



PENNSYLVANIA CONVENTION CENTER
EXHIBIT HALL A
CONCRETE FLOOR REPAIR

1101 ARCH STREET
PHILADELPHIA PENNSYLVANIA, 19107

100% SUBMISSION

OCTOBER 14, 2024

VITETTA



DOCUMENT 00 0110 TABLE OF CONTENTS

PART 1 **The specification sections noted below are included in this submission of the specification manual. The indicated authors (firms) are listed as follows:**

PCC Pennsylvania Convention Center
VTA VITETTA, Architects and Engineers
DCI DCI, Structural Engineers
PA State of Pennsylvania
AIA American Institute of Architects

00 0110	TABLE OF CONTENTS	02	VTA
00 0115	LIST OF DRAWINGS	01	VTA
00 4113	BID FORM – STIPULATED SUM (SINGLE PRIME)	03	VTA
00 4322	UNIT PRICES	02	VTA

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

DIVISION 01 – GENERAL REQUIREMENTS

01 1000	SUMMARY - EXHIBIT HALL A CONCRETE FLOOR REPAIRS	07	VTA
01 2100	ALLOWANCES	04	VTA
01 2200	UNIT PRICES	02	VTA
01 2500	SUBSTITUTION PROCEDURES	03	VTA
01 2600	CONTRACT MODIFICATION PROCEDURES	03	VTA
01 2900	PAYMENT PROCEDURES	05	VTA
01 3100	PROJECT MANAGEMENT AND COORDINATION	06	VTA
01 3200	CONSTRUCTION PROGRESS DOCUMENTATION	04	VTA
01 3300	SUBMITTAL PROCEDURES	10	VTA
01 4100	CODES, REGULATIONS AND STANDARDS	02	VTA
01 4500	CONTRACTOR'S QUALITY CONTROL	05	VTA
01 5000	TEMPORARY FACILITIES AND CONTROLS	05	VTA
01 6000	PRODUCT REQUIREMENTS	04	VTA
01 7329	CUTTING AND PATCHING	04	VTA
01 7400	CLEANING	02	VTA
01 7700	CLOSEOUT PROCEDURES	04	VTA
01 7820	WARRANTIES	02	VTA
01 7839	PROJECT RECORD DOCUMENTS	03	VTA

DIVISION 02 – 08 NOT USED

DIVISION 09 – FINISHES

09 6723	RESINOUS FLOORING	10	VTA
----------------	--------------------------	-----------	------------

DIVISION 10-33 NOT USED

All technical specifications for the concrete repairs are shown on the structural drawings

DOCUMENT 00 0115 LIST OF DRAWINGS

S001 Cover Sheet

Structural

S002 General Notes

S101 Exhibit Hall A – Overall Plan

S102 Partial Exhibit Hall A Plan - Area A

S103 Partial Exhibit Hall A Plan - Area B

S104 Partial Exhibit Hall A Plan - Area C

S105 Partial Exhibit Hall A Plan - Area D

S501 Typical Details

End of Section

SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Project Name: Pennsylvania Convention Center Exhibit Hall A Concrete Floor Repairs.
- C. Project Location: 1101 Arch Street, Philadelphia, PA, 19107.
- D. Owner: Pennsylvania Convention Center Authority.
- E. Architect: VITETTA, Architects and Engineers.
- F. Architect Project Number: 6309.30.

1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by VITETTA, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services to complete all work to **repair the concrete floor in Exhibit Hall A at the Convention Center**, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:
 - 1. _____ Dollars (\$ _____).The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form".

1.3 BID GUARANTEE

- A. The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within [10] ten days after a written Notice of Award, if offered within [60] sixty days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:
 - 1. _____ Dollars (\$ _____).
- B. In the event Owner does not offer Notice of Award within the time limits stated above, Owner will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or bid bond.

1.4 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect and shall fully complete the Base Bid Work within 240 calendar days.

1.5 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

- 1. Addendum No. 1, dated _____.
- 2. Addendum No. 2, dated _____.
- 3. Addendum No. 3, dated _____.
- 4. Addendum No. 4, dated _____.

1.6 BID SUPPLEMENTS

- A. The following supplements are a part of this Bid Form and are attached hereto.

- 1. Bid Form Supplement - Unit Prices.
- 2. Bid Form Supplement - Allowances.
- 3. Bid Form Supplement - Bid Bond Form (AIA Document A310-2010).

1.7 CONTRACTOR'S LICENSE

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in Philadelphia, PA, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.8 SUBMISSION OF BID

- A. Respectfully submitted this ____ day of _____, <????>.
- B. Submitted By: _____ (Name of bidding firm or corporation).
- C. Authorized Signature: _____ (Handwritten signature).
- D. Signed By: _____ (Type or print name).
- E. Title: _____ (Owner/Partner/President/Vice President).
- F. Witnessed By: _____ (Handwritten signature).
- G. Attest: _____ (Handwritten signature).
- H. By: _____ (Type or print name).
- I. Title: _____ (Corporate Secretary or Assistant Secretary).
- J. Street Address: _____.
- K. City, State, Zip: _____.
- L. Phone: _____.
- M. License No.: _____.
- N. Federal ID No.: _____ (Affix Corporate Seal Here).

END OF DOCUMENT 004113

SECTION 004322 - UNIT PRICES FORM

1.1 BID INFORMATION

- A. Bidder: _____.
- B. Prime Contract: Pennsylvania Convention Center
- C. Project Name: Pennsylvania Convention Center Exhibit Hall A.
- D. Project Location: 1101 Arch Street, Philadelphia, PA 19107.
- E. Owner: Pennsylvania Convention Center Authority.
- F. Architect: VITETTA, Architects and Engineers.
- G. Architect Project Number: 6309.3171.

1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.
- B. The undersigned Bidder proposes the amounts below be added to or deducted from the Contract Sum on performance and measurement of the individual items of Work and for adjustment of the quantity given in the Unit-Price Allowance for the actual measurement of individual items of the Work.
- C. If the unit price does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."

1.3 UNIT PRICES

- A. Unit-Price No. 1: Expansion Joint in Exhibit Hall A. The unit price shall include the removal, surface prep and installation of new expansion joint material. The unit cost is to add/deduct from the quantities identified on the drawings which are all base bid quantities.

1. Expansion Joint _____ dollars
(\$ _____) per 5 lineal feet.

- B. Unit-Price No. 2 Crack Repair in topping slab located in Exhibit Hall A. The unit price shall include the removal, surface prep and installation of new material at a crack in the concrete topping slab. The unit cost is to add/deduct from the quantities identified on the drawings which are all base bid quantities.

1. Crack Repair _____ dollars
(\$ _____) per 5 lineal feet.

C. Unit-Price No. 3 Spall Repair in topping slab located in Exhibit Hall A. The unit price shall include the removal, surface prep and installation of new material at a spall in the concrete topping slab. The unit cost is to add/deduct from the quantities identified on the drawings which are all base bid quantities.

1. Spall Repair _____ dollars
(\$ _____) per 1 square feet.

1.4 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2018.

B. Submitted By: _____ (Insert name of bidding firm or corporation).

C. Authorized Signature: _____ (Handwritten signature).

D. Signed By: _____ (Type or print name).

E. Title: _____ (Owner/Partner/President/Vice President).

END OF DOCUMENT 004322

SECTION 011000 – SUMMARY – EXHIBIT HALL A CONCRETE FLOOR REPAIRS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phasing of the Work.
4. Work by Owner.
5. Work under separate contracts.
6. Access to site.
7. Coordination with occupants.
8. Work restrictions.
9. Specification and drawing conventions.
10. Miscellaneous provisions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 PROJECT INFORMATION

- A. Project Identification: Pennsylvania Convention Center Exhibit Hall A Concrete Floor Repairs VITETTA Project Number 6309.3171, DCI Engineers # 23181-0285.

1. Project Location: 1101 Arch Street, Philadelphia, PA 19107.

- B. Owner: Pennsylvania Convention Center Authority.

1. Owner's Representative: Stephen Shepper, Director of Facilities, Pennsylvania Convention Center, 215-218-4742, sshepper@paconvention.com.

- C. Architect: VITETTA, Architects and Engineers.

1. Engineer's Representative: Rick Savona, PE, Project Manager, Structural Division, DCI Engineers, 2 Mill Road, Wilmington, DE 19806, 302-252-9200, rsavona@dc-engineers.com.
2. Architect's Representative: Nan R Gutterman, FAIA, FAPT, Project Manager, 105 Chesley drive, suite 200, Media PA 19063, 215-218-4882, gutterman@vitetta.com.

- D. PCCA Anti-Discrimination Policy:
 - 1. Contractors are referred to the Authority's Anti-Discrimination Policy attached to the General Conditions. Bidders must comply with all requirements outlined in the Policy and submit evidence of their Best and Good Faith Efforts, which include their solicitation of and commitments with M/W/DSBEs, to the Authority due with the submission of their bid.
- E. Field Supervision: General Contractor shall maintain an experienced full-time supervisor on the Site per Section 3.7 of the General Conditions.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
 - 1. Repair of cracks and areas of failure in the concrete topping slab in Exhibit Hall A.
 - 2. Removal and replacement of the perimeter joint material in its entirety in Exhibit Hall A.
 - 3. Surface preparation and application of a coating to the concrete floor of Exhibit Hall A.
 - 4. Repair of damaged non-structural CMU block within Exhibit Hall A.
 - 5. Repair of deteriorated expansion joints within Exhibit Hall A.
 - 6. Application of resinous coating to the existing concrete floor.
- B. Type of Contract:
 - 1. Project will be constructed under a single prime contract.

1.5 PHASED CONSTRUCTION

- A. The Work shall be conducted in phases in order to insure the continuous operation of the Convention Center.
 - 1. Phasing of the Project: The Contractor shall anticipate the work being completed in a multi phase based on the availability of the building. The Contractor will need to work closely with the Convention Center to determine the phases and may need to work out of sequence based on a scheduled event. The first phase shall commence within 30 days after the Notice to Proceed unless directed otherwise by the Owner.
 - 2. The Contractor shall identify in their schedule and work plan how the work coordinates with the Master Calendar of the Convention Center. The blocking of doors shall be kept to a minimum and one set of doors shall be maintained except during the application/curing time of the floor coating..
- B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule showing the sequence, commencement and completion dates for all phases of the Work.

1.6 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's schedule of events.
- B. Use of Site: Limit use of Project site to areas within the Contract limits as indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine construction operations to the areas provided by the Owner.
 - 2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, Convention Center

deliveries and all emergency vehicles at all times. Do not use these areas for parking or storage of materials except in locations indicated on the contract documents.

- a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
- b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

1.7 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy the site during the entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the day-to-day operations of the building. Maintain existing exits unless otherwise indicated or permitted. The owner will require access to all areas of the Project Site and the building during the entire Project duration.
 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction. All request and approvals must be in writing.
 2. Notify Owner in writing not less than 72 hours in advance of activities that may affect Owner's operations.

1.8 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to normal business working hours defined as 7 a.m. to 5 p.m., Monday through Friday, unless otherwise indicated. The Contractor shall confirm and meet all requirements of the City of Philadelphia Code.
 1. Weekend Hours: Limit work to 8 am to 5 pm and as permitted by the City of Philadelphia. Weekend hours must be coordinated with the Pennsylvania Convention Center as these activities will take precedent over the contractor's activities.
 2. Early Morning Hours: Only with approval in writing by authorities having jurisdiction for restrictions on noisy work. The Contractor must comply with the City Noise Ordinance as specified in the Philadelphia Code Chapter 10-400.
 3. If portions of the Work require construction activities to take place before or after Normal Working Hours, during weekends and/or on holidays. All costs to work before or after Normal Working Hours, including but not limited to, any differential labor rates are to be included in the Contractor's bid amount.
 4. All loading and un-loading shall be coordinated by the Contractor with the Owner's schedule.
 5. For any work to take place before or after Normal Working Hours, during weekends, or on national or City holidays, Contractors must have approval of the Authority having Jurisdiction and request in writing the Owner's approval a minimum of 72 hours in advance. This time limit shall not apply to unforeseeable instances when a particular operation must be performed in a continuous sequence that extends beyond the Normal Working Hours, but the Owner's Representative shall be notified immediately of such instances.
 6. Contractors shall use overtime, premium time, and/or multiple-shift time as is necessary to meet the Project requirements. This includes any costs associated with requirements to

meet the contract schedule; work in an Occupied Building; schedule work so as not to disrupt the tenants; and any other requirement set forth in the Contract Documents.

7. The need to perform work before or after Normal Working Hours, on weekends, and/or on holidays shall not be considered cause for an extension of Contract Time, or additional costs or a delay claim by a Contractor.
 8. Failure by the Owner to approve a Contractor's request to perform Work before or after Normal Working Hours, on weekends, and/or on holidays shall not be considered cause for an extension of Contract Time or a delay claim by the Contractor.
 9. Denial by the Owner of a Contractor's request to perform Work before or after Normal Working Hours, on weekends, and/or on holidays shall not be considered cause for an extension of Contract Time or a delay claim by the Contractor.
 10. Hours for Utility Shutdowns: There should be no utility shutdowns required. If required, the Contractor shall coordinate with the Owner' schedule and shall include all costs in the Contractor's bid amount.
 11. Comply with all regulations of governing authorities having jurisdiction relative to traffic, safety, erosion, noise, pollution control, and other matters of public concern and safety.
 12. Limit use of the premises to the areas identified on the contract documents. Do not disturb or use portions of the site beyond the locations shown and scheduled except as required for approved means of egress.
 13. Ensure that construction activities and operations do not unnecessarily impact upon or distract the building's occupants, visitors or the public. Control dust, noise and visual distraction.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify Owner's representative and Architect in writing not less than two days in advance of proposed utility interruptions.
 2. Obtain Owner's Representative written permission before proceeding with utility interruptions.
- D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner's Representative and Architect in writing not less than two days in advance of proposed disruptive operations.
 2. Obtain Owner's Representative and Architect's written permission before proceeding with disruptive operations.
- E. Nonsmoking Building: Smoking is not permitted in the building or within 25 feet (8 m) of entrances, operable windows, or outdoor-air intakes. A designated smoking area will be identified by the Owner for the Contractor's use if requested in writing by the Contractor.
- F. The use of radios playing music are not permitted. Walkie-talkie 2-way radios needed to coordinate the work are permitted.
- G. Trash/Construction Debris
1. All materials that are disposed of shall be placed in a dumpster. Failure to place the materials in a dumpster in a timely manner or upon request of the Owner or the city will result in a back charge for the cost of moving the materials to the dumpster.
 2. Placing construction debris in any of the Owner's dumpsters is not allowed.

3. There is limited space available for the contractor's dumpsters. General Contractor to submit proposed locations for review with the Owner and shall coordinate the locations with the Owner's operations. Placement/emptying dumpsters on the site shall not impact the Owner's operations.
- H. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- I. Occupied Building: Contractors shall assume that the building is fully occupied during Normal Working Hours. Each Contractor shall take every reasonable precaution to minimize disruption to the building's occupants and visitors at all times during the Project. Additionally, the following specific restrictions shall be strictly adhered to:
1. Any work to be performed within the interior of the building -- and any work producing, welding flash, potentially hazardous fumes, fumes that irritate occupants or interfere with the occupancy or other materials that would penetrate into interior spaces -- shall be performed before or after Normal Working Hours, on weekends, and/or on holidays, unless the Contractor has requested in writing a specific exception (assuring the Owner that the work will not create any hazard for or disruption of the occupants) and received written approval of the exception from the Owner. The contractor shall not cause fumes, dirt, dust or noise to disrupt the occupants or operations of the building. If Owner, is disrupted for whatever reason, Contractor shall stop Work immediately clean-up, remove the source of the complaint and reschedule the Work so as to eliminate the disruption. All costs associated with this requirement are to be included in the Contractor's Bid.
 2. The Contractor and his Sub-Contractors will be allowed by the Owner to use "designated" toilet facilities in the building. If the Contractor and his Sub-Contractors are found to be damaging the toilet facilities, this privilege will be taken away from the Contractor and other provisions will need to be made by the Contractor at no cost to the Owner.
 3. All restrictions and constraints indicated in the Contract Documents shall be incorporated into the Construction Schedule to be prepared by the General Contractor. All associated costs shall be included in each Prime Contractor's bid.

1.9 PROTECTION OF FACILITIES AND MAINTENANCE OF BUILDING SERVICES

- A. The General Contractor shall be responsible for providing the temporary protection measures required for the Project, to protect, throughout the duration of the entire Project, the building occupants, the public, and all elements, surfaces, and contents of the building and Project Site exposed to the construction activities and operations of the Contractors. The required temporary protection measures shall be coordinated with the Owner.
- B. The Contractors shall be responsible for containment and proper disposal of paint scrapings and collection and disposal of all debris in accordance with the authorities having jurisdiction and the City of Philadelphia
- C. Contractors shall restore all areas impacted by their construction activities and operations to the conditions prior to the impacts. This includes the complete repair of all damage to any element, surface, or contents of the building and Project Site exposed to the construction activities and operations of the Contractors, which repair shall be completed at no additional cost to the Owner and to the Owner's satisfaction.

1.10 SPECIFICATION ON SITE STORAGE

- A. Contractor will not be permitted to use on-site storage or laydown areas other than the staging areas as designated by the Owner. The contractor shall adjust their schedule for delivering materials based on the available site storage and laydown areas.
- B. The contractor is responsible for securing their materials.
- C. Do not overload the building structure with stored materials.

1.11 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.12 THE OWNER AND THE DESIGN TEAM

- A. The Owner and the Design Team shall have full and complete access to the Project Site during the entire Project. This includes access to observe all portions of the Work in progress at the locations where they are being performed.
- B. The General Contractor shall provide any and all safety-related personal protection devices needed or requested by the Owner or the Design Team for their observation of any portion of the Work in progress.
- C. The Owner and the Design Team shall have the required access to any specific location of Work at any time through the final acceptance of the specific Work.

1.13 ROLE OF THE DESIGN TEAM

- A. The Design Team is defined as the Architect and/or Engineer.
- B. The Design Team in conjunction with the Owner's Representative will provide administration of the Contracts as described in the Contract Documents.
- C. The Design Team will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents.
- D. Based on the Design Team's observations, the Design Team will assist the Owner's Representative in making recommendations to the Owner regarding payment of amounts due to the Contractors on their Applications for Payment.
- E. The Design Team will have authority to reject Work that does not conform to the Contract Documents.
- F. The Design Team will review and take appropriate action upon the Contractors' submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for

conformance with information given and the design concept expressed in the Contract Documents.

- G. The Design Team in conjunction with the Owner's Representative will conduct inspections to determine the dates of Substantial Completion and the date of Final Completion.
- H. The Design Team will interpret and, in conjunction with the Owner's Representative, will decide matters concerning requirements of the Drawings and Specifications. Interpretations and decisions of the Design Team will be in writing and will be consistent with the intent of and reasonably inferable from the Drawings and Specifications. Subject to the final decisions of the Owner's Representative and the Owner, the Design Team's decisions on matters relating to the interpretation of the Drawings and Specifications will be final.

1.14 ENVIRONMENTAL CONCERNS

- A. All Contractors shall perform their work in a manner that shall minimize the possibility of air, water, ground or noise pollution. The existing sanitary drainage systems and site drainage systems at the Project Site shall not be used by the Contractors without the Contractors' having informed the Owner and obtained the Owner's written consent. Consent may be withheld at the sole discretion of the Owner.
- B. Contractors shall comply with all statutes and regulations of the Commonwealth of Pennsylvania concerning environmental quality control as administered by the Department of Environmental Protection. These include, but are not limited to, the Clean Streams Law, Clean Water Act, Pennsylvania Sewage Facilities Act, Air Pollution Control Act, Surface Mining Conservation and Reclamation Act, Bituminous Coal Open Pit Mining Conservation Act, Dams and Encroachments Act, Water Well Driller's Act, Water Works Act and Atomic Energy Act, all as amended to-date. Each Contractor shall be solely responsible for any violations and shall be responsible for securing all required permits, including an erosion control permit if required.
- C. Burning of materials shall not be permitted at the Project Site.
- D. Storage, collection, transportation, processing and final disposal of solid waste shall be in accordance with the Solid Waste Management Act regulations and standards of DEP. Immediately upon notice of award of contract, the Contractor shall apply for the necessary permit from DEP and conduct waste disposal on sites approved under this permit. A copy of this permit must be submitted to Owner before commencing waste disposal.

1.15 PERMITS, INSPECTIONS, LICENSES

- A. The General Contractor shall pay for all building permits required for the entire Project and all additional inspections, permits, licenses and approvals required for the Project as a whole by authorities having jurisdiction over the Project.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Unit-cost allowances.
 - 2. Testing and inspecting allowances.
- C. Related Requirements:
 - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.
 - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 3. Section 014000 "Quality Requirements" for procedures governing the use of allowances for field testing by an independent testing agency.

1.3 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise the Architect of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 UNIT-COST ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include [**taxes**,]freight[,] and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 TESTING AND INSPECTING ALLOWANCES

- A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.
- B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure. The cost for incidental labor to assist the testing agency shall be included in the Contract Sum.
- C. Costs of testing and inspection services not specifically required by the Contract Documents are Contractor responsibilities and are not included in the allowance.
- D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.9 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Unit Cost Allowance: Include 200 lineal feet of expansion joint replacement material in addition to the scop of work shown on the contract documents. New expansion joint material shall match the existing failed material in Exhibit Hall A and as specified in the General Notes on the Contract Documents, Notes 1.4 and 2.6 "

1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."
- B. Allowance No. 2: Unit Cost Allowance: Include 150 lineal feet of crack repair in addition to the scope of work shown on the contract documents as specified in as specified in the General Notes on the Contract Documents, Notes 1.5 and 2.7. "
1. Coordinate unit cost allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."
- C. Allowance No. 3: Unit Cost Allowance: Include repairs of 50 square feet of spall repair (repair estimated to be 1 foot x 1 foot by depth of topping in addition to the scope of work shown on the contract documents and as specified in as specified in the General Notes on the Contract Documents, Notes 1.3, 2.4 and 2.5. "
1. Coordinate quantity allowance adjustment with unit-price requirements in Section 012200 "Unit Prices."

END OF SECTION 012100

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 2. Section 014000 "Quality Requirements" for general testing and inspecting requirements.

1.3 DEFINITIONS

- A. Unit price is an amount incorporated in the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Unit Cost Allowance: Include 200 lineal feet of expansion joint replacement material in addition to the scope of work shown on the contract documents. New expansion joint material shall match the existing failed material in Exhibit Hall A and as specified in the General Notes on the Contract Documents, Notes 1.4 and 2.6 "
 - 1. Unit of Measurement: Lineal Foot

- B. Unit Price No. 2: Unit Cost Allowance: Include 150 lineal feet of crack repair in addition to the scope of work shown on the contract documents as specified in as specified in the General Notes on the Contract Documents, Notes 1.5 and 2.7. "
 - 1. Unit of Measurement: Lineal Foot.

- C. Unit Price No. 3: Unit Cost Allowance: Include repairs of 50 square feet of spall repair (repair estimated to be 1 foot x 1 foot by depth of topping in addition to the scope of work shown on the contract documents and as specified in as specified in the General Notes on the Contract Documents, Notes 1.3, 2.4 and 2.5. "
 - 1. Unit of Measurement: Lineal foot

END OF SECTION 012200

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
 - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. 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.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 calendar days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect and Owner.

- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use form acceptable to Architect and Owner.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect] may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Sub-schedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide sub-schedules showing values coordinated with each phase of payment.

- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one-line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange schedule of values consistent with format of AIA Document G703.
 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts, in excess of [five] <Insert number> percent of the Contract Sum.
 - a. Include separate line items under Contractor and subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. Provide evidence of insurance.
 7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Submit Application for Payment to Architect by the 25th day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Schedule of unit prices.
 6. Submittal schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.

4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A. Include the following information in tabular form:
 - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components with other contractors to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- E. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Architect.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.

- f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Use software log that is part of Project Web site. Include the following: [Software log with not less than the following:]
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were returned without action or withdrawn.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 30 days after execution of the Agreement.
1. Conduct the conference to review responsibilities and personnel assignments.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned

parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Discuss items of significance that could affect progress, including the following:

- a. Tentative construction schedule.
- b. Phasing.
- c. Critical work sequencing and long-lead items.
- d. Designation of key personnel and their duties.
- e. Lines of communications.
- f. Procedures for processing field decisions and Change Orders.
- g. Procedures for RFIs.
- h. Procedures for testing and inspecting.
- i. Procedures for processing Applications for Payment.
- j. Distribution of the Contract Documents.
- k. Submittal procedures.
- l. Preparation of record documents.
- m. Use of the premises and existing building.
- n. Work restrictions.
- o. Working hours.
- p. Owner's occupancy requirements.
- q. Responsibility for temporary facilities and controls.
- r. Construction waste management and recycling.
- s. Parking availability.
- t. Office, work, and storage areas.
- u. Equipment deliveries and priorities.
- v. First aid.
- w. Security.
- x. Progress cleaning.

4. Minutes: Contractor will record and distribute meeting minutes.

C. Progress Meetings: Conduct progress meetings at biweekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.

2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

- 1) Interface requirements.
- 2) Sequence of operations.
- 3) Status of submittals.
- 4) Deliveries.
- 5) Off-site fabrication.
- 6) Access.
- 7) Site utilization.
- 8) Temporary facilities and controls.
- 9) Progress cleaning.
- 10) Quality and work standards.
- 11) Status of correction of deficient items.
- 12) Field observations.
- 13) Status of RFIs.
- 14) Status of proposal requests.
- 15) Pending changes.
- 16) Status of Change Orders.
- 17) Pending claims and disputes.
- 18) Documentation of information for payment requests.

4. Minutes: Contractor will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup construction schedule.
2. Contractor's construction schedule.
3. Construction schedule updating reports.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Special reports.

- B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting schedules and reports.

1.3 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

1.4 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.

- B. Startup construction schedule.

1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Daily Construction Reports: Submit at weekly intervals.
- E. Site Condition Reports: Submit at time of discovery of differing conditions.
- F. Special Reports: Submit at time of unusual event.

1.5 COORDINATION

- A. Coordinate Contractor's construction schedule with the schedule of values,[list of subcontracts,] submittal schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice of Award to date of final completion.
 - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each phase area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 - 2. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
 - 3. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 4. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use of premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.

3. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.
 - g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion]
- E. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.
- F. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for [commencement of the Work] [the Notice to Proceed] [the Notice of Award]. Base schedule on the startup construction schedule and additional information received since the start of Project.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report for each day that on-site work occurs, recording the following information concerning events at Project site as may be applicable:
 1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. Equipment at Project site.
 5. Material deliveries.
 6. High and low temperatures and general weather conditions, including presence of rain or snow.
 7. Accidents.

8. Meetings and significant decisions.
9. Unusual events (see special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

- B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.4 SPECIAL REPORTS

- A. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

- B. Related Requirements:

- 1. Refer to other Division 01 sections and other Contract Documents for requirements for administrative submittals, which include, but are not limited to:
 - a. Permits.
 - b. Payment Applications.
 - c. Performance and Payment Bonds.
 - d. Insurance certificates.
 - e. Inspection and test reports.
 - f. Project Progress Schedule.
 - g. Schedule of Values.
 - h. Progress reports.
 - i. Listing of Subcontractors.
- 2. Submittal requirements for the following are specified in other sections of Division 01:
 - a. Maintenance agreements.
 - b. Workmanship bonds.
 - c. Survey data and reports.
 - d. Progress photographs.
 - e. Testing and certification reports.
 - f. Record drawings.
 - g. Field measurement data.
 - h. Maintenance manuals.

1.02 DESCRIPTION OF REQUIREMENTS

- A. General: This Section specifies procedural requirements for non-administrative submittals including shop drawings, product data, samples and other miscellaneous Work-related submittals.

B. Classes of Submittals: Submittals are specified in 5 classes:

1. Product data includes standard printed information on manufactured products that has not been specially-prepared for this Project, including but not limited to:
 - a. Manufacturer's product specifications and MSD sheets.
 - b. Catalog cuts.
2. Compliance submittals include certifications or other evidence of compliance with specific requirements.
3. Color Selection submittals include printed color charts and, if specified, examples of finishes on actual substrates.
4. Shop drawings are technical drawings and data that have been specially prepared for this Project, including but not limited to:
 - a. Removal plan and reinstallation drawings.
 - b. Templates.
 - c. Patterns/Profiles.
 - d. Coordination drawings for use on-site.
 - e. Schedules.
5. Samples are physical examples of Work, including but not limited to:
 - a. Small cuts or containers of materials.
 - b. Complete units of repetitively-used materials.
 - c. Units of Work to be used for independent inspection and testing.
 - d. Mock-ups are special forms of samples, which are too large or otherwise inconvenient for handling in the manner specified for sample submittals not requested.

C. Extent of Submittals: Submit only those submittals required by the Contract Documents. The Architect reserves the right to decline from reviewing other submittals.

1. Contractor may require additional documentation from Subcontractors or suppliers for its own use and at no additional cost to the Owner. Such documentation shall not be submitted for review without prior approval.
2. The Architect reserves the right to require additional samples and product data during the course of Work.

D. Use of Submittals: Request any clarifications and verifications of acceptability of substitutions or alternatives to requirements of Contract Documents by correspondence, accompanied by necessary supporting data and in accordance with requirements of the Contract Documents; do not make such requests by the submittal process specified in this Section.

E. Status of Submittals: Submittals, whether or not reviewed by Architect, are not Contract Documents and cannot in themselves change the requirements of the Contract Documents.

1.03 SCHEDULING

A. Submittals Schedule: Make all submittals in accordance with the finally reviewed Submittals Schedule.

- B. Coordination:
1. Coordinate submittals with the performance of the Work. Coordinate each separate submittal with other submittals and related activities such as testing, purchasing, fabrication, and delivery.
 2. Coordinate submittals of interrelated Work so that one submittal will not be delayed by need to review a related submittal. The Architect reserves the right to withhold action on any submittal until receipt of any related submittals.
- C. Review Time: Allow sufficient time so that the Work will not be delayed as a result of the time required to properly process submittals, including time for resubmittal, if necessary. Advise on any submittal, if the Work would be expedited if processing time could be shortened.
1. Allow a minimum of ten (10) working days for the review of each submittal. Allow longer time periods when processing must be delayed for coordination with subsequent submittals, and when large quantities of closely-related documents are submitted at one time.
 2. No extension of time will be authorized because of the Contractor's failure to transmit submittals sufficiently in advance of the Work.
 3. No extension of time will be authorized because of submittals which are not submitted in accordance with the Contract Documents or are not sufficiently complete for review.

1.04 QUANTITIES OF SUBMITTALS

- A. Product Data and Compliance Submittals: Submit one (1) PDF copy including documents requiring color for legibility via email to VITETTA.

1.05 SUBMITTAL PROCEDURE SUMMARY

- A. This Article briefly summarizes sequence of procedure. Each activity is specified in subsequent Articles of this Section.
- B. Procedure:
1. Contractor: Prepare submittal.
 2. Contractor: Transmit submittal to the Architect' and copy the Capitol Preservation Committee's Project Manager.
 - a. For Samples: Send transmittal sheet (PDF) via email to the Architect, deliver physical sample to the Owner.
 3. Architect will review submittal and will return to Contractor with findings of review in PDF format.
 - a. Architect will return submittal to Contractor with findings of review.
 4. Contractor: Retain and distribute copies of submittals. Repeat procedure for submittals not finally reviewed.
 5. All Contractors shall coordinate and process all their shop drawings, and in addition, the General Contractor shall review and coordinate shop drawings and other submitted data of all Contractors before submitting to the Architect. All shop and submittal data shall be processed through the Contractor for distribution to the Architect.

1.06 SUBMITTAL PREPARATION

A.General: Preparation includes all actions by the Contractor and its Subcontractors and suppliers preparatory to submittal for review, including:

1. Development or selection of submittal material.
2. Contractor review and verification.
3. Preparation of transmittals, and of other supporting documents if required.

B.Development of Submittal Material:

1. General:
 - a. Document sizes and quantities are specified elsewhere in this Section.
 - b. Relationship to Work: Clearly indicate, as part of each submittal, that part of Work to which it applies, by reference to Specifications section, and by contract drawing number, equipment item, space number, grid coordination, schedule code, or other reference as appropriate.
 - c. Cross-reference between submittals by same preparer, to indicate related information.
 - d. Include all information required by each section of the Specifications.
 - e. Include all information necessary for coordination of adjacent and related work by other trades.
 - f. On resubmittals, clearly identify revisions to previous submittals by highlight or other graphic indication.
2. Product Data:
 - a. Clearly mark submittal to identify specific products or models being submitted. Identify all accessories and optional features included or required for complete unit.
 - b. Show performance characteristics and capacities.
 - c. Modify illustrations to delete information not applicable to the Work.
 - d. Each data document constitutes a submittal.
3. Samples:
 - a. Submit samples which demonstrate all characteristics specified for each required sample.
 - b. Samples of products or materials which represent processes or components unique to this Work, such as custom color, alloy, dimension, aggregate mix or comparable feature, shall be accompanied by sufficient data to serve as a basis for revision and to assure that the sample can be replicated in the finished Work.
 - c. Each sample, or group of samples indicating a range of color or finish, constitutes a submittal.

C. Contractor Review:

1. Prior to submittal, review all submittal documents, samples, and materials for compliance with the Contract Documents and for compatibility with other components of the Work.
2. On submittals prepared by Subcontractor or suppliers, Contractor, as part of its review, shall annotate submittals if necessary so that submittal as forwarded to the Architect represents Contractor's intent. Contractor shall initial such notations.
3. Forward for review only submittals which so comply and are so compatible.
4. To each submittal document or sample, affix Contractor's stamp, indicating Contractor's review and approval, with signature of Contractor's designated representative. For samples which cannot be so stamped, attach tags with signed stamps.

5. By approving and submitting documents and samples, Contractor represents that it has verified all field construction criteria, materials, catalog numbers and similar data, that it has determined and verified all required field measurements or will do so, and that it has checked and coordinated each document and sample with the requirements of the Work and of the Contract Documents.

D. Transmittals and Supporting Documents:

1. Architect's review sheet for submittal: The Architect will affix a review sheet to the PDF submittal copy to record the results and status of the review. A sample review sheet is included in this Section.
 - a. Each review sheet copy will include the Transmittal Number, Submission Number, and Submittal Number, as hereinafter defined.
2. Prepare transmittal form for each submittal. Architect will furnish to Contractor a PDF transmittal form with fields to be filled in by the contractor. A sample transmittal form is included in this Section for reference. Note, on each transmittal form, the following information:
 - a. Transmittal Number: A letter-number combination identifying trade group and sequence of submittal within each trade group, assigned by Contractor. Use following code letters for trade groups:
A - ARCHITECTURAL
Example: First Architectural submittal is **A-01**. This number does not change if material is resubmitted.
 - b. Submission Number: Initial submission of each submittal is 1st submission. Only this number changes if item is resubmitted.
 - c. Submittal Number: A combination of the Specification section number and consecutive numbering of submittals under that section. Each individual drawing or other item shall receive a separate number.
Example: The Submittal Number for the first submittal under Section 00800 shall be 00800.01, the second shall be 00800.02. This number does not change if material is resubmitted.
 - d. Project Number: Architect's project number, per Contract Documents and CPC project number.
 - e. Contractor's name and address.
 - f. Subcontractor's name (if applicable).
 - g. Date forwarded: By Contractor.
 - h. Project Title and Location.
 - i. Title of Submittal: As assigned by preparer.
 - j. Number of Items: Quantity submitted, of each type document or sample.

1.07 DELIVERY

A. Send submittals to the Architect's Office via email as PDF documents. The method of delivery for samples shall be at Contractor's option, but shall assure safe delivery (*without damage*) to The Owner in accordance with Submittals Schedule.

- B. The Architect's Address is as follows:

VITETTA
105 Chesley Drive Suite 105
Media PA 19063
Attention: Nan Gutterman

- C. The Architect's Email Address is as follows:

gutterman@vitetta.com

1.08 ARCHITECT'S REVIEW

- A. Architect's review will be only for conformance with the design concept of the Project and with the information in the Contract Documents. Architect's review of a specific item will not imply review of an assembly of which the item is a component.
- B. Architect's review will not relieve the Contractor of responsibility for fabrication or construction means, methods, techniques, sequences or procedures, or for safety precautions and procedures.
- C. Architect's review will not relieve the Contractor of responsibility for any errors or omissions in submittals, or for compliance with the requirements of the Contract Documents.
- D. Variations from the Contract Documents, proposed because of standard shop or manufacturing practices, if clearly identified on submittals, and if deemed by the Architect to be consistent with the intent of the Contract Documents, may be accepted by submittal review. Acceptance of such variations will not constitute a Change Order or be considered as the basis for a Change Order.
- E. If, in the course of review, Architect determines that non-compliance with requirements of Contract Documents indicates inadequate review by Contractor, Architect will reject and return submittal without further review.
- F. Architect will indicate the findings of its review on the Architect's review sheet and on the Submittals Transmittal, and if appropriate by notation on submittal, as follows:
1. REVIEWED (**R**): Work may be fabricated and installed as described in submittal.
 2. REVIEWED WITH NOTATIONS (**R/N**): Work may be fabricated or procured as described in the submittal as modified by notations, but may not be delivered to site or installed. A resubmittal is required, verifying inclusion of notation information.
 3. REVISE AND RESUBMIT (**R/R**): Work may not be fabricated or procured. A resubmittal is required incorporating information found to be lacking or erroneous.
 4. REJECTED (**REJ**): Work may not be fabricated or procured. Submittal is considered inconsistent with requirements of Contract Documents. Resubmittal is required.
 5. NO ACTION TAKEN (**NAT**): Submittal has been processed for the project record only.
- G. Submittal PDF in quantities and kind specified elsewhere in this Section will be returned to Contractor by means consistent with the Submittals Schedule.

1.09 RESUBMITTAL

- A. For all submittals other than those indicated by Architect as "Reviewed" (**R**), resubmittal is required.
- B. For all submittals indicated by Architect as "Reviewed with Notations" (R/N), resubmittal is not required, but may require subsequent written response by the contractor to confirm, certify or further describe noted inquiry items specific to the submittal.
- C. Resubmittals shall carry the same Transmittal Number and Submittal Number as the initial submittal, and shall be processed in compliance with all requirements specified for submittals.

- D. Resubmittals shall clearly indicate revisions based on notations to previous submittals, and any other revisions incorporated.
- E. Submittals indicated as "Reviewed" shall be resubmitted if Contractor determines that revisions are required or final amended information is desired for the project record. All costs incurred due to additional reviews of submittals previously indicated as "Reviewed" shall be paid by the Contractor at the current billing rates of all parties incurring such costs.

1.10 DISTRIBUTION

- A. Contractor shall prepare and distribute reproductions of returned shop drawings and other document submittals to its Subcontractors and suppliers as required and as it deems necessary.
- B. If the Work is performed under multiple and separate prime contracts, Contractor making each submittal shall distribute, to each other Contractor, one (1) electronic (PDF) copy of each shop drawing and other document submittal, as follows:
 - 1. When returned indicated as "Reviewed" or "Reviewed with Notations".
 - 2. When such distribution will or may benefit the performance of the Work.
 - 3. When requested by any other Contractor.
- C. Contractor shall maintain, at the project site, not less than one (1) copy each of all submittals, including samples, with status of "Reviewed" or "Reviewed with Notations".
- D. Contractor shall use "Reviewed" submittals as the basis for accepting and evaluating Work delivered to the job site, and shall not accept work which is not in accordance with "Reviewed" submittals.

1.11 FORMS

- A. Examples of the Architect's Stamp and the Submittals Form are included in this Section, for information. Forms as furnished may differ in detail from these examples.

Transmittal Form:

B.Architect's Review Stamp:

PA Convention Center Exhibit Hall F Doors

Convention Center
Philadelphia, Pennsylvania

Project Number: 6309.3171

Review Notes:

Submittal Title:

Important Data

Submittal No: 00000.00
Submission No.: 1 Transmittal No.: A-00
SUBMITTAL REVIEW STATUS
<input checked="" type="checkbox"/> • REVIEWED
<input type="checkbox"/> • REVIEWED WITH NOTATIONS
<input type="checkbox"/> ∞ REVISE & RESUBMIT
<input type="checkbox"/> ∞ REJECTED
<input type="checkbox"/> NO ACTION TAKEN OR REQUIRED
<ul style="list-style-type: none">• Fabrication may be undertaken. Action does not authorize changes to Contract Sum.•• Fabrication may not be undertaken. Revise and resubmit submittal.
Reviewing is only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the site, for information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction, and for coordination of the work of all trades.
Date: _____ Month/Date/Year
By: _____
VITETTA

Submission Number 1

Submittal Number **00000.00**

Transmittal **A-00**

Page 1

PART 2. PRODUCTS – NOT USED

PART 3. EXECUTION – NOT USED

END OF SECTION

SECTION 01 4100 CODES, REGULATIONS AND STANDARDS

PART 1 GENERAL

1.01 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 SUMMARY

- A. This Section describes each the Contractor's responsibilities regarding codes, regulations and standards included in the Contract Documents by reference.

1.3 APPLICABLE CODES AND REGULATIONS

- A. The Work shall comply with all applicable codes, regulations and standards, including but not limited to all City of Philadelphia building codes, other codes and regulations.
- B. It is not the intent of the Contract Documents to conflict with any Code or Regulation. Report any conflicts to the Architect for clarification.

1.4 REFERENCED STANDARDS

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes or intended use.
- B. The referenced standards shall have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- C. Should referenced standards conflict with the Contract Documents, request clarification from the Architect before proceeding, but generally the more stringent requirement shall apply.
- D. In the absence of specific instructions in the specifications, materials, products, equipment, and their installation shall conform to the applicable codes, regulations and standards.
- E. The contractual relationship of the parties to the Contract shall not be altered from what is indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- F. Dates of standards specifically referenced in the Specifications shall be as indicated in the Specifications or if not indicated shall be the latest date prior to the date of issue of the Contract Documents. In cases where standards specifically referenced in the Specifications have been subsequently modified or replaced by the applicable codes and their supplements and amendments adopted by the authorities having jurisdiction, request clarification from the Architect before proceeding,
- G. Each entity engaged in construction of the Project shall be familiar with industry standards applicable to its construction activity. If unfamiliar, obtain copies and review with all workers.

Obtain copies of standards when required by individual specification sections. Maintain copies at job site until Substantial Completion.

1.5 ASSOCIATIONS, INSTITUTIONS AND SOCIETIES

- A. Associations, Institutions, and Societies and their abbreviations if any, appearing in the Specifications or elsewhere in the Contract Documents, shall be as generally recognized in the industry. Refer to the "Encyclopedia of Associations" published by Gale Research Company for abbreviations, addresses and phone numbers.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 4500 CONTRACTOR'S QUALITY CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Related Sections include the following:
 - 1. Section 013300 Submittal Procedures for administrative requirement for submittal procedures.
 - 2. Section 016100 Products and Materials for requirements for material and product quality.

1.03 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- E. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as

"carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

- F. Experienced: When used with an entity, "experienced" means – unless defined differently in other Sections of these Specifications for particular entities – having successfully completed a minimum of three (3) previous projects within the last five (5) years similar in size and scope to this Project, demonstrating familiarity with the special requirements indicated for this Project.

1.04 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.05 SUBMITTALS

- A. Qualification Data: For testing agencies to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Test Reports: After each test/inspection, promptly submit two copies of the report as submittal to the Architect, Owner and appropriate Contractors.
- C. Prepare and submit certified written test reports promptly that include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Type of Test/Inspection
 - 10. Date of Test/Inspection
 - 11. Test and inspection results and an interpretation of test results.

12. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 13. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 14. Name and signature of laboratory inspector.
 15. Recommendations on retesting and reinspecting.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.06 TESTING AND INSPECTION AGENCIES

- A. The Contractor shall employ an independent testing agency to perform specified testing as required by the Contract Documents.
- B. Employment of agency in no way relieves the Contractor or any Sub-Contractor of the obligation to perform the work in accordance with the requirements of the contract documents.

1.07 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. Mockups: Before installing portions of the Work requiring mockups, complete mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Complete mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect no less than seven (7) days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
5. Allow no less than seven days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Remove mockups when directed, unless otherwise indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 REPAIR AND PROTECTION

- A. Protect construction exposed by or for quality-control service activities.
- B. Repair and protection are the Contractor's responsibility, regardless of the Contractor's assignment to others of the performing of any of the required quality-control services.

3.02 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 manufacturer's instructions including each step in sequence.
- C. Should manufacturers' instruction conflict with contract documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as a minimum quality for 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. Confirm 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.
- H. Do not anchor any equipment, piping, etc. to historic fabric without prior written approval of the Architect.

3.03 TESTING AND INSPECTION

A. Testing Agencies Responsibilities

- 1 Provide qualified personnel at Site, Cooperate with Architect, Owner, Engineers and Contractor in the 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 Architect, Owner and appropriate Contractor or sub-contractor of observed irregularities or non-conformance of work or products.
- 5 Perform additional tests and inspections as required by the results of the tests or as requested by the Architect or Owner.
- 6 Submit copies of all reports of all tests/inspections as specified.

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 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. Notify Architect, Owner and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by contractor beyond specified requirements but the Township must be informed immediately of any additional work being required before it is undertaken. .
6. If results do not meet the requirements on the contract, arrange and pay for additional samples, tests, and inspections as required beyond specified requirements.

D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by the Architect and the Owner.

E. Re-testing required because of non-conformance to specified requirements shall be paid for by contractor at no additional cost to the Owner.

END OF SECTION

TEMPORARY FACILITIES AND CONTROLS GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary – Exhibit Hall A Concrete Floor Repairs " for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- C. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
 - 1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
 - 2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
 - 3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these

operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

- D. Dust Plan: Submit coordination drawing and narrative that indicates the dust measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. Waste handling procedures.
 - 3. Other dust-control measures.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work and daily operations and facility access. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary Exhibit Hall A Concrete Floor Repairs."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- B. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 - 2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- C. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- D. Lighting: Provide temporary lighting with local switching that provides adequate illumination for door modification operations, observations, inspections, and traffic conditions.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Traffic Controls: Comply with requirements of authorities having jurisdiction.
 - 1. Protect existing site improvements to remain including curbs, pavement, and utilities.
 - 2. Maintain access for fire-fighting equipment and access to fire hydrants.
- C. Parking: No on-site parking will be provided.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities if caused by the contractor before substantial completion is scheduled.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."

- C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- D. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request.

Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
1. Store products to allow for inspection and measurement of quantity or counting of units.
 2. Store materials in a manner that will not endanger Project structure or impede access or exit pathways.
 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 4. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 5. Protect stored products from damage and liquids from freezing.
 6. Delete subparagraph below if Owner provides own storage facilities.

7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
 1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 01 7329 CUTTING AND PATCHING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:
 - 1. Procedural requirements for cutting and patching.

1.03 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.
- C. In-place Construction: New construction of these Contracts requiring alteration during execution of the work.

1.04 ACTION SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal 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. Design Professional's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.05 QUALITY ASSURANCE

- A. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
- B. Miscellaneous Elements: Do not cut and patch miscellaneous 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 result in increased maintenance or decreased operational life or safety. Miscellaneous elements include the following:
 1. Equipment supports.
 2. Piping and equipment.
- C. 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 interior or in occupied spaces in a manner that would, in Design Professional's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- D. 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.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place 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

3.01 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 in-place finishes or primers.

2. Report to unsatisfactory conditions to Architect. Do not proceed until directed.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.03 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.
- B. Do not cut or alter the work without written consent of the Owner and the Architect.
- C. Execute cutting and demolition by methods that will prevent damage to other work, and provide proper surfaces to receive installation of repairs.
- D. Remove excess materials resulting from cutting and patching and dispose of legally off site.
- E. 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. If possible, review proposed procedures with original installer; comply with original installer's written recommendations.
 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. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Proceed with patching after construction operations requiring cutting are complete.
- F. 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. Match joint type and coursing of existing masonry. Provide materials and comply with installation requirements specified in other Sections.
 1. Patch surfaces which will be exposed to weather in the finished work to be airtight and weather tight.
 2. Patch surfaces to comply with fire ratings, smoke tight ratings, acoustical criteria and other performance criteria indicated.
 3. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 4. 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 as acceptable to the Owner and the Design Professional.

- a. Clean conduit and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - c. If surface to be cut and patched is indicated or specified to be covered by painting or other finish system, and if cutting and patching is performed prior to installation of finish, then finishing of cut and patched area shall be included as work of finishing Section and shall not be part of cutting and patching work.
- G. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 7329

SECTION 01 7400 - CLEANING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

- A. This Section describes the Contractor's responsibilities for cleaning of the Work and work areas during construction and before completion.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.1 PERIODIC CLEANING

- A. Employ experienced workers for cleaning.
- B. Maintain work areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- C. Collect and remove waste materials, debris, and rubbish from site daily and dispose of legally off-site.
- G. Maintain cleaning until Project or portion thereof is reviewed for substantial Completion and Certificate of Substantial Completion is issued. If minor work is required after Substantial Completion, clean affected areas to the satisfaction of the Architect and Owner.

3.2 FINAL CLEANING

- A. 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. Employ experienced workers or professional cleaners. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for Final Completion for a portion of Project:
 - a. Clean Project in areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.

- b. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - c. Clean exposed exterior surfaces of the building affected by the construction operations to a dirt-free condition, free of dirt, stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces.
 - d. Repair and restore marred exposed finishes.
- B. Comply with safety standards for cleaning. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Repair of the Work.
- B. Related Requirements:
 - 1. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (*Contractor's punch list*), indicating the value of each item on the list and reasons why the Work is incomplete.

- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for final completion.

1.7 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
 - 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Submit pest-control final inspection report.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 2. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.
 3. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Architect will return annotated file.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. On advice of Owner's legal counsel, revise "Partial Occupancy" Paragraph below to suit Project. Sometimes, extended warranties may be necessary.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive **8-1/2-by-11-inch (215-by-280-mm)** paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by 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.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. 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.
- C. Construction Waste Disposal: Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

END OF SECTION 017700

SECTION 01 7820 WARRANTIES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

- A. This Section describes the Contractor's procedural requirements for executing, assembling, and submitting warranties.

1.3 RELATED WORK SPECIFIED ELSEWHERE

- A. All materials and workmanship shall be completely warranted from all defects for a minimum period of two years or as identified in the individual specification sections for a longer warranty period. The start of all warranties is the date of Approval by the Owner of the final Payment Application. This warranty period does not preclude any specific requirements for warranties, special warranties or service/maintenance contracts as identified in the individual specification sections.

1.4 SUBMITTAL REQUIREMENTS

- A. Submit two (2) sets of original signed copies of warranties and bonds, executed by the respective manufacturers, suppliers, and contractors.
- B. Contents - Neatly type, in orderly sequence, the following information for each item.
 - 1. Product or work item.
 - 2. Contractor's, supplier's, and manufacturer's names, addresses, and telephone numbers.
 - 3. Date of beginning and duration time of warranty, bond, or service and maintenance contract.
 - 4. Proper procedure for making claims against warranty or bond.
 - 5. Instances which might affect the coverage of the warranty or bond.
- C. Bind each set in 8 1/2 inch by 11-inch commercial quality, three-ring binders with plastic covers. Identify each binder with typed or printed title "Warranties," with title of project and location.

1.5 TIME OF SUBMITTALS

- A. Make other submittals within ten (10) days after Date of Substantial Completion, prior to final request for payment.
- B. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing the date of acceptance as the start of the warranty period.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one hard copy and one pdf electronic copy of marked-up record prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints.
 - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned Record Prints.
 - 2) Print each drawing, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Accurately record information in an acceptable drawing technique.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - d. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Changes made by Change Order or Change Directive.
 - d. Changes made following Architect's written orders.
 - e. Details not on the original Contract Drawings.
 - f. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
 7. Format: Annotated PDF electronic file with comment function enabled.
 8. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 9. Refer instances of uncertainty to Architect through Construction Manager for resolution.

1.5 RECORD SPECIFICATIONS

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

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as annotated PDF electronic file or scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's and Construction Manager's] reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 096723 RESINOUS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes the surface preparation and application requirements of high performance resinous floor coating systems by a qualified applicator.
- B. Coordination:
 - 1. Application of resinous coating shall not be started until after all repairs to the concrete floor are completed.
 - 2. Coordinate surface preparation of substrates to avoid later difficulty or delay in performing the Work of this Section.
 - 3. Review installation procedures under other Sections and coordinate the installation of items that must be installed prior to application of the resinous floor coating systems.
 - 4. Substrate surface preparation and resinous floor coating application, including identified crack repair, to be completed by manufacturer's approved Applicator.
 - 5. The Applicator shall coordinate with Architect and Owner regarding the availability of work areas, completion times, safety, access and other factors which could impact plant operations.
- C. Related Sections:
 - 1. Section 07150, Sealants

1.3 REFERENCES

- A. This Section contains references to the governing standards and documents listed below. They are a part of this Section as specified and modified; the current version shall apply unless otherwise noted. In case of conflict between the requirements of this section and those of the listed documents, the more stringent of the requirements shall prevail.
- B. American Concrete Institute (ACI):
 - 1. ACI 301-10 – Specifications for Structural Concrete
 - 2. ACI 308R – Guide to Curing Concrete

- C. ASTM International (ASTM):
 - 1. ASTM D4263 – Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
 - 2. ASTM D4414 – Standard Practice for Measurement of Wet Film Thickness by Notch Gages.
 - 3. ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - 4. ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- D. International Concrete Repair Institute (ICRI):
 - 1. Guideline No. 310.2 – Selecting and Specifying Concrete Surface Preparation for Sealer, Linings, and Polymer Overlays
- E. NACE International (NACE):
 - 1. NACE No. 6/SSPC-SP13 – Surface Preparation of Concrete
- F. SSPC: The Society for Protective Coatings, (SSPC)
 - 1. SSPC-SP13/NACE No. 6 Surface Preparation of Concrete
- G. Unless otherwise specified, references to documents shall mean the documents in effect at the time of receipt of Bids. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents, the last version of the document before it was discontinued.

1.4 SUBMITTALS

- A. Product Data Sheets: Copies of current technical data for each component specified and applied as outlined in this Section.
- B. Safety Data Sheets: Copies of current Safety Data Sheets (SDS) for any materials brought on-site, including clean-up solvents, repair or resurfacing mortars and lining materials.
- C. Installation Instructions: Manufacturer's written installation instructions for the materials specified in this Section.
- D. Qualification Data: Submit proof of acceptability of the Applicator by manufacturer to Architect.
- E. Construction Details: Copies of manufacturer's computer generated standard flooring details.
- F. Jobsite Layout Plan: Including material storage/staging and equipment storage /staging.

- G. Samples: For each resinous floor coating system submit a 3" x 6" sample of the system. Color, Texture and thickness shall be representative of the overall appearance as specified.
- H. Jobsite Reports: Submit at the completion of Work
 - 1. Daily Reports: Include surface preparation, substrate temperature, ambient air temperature, application procedures, materials applied, material quantities, material batch number, description of work completed and location thereof.
 - 2. The Applicator shall maintain a copy of records until the expiration of the specified warranty period.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications:
 - 1. The Applicator shall have worked with the specified material on a minimum of 3 projects in the last five years.
 - 2. The Applicator shall be pre-qualified by the manufacturer prior to bid date.
 - 3. The installation equipment shall be acceptable to the manufacturer.
 - 4. The Applicator shall establish quality control procedures and practices to monitor phases of surface preparation, storage, mixing, application, and inspection throughout the duration of the project.
 - 5. The Applicator shall provide a fulltime, on-site person whose dedicated responsibilities will include quality control of the application.
 - 6. Applicator's quality control procedures and practices must include the following items:
 - a. Training of personnel in the proper surface preparation requirements.
 - b. Training of personnel in the proper storing, mixing, and application and quality control testing.
- B. Mockups: Apply mockups of each system to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Contractor shall perform a mock-up of the specified surface preparation as described in Paragraph 3.3.
 - 2. Contractor shall anticipate completing up to 3 finish mock-ups at no additional cost to the Owner.
 - 3. Apply full-thickness mockups on 48-inch- square floor area selected by Architect and the Owner.
 - 4. Simulate finished lighting conditions for Architect's review of mockups.
 - 5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- C. Pre-Installation Conference:
 - 1. Before installing mock-ups General Contractor, Applicator, and Technical Representative of the Manufacturer shall meet on-site with Architect and

- Owner to discuss approved products and workmanship to ensure proper application of the products and substrate preparation requirements.
2. Review foreseeable methods and procedures related to the Work including but not necessarily limited to the following:
 - a. Review Project Requirements and the Contract Documents.
 - b. Review required submittals.
 - c. Review status of substrate Work, including approval of surface preparations and similar considerations.
 - d. Review requirements of on-site quality control inspection and testing.
 - e. Review the requirements for preparing the quality control report as specified herein.
 - f. Review availability of materials, tradesmen, equipment and facilities needed to make progress and avoid delays.
 - g. Review material storage and staging.
 - h. Review equipment storage and staging.
 - i. Review waste management and disposal.
 - j. Review environmental conditions, other project conditions, and procedures for coping with unfavorable conditions.
 - k. Review regulations concerning code compliance, environmental protection, health, safety, fire and similar considerations.
 - l. Review procedures required for the protection of the completed Work during the remainder of the construction period.

D. Single-Source Responsibility:

1. Materials shall be products of a single manufacturer or items standard with manufacturer of specified resinous floor coating materials.
2. Provide secondary materials which are produced or are specifically recommended by resinous floor coating system manufacturer to ensure compatibility of system.

E. Regulatory Requirements: Conform to applicable codes and ordinances for flame, fuel, smoke and volatile organic compounds (VOC) ratings requirements for finishes at time of application.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery of Materials:

1. Deliver material in manufacturer's original, unopened and undamaged packages.
2. Clearly identify manufacturer's, brand name, contents, color, batch number, and any personal safety hazards associated with the use of or exposure to the materials on each package.
3. Packages showing indications of damage that may affect condition of contents are not acceptable.

B. Storage of Materials:

1. Materials shall be stored in accordance with manufacturer's recommendations in enclosed structures and shall be protected from weather and adverse temperature conditions. Flammable materials shall be stored in accordance with state and local codes. Materials exceeding storage life as defined by the manufacturer shall be removed promptly from the site. Store materials only in area or areas designated by the Architect solely for this purpose.
 2. Store in original packaging under protective cover and protect from damage.
 3. Stack containers in accordance with manufacturer's recommendations.
- C. Handling of Materials: Handle materials in such a manner as to prevent damage to products or finishes.

1.7 JOB CONDITIONS

A. Environmental Requirements:

1. Proceed with Work only when temperature and moisture conditions of substrates, air temperature, relative humidity, dew point and other conditions comply with the manufacturer's written recommendations and when no damaging environmental conditions are forecasted for the time when the material will be vulnerable to such environmental damage. Record such conditions and include in daily quality control report.
 2. Maintain substrate temperature and ambient air temperature before, during and after installation above 55°F and rising in accordance with manufacturer's instructions.
 3. Provide adequate ventilation during installation and full curing periods of the Work.
 4. Coatings shall not be applied when ambient air temperature is within 5°F of the dew point and falling.
- B. Dust and Contaminants: Protect work and adjacent areas from excessive dust and airborne contaminants during application and curing. Schedule Work to avoid excessive dust and airborne contaminants.
- C. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent light conditions during resinous flooring application.
- D. Close space to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.

1.8 WARRANTY

- A. Submit manufacturer's standard warranty for material.
- B. Submit Applicator's standard warranty for workmanship.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products of Tnemec Company, Inc., Kansas City, Missouri (816) 483-3400 are listed to establish a standard of performance and quality. Represented by Atlantic Coating Consultants (o) 484-644-5303 (e) atlantic@tnemec.com
 - 1. Contact for Tnemec Representative: Wally Bates – 610-551-3713; wbates@tnemec.com.
- B. Materials specified are those that have been evaluated and approved for the specific service. Substitutions will not be considered.

2.2 GENERAL

- A. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

2.3 MATERIALS

- A. Base Coat: Series 222, Deco-Tread (Clear)
- B. Finish Coat: Series 248 Everthane

2.4 GENERAL

- A. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

2.5 ACCESSORY MATERIALS

- A. Patching and Fill Material: Resinous product of or approved by manufacturer and recommended by manufacturer for application indicated.
- B. Joint Sealant: Type recommended or produced by manufacturer for type of service and joint condition indicated.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Applicator shall cover or otherwise protect finish work or other surfaces not being coated within the scope of this Section. The Applicator shall erect and maintain protective tarps, enclosures and/or masking to contain debris, including dust or other airborne particles from surface preparation or application activities. This may include the use of dust or debris collection apparatus as required at no additional cost to Owner.

3.2 EXAMINATION

A. Site Verification of Conditions

1. The Applicator shall examine the areas and conditions under which the resinous floor coating Work is to be performed in accordance with NACE SP0892 and SSPC-SP13/NACE No. 6, and notify Architect and Owner in writing of conditions detrimental to the proper and timely completion of the Work.
2. All repairs to the concrete should be cured using the procedures described in ACI 308, allowing a minimum of 28 days at 75F.
3. Commencement of the Work of this Section shall indicate that the substrate and other conditions of installation are acceptable to the Contractor and his Applicator and will produce a finished product meeting the requirements of the Specifications. Defects resulting from accepted conditions shall be corrected by the Applicator at his own expense.

3.3 SURFACE PREPARATION

- A. All surfaces must be clean, dry and free of oil, grease and other contaminants, prior to preparation in accordance with NACE No. 6/SSPC-SP13. Concrete surfaces must be sound and capable of supporting the resinous floor coating system.
- B. Prepare concrete surfaces in accordance with NACE No. 6/SSPC-SP13 Joint Surface Preparation Standards and ICRI Technical Guidelines. Mechanically abrade concrete surfaces to remove laitance, curing compounds, hardeners, sealers, existing coatings, and other contaminants and to provide a uniform ICRI-CSP 3 profile.
- C. Cracks, voids and other surface imperfections should be filled with the recommended filler or surfacer prior to the installation of the materials.
- D. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through the resinous floor coating system according to manufacturer's written recommendations.

3.4 APPLICATION

- A. General: Apply components of resinous floor system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.
 1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
 2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
 3. At substrate expansion and isolation joints, provide joint in resinous flooring to comply with resinous flooring manufacturer's written recommendations.

- a. Apply joint sealant to comply with manufacturer's written recommendations.
- B. Apply products in accordance with Manufacturer's written instruction as outlined in application guides and product data sheets.
- C. Comply with manufacturer's written instructions for mixing and preparing materials and as applicable to substrates.
- D. Terminations shall be installed in accordance with the StrataShield Standard Flooring Details Guide:
- E. Areas not to receive resinous floor coating system shall be masked or otherwise protected to prevent these surfaces from being coated.
- F. Surface Temperature: Prior to application, the surface temperature shall be per manufacturer's written recommendations. The temperature range is 55 degrees minimum, with optimum being 65 to 80 degrees.
- G. Material Temperature: Prior to application, the material temperature shall be per manufacturer's written recommendations or between 65 degrees F and 85 degrees F. The material shall be stored at these temperatures at least 48 hours prior to use.
- H. Apply resinous floor coatings according to manufacturer's written instructions. Use applicators and techniques suited for resinous floor coatings and substrate indicated.
- I. Apply each material at not less than manufacturer's recommended spreading rate. Provide total cured material thickness indicated or as recommended in writing by manufacturer.

3.5 FIELD QUALITY CONTROL, INSPECTION AND TESTING

- A. The Applicator shall perform the quality control procedures listed below in conjunction with the requirements of this Section.
- B. Inspect materials upon receipt to ensure that they are supplied by the approved Manufacturer.
- C. Surface Profile: Inspect and record substrate profile (anchor pattern). Surfaces shall be profiled equal to the required CSP amplitude as recommended by the resinous floor coating manufacturer in accordance with ICRI Guideline 310.2 and SSPC-SP13/NACE No. 6.
 - 1. Compare and record the substrate profile once every 100 square feet with the Concrete Surface Profile (CSP) comparators in accordance with ICRI Guideline No. 310.2.

- D. Surface Cleanliness: Prepared concrete surfaces shall be inspected for surface cleanliness after cleaning and drying, prior to resurfacing or coating application.
- E. Measure and record ambient air temperature, relative humidity and dew point temperature once every two hours of each work shift (8 hours).
- F. Measure and record substrate temperature once every two hours using an infrared or other surface thermometer.
- G. Dry-Film Thickness shall be determined using a surface area calculation for material consumption.
- H. The Applicator is responsible for keeping the Architect informed of progress so that Architect may provide additional quality control at his discretion.
- I. Inspection by the Architect or others does not absolve the applicator from his responsibilities for quality control inspection and testing as specified herein or as required by the Manufacturer's instructions.
- J. Material Sampling: Owner may at any time and any numbers of times during the resinous flooring application require material samples for testing for compliance with requirements.
 - 1. Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in the presence of Contractor.
 - 2. Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.
 - 3. If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.

3.6 MANUFACTURER'S FIELD SERVICES

- A. Manufacturer's technical representative shall provide technical assistance and guidance for surface preparation and application of coating systems.

3.7 ACCEPTANCE CRITERIA

- A. All surfaces shall be prepared, applied, and tested in accordance with the specification and referenced standards herein.

3.8 CLEANING AND PROTECTING

- A. Protect the completed Work from traffic, physical abuse, liquids, and chemical exposure until the complete system has thoroughly cured for 24 hours.
- B. At the completion of the Work, the Applicator shall remove materials and debris associated with the Work of this Section.

- C. Clean surfaces not designated to receive resinous floor coating system. Restore areas in a manner acceptable to Architect.
- D. Protect the completed Work from damage until Final Acceptance. Resinous floor coating systems damaged in any manner shall be repaired or replaced at the discretion of Architect, at no additional cost to Owner.

3.9 COATING SCHEDULE

- A. Surface Preparation: Prepare in accordance with SSPC-13/NACE 6 and ICRI Technical Guidelines. Abrasive Blast, shot-blast or mechanically abrade concrete surfaces to provide a minimum ICRI-CSP 3 surface profile. All surfaces must be cleaned prior to and Following the SSPC-13 surface profiling.
- B. Base Coat: Tnemec Series 222 Deco-Tread (clear) applied at 15-20 mils DFT (approx. 80-100 SF/gal)
- C. Finish Coat: Tnemec Series 248 Everthane applied at 2.0 – 3.0 mils (approx. 550-650 SF / gal)

END OF SECTION 096723