://www.greenseal.org/standard/paints.htm>).
- G. Carpet: Carpet installed in the building must comply with the Carpet and Rug Institute Green Label Indoor Air Quality Test Program, available from the Carpet and Rug Institute (800-882-8846 or [www.carpet-rug.com](http://www.carpet-rug.com)).
- H. Composite Wood Products: Composite wood and agrifiber products must contain no added urea- formaldehyde resins.

### 3.3 PATHWAY INTERRUPTION

- A. Erect barriers to contain construction areas to allow a portion of the building to be cleaned and then operate the HVAC system in that cleaned area. Barriers can range from simple dust curtains to temporary walls.
  - 1. Areas of building in which HVAC is operational shall be protected by physical barriers from areas of the building not approved for operation of the HVAC system.
- B. The area within 30 feet of outdoor air intakes must remain free of dust, dirt, debris, and volatile materials while the HVAC system is running.

### 3.4 HOUSEKEEPING

- A. As dust accumulates at a construction site, it will become airborne when disturbed by nearby activity. Similarly, spills or excess applications of products containing solvents will increase odors at a construction site. Leaving the work site wet or even just damp for more than a day could result in the growth of mold and bacteria. Attention to site cleaning is, therefore, important to maintaining good IAQ during construction.

B. These specific actions may be applicable in regard to controlling contaminants at the work site:

1. Suppress dust with wetting agents or sweeping compounds.
2. Utilize an efficient dust collection method (e.g. a damp rag, wet mop, or vacuum equipped with a high efficiency particulate filter or wet scrubber will discharge less material back into the air than conventional vacuuming, sweeping, or dusting).
3. Remove spills or excess applications of solvent-containing products immediately. Pay careful attention to selection of spot removers and cleaning agents near occupied areas (products must be low-VOC emitters).
4. Remove accumulated water and keep work areas as dry as possible (use dehumidification when necessary).
5. Vacuum with HEPA filtered vacuum cleaners to prevent settled dust from becoming airborne again.
6. Protect porous materials such as insulation from exposure to moisture. (Note: Replace items that remain damp for more than a few hours).

### 3.5 SCHEDULING

A. Sequence construction to reduce absorption of VOCs by materials that act as sinks or contaminant sources. Complete application/installation of wet and odor-emitting materials before installing sink materials. Examples of types of materials include, but are not limited to:

**Wet Materials:**

composite wood products, millwork  
adhesives, sealants and glazing compounds  
wood preservatives, finishes, and paint  
control or expansion joint fillers  
all hard finishes requiring adhesive installation  
gypsum board and associated finish process

**Fuzzy (Sink) Materials:**

carpet and padding  
fabric wall-covering  
insulation exposed to air stream  
acoustic ceiling materials  
fabric-covered acoustic wall panels

B. Construction activity shall not overlap building occupancy. Two weeks minimum time is required to flush out the building prior to occupancy.

### 3.6 BUILDING FLUSHOUT

A. Subsequent to completion of construction and installation of interior furnishings, provide building flushout with fresh air as specified in Division 15 for a period of two weeks prior to building occupancy. The HVAC system shall operate at maximum design outside air mode during this 14-day period, 24 hours per day.

END OF SECTION 01745

## SECTION 01781 - PROJECT RECORD DOCUMENTS

### 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 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
- B. Related Sections include the following:
  - 1. Divisions 5 through 15 Sections for specific requirements for Project Record Documents of products in those Sections.

#### 1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit two set of marked-up Record Prints.
- B. Record Specifications: Submit two copies of Project's Specifications, including addenda and contract modifications.

### PART 2 - PRODUCTS

#### 2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
  - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
  - b. Accurately record information in an understandable drawing technique.
  - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
  - b. Revisions to details shown on Drawings.
  - c. Depths and heights related to roof construction.
  - d. Locations and depths of underground utilities.
  - e. Revisions to routing of piping and conduits.
  - f. Revisions to electrical circuitry.
  - g. Actual equipment locations.
  - h. Duct size and routing - If conflicting with roof construction.
  - i. Locations of concealed internal utilities – If conflicting with roof construction.
  - j. Changes made by Change Order or Construction Change Directive.
  - k. Changes made following Architect's written orders.
  - l. Details not on the original Contract Drawings.
  - m. Field records for variable and concealed conditions.
  - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Transparencies: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected transparencies of the Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
  2. Refer instances of uncertainty to Architect for resolution.
  3. Owner will furnish Contractor one set of transparencies of the Contract Drawings for use in recording information.
  4. Print the Contract Drawings and Shop Drawings for use as Record Transparencies. Architect will make the Contract Drawings available to Contractor's print shop.

- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD  
PROJECT RECORD DOCUMENTS

DRAWING" in a prominent location.

1. Record Prints: Organize Record Prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
3. Identification: As follows:
  - a. Project name.
  - b. Date.
  - c. Designation "PROJECT RECORD DRAWINGS."
  - d. Name of Architect.
  - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of the manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
  5. Note related Change Orders, Record Drawings, and Product Data where applicable.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, Record Drawings, and Product Data where applicable.

## 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

### PART 3 - EXECUTION

#### 3 .1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

**END OF SECTION 01781**