SECTION 01 4100

REGULATORY REQUIREMENTS

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. Regulatory requirements applicable to this project are the following:

B. 29 CFR 1910 - Occupational Safety and Health Standards; current edition; as a work place.

C. NFPA 101 - Life Safety Code, 2024.

D. CODES, PERMITS, FEES, ETC

1. Each Contractor shall furnish and pay for all other permits, fees and other installation costs required for the various installations by governing authorities and utility companies; prepare and file drawings and diagrams required; arrange for inspections of any and all parts of the work required by the authorities and furnish all certificates necessary to the Architect as evidence that the work installed under this Section of the Specifications conforms with all applicable requirements of the Municipal and State Codes, National Board of Fire Underwriters, National Electric Code.

2. Any items of work specified herein and shown on the drawings which conflict with aforementioned rules, regulations and requirements, shall be referred to the Architect for decision, which decision shall be final and binding.

3. The work shall not be deemed to have reached a state of completion until the certificates have been delivered

4. The contract work is to be constructed under the following Rules and Regulations of the New York State Uniform Fire and Building Codes known as the “Building Codes of the State of New York” and consist of the following:

   a. Building Code of New York State

   b. Energy Conservation Construction Code of New York State

   c. Fire Code of New York State

   d. Fuel Gas Code of New York State

   e Mechanical Code of New York State

   f. Plumbing Code of New York State

5. Electrical Certification: The Electrical contractor shall obtain UL Certification or Inspection from a Certified Electrical Organization for certification of electrical installations.

E. OSHA Part 1926 Safety and Health Regulations for Construction.

F. Federal Regulation for Asbestos Abatement

1. Title 30 CFR Part 61, Subpart G; [The Transport and Disposal of Asbestos Waste]

2. The Transport and Disposal of Asbestos Waste]

3. Title 40 CFR, Part 763 Asbestos Containing Materials; Final Rule and Notice

4. Title 49 CFR Parts 106, 107, and 171-179.The Transportation Safety Act of 1974 and the Hazardous Material Transportation Act

5. Public Law 101-637 ASHARA

G. New York State Official Compilation of Codes, Rules and Regulations

1. Title 12 Part 56

2. Title 10 Part 73

3. Title 6 Parts 360 – 364

4. Labor Law – Article 30 and Sections 900-912

5. All applicable Additions, Addenda, Variances and Regulatory Memoranda

1.3 MANDATORY OSHA CONSTRUCTION SAFETY AND HEALTH TRAINING

A. Effective July 18, 2008 - Pursuant to NYS Labor Law §220-h - On all public work projects of at least $250,000 all laborers, workers and mechanics working on the site are required to be certified as having successfully completed an OSHA construction safety and health course of at least 10 hours prior to performing any work on the project.

1.4 RELATED REQUIREMENTS

A. Section 01 4000 – Quality Requirements

B. Division 31 – Earthwork

C. Division 32 – Exterior Improvements

D. Division 33 – Utilities

E. Division 21 – Fire Suppression

F. Division 22 – Plumbing

G. Division 23 – Heating, Ventilation and Air Conditioning

H. Division 26 – Electrical

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

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 SECTION INCLUDES

A. Testing and inspection services.

1.3 RELATED REQUIREMENTS

A. General Conditions: Inspections and approvals required by public authorities.

B. Product Requirements: Requirements for material and product quality.

1.4 REFERENCE STANDARDS

A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).

B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.

C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.

D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 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 Arconics Architecture, P.C. 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. Have Work performed 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, and disfigurement.

3.2 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 Arconics Architecture, P.C. before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.3 TESTING AND INSPECTION

A. See individual specification sections and drawings for testing and inspection required.

B. Limits on Testing/Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency may not approve or accept any portion of the Work.

3. Agency may not assume any duties of the Contractor.

4. Agency has no authority to stop the Work.

C. Contractor Responsibilities:

1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.

2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.

3. Provide incidental labor and facilities:

a. To provide access to Work to be tested/inspected.

b. To obtain and handle samples at the site or at source of Products to be tested/inspected.

c. To facilitate tests/inspections.

d. To provide storage and curing of test samples.

4. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Arconics Architecture, P.C.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

F. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Arconics Architecture, P.C. Payment for re testing will be charged to the Contractor by deducting testing charges from the Contract Price.

3.5 OWNER'S TESTING AND INSPECTIONS

A. Owner may engage a qualified testing agency or special inspector to conduct tests and inspections as the responsibility of and paid for by Owner including but not limited to:

1. Abatement.

2. Structural Engineer

B. Contractor shall perform the work in an efficient manner consistent with industry standards. Excessive testing resulting from the contractor's inability to perform efficiently will result in back charges to the contractor.

C. All re-inspections required for work not properly installed shall be paid for by the contractor.

D. The Owner will not be liable for any costs or delay claims due to the testing agency or special inspector failure to provide inspection without proper and sufficient notification.

E. All requests by the contractor for inspection that are cancelled and result in charges to the Owner will be back charged to the contractor.

END OF SECTION

SECTION 01 4523

TESTING AND INSPECTION

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

A. Work of this Section includes all labor, materials, equipment and services necessary to complete the testing and inspection requirements as specified herein.

1.3 RELATED SECTIONS

A. Requirements for testing and inspection shall be described in various Sections of these Specifications. Where no testing and inspection requirements are described but the Owner chooses to have it performed, the Owner may require additional testing and inspection to be performed at his own expense.

B. Work Not Included

1. Unless otherwise noted in this Section or other Section of work, the Owner will select a pre-qualified independent testing laboratory and inspection professional.

2. Unless otherwise noted in this Section or other Sections of work, the Owner will pay for all initial services of the testing laboratory and inspection professionals as further described in Article 2.1 of this Section of these Specifications.

1.4 QUALITY ASSURANCE

A. The testing laboratory will be qualified to the Owner's approval in accordance with ASTM E 329-14a "Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection."

B. Testing, when required, will be in accordance with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

1.5 PRODUCT HANDLING

A. Promptly process and distribute to the Architect and Owner all required copies of test reports and related instructions to ensure all necessary retesting and/or replacement of materials with the least possible delay in progress of the work.

PART 2 PRODUCTS

2.1 PAYMENTS FOR TESTING AND INSPECTION SERVICES

A. Initial Services: The Owner will pay for all initial testing and inspection services.

B. Retesting: When initial tests and inspections indicate non-compliance with local Codes and the Contract Documents, all subsequent retesting occasioned by the non- compliance shall be performed by the same testing laboratory and inspectors and the costs thereof will be deducted by the Owner from the Contract Sum.

2.2 CODE COMPLIANCE TESTING AND INSPECTION

A. Inspections and tests required by Codes or Ordinances, or by a plan approval authority, shall be paid by for by the Owner unless otherwise noted in this Section or other Sections of work. Retesting or inspection as required shall conform to the requirements of Article 2.1 B of this Section.

2.3 CONTRACTOR'S TESTING

A. Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

B. Where operating tests are specified, the Contractor shall test his work as it progresses, on his own account, and shall make satisfactory preliminary tests in all cases before applying for official tests.

C. Tests shall be made in the manner specified, for the different branches of the work. Each test shall be made on the entire system for which such test is required, wherever practical. In case it is necessary to test portions of the work independently, the Contractor shall do so without extra compensation. The Contractor shall furnish all labor, material and apparatus, make corrections and conduct the official test. The test will be conducted in the presence of a representative of the Architect.

D. All parts of the mechanical and electrical work and associated equipment shall be tested and adjusted to work properly and be left in perfect operating condition. All defects disclosed by these tests shall be corrected to the satisfaction of the Architect and Engineer without any additional cost to the Owner. Tests shall be repeated on this repaired or replaced work if deemed necessary by the Architect. The Architect shall be notified at least forty-eight (48) hours in advance of all tests, and shall be represented at tests that he deems necessary. The Contractor shall furnish all necessary instruments, other equipment, and personnel required for such tests.

E. Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by him to the Architect.

F. If the Architect or Engineer is to observe the inspections, tests or approvals required by the Contract Documents, he will endeavor to do so promptly and, where practicable, at the source of supply.

PART 3 EXECUTION

3.1 COOPERATION WITH TESTING LABORATORY AND INSPECTORS

A. Representatives of the testing laboratory and inspectors shall have access to the work at all times. Provide facilities for such access in order that they may properly perform their functions.

3.2 SCHEDULES

A. Establishing Schedule: By advance discussions with the inspection service and testing laboratory selected by the Owner, determine the time required to perform inspections and tests and to issue each of its findings. Provide all required time within the construction schedule.

B. Revising Schedule: When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the inspectors and testing laboratory as required.

C. Adherence to Schedule: When the testing laboratory is ready to test according to the determined schedule but is prevented from testing or taking specimens due to incompleteness of the work, all extra costs for testing attributable to the delay will be back-charged to the Contractor.

3.3 TAKING SPECIMENS

A. All specimens and samples for testing, unless otherwise provided in these Contract Documents, will be taken by the testing laboratory; all sampling equipment and personnel will be provided by the testing laboratory; and all deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

END OF SECTION

SECTION 01 4533

CODE-REQUIRED SPECIAL INSPECTIONS

PART 1 GENERAL - NOT USED

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. Code-required special inspections.

B. Testing services incidental to special inspections.

C. Submittals.

D. Manufacturers' field services.

E. Fabricators' field services.

1.3 RELATED REQUIREMENTS

A. Section 00 7200 - General Conditions: Inspections and approvals required by public authorities.

B. Section 01 3000 - Administrative Requirements: Submittal procedures.

C. Section 01 4000 - Quality Requirements.

D. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.4 GENERAL REQUIREMENTS

A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the Building Code of New York State (BCNYS).

B. Hold a Special Inspections preconstruction meeting at least 7 days prior to initial planned date for start of construction.

1. Discussions shall include the following:

a. Review of specifications and Schedule of Special Inspections for work requiring Special Inspections.

b. Responsibilities of Contractor, Owner, Testing Agency, Special Inspector, and Registered Design Professional.

c. Notification and reporting procedures.

2. Attendees shall include Contractor, Special Inspector, and Architect

1.5 DEFINITIONS

A. Special Inspections and Structural Testing shall be in accordance with Chapter 17 of the Building Code of New York State (BCNYS).

B. Authority Having Jurisdiction (AHJ): Agency or individual officially empowered to enforce the building, fire and life safety code requirements of the permitting jurisdiction in which the Project is located.

C. Registered Design Professional(RDP): Licensed Professional Engineer or Registered Architect whose seal appears in the Construction Drawings. Unless noted otherwise, references to the Registered Design Professional (RDP) in this section refer to Arconics Architecture, P.C. for building design.

D. (RDP) for Geotechnical Engineering: Licensed Professional Engineer whose seal appears on the Geotechnical Investigation. The Geotechnical Engineering shall perform and oversee Agent 2 services as indicated in the Schedule of Special Inspections. If a Geotechnical Investigation was not performed or if the Geotechnical Engineering is not retained to perform Agent 2 services, a licensed Geotechnical Engineer shall be retained to perform these duties.

E. Special Inspection:

1. Special inspections are inspections and testing of materials, installation, fabrication, erection or placement of components and connections mandated by the AHJ that also require special expertise to ensure compliance with the approved contract documents and the referenced standards.

F. Special Inspector: A Professional Engineer registered in the State of New York that has a minimum of four years of structural design experience with buildings.

G. Testing/Inspecting Agency: Agent retained by Special Inspector or Owner and coordinated by Special Inspector to perform some inspection services on behalf of Special Inspector. A Geotechnical Engineer is an example of an Inspecting Agent.

H. Statement of Special Inspections: Documents prepared by the Registered Design Professional and filed with and approved by the Code Enforcement Official, listing materials and work requiring Special Inspections. These documents include this specification and the Schedule of Special Inspections.

I. Schedule of Special Inspections: An itemized list of inspections, verifications, and tests (including frequency) required for the project and individuals, agencies, or firms who will be retained to perform these services.

J. Seismic/Wind-Force-Resisting System: Components of the structural system that provide resistance to seismic/wind forces. These components are identified in the Schedule of Special Inspections.

K. Continuous Special Inspection: Full-time observation of work by the Special Inspector or Testing Agency while the work is being performed.

L. Periodic Special Inspections: Part-time or intermittent observation of work by the Special Inspector or Testing Agency for work that has been or is being performed and at completion of work.

1.6 REFERENCE STANDARDS

A. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.

B. ACI 530/530.1/ERTA - Building Code Requirements and Specification for Masonry Structures and Related Commentaries; 2011.

C. AISC 341 - Seismic Provisions for Structural Steel Buildings; 2010.

D. AISC 360 - Specification for Structural Steel Buildings; 2010.

E. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2014.

F. ASTM C31/C31M - Standard Practice for Making and Curing Concrete Test Specimens in the Field; 2012.

G. ASTM C172/C172M - Standard Practice for Sampling Freshly Mixed Concrete; 2010.

H. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.

I. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.

J. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.

K. ASTM E605 - Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members; 1993 (Reapproved 2011).

L. ASTM E736 - Standard Test Method for Cohesion/Adhesion of Sprayed Fire-Resistive Materials Applied to Structural Members; 2000 (Reapproved 2011).

M. ASTM E2570 - Standard Test Methods for Evaluating Water-Resistive Barrier (WRB) Coatings Used under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage; 2007.

N. AWCI 125 - Technical Manual 12-B: Standard Practice for the Testing and Inspection of Field-Applied Thin Film Intumescent Fire-Resistance Materials; 1998.

O. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2010 w/Errata.

P. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel; 2008.

Q. AWS D1.4/D1.4M - Structural Welding Code - Reinforcing Steel; 2011.

R. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.

S. IAS AC291 - Accreditation Criteria for Special Inspection Agencies; 2012.

1.7 QUALIFICATIONS

A. Special Inspector and Testing/Inspecting Agency shall be accepted by the Registered Design Professional and the Code Enforcement Official.

B. Special Inspections shall be performed by agents who have relevant experience for each category of inspections indicated in the drawings.

C. Minimum qualifications of inspection agents are indicated in the drawings.

1.8 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Special Inspection Agency Qualifications: Prior to the start of work, the Special Inspection Agency shall:

1. Submit agency name, address, and telephone number, names of full time registered Engineer and responsible officer.

2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Submit certification that Special Inspection Agency is acceptable to AHJ.

4. Submit documentation that Special Inspection Agency is accredited by IAS according to IAS AC291.

C. Testing Agency Qualifications: Prior to the start of work, the Testing Agency shall:

1. Submit agency name, address, and telephone number, and names of full time registered Engineer and responsible officer.

2. Submit copy of report of laboratory facilities inspection made by NIST Construction Materials Reference Laboratory during most recent inspection, with memorandum of remedies of any deficiencies reported by the inspection.

3. Submit certification that Testing Agency is acceptable to AHJ.

4. Submit documentation that Testing Agency is accredited by IAS according to IAS AC89.

D. Manufacturer's Qualification Statement: Manufacturer shall submit documentation of manufacturing capability and quality control procedures. .

E. Fabricator's Qualification Statement: Fabricator shall submit documentation of fabrication facilities and methods as well as quality control procedures. .

F. Special Inspection Reports: After each special inspection, Special Inspector shall promptly submit two copies of report; one to Arconics Architecture, P.C. and one to the AHJ.

1. Include:

a. Date issued.

b. Project title and number.

c. Name of Special Inspector.

d. Date and time of special inspection.

e. Identification of product and specifications section.

f. Location in the Project.

g. Type of special inspection.

h. Date of special inspection.

i. Results of special inspection.

j. Conformance with Contract Documents.

2. Final Special Inspection Report: Document special inspections and correction of discrepancies prior to the start of the work.

G. Fabricator Special Inspection Reports: After each special inspection of fabricated items at the Fabricator's facility, Special Inspector shall promptly submit two copies of report; one to Arconics Architecture, P.C. and one to AHJ.

1. Include:

a. Date issued.

b. Name of Special Inspector.

c. Date and time of special inspection.

d. Identification of fabricated item and specification section.

e. Location in the Project.

f. Results of special inspection.

g. Verification of fabrication and quality control procedures.

h. Conformance with Contract Documents.

i. Conformance to referenced standard(s).

H. Test Reports: After each test or inspection, promptly submit two copies of report; one to Arconics Architecture, P.C. and one to AHJ.

1. Include:

a. Date issued.

b. Project title and number.

c. Name of inspector.

d. Date and time of sampling or inspection.

e. Identification of product and specifications section.

f. Location in the Project.

g. Type of test or inspection.

h. Date of test or inspection.

i. Results of test or inspection.

j. Conformance with Contract Documents.

I. Certificates: When specified in individual special inspection requirements, Special Inspector shall submit certification by the manufacturer, fabricator, and installation subcontractor to Arconics Architecture, P.C. and AHJ, in quantities specified for Product Data.

1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

2. Certificates may be recent or previous test results on material or product, but must be acceptable to Arconics Architecture, P.C. and AHJ.

J. Manufacturer's Field Reports: Submit reports to Arconics Architecture, P.C. and AHJ.

1. Submit report in duplicate within 30 days of observation to Arconics Architecture, P.C. for information.

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

K. Fabricator's Field Reports: Submit reports to Arconics Architecture, P.C. and AHJ.

1. Submit report in duplicate within 30 days of observation to Arconics Architecture, P.C. for information.

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

1.9 PAYMENT

A. Owner will engage and pay for services of Special Inspector and Testing/Inspecting Agency.

B. Contractor shall be responsible for cost of retesting or re-inspection of work failing to comply with requirements of Contract Documents.

1.10 SPECIAL INSPECTION AGENCY

A. Owner will employ services of a Special Inspection Agency to perform inspections and associated testing and sampling in accordance with ASTM E329 and required by the building code.

B. The Special Inspection Agency may employ and pay for services of an independent testing agency to perform testing and sampling associated with special inspections and required by the building code.

C. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.11 TESTING AND INSPECTION AGENCIES

A. Owner may employ services of an independent testing agency to perform additional testing and sampling associated with special inspections but not required by the building code.

B. Employment of agency in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.

1.12 QUALITY ASSURANCE

A. Special Inspection Agency Qualifications:

1. Independent firm specializing in performing testing and inspections of the type specified in this section.

2. Accredited by IAS according to IAS AC291.

B. Testing Agency Qualifications:

1. Independent firm specializing in performing testing and inspections of the type specified in this section.

2. Accredited by IAS according to IAS AC89.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 SCHEDULE OF SPECIAL INSPECTIONS, GENERAL

A. Frequency of Special Inspections: Special Inspections are indicated as continuous or periodic.

1. Continuous Special Inspection: Special Inspection Agency shall be present in the area where the work is being performed and observe the work at all times the work is in progress.

2. Periodic Special Inspection: Special Inspection Agency shall be present in the area where work is being performed and observe the work part-time or intermittently and at the completion of the work.

3.2 SPECIAL INSPECTIONS FOR CONCRETE CONSTRUCTION

A. Reinforcing Steel, Including Prestressing of Tendons and Placement: Verify compliance with approved contract documents and ACI 318, 3.5 and 7.1 through 7.7; periodic.

B. Reinforcing Steel Welding: Verify compliance with AWS D1.4 and ACI 318, 3.5.2; periodic.

C. Bolts Installed in Concrete: Where allowable loads have been increased or where strength design is used, verify compliance with approved contract documents and ACI 318, 8.1.3 and 21.2.8 prior to and during placement of concrete; continuous.

D. Anchors Installed in Hardened Concrete: Verify compliance with ACI 318, 3.8.6, 8.1.3 and 21.2.8; periodic.

E. Design Mix: Verify plastic concrete complies with the design mix in approved contract documents and with ACI 318, Chapter 4 and 5.2; periodic.

F. Concrete Sampling Concurrent with Strength Test Sampling: Each time fresh concrete is sampled for strength tests, verify compliance with ASTM C172, ASTM C31 and ACI 318, 5.6 and 5.8 and record the following, continuous:

1. Slump.

2. Air content.

3. Temperature of concrete.

4. Verify use of required design mix.

5. Sample and test concrete during placement as follows. Test shall be taken at point of discharge into structure:

   a. Record specific locations where concrete was placed. Refer to column lines where possible.

   b. For each truck, record time concrete is batched as shown in truck ticket, time placement begins/sample time, and time truck is emptied.

   c. For each truck, sample fresh concrete in accordance with ASTM C 172, except modified for slump to comply with ASTM C 94.

   d. For each truck, perform slump test in accordance with ASTM C 143. Perform two slump tests for pumped concrete; one at truck and one at point of discharge.

   e. For each truck for self-consolidating concrete, measure slump flow and record visibility stability index in accordance with ASTMC 1611/C 1611M. Slump cone may be in the upright or inverted position. Use same cone position for the entire project for consistency.

   f. For normal-weight concrete, measure air content in accordance with ASTM C 231, pressure method. For lightweight concrete, measure air content in accordance with ASTM C 173, volumetric method. Perform one test for each truck for air-entrained and non-air-entrained concrete.

   g. Record temperature of concrete for each truck. Test in-place concrete temperature hourly when ambient temperature is 40 degrees F and below and when 80 degrees F and above.

   h. Record air temperature and general weather conditions (cloudy, windy, sunny, etc.).

   i. Record unit weight of fresh normal-weight concrete in accordance with ASTM C 138. Record unit weight of lightweight concrete in accordance with ASTM C 567. Perform one test for each 50 cubic yard of concrete.

   j. Perform concrete compressive tests as follows:

      a) Prepare compressive test specimens in accordance with ASTM C 31. Take a set of six 6 x 12 cylinders or nine 4 x 8 cylinders for each 50 cubic yards of concrete or each 5,000 square feet of slab area for each type of concrete. Store undisturbed in insulated box during cold weather. Deliver to laboratory between 16 and 32 hours after making. Perform compressive tests in accordance with ASTM C 39: two 6 x 12 specimens (three 4 x 8 specimens) tested at 7 days, two 6 x 12 specimens (three 4 x 8 specimens) tested at 28 days, and two 6 x 12 specimens (three 4 x 8 specimens) retained for later testing if required.

      b) In cold weather or whenever steel erection is scheduled to commence less than 14 days after placement of supporting foundation concrete, cast additional set of four 6 x 12 specimens (six 4 x 8 specimens) for each 50 cubic yard or fraction thereof of supporting foundation concrete. Field-cure cylinders, and test two 6 x 12 specimens (three 4 x 8 specimens) at 7 days, retaining two 6 x 12 specimens

(three 4 x 8 specimens) for later testing if required. Steel erection may not begin until supporting concrete obtains 75 percent of its design strength.

k. Perform additional testing as follows if required:

a) Take additional set of cylinders for compressive strength testing for each truck in which total time period between batching and completing placement has exceeded ACI-recommended, 90-minute-maximum time limit. Take additional cylinders within 10 minutes of placement completion.

b) Make additional tests of in-place concrete when test results indicate specified concrete strengths or other characteristics have not been attained in structure.

c) Perform tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods acceptable to Architect.

d) Contractor shall reimburse Owner for cost of additional tests.

6. Inspect concrete placement for proper application techniques.

7. Inspect for maintenance of specified curing temperature and techniques.

8. Perform moisture vapor emission and alkalinity testing in accordance with ASTM F 1869 and ASTM F 710, respectively, as follows:

a. Perform testing after building is enclosed, prior to installation of adhered floor finishes, and once HVAC systems are operational.

b. Test results must be reviewed and accepted by floor finish installer.

9. Verify use of required mix design for plank joint grout. Sample and test grout in accordance with Item B2 above.

10. Inspect welding of connections for erected precast members including architectural wall panels.

11. Inspect welding of reinforcing bars.

G. Specified Curing Temperature and Techniques: Verify compliance with approved contract documents and ACI 318, 5.11 through 5.13; periodic.

H. Concrete Strength in Situ: Verify concrete strength complies with approved contract documents and ACI 318, 6.2, for the following.

3.3 SPECIAL INSPECTIONS FOR SOILS

A. Materials and Placement: Verify each item below complies with approved construction documents and approved geotechnical report.

1. Design bearing capacity of material below shallow foundations; periodic.

2. Review and accept materials proposed by Contractor for use as compacted fill based on test data and information submitted by Testing Agency. Material approval shall be based on requirements and recommendations stated in Project Geotechnical and Subsurface Investigation.

3. Design depth of excavations and suitability of material at bottom of excavations; periodic.

4. Materials, densities, lift thicknesses; placement and compaction of backfill: continuous.

5. Subgrade, prior to placement of compacted fill; periodic.

6. Observe and accept preparation of slab-on-grade subgrade and subbase.

B. Testing: Classify and test excavated material; periodic.

C. Pier Foundations:

1. Special Inspector shall perform inspections and verifications or coordinate the Geotechnical Engineer to perform inspections and verifications including the following:

a. Review pier location plan provided by Contractor.

b. Observe test pier installation and load testing.

c. Review records of load test results provided by Contractor.

d. Inspect pier reinforcement prior to installation.

e. Verify acceptable bearing strata and depths have been reached during installation.

f. Maintain installation records 3.1B.

2. Testing Agency shall sample fresh concrete and perform compressive strength testing in accordance with Cast-In-Place Concrete section of this specification.

3.4 SPECIAL INSPECTIONS FOR WIND RESISTANCE

A. Structural Wood:

1. Field gluing of components in the main wind force-resisting system; continuous.

2. Nailing, bolting, anchoring and other fastening of components within the main wind force-resisting system; periodic.

B. Wind Resisting Components:

C. Structural Observations for Wind Resistance: Visually observe structural system for general conformance with the approved contract documents; periodic.

3.5 OTHER SPECIAL INSPECTIONS

A. For the purposes of this section, work unusual in nature includes, but is not limited to:

3.6 SPECIAL INSPECTION AGENCY DUTIES AND RESPONSIBILITIES

A. Special Inspection Agency shall:

1. Provide qualified personnel at site. Cooperate with Arconics Architecture, P.C. and Contractor in performance of services.

2. Perform specified sampling and testing of products in accordance with specified reference standards.

3. Ascertain compliance of materials and products with requirements of Contract Documents.

4. Promptly notify Arconics Architecture, P.C. and Contractor of observed irregularities or non-conformance of work or products.

5. Perform additional tests and inspections required by Arconics Architecture, P.C. .

6. Submit reports of all tests or inspections specified.

B. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Arconics Architecture, P.C. .

C. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.7 TESTING AGENCY DUTIES AND RESPONSIBILITIES

A. Testing Agency Duties:

1. Provide qualified personnel at site. Cooperate with Arconics Architecture, P.C. and Contractor in performance of services.

2. Perform specified sampling and testing of products in accordance with specified standards.

3. Ascertain compliance of materials and mixes with requirements of Contract Documents.

4. Promptly notify Arconics Architecture, P.C. and Contractor of observed irregularities or non-conformance of work or products.

5. Perform additional tests and inspections required by Arconics Architecture, P.C. .

6. Submit reports of all tests or inspections specified.

B. Limits on Testing or Inspection Agency Authority:

1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.

2. Agency may not approve or accept any portion of the work.

3. Agency may not assume any duties of Contractor.

4. Agency has no authority to stop the work.

C. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Arconics Architecture, P.C. .

D. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.8 CONTRACTOR DUTIES AND RESPONSIBILITIES

A. Contractor Responsibilities, General:

1. Deliver to agency at designated location, adequate samples of materials for special inspections that require material verification.

2. Cooperate with agency and laboratory personnel; provide access to the work, to manufacturers' facilities, and to fabricators' facilities.

3. Provide incidental labor and facilities:

   a. To provide access to work to be tested or inspected.

   b. To obtain and handle samples at the site or at source of Products to be tested or inspected.

   c. To facilitate tests or inspections.

   d. To provide storage and curing of test samples.

4. Notify Arconics Architecture, P.C. and laboratory 24 hours prior to expected time for operations requiring testing or inspection services.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

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 SECTION INCLUDES

A. Temporary telecommunications services.

B. Temporary electric power and light.

C. Ventilation.

D. Temporary sanitary facilities.

E. Temporary Controls: Barriers, enclosures, and fencing.

F. Vehicular access and parking.

G. Storage shed

H. Temporary enclosures.

I. Hoists

J. Waste removal facilities and services.

K. Field offices.

L. Construction aids and miscellaneous services and facilities.

M. Temporary fire protection

N. Enclosure fence for the construction site.

O. Environmental protection.

1.3 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements for submittals.

B. Section 01 7000 - Execution and Closeout Requirements for progress cleaning requirements.

1.4 DEFINITIONS

A. Permanent Enclosure: As determined by Architect, permanent or temporary roofing is complete, insulated, and weathertight; exterior walls are insulated and weathertight; and all openings are closed with permanent construction or substantial temporary closures

1.5 REFERENCES

A. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Refer to guidelines for Bid Conditions for “Temporary Job Utilities and Services” as prepared jointly by AGC and ASC for recommendations.

1.6 REPORTS AND PERMITS:

A. Submit copies of reports of tests, inspections, and similar procedures performed on temporary utilities before, during and after performance of work. Submit copies of permits, easements and similar documentation necessary for installation, use and operation of temporary utility services.

1.7 QUALITY ASSURANCE

A. Regulations: General Contractor shall comply with industry standards and with applicable laws and regulations of authorities having jurisdiction including, but not limited to, the following:

1. Building code requirements.

2. Health and safety regulations.

3. Utility company regulations.

4. Police, fire department and rescue squad rules.

5. Environmental protection regulations

B. Standards: General Contractor shall comply with NFPA 241 "Standard for Safeguarding Construction, Alterations, and Demolition Operations," ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition," and NECA Electrical Design Library "Temporary Electrical Facilities."

1.8 PROJECT CONDITIONS

A. General: Contractors shall provide each temporary service and facility ready for use at each location, when first needed to avoid delays in performance of work. Maintain, expand as required, and modify as needed throughout the progress of the work. Do not remove until services or facilities are no longer needed or are replaced by the authorized use of completed permanent facilities.

1. The facility is currently equipped with an existing electrical service which is providing temporary lighting and power to the job site. This electrical service provides power to the adjacent Pavilion which is not to be interrupted for any reason without advance notice and Architect’s prior approval. The facility is also served by a newly upgraded electrical service, installed under a prior contract, which is to provide for all new electrical distribution wiring for the renovated facility. Upon completion of the renovation work and the permanent electrification of the new service, the Electrical Contractor shall be responsible to remove all temporary electrical provisions and any/all remnants of the existing electrical service which has been replaced under this contract.

2. The facility is currently served by a new domestic water service and backflow device without any distribution piping. The Plumbing Contractor shall install a vandal-proof temporary exterior hose bib for use during construction and which shall be removed at the project’s conclusion.

3. The facility is currently served by an existing gas service. This gas service provides gas to the adjacent Pavilion which is not to be interrupted for any reason without advance notice and Architect’s prior approval

B. Temporary Use of Permanent Facilities: Regardless of previously assigned responsibilities for temporary services and facilities, the Installer of each permanent service or facility shall assume responsibility for its operation, maintenance and protection during use as a construction service or facility prior to the Owner's acceptance and operation of the facility.

C. Conditions of Use: Operate temporary services and facilities in a safe and efficient manner. Do not overload, and do not permit temporary services and facilities to interfere with the progress of work, or occupancy of existing facility by owner. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist on the site.

D. Temporary Construction and Support Facilities: Maintain temporary facilities in a manner to prevent discomfort to users. Take necessary fire prevention measures. Maintain temporary facilities in a sanitary manner so as to avoid health problems.

E. Security and Protection: Maintain site security and protection facilities in a safe, lawful, publicly acceptable manner. Take measures necessary to prevent site erosion.

1.9 TEMPORARY UTILITIES

A. Owner shall provide and pay for all electrical power, lighting, and water required for construction purposes.

B. Existing facilities may be used if adequate with prior written approval from the Architect.

C. Use trigger-operated nozzles, with back flow devices, for water hoses, to avoid waste of water.

1.10 DIVISION OF RESPONSIBILITIES

A. Contractors are responsible for the following:

1. Operation, maintenance, and removal of each temporary facility usually considered as its own normal construction activity, as well as the costs and use charges associated with each facility.

2. Plug-in electric power cords and extension cords.

3. Supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.

4. Special power requirements for installation of its own work such as welding or temporary elevator power.

5. Its own field office complete with necessary furniture, utilities, and telephone service.

6. Its own storage and fabrication sheds.

7. All hoisting and scaffolding for its own work.

8. Collection and disposal of its own hazardous, dangerous, unsanitary, or other harmful waste material.

9. Collection and disposal of major equipment removed such as boilers, unit ventilators, and heaters.

10. Collection of general waste and debris and disposing into containers provided by the Contractor.

11. Secure lockup of its own tools, materials and equipment.

12. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.

B. The General Contractor is responsible and pays all costs for the following:

1. Temporary toilets, including disposable supplies.

2. Job site containers for non-hazardous waste and debris. Job site containers are not to be utilized for disposal of other Prime Contractors' debris generated under their contracts.

4. Disposal of wastes containers.

5. Barricades, warning signs, and lights.

6. Site/construction enclosure fence.

7. Temporary dust control.

C. Water Service: Plumbing Contractor shall provide and pay all costs to install temporary distribution piping of sizes and pressures adequate for construction.

1. Provide backflow devices to prevent water from re-entering the potable system.

2. Maintain hose connections and outlet valves in leak-proof condition. Where finish work below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize the possibility of water damage. Drain water promptly from drip pans as it accumulates.

D. Temporary Electric Power Service:

1. Applicability: This section applies to all renovation and new construction work areas for this Project beyond that which has been installed prior to this contract.

2. Connect temporary service in a code-compliant manner.

3. Temporary or permanent services for temporarily or permanently installed building equipment such as sump pumps, boilers, cabinet heating, and fans shall be furnished, installed, operated and maintained so that the said equipment may be operated for drainage and temporary heat when required and/or when so ordered by the Architect.

4. Electrical Contractor shall maintain all parts of the electrical system temporary and permanent active and in-service at all times throughout the contract duration. All temporary lighting and power to be controlled by standard switches per code (outside of power panels) at no additional charge.

5. Temporary Service: Maintain service and grounding in compliance with the National Electric Code (NFPA 70). Include necessary overload protected disconnect. Comply with all NECA, NEMA and UL Standards.

6. Power Distribution System: Provide additional circuits of adequate size and proper characteristics for each use as required. In general run wiring overhead. Rise vertically where wiring will be least exposed to damage from construction operations.

7. Provide/maintain overload-protected disconnect switch as required by code.

1.11 USE CHARGES

A. General: Cost or use charges for temporary facilities are provided by the Owner.

1. Water Service Use Charges: Water from the Owner's existing water system may be used without metering, and without payment for use charges only with the Architect's prior written approval.

2. Electric Power Service Use Charges: Electric power from the Owner's existing system may be used without payment of use charges only with the Architect's prior written approval. Contractor and Sub-Contractors shall exercise measures to conserve energy usage.

1.12 TELECOMMUNICATIONS SERVICES

A. Each Contractor shall provide and pay for its own telephone service. Provide mobile phone service for all field superintendents and foreman.

1.13 TEMPORARY SANITARY FACILITIES

A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.

B. Toilets: Use of the Owner's existing toilet facilities will not be permitted

C. Maintain daily in clean and sanitary condition.

D. At end of construction, return facilities to same or better condition as originally found.

E. Sanitary Facilities: Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with governing regulations including safety and health codes for the type, number, location, operation and maintenance of fixtures and facilities; provide not less than specified requirements. Install in locations which will best serve the project's needs.

1. Responsibilities: The General Construction Contractor is responsible for temporary sanitary facilities and their maintenance, including supplies, for all contractors.

2. Install self-contained toilets to the extent permitted by governing regulations.

1.14 BARRIERS

A. Responsibility: General construction barriers required for the project shall be the responsibility of the General Construction Contractor

B. Barricades, Warning Signs and Lights: Comply with recognized standards and code requirements for erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public, of the hazard being protected against. Provide lighting where appropriate and needed for recognition of the facility, including flashing red lights where appropriate.

1. Sign Materials: For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated. Provide exterior grade acrylic-latex-base enamel for painting sign panels and applying graphics.

C. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations.

D. Plywood: For safety barriers, sidewalk bridges and similar direct-contact uses, provide exterior type, 5/8" thick minimum prime and finish painted plywood.

E. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.15 FENCING

A. Enclosure Fence: General: Prior to start of excavation or other substantial elements of work begin, install a general enclosure fence with suitable lockable entrance gates. Locate where indicated, or if not indicated, enclose the entire site or the portion of the site determined to be sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs and other animals from easily entering the site, except through entrance gates.

1. The General Construction Contractor shall provide, maintain and pay all costs for temporary fencing until directed to remove fence from the site

B. Construction: Commercial grade chain link fence.

C. Provide 6-foot-high fence around construction site; equip with vehicular and pedestrian gates with locks.

D. Locate where indicated, or if not indicated, enclosed portions of the site determined to be sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs and other animals from easily entering the site, except through entrance gates.

1. Material:

a. Steel fencing: Galvanized Chain Link and galvanized gates (non-climbable size).

b. Fabric: No. 9 GA galvanized, steel wire mesh, furnish one-piece fabric widths for fencing up to 12' in height indicated in the Contract Documents.

c. Framing and Accessories: End, Corner and Pull posts: 2.375" OD steel pipe.

d. Line Posts: Space 10'-0" O.C. maximum. 1.90" steel pipe or 1.875" x 1.625 C-sections.

e. Fence Rails: Locate at top and bottom of fabric. Post brace assembly - manufacturer's standard.

f. Wire ties: For tying fabric to line posts use wire ties spaced 12" O.C.

g. Height: 6'

2. Excavate hole depths approximately 3" lower than post bottom; with bottom of posts set not less than 36" below finish grade surface. The line post holes will be 16" in diameter and 3'-9" in depth filled with set in a compacted mixture of gravel and earth.

a. Self-supporting fence with movable bases may be used when approved by the Owner and Architect in advance.

1.17 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Responsibilities: General Contractor is responsible for vehicular access and parking and all costs shall be included in their bid.

C. Coordinate access and haul routes with governing authorities and Mount Vernon City Schools.

D. Provide and maintain access to fire hydrants, free of obstructions.

E. Provide means of removing mud from vehicle wheels before entering streets.

1.18 WASTE REMOVAL

A. See Section 01 7419 - Waste Management, for additional requirements.

B. Each Contractor shall provide containers, at grade, if required sufficient for the depositing of nonhazardous/non-toxic waste materials and shall remove such waste materials from project site as required or directed by the Architect.

1. Provide specific containers for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.

2. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

C. Each Contractor shall broom clean the work area at the end of each work day.

1. If a contractor fails to clean areas at the end of each work day the Owner shall perform the cleaning and back charge the general contractor accordingly.

D. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

E. Provide containers with lids. Remove trash from site periodically.

F. Each Contractor shall be responsible for daily cleaning up of spillage and debris resulting from its operations and from those of its subcontractors; and shall be responsible for complete removal and disposition of hazardous and toxic waste materials.

G. Burying or burning of waste materials on the site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

H. Provide rodent proof containers located on each floor level to encourage depositing of garbage and similar wastes by construction personnel.

I. Site: Each Contractor shall maintain Project site free of waste materials and debris.

J. Installed Work: Keep installed work clean. General Contractor shall clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

K. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

L. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

M. Each Prime Contractor is responsible to provide dust protection for their construction-related activities.

N. If daily cleaning and dust protection is not provided the Contractor will be back charged for Cleanup performed by employees of the Owner or a separate contractor retained by the Owner.

1.19 FIELD OFFICES

A. Locate field offices, storage and fabrication sheds and other facilities for easy access to the work and as approved by the Owner. Position offices so that window gives the best possible view of construction activities.

B. Field offices, storage and fabrication sheds and other facilities constructed of combustible material shall not be located closer than 15' from existing buildings.

C. Maintain field offices, storage and fabrication sheds, temporary sanitary facilities, waste collection and disposal system, and project identification and temporary signs until near substantial completion. Immediately prior to substantial completion remove these facilities.

1.20 HOISTS AND TEMPORARY ELEVATOR USE:

A. Each Contractor shall provide facilities for hoisting materials and employees. Do not permit employees to ride hoists which comply only with requirements for hoisting materials. Section of type, size and number of facilities is the Contractor's option. Truck cranes and similar devices used for hoisting are considered tools and equipment and not temporary facilities

1.21 MISCELLANEOUS PROVISIONS

A. Dewatering Facilities and Drains: General: For temporary drainage and dewatering facilities and operations, comply with dewatering requirements of applicable sections. Maintain site excavations and construction free of water.

B. Temporary Roof Drainage: The General Construction Contractor shall provide temporary drainage until roofing or similar waterproof deck construction is completed and prior to connection and operation of permanent drainage piping system.

1. Dispose of rainwater in a lawful manner, which will not result in flooding of the project site or adjoining property, or endanger either permanent work or temporary facilities

1.22 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.

B. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

E. Replace air filters and clean the inside of ductwork and housings.

F. Replace significantly worn parts and parts that have been subject to unusual operating conditions.

G. Replace lamps in the lighting system that are burned out or dimmed by substantial hours of use

PART 2 PRODUCTS -

2.1 DE - WATERING FACILITIES AND DRAINS

A. The responsibility of de-watering of the site as to facilitate the work will be the responsibility of the General Construction Contractor.

1. Dispose of rainwater in a lawful manner that will not result in flooding project or adjoining property nor endanger permanent drainage piping system, provide temporary drainage where roofing or similar waterproof deck construction is completed.

PART 3 EXECUTION -

3.1 TEMPORARY UTILITY INSTALLATION

A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the work. Relocate and modify facilities as required.

B. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

3.2 CONTRACTOR FIELD OFFICES

A. Any Prime Contractor may, with permission from the architect, establish a field office for their own use. Said office for the Contractors shall be of such size and design as approved by the owner and architect and shall be located in a fenced staging area or where directed by the Architect. Each representative contractor will arrange for telephone service and electric service, if required, directly with the utility company.

B. Maintain, in each Contractor’s field office, all articles for First Aid treatment; further, the contractor shall establish standing arrangements for the immediate removal and hospital treatment of any employees and other persons on the job site who may be injured or who may become ill during the course work.

C. No interior work areas are to be used as office, storage or contractor staging.

3.3 SCAFFOLDING AND STAGING

A. All scaffold, staging and appurtenances thereto shall comply in total to the requirements of Safety and Health Regulations for Construction Chapter XVII of OSHA, Part 1926 and all related amendments.

3.4 FIRE PREVENTION CONTROL

A. All Contractors shall comply with the safety provisions of the National Fire Protection Association's “National Fire Codes” pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work.

3.5 DISCONTINUE, CHANGES AND REMOVAL

A. All Contractors shall:

1. Discontinue all temporary services required by the Contract when so directed by the Architect.

2. Remove and relocate such temporary facilities as directed by the Architect without additional cost to the Owner and shall restore the site and the work to a condition satisfactory to the Owner.

3.6 TEMPORARY SITE SAFETY AND DIRECTIONAL SIGNS:

A. Prepare temporary signs to provide directional information to construction personnel and visitors.

B. Construct signs of exterior type Grade AC plywood ½" thick. Support on posts or framing of preservative-treated wood or steel or attach to fencing; do not attach signs to buildings or permanent construction.

C. Paint sign panel and applied graphics with exterior grade alkyd gloss enamel over exterior primer. Engage an experienced sign painter or fabricator to apply graphics.

D. Include relocating temporary site safety and directional signs as many times as required or directed.

E. The General Construction Contractor shall furnish and install construction signage as required at project site.

3.7 ENVIRONMENTAL PROTECTION:

A. All workers shall provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near Project site.

3.8 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.

B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

2. Protection: Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. General product requirements.

B. Re-use of existing products.

C. Transportation, handling, storage and protection.

D. Product option requirements.

E. Substitution limitations and procedures.

F. Owner Supplied Owner Installed Products

1.3 RELATED REQUIREMENTS

A. Document 00 2113 - Bidding Requirements: Product options and substitution procedures prior to bid date.

B. Section 01 4000 - Quality Requirements: Product quality monitoring.

C. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.4 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.5 ASBESTOS

A. Asbestos: All products, materials, etc., used in conjunction with this Project shall be Asbestos-Free.

1. Contractor shall provide a certified letter to the Owner stating that no asbestos containing material has been used in this project. Refer to Section 01 7800 - Closeout Submittals.

PART 2 PRODUCTS

2.1 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor(s); remove from site.

2.2 NEW PRODUCTS

A. Provide new products for all unless otherwise specifically required or permitted by the Contract Documents.

B. DO NOT USE products having any of the following characteristics:

1. Made outside the United States, its territories, Canada, or Mexico.

2. Made using or containing CFC's or HCFC's.

C. Where all other criteria are met, Contractor shall give preference to products that:

1. If used on interior, have lower emissions, as defined in Section 01 6116.

2. If wet-applied, have lower VOC content, as defined in Section 01 6116.

3. Have a published GreenScreen Chemical Hazard Analysis.

2.3 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named. Submit on form attached.

C. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Administrative Requirements". All products, other than "Basis of Design", shall be submitted as a substitution. Show compliance with requirements. Submit on form attached

PART 3 EXECUTION

3.1 SUBSTITUTION PROCEDURES

A. Arconics Architecture, P.C. will consider requests for substitutions only within five (5) days after date established in Notice to Proceed.

B. Substitutions will not be considered during the bidding phase.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

D. A request for substitution constitutes a representation that the submitter:

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 to Owner.

4. Waives claims for additional costs or time extension that may subsequently become apparent.

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. Substitution Submittal Procedure:

1. Substitution Request Form: Use form provided in this Section.

2. Submit in electronic PDF format one copy of request for substitution for consideration. Limit each request to one proposed substitution.

3. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.

4. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

5. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 30 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

    a. Use product specified if Architect cannot make a decision on use of a proposed substitution within time allocated.

6. Arconics Architecture, P.C. will notify Contractor in writing of decision to accept or reject request.

SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST NO. _____

(After the Bidding Phase)

Project: Rye Town Park – Beach Access Bathrooms

Substitution Request Number: _____

From: _____

Date: _____

A/E Project Number: _____

Specification Title: _____Description: _____

Section:_____ Page:_____ Article/Paragraph: _____

Proposed Substitution:

Manufacturer: _____ Address: _____ Phone:_____

_____ model no.: _____

Installer:_____ Address: _____ Phone: _____

History: _____New product ____2-5 yrs old _____ 5-10 yrs old ____ More than 10 yrs old

Differences between proposed substitution and specified product:

_____

Point-by-point comparative data attached - REQUIRED
Reason for not providing specified item: _____

Similar Installation:

Project: _____ Architect: _____

Address:_____ Owner: _____

Date Installed: _____

Proposed substitution affects other parts of Work: ____ No ____Yes; explain

_____

Savings to Owner for accepting substitution: _____ ($)

Proposed substitution changes Contract Time: ____ No ____ Yes Add _____Deduct _____days.

Supporting Data Attached: ____ Drawings ____ Product Data ____ Samples _____ Tests Reports

The Undersigned certifies:

Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product. Same warranty will be furnished for proposed substitution as for specified product. Same maintenance service and source of replacement parts, as applicable, is available. Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule. Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived. Proposed substitution does not affect dimensions and functional clearances. Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution. Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments:

A/E's REVIEW AND ACTION

____ Substitution approved - Make submittals in accordance with Specification Section 01330

____ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.

____ Substitution rejected - Use specified materials.

____ Substitution Request received too late - Use specified materials.

_____Date:_____

Additional Comments: __ Contractor __ Subcontractor __ Supplier __ Manufacturer __ A/E

_____

_____

_____

_____

_____

END OF SECTION

SECTION 01 6116

VOLATILE ORGANIC COMPOUND (VOC) CONTENT AND RESTRICTIONS

1.1 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

C. Requirement for installer certification that they did not use any non-compliant products.

1.2 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.

B. Section 01 4000 - Quality Requirements: Procedures for testing and certifications.

C. Section 01 6000 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

D. Section 07 9200 - Joint Sealants: Emissions-compliant sealants.

E. Section 15100 – Plumbing

F. Section 15200 – Fire Protection

G. Section 15300 – Heating, Ventilation, and Air Conditioning

H. 16100 – Electrical

1.3 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:

1. Interior paints and coatings.

2. Interior adhesives and sealants, including flooring adhesives.

3. Flooring.

4. Composite wood.

5. Products making up wall and ceiling assemblies.

6. Thermal and acoustical insulation.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:

1. Interior paints and coatings.

2. Interior adhesives and sealants, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:

1. Concrete.

2. Clay brick.

3. Metals that are plated, anodized, or powder-coated.

4. Glass.

5. Ceramics.

6. Solid wood flooring that is unfinished and untreated.

1.4 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; current edition.

B. NY TITLE 6, 6 CRR-NY111 A 205 NOTES, NY-CRR

C. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).

D. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions From Indoor Sources Using Environmental Chambers; California Department of Public Health; v1.1, 2010.

E. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; California Air Resources Board; current edition.

F. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

G. CHPS (HPPD) - High Performance Products Database; Collaborative for High Performance Schools (CHPS); current edition at www.chps.net/.

H. CRI (GLP) - Green Label Plus Testing Program - Certified Products; Carpet and Rug Institute; Current Edition.

I. UL (GGG) - GREENGUARD Gold Certified Products; UL Environment; current listings at http://http://productguide.ulenvironment.com/QuickSearch.aspx.

J. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition; www.aqmd.gov.

K. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

L. SCS (CPD) - SCS Certified Products; Scientific Certification Systems; current listings at www.scscertified.com.

M. UL (GGG) - GREENGUARD Gold Certified Products; UL Environment; current listings at http://http://productguide.ulenvironment.com/QuickSearch.aspx.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

C. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have been used in the installation of his products, or 2) that such products used comply with these requirements.

1.6 QUALITY ASSURANCE

A. Indoor Emissions Standard and Test Method: CAL (CDPH SM), using Standard Private Office exposure scenario and the allowable concentrations specified in the method, and range of total VOC's after 14 days.

1. Wet-Applied Products: State amount applied in mass per surface area.

2. Paints and Coatings: Test tinted products, not just tinting bases.

3. Evidence of Compliance: Acceptable types of evidence are the following;

a. Current UL (GGG) certification.

b. Current SCS (CPD) Floorscore certification.

c. Current SCS (CPD) Indoor Advantage Gold certification.

d. Current listing in CHPS (HPPD) as a low-emitting product.

e. Current CRI (GLP) certification.

f. Test report showing compliance and stating exposure scenario used.

4. Product data submittal showing VOC content is NOT acceptable evidence.

5. Manufacturer's certification without test report by independent agency is NOT acceptable evidence.

B. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.

1. Evidence of Compliance: Acceptable types of evidence are:

a. Report of laboratory testing performed in accordance with requirements.

C. Composite Wood Emissions Standard: CARB (ATCM) for ultra-low emitting formaldehyde (ULEF) resins.

1. Evidence of Compliance: Acceptable types of evidence are:

    a. Current SCS "No Added Formaldehyde (NAF)" certification; www.scscertified.com.

    b. Report of laboratory testing performed in accordance with requirements.

    c. Published product data showing compliance with requirements.

D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.1 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. Indoor-Emissions-Restricted Products: Comply with Indoor Emissions Standard and Test Method, except for:

1. Composite Wood, Wood Fiber, and Wood Chip Products: Comply with Composite Wood Emissions Standard or contain no added formaldehyde resins.

2. Inherently Non-Emitting Materials.

C. VOC-Content-Restricted Products: VOC content not greater than required by the following:

1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.

2. Joint Sealants: SCAQMD 1168 Rule.

3. Paints and Coatings: Each color; most stringent of the following:

    a. 40 CFR 59, Subpart D.

    b. SCAQMD 1113 Rule.

    c. CARB (SCM).

PART 3 EXECUTION

3.1 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 7000

EXECUTION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. Inspections prior to start of work.

B. Examination, preparation, and general installation procedures.

C. Requirements for alterations work, including selective removals and asbestos/lead abatement.

D. Site scoping.

E. Construction layout.

F. Field engineering and surveying.

G. General installation of products.

H. Progress cleaning.

I. Protection of installed construction.

J. Correction of the Work.

K. Removals and dust control.

L. Cutting and patching.

M. Cleaning and protection.

N. Final Cleaning.

O. Starting of systems and equipment.

P. Demonstration and instruction of Rye Town Park personnel.

Q. Closeout procedures, except payment procedures.

1.3 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures.

B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

C. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.

E. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

F. Section 07 8413 - Firestopping.

G. Individual Product Specification Sections:

1. Advance notification to other sections of openings required in work of those sections.

2. Limitations on cutting structural members.

1.4 REFERENCE STANDARDS

A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.5 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.

1. On request, submit documentation verifying accuracy of survey work.

2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in conformance with Contract Documents.

3. Submit surveys and survey logs for the project record.

C. Certified Surveys: Submit two copies signed by land surveyor or professional engineer for each the following surveys:

1. Foundation Survey: After completion of foundations, as-built survey shall be submitted before continuing with the work.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

E. Cutting and Patching: 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.

1.6 QUALIFICATIONS

A. Refer to individual sections for additional requirements.

B. For survey work, employ a land surveyor registered in New York and acceptable to Arconics Architecture, P.C.

1.7 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

D. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

1. Minimize amount of bare soil exposed at one time.

2. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.

1.8 COORDINATION

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.

B. Notify affected utility companies and comply with their requirements.

C. Coordinate completion and clean-up of work of separate sections.

D. 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.

1.9 CODES, PERMITS, FEES, ETC. REFER TO SECTION 01 4100 REGULATORY REQUIREMENTS

PART 2 PRODUCTS

2.1 MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000.

D. Barriers shall be constructed of sturdy lumber having a minimum size of 2 x 4.

1. Signs shall be made of sturdy plywood of 1/2" minimum thickness and shall be made to legible at a distance of 50 feet.

PART 3 EXECUTION

3.1 EXAMINATION

A. Prior to start of construction take photographs, videos or similar documentation as evidence of existing project conditions as follows:

1. Exterior views: Each area of work and areas of outside work area which could be construed as caused by the contractor.

B. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

C. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

D. Examine and verify specific conditions described in individual specification sections.

E. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.2 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Arconics Architecture, P.C. of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Arconics Architecture, P.C. the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Arconics Architecture, P.C. .

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.

2. Grid or axis for structures.

3. Building foundation and piers, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

3.3 REMOVAL AND DUST CONTROL

A. The following procedures shall be followed when removals will create dust:

1. Exterior

a. Work must be in compliance with OSHA Construction Standard (29 CFR 1926.62).

b. Provide tarps on the outside of the building to catch all dust, debris and paint chips when items are being removed and installed.

2. Each Contractor shall provide labor for daily cleanup on the interior and the exterior of the building as required or directed by the Architect. Any visible debris shall be removed prior to occupancy the following day.

a. Only wet cleaning methods and/or HEPA vacuuming shall be used to clean.

3. All debris shall be disposed of properly in accordance with Federal, State and Local Regulations. Refer to Section 01 5000 - Temporary Facilities and Controls and asbestos and lead abatement sections for containers required.

4. Do not leave any openings unprotected at end of work day or during periods of excessive cold weather or precipitation.

5. At completion of each work area HEPA vacuumed and wet wiped.

3.4 GENERAL INSTALLATION REQUIREMENTS

A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.

B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

D. Saw cut all concrete slabs and asphalt paving.

E. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

F. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

G. Make neat transitions between different surfaces, maintaining texture and appearance.

3.5 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.

1. Verify that construction and utility arrangements are as shown.

2. Report discrepancies to Arconics Architecture, P.C. before disturbing existing installation.

3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Remove existing work as required to accomplish new work.

1. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

C. Services (Including but not limited to Plumbing and Electrical): Remove, relocate, and extend existing systems to accommodate new construction.

1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

2. Remove conduits, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

D. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

E. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

F. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

G. Do not begin new construction in alterations areas before demolition is complete.

H. Comply with all other applicable requirements of this section.

3.6 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Each Contractor shall perform whatever cutting and patching is necessary to:

1. Complete the work.

2. Fit products together to integrate with other work.

3. Provide openings for penetration of electrical HVAC, plumbing, and other services.

4. Match work that has been cut to adjacent work.

5. Repair areas adjacent to cuts to required condition.

6. Repair new work damaged by subsequent work.

7. Remove samples of installed work for testing when requested.

8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Restore work with new products in accordance with requirements of Contract Documents.

F. Patching:

1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

4. Each Prime Contractor shall fire seal and/or fire stop all openings and all penetrations caused by their work.

G. Make neat transitions. Patch work to match adjacent work in texture and appearance. Where new work abuts or aligns with existing, perform a smooth and even transition.

3.7 VERIFICATION OF CONDITIONS

A. All openings, measurements, door frames, existing conditions and other similar items or conditions shall be field measured prior to submission of any shop drawings or manufacturers literature for approval.

1. Each Contractor shall investigate each space into and through which equipment must be moved. Equipment shall be shipped from manufacturer in sections, of size suitable for moving through restricted spaces. Where sectional fabrication and or delivery cannot be achieved, openings, enlargements etc. shall be provided by contractor whose equipment requires access, at no additional cost to the Owner.

3.8 PROGRESS CLEANING

3.9 PROTECTION OF INSTALLED WORK

A. Each Contractor shall protect their installed work from damage by other construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.10 SYSTEM STARTUP

A. Coordinate schedule for start-up of various equipment and systems.

B. 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.

C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

D. Verify that wiring and support components for equipment are complete and tested.

E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.

F. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of owner personnel.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

B. Testing, adjusting, and balancing HVAC systems.

3.13 FINAL CLEANING

A. Final cleaning shall be the responsibility of the General Construction Contractor and all costs for final cleaning shall be included in the Base Bid. Final cleaning responsibility shall include all areas of the building including the attic.

B. Execute final cleaning prior to final project assessment.

C. Use cleaning materials that are nonhazardous.

D. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,

E. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

F. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

G. HVAC Contractor shall replace filters of operating equipment.

H. Clean debris from roofs, gutters, downspouts, and drainage systems.

I. Clean site; sweep paved areas, rake clean landscaped surfaces.

J. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

K. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

L. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

M. Cleaning Agents: Use cleaning materials and agents recommended by the manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

N. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

O. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.

P. Sweep attic and basement floors broom clean.

Q. Wax all resilient flooring.

R. Remove labels that are not permanent.

S. Touch up and otherwise repair and restore marred, exposed finishes and surfaces evidence of repair or restoration. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show

T. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

U. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.

V. Leave Project clean and ready for occupancy.

W. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.14 CLOSEOUT PROCEDURES REFER TO SECTION 01 7800

END OF SECTION

SECTION 017329

CUTTING AND PATCHING

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

B. In general, each Contractor shall perform all the cutting, patching, and fire sealing required to perform the work of their contract.

1.2 SECTION INCLUDES

A. This Section includes procedural requirements for cutting and patching.

1.3 RELATED SECTIONS

A. Refer to Divisions 3 through 32 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1. Requirements in this Section apply to all prime contractors. Refer to Divisions 21, 22, 23 and 26 Sections for other requirements and limitations applicable to cutting and patching.

1.4 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.5 SUBMITTALS

A. Cutting and Patching: Submit a method describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.

2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.

3. Products: List products to be used and firms or entities that will perform the Work.

4. Dates: Indicate when cutting and patching will be performed.

5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.

6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.

7. Architect's Approval: Obtain approval of cutting and patching before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.6 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

1. Provide a list of additional elements that are structural elements and that require Architect's approval of a cutting and patching proposal.

B. Operational Elements: Do not cut and patch the following operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

1. Primary operational systems and equipment.

2. Air or smoke barriers.

3. Fire-protection systems.

4. Control systems.

5. Communication systems.

6. Conveying systems.

7. Electrical wiring systems.

C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

1. Water, moisture, or vapor barriers.

2. Membranes and flashings.

3. Exterior construction.

4. Equipment supports.

5. Piping, ductwork, vessels, and equipment.

6. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.7 WARRANTY

A. Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void warranties.

PART 2 PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. In-Place Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. In-Place Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.

5. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over

entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components m a manner that restores enclosure to a weathertight condition.

END OF SECTION

SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 WASTE MANAGEMENT REQUIREMENTS

A. The Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

E. Methods of trash/waste disposal that are not acceptable are:

1. Burning on the project site.

2. Burying on the project site.

3. Dumping or burying on other property, public or private.

4. Other illegal dumping or burying.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with all regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.3 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

PART 2 EXECUTION

2.1 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

END OF SECTION

SECTION 01 7800

CLOSEOUT PROCEDURES AND SUBMITTALS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SECTION INCLUDES

A. Project Record Documents.

B. Warranties and bonds.

1.3 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Individual Product Sections: Warranties required for specific products or Work.

1.4 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion:

1. Prepare a list of items to be completed and corrected, the value of items on the list, and reasons why the Work is not complete.

2. Advise Architect of pending insurance changeover requirements.

3. Obtain and submit releases permitting Owner and Architect unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

4. Substantial Completion shall be when work is complete, premise is suitable for its intended use and all aspects of Code-compliancy are met.

B. Prior to issuance of the Certificate of Substantial Completion, submit, in writing, a request to the Architect a request to perform site inspection for the purpose of preparing a "punch list".

C. On receipt of request Architect will prepare a punch list.

D. Certificate of Substantial Completion will be issued after completion of all punch list items or Owner and Architect will notify Contractor of items, either punch list or additional items identified by Architect, that must be completed or corrected before certificate will be issued. After completion of "punch list" items submit the following:

1. Application for Payment showing 100 percent completion for portion of the Work claimed as substantially completed the following:

2. Manufacturer's Warranties (guarantees).

3. Contractor's Warrantee (Two Years) and extended warrantees

4. Maintenance agreements, if any.

5. Manifest for disposal of Hazardous material.

6. Test/adjust/balance records.

7. Maintenance Manuals and Instructions Manuals

8. Spare parts and Attic Stock.

9. Start-up performance reports.

10. Changeover information related to Owner's occupancy, use, and maintenance

11. Final cleaning.

12. Advice on shifting insurance coverage.

13. List of incomplete Work, recognized as exceptions to Architect's "punch list".

14. Architect's punch list certifying all punch list items have been completed with each item signed off by the Owner's Architect and Contractor.

15. Removal of temporary facilities and services.

16. Removal of surplus materials, rubbish and similar elements.

17. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

18. As Built Drawings.

19. Project Record Documents.

E. Requirements for Project Closeout, if applicable, shall include but not necessarily be limited to:

1. Fire Alarm System: Certification that all fire alarm systems (e.g. pull stations, smoke and fire detection devices) have been fully installed, inspected, tested and connected to the fire alarm system in accordance with NFPA72 – National Fire Alarm Code.

2. Fire Alarm System Record of Completion: The Record of Completion must be in accordance with NFPA72 - National Fire Alarm Code.

3. Sprinkler System Installation: Contractor’s certification letter that installation is in accordance with NFPA13 – Standard for Installation of Sprinkler Systems is to be provided along with a completed and signed Contractor’s Material and Test Certificate.

4. Sprinkler System Test Report: Sprinkler system periodic test report is to be provided in a format consistent with the requirements of NFPA25.

5. Stand-pipe System: Contractor’s Certification plus Test Certificate is to be provided as per NFPA14 – Standard for Installation of Standpipes and Hose Systems.

6. Fire Stopping: The General Construction Contractor shall provide third-party inspection and provide written certification that all fire/smoke barrier walls were inspected and that any penetrations were sealed with a listed Through Penetration Firestop System.

7. Electrical Inspection Certificate: Contractor's certification that all electrical systems have been installed in conformance with applicable codes (including NFPA70 – National Electrical Code and approved plans.

8. Battery Operated Lighting and Emergency Lighting: Electrical Contractor's certification showing evidence of testing as required in NFPA101 Section 7.9

9. Plumbing Certification: Contractor's certification that the plumbing systems have been installed in accordance with the applicable plumbing code.

10. Backflow Prevention Certification: Certification that installation is in accordance with the approved plans, along with test and maintenance information for each backflow prevention device. Results should be shown on the NYS-DOH-1013 (Bureau of Public Water Supply Protection) form most recently submitted by facility.

11. Certificate of Occupancy: General Construction Contractor shall file for the Certificate of Occupancy for building construction as issued from the local authority having jurisdiction.

12. Ventilation System Certification: HVAC Contractor's letter certifying compliance regarding installation, testing, balancing, and correct operation of system.

13. HVAC Air Balance Report: The report must show actual ventilation flow results and demonstrate compliance with design flows. The report shall include a cover certification by a licensed design professional who reviewed the air balancing results, indicating compliance with reference codes as per ANSI/ASHRAE/ASHE ventilation requirements as further specified in FGI 2014.

14. Elevator Certification: Certification that elevator has been inspected, tested, and meets applicable needs.

F. Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

1. If necessary re-inspection will be repeated and the contractor shall reimburse Owner for all additional inspections by the Architect.

2. Results of completed inspection will form the basis of requirements for Final Completion

1.5 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Owner and Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will not process a final Certificate for Payment until after the inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

a. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.

B. Following Final Inspection acceptance of work submit the following:

1. Submit a final Application for Payment.

2. Submit certified copy of Architect's Substantial Completion punch list items endorsed and dated Contractor and Architect certifying each item has been completed or otherwise resolved for acceptance.

3. Update final statement, accounting for final changes to the Contract Sum.

4. Release of liens from contractor and all entities of the contractor.

5. Consent of Surety to Final Payment, AIA Document G707

6. Contractor's Affidavit of Release of Liens (AIA G706A).

7. Contractors Affidavit of Payment of Debts and Claims (AIA G706)

8. Certification of Payment of Prevailing Wage Rates.

9. Contractor's certified statement that no asbestos containing material was incorporated into the project.

10. Asbestos manifest.

11. Underwriters Certificate.

1.6 SUBMITTALS

A. All Contractors shall submit all documentation identified in this section within thirty (30) days from the time the Contractor submits the list of items to be corrected, as referred to in the General Conditions, "in addition to other rights of the Owner set forth elsewhere in the Contract Documents, to include but not limited to withholding of final payment." If the documentation has not been submitted within thirty (30) day period, the Owner will obtain such through whatever means necessary. The Contractor shall solely be responsible for all expenses incurred by the Owner, provided the Owner has advised the Contractor of this action thirty 30 days prior to the culmination date and again, seven 7 days prior to the culmination date by written notice

B. Project Record Documents: Submit documents to Arconics Architecture, P.C. with claim for final Application for Payment.

C. Warranties and Bonds:

1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

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.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

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. Changes made by Addenda and modifications.

F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.

2. Details not on original Contract drawings.

3.2 RECORD DRAWINGS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and approved Shop Drawings at the project site.

B. Each Prime Contractor is responsible for marking up Sections that contain its own Work and for submitting the complete set of record drawings/specifications.

C. 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.

1. Accurately record information in an understandable drawing technique.

D. Content: Types of items requiring marking include, but are not limited to, the following:

1. Revisions to details shown on Drawings.

2. Depths of foundations below lowest floor.

3. Locations and depths of underground utilities.

4. Revisions to routing of piping and conduits.

5. Revisions to electrical circuitry.

6. Changes made by Change Order or Construction Change Directive.

7. Changes made following Architect's written orders.

8. Details not on the original Contract Drawings.

E. 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.

F. Mark important additional information that was either shown schematically or omitted from original Drawings.

G. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

3.3 RECORD CAD DRAWINGS:

A. Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected CAD Drawings of the Contract Drawings, as follows:

1. Format: Same CAD program, version, and operating system as the original Contract Drawings.

2. Incorporate changes and additional information previously marked on Record Prints. Delete, redraw, and add details and notations where applicable.

3. Refer instances of uncertainty to Architect for resolution.

B. Owner will furnish Contractor one set of CAD Drawings of the Contract Drawings for use in recording information.

1. Architect makes no representations as to the accuracy or completeness of CAD Drawings as they relate to the Contract Drawings.

2. CAD Software Program: The Contract Drawings are available in Auto CAD 2013.

3.4 FORMAT

A. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Contractor shall certify and sign.

B. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Identify Record Drawing as follows:

1. Project name.

a. Date.

b. Designation "PROJECT RECORD DRAWINGS."

c. Name of Architect and Owner.

d. Name of Contractor.

e. Contractor shall certify and sign each drawing

3.5 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.6 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:

1. Description of unit or system, and component parts.

2. Identify function, normal operating characteristics, and limiting conditions.

3. Include performance curves, with engineering data and tests.

4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

E. Provide servicing and lubrication schedule, and list of lubricants required.

F. Include manufacturer's printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Additional Requirements: As specified in individual product specification sections.

3.7 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 017823

OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

A. Work of this Section includes all labor, materials, equipment and services necessary to complete the operation and maintenance data as specified herein.

1.3 RELATED SECTIONS

A. Submittal Procedures - Section 013300.

B. Closeout Procedures - Section 017800.

1.4 GENERAL

A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.

1. Each Prime Contractor shall prepare operation and maintenance data as specified in this Section and as referenced in other pertinent sections of Specifications.

1.5 FORM OF SUBMITTALS

A. Prepare data in the form of an instructional manual for use by Owner's personnel.

B. Format

1. Size: 8-1/2" x 11".

2. Paper: 20 pound minimum, white for typed pages.

3. Text: Manufacturer's printed data, or neatly typewritten.

4. Drawings

a. Provide reinforced punched binder tab, bind in with text.

b. Fold larger drawings to the size of the text pages.

5. Provide fly-leaf for each separate product, or each piece of operating equipment.

a. Provide typed description of product, and major component parts of equipment.

b. Provide indexed tabs.

6. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS." List:

a. Title of Project.

b. Identity of separate structure as applicable.

c. Identity of general subject matter covered in the manual.

C. Binders

1. Commercial quality three-ring binders with durable and cleanable plastic covers.

2. Maximum ring size: 1 inch.

3. When multiple binders are used, correlate the data into related consistent groupings.

1.6 MANUAL FOR MATERIALS AND FINISHES

A. Submit two copies of complete manual in final form.

B. Content, for architectural products, applied materials and finishes

1. Manufacturer's data, giving full information on products.

a. Catalog number, size, composition.

b. Color and texture designations.

c. Information required for re-ordering special-manufactured products.

2. Instructions for care and maintenance.

a. Manufacturer's recommendation for types of cleaning agents and methods.

b. Cautions against cleaning agents and methods which are detrimental to the product.

c. Recommended schedule for cleaning and maintenance.

C. Content, for moisture-protection and weather-exposed products

1. Manufacturer's data, giving full information on products.

a. Applicable standards.

b. Chemical composition.

c. Details of installation.

2. Instructions for inspection, maintenance, and repair.

1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit three copies of complete manual in final form.

B. Content, for each unit of equipment and system, as appropriate.

1. Description of unit and component parts.

a. Function, normal operating characteristics, and limiting conditions.

b. Performance curves, engineering data and tests.

c. Complete nomenclature and commercial number of all replaceable parts.

2. Operating procedures

   a. Start-up, break-in, routine and normal operating instructions.

   b. Regulation, control, stopping, shut-down and emergency instructions.

   c. Summer and winter operating instructions.

   d. Special operating instructions.

3. Maintenance procedures

   a. Routine operations.

   b. Guide to "trouble-shooting."

   c. Disassembly, repair and reassembly.

   d. Alignment, adjusting and checking.

4. Servicing and lubrication schedule.

   a. List of lubricants required.

5. Manufacturer's printed operating and maintenance instructions.

6. Description of sequence of operation by control manufacturer.

7. Original manufacturer's parts list, illustrations, assembly drawings and diagrams required for maintenance.

   a. Predicted life of parts subject to wear.

   b. Items recommended to be stocked as spare parts.

8. As-installed control diagrams by controls manufacturer.

9. Each contractor's coordination drawings.

   a. As-installed color coded piping diagrams.

10. Charts of valve tag numbers, with the location and function of each valve.

11. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

12. Other data as required under pertinent sections of specifications.

C. Content, for each electric and electronic system, as appropriate:

1. Description of system and component parts.

a. Function, normal operating characteristics, and limiting condition.

b. Performance curves, engineering data and tests.

c. Complete nomenclature and commercial number of replaceable parts.

2. Circuit directories of panel boards.

a. Electrical service.

b. Controls.

c. Communications.

3. As-installed color coded wiring diagrams.

4. Operation procedures

a. Routine and normal operating instructions.

b. Sequences required.

c. Special operating instructions.

5. Maintenance procedures

a. Routine operations.

b. Guide to "trouble-shooting."

c. Disassembly, repair and reassembly.

d. Adjustment and checking.

6. Manufacturer's printed operating and maintenance instructions.

7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.

8. Other data as required under pertinent sections of specifications.

D. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.

E. Additional Requirements for Operation and Maintenance Data: The respective sections of Specifications.

END OF SECTION