

**PROJECT MANUAL FOR**  
**PENNSYLVANIA CONVENTION CENTER**  
**RESTROOM RENOVATIONS**

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Division	Section Title	Pages
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**SPECIFICATIONS GROUP**

**DIVISION 0 BIDDING AND CONTRACT REQUIREMENTS**

007200	GENERAL CONDITIONS	26
--------	--------------------	----

**DIVISION 1 GENERAL REQUIREMENTS**

011000	SUMMARY	6
012200	UNIT PRICES	2
012500	SUBSTITUTION PROCEDURES	4
012900	PAYMENT PROCEDURES	6
013300	SUBMITTAL PROCEDURES	10
014000	QUALITY REQUIREMENTS	10
015000	TEMPORARY FACILITIES AND CONTROLS	10
016000	PRODUCT REQUIREMENTS	6
017700	CLOSEOUT PROCEDURES	8
017823	OPERATION AND MAINTENANCE DATA	10
017839	PROJECT RECORD DOCUMENTS	4
017900	DEMONSTRATION AND TRAINING	6

**DIVISION 2 EXISTING CONDITIONS**

024119	SELECTIVE DEMOLITION	8
--------	----------------------	---

**DIVISION 4 MASONRY**

042200	CONCRETE UNIT MASONRY	10
--------	-----------------------	----

**DIVISION 5 METALS**

055000	METAL FABRICATION	4
--------	-------------------	---

**DIVISION 6 WOOD PLASTIC AND COMPOSITES**

061053	ROUGH CARPENTRY	8
--------	-----------------	---

**DIVISION 7 THERMAL AND MOISTURE PROTECTION**

072100	THERMAL INSULATION	2
078413	PENETRATION FIRESTOPPING	8
079200	JOINT SEALANTS	6

**DIVISION 8 OPENINGS**

080671	DOOR HARDWARE SETS	6
081416	FLUSH WOOD DOORS	4
083113	ACCESS DOORS AND FRAMES	4

**DIVISION 9 FINISHES**

092216	NON-STRUCTURAL METAL FRAMING	8
--------	------------------------------	---

092713	GLASS FIBER REINFORCED PLASTER FABRICATIONS	4
092900	GYPSUM BOARD	8
093013	CERAMIC TILING	16
096750	URETHANE CEMENT COMPOSITION FLOORING	6
097720	DECORATIVE FIBERGLASS REINFORCED WALL PANELS (FRP)	6
099123	INTERIOR PAINTING	8
<b>DIVISION 10 SPECIALTIES</b>		
101419	DIMENSIONAL LETTER SIGNAGE	6
101423	PANEL SIGNAGE	6
102113.17	PHENOLIC-CORE TOILET COMPARTMENTS	8
102800	TOILET, BATH AND LAUNDRY ACCESSORIES	10
<b>DIVISION 12 FURNISHINGS</b>		
123661.19	QUARTZ AGGLOMERATE COUNTERTOPS	6
<b>DIVISION 21 FIRE SUPPRESSION</b>		
211313	WET PIPE SPRINKLER SYSTEMS	8
<b>DIVISION 22 PLUMBING</b>		
220517	SLEEVES AND SLEEVE SEALS FOR PLUMBING PIPING	4
220518	ESCUTEONS FOR PLUMBING PIPING	4
220523.12	BALL VALVES FOR PLUMBING PIPING	8
220529	HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT	8
220553	IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT	4
220719	PLUMBING PIPING INSULATION	8
221116	DOMESTIC WATER PIPING	12
221119	DOMESTIC WATER PIPING SPECIALTIES	4
221316	SANITARY WASTE AND VENT PIPING	14
221319	SANITARY WASTE PIPING SPECIALTIES	6
224213.13	COMMERCIAL WATER CLOSETS	6
224213.16	COMMERCIAL URINALS	4
224216.13	COMMERCIAL LAVATORIES	6
224716	PRESSURE WATER COOLERS	4
<b>DIVISION 23 HEATING, VENTILATING AND AIR CONDITIONING</b>		
230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	6
233113	METAL DUCTS	12
233713.23	REGISTERS AND GRILLES	4
<b>DIVISION 26 ELECTRICAL</b>		
260519	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES	6
260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	6
260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	6
260533	RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS	8
260544	SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING	4
260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	10

260923	LIGHTING CONTROL DEVICES	6
262213	LOW VOLTAGE DISTRIBUTION TRANSFORMERS	6
262416	PANELBOARDS	10
262726	WIRING DEVICES	6
265119	LED INTERIOR LIGHTING	10

**DIVISION 28 ELECTRONIC SAFETY AND SECURITY**

284621.11	ADDRESSABLE FIRE- ALARM SYSTEMS	10
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**LIST OF DRAWINGS****ARCHITECTURAL**

G000 COVER SHEET

G001 CODE SUMMARY

A000 GENERAL NOTES, SYMBOLS &amp; KEYPLANS

A001 OVERALL BUILDING PLANS - LEVEL 100

A002 OVERALL BUILDING PLANS - LEVEL 200

A003 OVERALL BUILDING PLANS - LEVEL 300 &amp; BALLROOM

A101 NOT USED

A102 DEMOLITION &amp; NEW FLOOR PLANS - ROOM F (EXHIBIT)

A103 DEMOLITION &amp; NEW FLOOR PLANS - ROOMS G, H (EXHIBIT)

A104 DEMOLITION &amp; NEW FLOOR PLANS - ROOM J (EXHIBIT)

A105 DEMOLITION &amp; NEW FLOOR PLANS - ROOM K (EXHIBIT)

A106 DEMOLITION &amp; NEW FLOOR PLANS - ROOMS N, O (EXHIBIT)

A107 DEMOLITION &amp; NEW FLOOR PLANS - ROOM P (EXHIBIT)

A108 DEMOLITION &amp; NEW FLOOR PLANS - ROOM Q (EXHIBIT)

A109 DEMOLITION &amp; NEW FLOOR PLANS - ROOM R (EXHIBIT)

A110 DEMOLITION &amp; NEW FLOOR PLANS - ROOM S (EXHIBIT)

A111 DEMOLITION &amp; NEW FLOOR PLANS - ROOM A (SEMINAR)

A112 DEMOLITION &amp; NEW FLOOR PLANS - ROOMS B, C (SEMINAR)

A113 DEMOLITION &amp; NEW FLOOR PLANS - ROOM D (SEMINAR)

A114 DEMOLITION &amp; NEW FLOOR PLANS - ROOM I (SEMINAR)

A115 DEMOLITION &amp; NEW FLOOR PLANS - ROOMS L, M (SEMINAR)

A116 DEMOLITION &amp; NEW FLOOR PLANS - ROOM T (SEMINAR)

A117 NOT USED

A118 DEMOLITION &amp; NEW FLOOR PLANS - ROOM V (SEMINAR)

A119 DEMOLITION &amp; NEW FLOOR PLANS - ROOM W (SEMINAR)

A120 DEMOLITION &amp; NEW FLOOR PLANS - ROOM X (SEMINAR)

A121 DEMOLITION &amp; NEW FLOOR PLANS - ROOM Y (SEMINAR)

A122 DEMOLITION &amp; NEW FLOOR PLANS - ROOM Z (SEMINAR)

A123 DEMOLITION &amp; NEW FLOOR PLANS - ROOM A1 (BALLROOM)

A124 DEMOLITION &amp; NEW FLOOR PLANS - ROOM A2 (BALLROOM)

A400 TYPICAL SINK DETAILS

A401 TYPICAL SINK DETAILS

A500 TYPICAL DETAILS

A500.1 TYPICAL WALL PARTITION TYPES

A500.2 TYPICAL DETAILS-EXHIBIT

A500.3 TYPICAL WALL PATTERN DETAILS-EXHIBIT

A500.4 TYPICAL DETAILS-SEMINAR & BALLROOM  
A500.5 TYPICAL DETAILS-SEMINAR & BALLROOM  
A501 NOT USED  
A502 ELEVATIONS & DETAILS - ROOM F (EXHIBIT)  
A503 ELEVATIONS & DETAILS - ROOMS G, H (EXHIBIT)  
A504 ELEVATIONS & DETAILS - ROOM J (EXHIBIT)  
A505 ELEVATIONS & DETAILS - ROOM K (EXHIBIT)  
A506 ELEVATIONS & DETAILS - ROOMS N, O (EXHIBIT)  
A507 ELEVATIONS & DETAILS - ROOM P (EXHIBIT)  
A508 ELEVATIONS & DETAILS - ROOM Q (EXHIBIT)  
A509 ELEVATIONS & DETAILS - ROOM R (EXHIBIT)  
A510 ELEVATIONS & DETAILS - ROOM S (EXHIBIT)  
A511 ELEVATIONS & DETAILS - ROOM A (SEMINAR)  
A512 ELEVATIONS & DETAILS - ROOMS B, C (SEMINAR)  
A513 ELEVATIONS & DETAILS - ROOM D (SEMINAR)  
A514 ELEVATIONS & DETAILS - ROOM I (SEMINAR)  
A515 ELEVATIONS & DETAILS - ROOMS L, M (SEMINAR)  
A516 ELEVATIONS & DETAILS - ROOM T (SEMINAR)  
A517 NOT USED  
A518 ELEVATIONS & DETAILS - ROOM V (SEMINAR)  
A519 ELEVATIONS & DETAILS - ROOM W (SEMINAR)  
A520 ELEVATIONS & DETAILS - ROOMS X (SEMINAR)  
A521 ELEVATIONS & DETAILS - ROOMS Y (SEMINAR)  
A522 ELEVATIONS & DETAILS - ROOM Z (SEMINAR)  
A523 ELEVATIONS & DETAILS - ROOM A1 (BALLROOM)  
A524 ELEVATIONS & DETAILS - ROOM A2 (BALLROOM)  
A600 TYPICAL CEILING AND FINISH DETAILS & SCHEDULES  
A600.1 TYPICAL CEILING DETAILS  
A601 NOT USED  
A602 RCP & FINISH PLANS - ROOM F (EXHIBIT)  
A603 RCP & FINISH PLANS - ROOMS G, H (EXHIBIT)  
A604 RCP & FINISH PLANS - ROOM J (EXHIBIT)  
A605 RCP & FINISH PLANS - ROOM K (EXHIBIT)  
A606 RCP & FINISH PLANS - ROOMS N, O (EXHIBIT)  
A607 RCP & FINISH PLAN - ROOM P (EXHIBIT)  
A608 RCP & FINISH PLAN - ROOM Q (EXHIBIT)  
A609 RCP & FINISH PLAN - ROOM R (EXHIBIT)  
A610 RCP & FINISH PLAN - ROOM S (EXHIBIT)  
A611 RCP & FINISH PLANS - ROOM A (SEMINAR)  
A612 RCP & FINISH PLANS - ROOMS B, C (SEMINAR)  
A613 RCP & FINISH PLAN - ROOM D (SEMINAR)  
A614 RCP & FINISH PLAN - ROOM I (SEMINAR)  
A615 RCP & FINISH PLANS - ROOMS L, M (SEMINAR)  
A616 RCP & FINISH PLAN - ROOM T (SEMINAR)  
A617 NOT USED  
A618 RCP & FINISH PLAN - ROOM V (SEMINAR)  
A619 RCP & FINISH PLAN - ROOM W (SEMINAR)

A620 RCP & FINISH PLANS - ROOM X (SEMINAR)  
A621 RCP & FINISH PLANS - ROOM Y (SEMINAR)  
A622 RCP & FINISH PLANS - ROOM Z (SEMINAR)  
A623 RCP & FINISH PLAN - ROOM A1 (BALLROOM)  
A624 RCP & FINISH PLAN - ROOM A2 (BALLROOM)  
A800 EXHIBIT TYPE ROOM SIGNAGE  
A801 SEMINAR TYPE ROOM SIGNAGE

**MECHANICAL**

M001 GENERAL NOTES ABBREVIATIONS & LEGEND  
M101 NOT USED  
M102 DEMOLITION & NEW FLOOR PLANS - ROOM F (EXHIBIT)  
M103 DEMOLITION & NEW FLOOR PLANS - ROOMS G, H (EXHIBIT)  
M104 DEMOLITION & NEW FLOOR PLANS - ROOM J (EXHIBIT)  
M105 DEMOLITION & NEW FLOOR PLANS - ROOM K (EXHIBIT)  
M106 DEMOLITION & NEW FLOOR PLANS - ROOMS N, O (EXHIBIT)  
M107 DEMOLITION & NEW FLOOR PLANS - ROOM P (EXHIBIT)  
M108 DEMOLITION & NEW FLOOR PLANS - ROOM Q (EXHIBIT)  
M109 DEMOLITION & NEW FLOOR PLANS - ROOM R (EXHIBIT)  
M110 DEMOLITION & NEW FLOOR PLANS - ROOM S (EXHIBIT)  
M111 DEMOLITION & NEW FLOOR PLANS - ROOM A (SEMINAR)  
M112 DEMOLITION & NEW FLOOR PLANS - ROOMS B, C (SEMINAR)  
M113 DEMOLITION & NEW FLOOR PLANS - ROOM D (SEMINAR)  
M114 DEMOLITION & NEW FLOOR PLANS - ROOM I (SEMINAR)  
M115 DEMOLITION & NEW FLOOR PLANS - ROOMS L, M (SEMINAR)  
M116 DEMOLITION & NEW FLOOR PLANS - ROOM T (SEMINAR)  
M116A DEMOLITION & NEW FLOOR PLANS - ROOM T (SEMINAR)  
M117 NOT USED  
M118 DEMOLITION & NEW FLOOR PLANS - ROOM V (SEMINAR)  
M119 DEMOLITION & NEW FLOOR PLANS - ROOM W (SEMINAR)  
M120 DEMOLITION & NEW FLOOR PLANS - ROOM X (SEMINAR)  
M121 DEMOLITION & NEW FLOOR PLANS - ROOM Y (SEMINAR)  
M122 DEMOLITION & NEW FLOOR PLANS - ROOM Z (SEMINAR)  
M123 DEMOLITION & NEW FLOOR PLANS - ROOM A1 (BALLROOM)  
M124 DEMOLITION & NEW FLOOR PLANS - ROOM A2 (BALLROOM)  
M200 SCHEDULES AND DETAILS  
M601 NOT USED  
M602 REFLECTED CEILING PLAN - ROOM F (EXHIBIT)  
M603 REFLECTED CEILING PLAN - ROOMS G, H (EXHIBIT)  
M604 REFLECTED CEILING PLAN - ROOM J (EXHIBIT)  
M605 REFLECTED CEILING PLAN - ROOM K (EXHIBIT)  
M606 REFLECTED CEILING PLAN - ROOMS N, O (EXHIBIT)  
M607 REFLECTED CEILING PLAN - ROOM P (EXHIBIT)  
M608 REFLECTED CEILING PLAN - ROOM Q (EXHIBIT)  
M609 REFLECTED CEILING PLAN - ROOM R (EXHIBIT)  
M610 REFLECTED CEILING PLAN - ROOM S (EXHIBIT)  
M611 REFLECTED CEILING PLAN - ROOM A (SEMINAR)  
M612 REFLECTED CEILING PLAN - ROOMS B, C (SEMINAR)

M613 REFLECTED CEILING PLAN - ROOM D (SEMINAR)  
M614 REFLECTED CEILING PLAN - ROOM I (SEMINAR)  
M615 REFLECTED CEILING PLAN - ROOMS L, M (SEMINAR)  
M616 REFLECTED CEILING PLAN - ROOM T (SEMINAR)  
M617 NOT USED  
M618 REFLECTED CEILING PLAN - ROOM V (SEMINAR)  
M619 REFLECTED CEILING PLAN - ROOM W (SEMINAR)  
M620 REFLECTED CEILING PLAN - ROOM X (SEMINAR)  
M621 REFLECTED CEILING PLAN - ROOM Y (SEMINAR)  
M622 REFLECTED CEILING PLAN - ROOM Z (SEMINAR)  
M623 REFLECTED CEILING PLAN - ROOM A1 (SEMINAR)  
M624 REFLECTED CEILING PLAN - ROOM A2 (SEMINAR)

M801 PLUMBING RISERS  
M802 PLUMBING RISERS  
M803 PLUMBING RISERS  
M804 PLUMBING RISERS  
M805 PLUMBING RISERS  
M806 PLUMBING RISERS  
M807 PLUMBING RISERS

**ELECTRICAL**

E001 GENERAL NOTES, ABBREVIATIONS & LEGEND  
E002 SITE POWER PLAN - LEVEL 100  
E003 SITE POWER PLAN - LEVEL 200  
E004 SITE POWER PLAN - LEVEL 300 AND BALLROOM  
E101 NOT USED  
E102 DEMOLITION & NEW FLOOR PLANS - ROOM F (EXHIBIT)  
E103 DEMOLITION & NEW FLOOR PLANS - ROOMS G, H (EXHIBIT)  
E104 DEMOLITION & NEW FLOOR PLANS - ROOM J (EXHIBIT)  
E105 DEMOLITION & NEW FLOOR PLANS - ROOM K (EXHIBIT)  
E106 DEMOLITION & NEW FLOOR PLANS - ROOMS N, O (EXHIBIT)  
E107 DEMOLITION & NEW FLOOR PLANS - ROOM P (EXHIBIT)  
E108 DEMOLITION & NEW FLOOR PLANS - ROOM Q (EXHIBIT)  
E109 DEMOLITION & NEW FLOOR PLANS - ROOM R (EXHIBIT)  
E110 DEMOLITION & NEW FLOOR PLANS - ROOM S (EXHIBIT)  
E111 DEMOLITION & NEW FLOOR PLANS - ROOM A (SEMINAR)  
E112 DEMOLITION & NEW FLOOR PLANS - ROOMS B, C (SEMINAR)  
E113 DEMOLITION & NEW FLOOR PLANS - ROOM D (SEMINAR)  
E114 DEMOLITION & NEW FLOOR PLANS - ROOM I (SEMINAR)  
E115 DEMOLITION & NEW FLOOR PLANS - ROOMS L, M (SEMINAR)  
E116 DEMOLITION & NEW FLOOR PLANS - ROOM T (SEMINAR)  
E117 NOT USED  
E118 DEMOLITION & NEW FLOOR PLANS - ROOM V (SEMINAR)  
E119 DEMOLITION & NEW FLOOR PLANS - ROOM W (SEMINAR)  
E120 DEMOLITION & NEW FLOOR PLANS - ROOM X (SEMINAR)  
E121 DEMOLITION & NEW FLOOR PLANS - ROOM Y (SEMINAR)  
E122 DEMOLITION & NEW FLOOR PLANS - ROOM Z (SEMINAR)  
E123 DEMOLITION & NEW FLOOR PLANS - ROOM A1 (BALLROOM)

E124 DEMOLITION & NEW FLOOR PLANS - ROOM A2 (BALLROOM)  
E601 NOT USED  
E602 REFLECTED CEILING PLAN - ROOM F (EXHIBIT)  
E603 REFLECTED CEILING PLAN - ROOMS G, H (EXHIBIT)  
E604 REFLECTED CEILING PLAN - ROOM J (EXHIBIT)  
E605 REFLECTED CEILING PLAN - ROOM K (EXHIBIT)  
E606 REFLECTED CEILING PLAN - ROOMS N, O (EXHIBIT)  
E607 REFLECTED CEILING PLAN - ROOM P (EXHIBIT)  
E608 REFLECTED CEILING PLAN - ROOM Q (EXHIBIT)  
E609 REFLECTED CEILING PLAN - ROOM R (EXHIBIT)  
E610 REFLECTED CEILING PLAN - ROOM S (EXHIBIT)  
E611 REFLECTED CEILING PLAN - ROOM A (SEMINAR)  
E612 REFLECTED CEILING PLAN - ROOMS B, C (SEMINAR)  
E613 REFLECTED CEILING PLAN - ROOM D (SEMINAR)  
E614 REFLECTED CEILING PLAN - ROOM I (SEMINAR)  
E615 REFLECTED CEILING PLAN - ROOMS L, M (SEMINAR)  
E616 REFLECTED CEILING PLAN - ROOM T (SEMINAR)  
E617 NOT USED  
E618 REFLECTED CEILING PLAN - ROOM V (SEMINAR)  
E619 REFLECTED CEILING PLAN - ROOM W (SEMINAR)  
E620 REFLECTED CEILING PLAN - ROOM X (SEMINAR)  
E621 REFLECTED CEILING PLAN - ROOM Y (SEMINAR)  
E622 REFLECTED CEILING PLAN - ROOM Z (SEMINAR)  
E623 REFLECTED CEILING PLAN - ROOM A1 (SEMINAR)  
E624 REFLECTED CEILING PLAN - ROOM A2 (SEMINAR)  
E701 ELECTRICAL DETAILS AND DIAGRAMS  
E702 LUMINARE SCHEDULE  
E801 ELECTRICAL PANEL SCHEDULES - SHEET 1  
E802 ELECTRICAL PANEL SCHEDULES - SHEET 2  
E803 ELECTRICAL PANEL SCHEDULES - SHEET 3  
E804 ELECTRICAL PANEL SCHEDULES - SHEET 4  
E805 ELECTRICAL PANEL SCHEDULES - SHEET 5  
E806 ELECTRICAL PANEL SCHEDULES - SHEET 6  
E807 ELECTRICAL PANEL SCHEDULES - SHEET 7  
E808 ELECTRICAL PANEL SCHEDULES - SHEET 8  
E809 ELECTRICAL PANEL SCHEDULES - SHEET 9  
E810 ELECTRICAL PANEL SCHEDULES - SHEET 10



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**PENNSYLVANIA CONVENTION CENTER AUTHORITY  
COMMONWEALTH OF PENNSYLVANIA**

**STANDARD FORM OF AGREEMENT  
FOR FACILITIES PROJECTS**

**GENERAL CONDITIONS**

**ARTICLE 1**

**GENERAL PROVISIONS**

**1.1 CONTRACT DOCUMENTS**

1.1.100 The Contract Documents consist of the agreement, notice to contractors, the bid proposal, the contract bonds (if specified), all riders, drawings and specifications, Special Requirements, General Requirements, and addenda issued to the contract. A modification is (1) a written amendment to the contract signed by both parties or (2) a change order. A modification may be made only after execution of the contract. The work specified in the contract includes all labor, equipment, and materials required and incorporated to complete the work specified in and according to all the Contract Documents.

1.1.101 The Contract Documents are complementary, and what is required by any one of the Contract Documents shall be binding as if required by all. The intention of the documents is to include all labor, materials, equipment, and other items necessary for the proper execution and completion of the work. Work not covered under any heading, section, branch, class, or trade of the specifications need not be supplied unless it is required elsewhere in the Contract Documents or is reasonably inferable therefrom as being necessary to produce the intended results. If there is a conflict between the drawings and the specifications, the more stringent specification shall prevail. Words which have well-known technical or trade meaning are used herein in accordance with such recognized meanings.

1.1.102 Where the work is shown in complete detail on only half or a portion of a drawing or there is an indication of continuation, the remainder being shown in outline, the work drawn out in detail shall be understood to apply to other like portions of the structure. On all work of a remodeling nature or installation within present buildings, the actual situation at the site controls any information given which may affect the quantity, size, and quality of materials required for a satisfactorily completed contract, whether or not such information is indicated on the drawings or within the specifications.

1.1.103 Unless otherwise noted in the Contract Documents, the Authority will provide the Contractor three (3) complete sets of stamped drawings and specifications for permitting, free of charge. The Contractor shall reimburse the Authority if additional sets are required beyond the three provided.

All drawings, specifications, and copies thereof furnished by the Professional are and shall remain the property of the Authority. They are not to be used on any other project, without permission of the Authority, and, with the exception of one contract set for each party to the contract, are to be returned to the Authority on request at the completion of the work.

**1.2 GOVERNING LAW**

This Agreement shall be governed by and construed in accordance with laws of the Commonwealth of Pennsylvania, notwithstanding any conflict-of-laws doctrines of said jurisdiction to the contrary and without the aid of any canon, custom or rule of law requiring construction against the draftsman. With respect to any suit, action or proceeding relating to this Agreement, Consultant hereby submits to the exclusive jurisdiction of the courts of the

Commonwealth of Pennsylvania.

**1.3 NOTICES**

Wherever the term "notice" is used, such notices to be effective shall be in writing and if to the Authority shall be mailed certified mail, postage and fees prepaid, or delivered to the Authority, and if to the Professional shall be similarly mailed or delivered to him at this address set forth in the caption of this Agreement, unless and until notice of another address shall be given hereunder, in which case notices shall be so delivered or mailed to the address last so given.

**1.4 INTEGRATION**

This Agreement contains all the terms and conditions agreed to by the parties hereto, and no other agreements, oral or otherwise, regarding the subject matter of this Agreement exist.

**1.5 NO THIRD PARTY RIGHTS**

The Contractor agrees to indemnify and hold harmless the Authority and the Commonwealth of Pennsylvania against any costs incurred by the Authority or the Commonwealth of Pennsylvania (including without limitation amounts paid pursuant to judgments or settlements and as counsel fees) in consequence of any claim by a third party against the Authority or the Commonwealth of Pennsylvania, including without limitation any claim by an employee of the Authority or the Commonwealth of Pennsylvania, the Contractor or a subcontractor and any claim by a subcontractor or another contractor, whether filed before or after final payment, based on actual or alleged damage to or destruction of property or injury to persons allegedly caused by the Contractor, or any subcontractor, or by their respective employees, in connection with the work.

The Authority shall promptly notify the other party of the assertion of any claim against which the Authority or the Commonwealth is held harmless pursuant to this condition, shall give such other party the opportunity to defend any such claim, and shall not settle any such claim without the approval of the indemnifying party.

**1.6 HOLD HARMLESS**

The Contractor shall indemnify and hold harmless the Authority, the Construction Manager, the Professional, their agents and employees from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the work, including any and all design work performed by or for the Contractor, provided that any such claim, damage, loss or expense: (1) is attributable to bodily injury, sickness, disease or death or to injury to or destruction of tangible property including the loss of use resulting therefrom, and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any subcontractor, any one directly or indirectly employed by any of them, or any one for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

In any and all claims against the Authority, Construction Manager or the Professional or any of their agents or employees by any employee or the Contractor, any subcontractor, any one directly or indirectly employed by any of them or any one for whose acts any of them may be liable, the indemnification obligations shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workmen's compensation acts, disability benefit acts or other employee benefit acts.

The obligations of the Contractor under this Section shall not extend to the liability of the Construction Manager, Professional, their agents or employees arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) the giving of, or the failure to give, directions or instructions by the Construction Manager, Professional, their agents or employees provided such giving, or failure to give, is the primary cause of the injury or damages.

**1.7 OFFSET PROVISIONS**

The Contractor, by execution of the agreement, certifies that it has no outstanding tax liability to Pennsylvania; authorizes the Department of Revenue to release information related to its tax liability to the Authority; and, authorizes the Commonwealth to set off any State and local tax liabilities of the Contractor or any of its subsidiaries, as well as any other amount due to the Commonwealth from the Contractor, not being contested on appeal by the Contractor, against any payment due to the Contractor under an agreement with the Commonwealth.

The certification of no outstanding tax liability is a material representation of fact, upon which reliance is placed by the Authority in entering the agreement. If it is later determined that the Contractor knowingly rendered an erroneous certification, the Authority may find the Contractor in default and terminate the agreement. Such erroneous certification may also be grounds for initiation of civil or criminal proceedings.

**1.8 not used**

**1.9 CONTRACTOR RESPONSIBILITY PROVISIONS**

- A. Contractor certifies that it is not currently under suspension or debarment by the Commonwealth, any other state, or the federal government, and if the contractor cannot so certify, then it agrees to submit along with the bid proposal a written explanation of why such certification cannot be made.
- B. If contractor enters into any subcontracts or employs under this contract any subcontractors/individuals who are currently suspended or debarred by the Commonwealth or the federal government or who become suspended or debarred by the Commonwealth or the federal government during the term of this contract or any extensions or renewals thereof, the Commonwealth shall have the right to require the contractor to terminate such subcontracts or employment.
- C. The contractor agrees to reimburse the Commonwealth for the reasonable costs of investigation incurred by the Office of Inspector General for investigations of the contractor's compliance with the terms of this or any other agreement between the contractor and the Commonwealth which results in the suspension or debarment of the contractor. Such costs shall include, but not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The contractor shall not be responsible for investigative costs for investigations that do not result in the contractor's suspension or debarment.

**1.10 not used**

**1.11 not used**

**1.12 AMERICAN WITH DISABILITIES ACT**

Pursuant to federal regulations promulgated under the authority of The Americans with Disabilities Act, 28 C.F.R. 35.101 *et seq.*, the Contractor understands and agrees that no individual with a disability shall, on the basis of the disability, be excluded from participation in this contract or from activities provided for under this contract. As a condition of accepting and executing this contract, the Contractor agrees to comply with the "General Prohibitions Against Discrimination", 28 C.F.R. 35.130, and all other regulations promulgated under Title II of the Americans with Disabilities Act which are applicable to the benefits, services, programs, and activities provided by the Pennsylvania Convention Center Authority through contracts with outside contractors.

The contractor shall be responsible for and agrees to indemnify and hold harmless the Commonwealth of Pennsylvania, the Pennsylvania Convention Center Authority and their

respective officers and employees from all losses, damages, expenses, claims, demands, suits, and actions brought by any party against any of the foregoing as a result of the contractor's failure to comply with the provisions of the paragraph above.

**1.13 ASSIGNMENT**

This agreement shall be binding on the parties hereto, their heirs, executors, administrators, successors and assigns, but it may not be assigned by the Contractor without the prior written consent of the Authority.

**1.14 ASSIGNMENT OF ANTITRUST CLAIMS**

The contractor and the Authority recognize that in actual economic practice, overcharges by the contractor's suppliers, resulting from the violations of State or Federal anti-trust laws are, in fact, borne by the Authority. As part of the consideration for the award of this contract, and intending to be legally bound, contractor assigns to the Commonwealth all rights, title and interest in and to any claims contractor now has, or may hereafter acquire, under State or Federal anti-trust laws relating to the goods or services which are the subject of this contract.

**1.15 LIENS**

In accordance with applicable Commonwealth Law 49 P.S. 1303, the parties hereto hereby specifically waive the right to file any mechanics or other lien or claim for work done or material furnished in or about the performance of this Agreement, and it is hereby expressly agreed that no such claim or claims shall be filed by anyone and that the Contractor shall not file nor permit any subcontractor, material man, mechanics or other person under him to file, nor shall any such contractor, subcontractor, material man or other person file any mechanics or other lien or claim for work done or material furnished in or about the performance of this Contract against the Authority, the Commonwealth of Pennsylvania, and/or the ground upon which the structure or work herein provided for is erected or done, or against any structure thereon erected or to be erected, or against any structure or property whatsoever covered by the Contract.

**1.16 NONDISCRIMINATION**

The Commonwealth's nondiscrimination / sexual harassment clause, as found in the Bid Proposal Form, is hereby incorporated by reference.

**1.17 THE PROFESSIONAL**

If retained and so designated by the Authority, a Professional architect or engineer may act as the agent for the Authority in the administration of the contract and may perform any or all of the functions stated herein. The Professional will, as determined by agreement with the Authority, visit the site to review progress in accordance with the contract drawings and specifications, attend job conferences, approve applications for payments, make progress reports to the Authority and review and accept/reject the Contractor's Schedule of Values.

The Professional has the authority to interpret the Contract Documents, reject work which does not conform to the Contract Documents, review and approve shop drawings, prepare drawings and specifications for change orders or modifications, participate in completion inspections, prepare as-built drawings, and review and approve all catalog data, manufacturers operating and maintenance instructions, certificates, warranties, written guarantees, and related documents required by the contract. The Professional may perform additional functions as determined by the Authority necessary to protect the Authority's interest.

**1.18 THE CONSTRUCTION MANAGER**

If retained and so designated by the Authority, a Construction Manager (CM) may also act as the agent for the Authority in the administration of the contract and may perform any or all of the functions stated herein, as determined by agreement with the Authority. The Construction Manager may visit the site to review progress according to the contract drawings and

specifications, independent of or in conjunction with the Professional. The Construction Manager may, with concurrence of the Professional, reject work that does not conform to the Contract Documents and safe working practices.

As and on behalf of the owner, the CM shall have authority to review with the Professional materials, workmanship, and equipment incorporated, or submitted for incorporation in the work. They shall review and provide an evaluation of the Contractor's testing, inspection, quality assurance, and certification program to the Professional, and they shall review and prepare an independent evaluation of the amount of the request for payment for acceptability of the quantity and quality of work performed or materials and equipment provided, and prepare and/or evaluate prepared schedules for the work.

The Construction Manager shall review the Contractor's construction practices and advise on unsafe working conditions during execution of the work. The Construction Manager shall work with the Professional as the Authority's representative in the administration of the Authority's interest in the project.

## ARTICLE 2

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### 2.1 THE AUTHORITY REPRESENTATIVES

Representatives designated by the Authority will have the authority to inspect the work and to reject all work not performed in accordance with the contract provisions. In addition, only those representatives so designated have authority to change, modify, or alter the work or incur or cause to be incurred additional obligations beyond the contract provisions.

### 2.2 THE AUTHORITY'S RIGHT TO CARRY OUT THE WORK

If the Contractor fails to carry out the work in accordance with the Contract Documents or fails to perform any provision of the agreement, the Authority may, after three (3) working days written notice to the Contractor, and without prejudice to any other remedy the Authority may have, make good such failures. In such case, an appropriate change order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such failures, including the cost for the Professional's additional services made necessary by such failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor and/or the Contractor's Surety shall pay the difference to the Authority.

### 2.3 RIGHT TO AWARD CONTRACTS

The Authority reserves the right to award other contracts in connection with other portions of the project under these similar conditions of this agreement.

## ARTICLE 3

### THE CONTRACTOR'S RIGHTS AND RESPONSIBILITIES

#### 3.1 COVENANT AGAINST CONTINGENT FEES

The Contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee (excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Contractor for the purpose of securing business). For breach or violation of this warranty, the Authority shall have the right

to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, or contingent fee.

### **3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS**

- 3.2.100 The Contractor shall perform the work according to good quality industry standards, practices, and procedures, and in accordance with the Contract Documents and submittals approved.
- 3.2.101 The Contractor shall accept all conditions as found upon examination of the site, and take field measurements and verify field conditions and compare carefully such measurements and conditions with the Contract Documents before commencing activities. If the Contractor, in the course of construction finds any conflict, error or discrepancy on or among the Contract Documents, such conflict, error or discrepancy shall be immediately referred to the Professional in writing.

### **3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

- 3.3.100 The Contractor shall supervise and direct the work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for the work performed and have control over construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the work, unless the Contract Documents give other instructions.
- 3.3.101 The Contractor shall provide all labor, materials, and equipment necessary for the proper prosecution of the work in an acceptable manner and at a satisfactory rate of progress.
- 3.3.102 The Contractor shall be responsible for the acts and omissions of all their employees, all subcontractors and their agents and employees, and all other persons performing portions of the work under a contract with the Contractor.
- 3.3.103 Inclement weather, including but not limited to cold or freezing weather, shall not be considered an excuse for non-performance of work under this contract. The Contractor shall use such methods of protecting as may be necessary to continue to work throughout the period of inclement weather.

### **3.4 LABOR AND MATERIALS**

- 3.4.100 The Contractor shall enforce strict discipline and good order and conduct among their employees and other persons carrying out the contract. Every employee shall be fit and skilled in the performance of tasks assigned to them.
- 3.4.101 Wages: Prior to submitting a Proposal, each Proposer must familiarize itself with all current working conditions, including but not limited to the labor environment and all applicable laws, codes, ordinances, contracts, agreements, rules and regulations that will affect the delivery of the services to be provided by the Proposer.
- 3.4.102 Products incorporated into the Work: The Authority anticipates the Contractor will provide products (i.e., products, materials, and equipment as defined in Section 016000 - Product Requirements) to be incorporated into the work of the project that are new, undamaged, and unused at the time of the installation, unless otherwise indicated in the Contract Documents. The Contractor shall produce, upon request, evidence supporting the source of materials used in the work.

The products provided under the contract shall meet or exceed the quality specified in the Contract Documents. The burden of proof of quality for all products provided rests with the Contractor. The costs incurred for substantiating quality shall be borne by the Contractor. If

the Authority accepts substituted materials of a lesser quality than specified, the Authority shall be entitled to a credit equal to the difference in cost of the products specified and the products provided.

The Contractor shall comply with the requirements of the Reciprocal Limitations 1998-Act 57 Commonwealth Procurement Code; Act 146 of 1986, the Trade Practices Act of July 23, 1968 P.L. 686 (71 P.S. 773.101 et seq.); and Act 3 of March 3, 1978, P.L. 6, commonly referred to as the "Steel Products Procurement Act", as outlined in the Special Requirements.

### **3.5 TAXES**

Refer to Bid Document.

### **3.6 PERMITS, FEES, AND NOTICES**

3.6.100 The Contractor shall obtain and pay for all permits, licenses and certificates required by Law and/or any public authority for the proper execution and completion of its work. The Contractor shall furnish proof of payment for all such permits, licenses and certificates, or proof that no permits, licenses or certificates are required. This proof must be furnished before the second request for payment.

3.6.101 The Contractor shall give all notices and comply with all applicable Laws, ordinances, regulations, rules and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents is at variance therewith in any respect, it shall promptly notify the Professional in writing. The Professional will make any necessary modifications. If the Contractor performs any work knowing it to be contrary to such applicable laws, ordinances, regulations, rules or orders, and without such written notice to the Professional, it assumes full responsibility therefor and shall bear all costs attributable thereto.

3.6.102 The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the Authority harmless from loss on account thereof. The Authority shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified. However, if the Contractor has reason to believe that the designing process or product specified is an infringement on a patent, it shall be responsible for such loss unless it promptly gives such information to the Authority.

### **3.7 SUPERINTENDENT**

3.7.100 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. The superintendent is responsible for continuous field supervision, coordination and completion of the work, and for the prevention of accidents.

3.7.101 Job conferences shall be scheduled by the Authority and shall be attended by the superintendent or a representative of the Contractor authorized to make all decisions and representations affecting the contract and its progress in the project.

### **3.8 PROGRESS SCHEDULE**

3.8.100 Immediately upon receipt of Notice to Proceed, the Contractor for general construction on the project shall furnish to each separate prime Contractor within fourteen (14) days a schedule of the proposed prosecution of the work under their contract. Each separate prime Contractor shall submit to the Contractor for general construction within twenty-one (21) days after issuance of the Notice to Proceed, a schedule of the proposed prosecution of their work. The



Contractor for general construction shall then submit to the Professional, CM, and the Authority within twenty-eight (28) days after issuance of the Notice to Proceed, a complete project schedule signed by all prime contractors indicating their approval, and showing in detail to the satisfaction of the Professional, CM and the Authority, the proposed dates for the performance of each phase of the work under each contract for the entire project.

- 3.8.101 In the event that the Authority, after the commencing of on-site work, grants an extension of time for sixty (60) days or more to a Contractor, the Contractor receiving the extension of time shall prepare a revised progress schedule for their prime contract. The Contractor involved in the extension shall forward their revised progress schedule to the Authority representatives within thirty (30) days from the approval of their extension. In no event will the granting of an extension of time to a one prime Contractor automatically entitle any other prime Contractor to an extension of time.
- 3.8.102 The Contractor shall complete portions of the work in such order of time as may be stated in the specifications or as required in the progress charts as approved by all prime Contractors and the Authority. The Authority may require the Contractor to apply additional resources to maintain the project schedule, if the Contractor negligently fails to process the work according to the approved project schedule, at no additional cost to the Authority. If the Contractor shall refuse or fails to proceed as directed by the Authority, the Authority may find the Contractor in breach of their contract and/or declare the Contractor in default.
- 3.8.103 In lieu of the project schedule requirements specified in this section, the Authority may specify alternate scheduling procedures in the General Requirements. In that case, the Contractor shall comply with those provisions and a project schedule need not be submitted as specified herein.

### **3.9 SHOP DRAWINGS**

- 3.9.100 The Contractor shall prepare and submit, in accordance with Section 013300-Submittal Procedures, the necessary shop drawings, diagrams, illustrations, schedules, performance charts, brochures, catalog information and other data required to support the proposed installation methods and establish standards by which the work will be judged, according to and within the time schedule submitted by the Contractor and approved by the Professional and the Authority. The times for submission of shop drawings shall be mutually established so as not to delay the project or require a time extension to the contract completion date, without agreement by the Authority.
- 3.9.101 The Professional's approval of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents, unless the Contractor has informed the Professional in writing of such deviation at the time of submission, has noted the deviation on the shop drawings, and the Professional has given written approval of the specific deviation. The Professional's approval also does not relieve the Contractor from responsibility for errors or omissions in the shop drawings or samples.
- 3.9.102 No portion of the work requiring a shop drawing or sample submission shall be commenced until the submission has been approved by the Professional. Any work commenced by the Contractor prior to final approval of the shop drawings and/or samples by the Professional is performed by the Contractor at its own risk.

### **3.10 JOB CONDITIONS**

- 3.10.100 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permit and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment, unless otherwise permitted by the Authority. The Contractor shall at all times

keep the work site free from accumulation of waste materials or rubbish carried by their operations.

The site of the work is defined by limit of contract line shown on the drawings. Contractors may only extend their work beyond this line as may be necessary to satisfy requirements of all permits and to make utility and service connections. Before starting any work beyond the limit of contract, the Contractor will submit to the Professional and the Authority a description of the proposed work for their review and approval.

The Contractor shall cooperate in the arrangements of their work as necessary to least affect the administration or operation of any present building, and shall protect their materials. Existing utility services roads and access ways will not be interrupted without prior approval by the Authority. The Contractor will comply with the Authority's prescribed times for acceptable outage periods.

- 3.10.101 The Contractor shall at all times afford other contractors reasonable access to the site, material storage areas, and shall perform their work so as not to interfere with the work of other contractors.
- 3.10.102 The Contractor shall be responsible for providing temporary heat, light and water as necessary to execute and protect their work, and shall maintain adequate ventilation of the work site to ensure proper air quality for human breathing, material protection, and safety equipment operations.
- 3.10.103 The Contractor shall be responsible to obtain all approvals and certificates of occupancies from local and state authorities having jurisdiction over the project, and submit the completed documents to the Authority.

## **ARTICLE 4**

### **CLAIMS AND DISPUTES**

#### **4.1 CLAIMS FOR CONCEALED OR UNKNOWN CONDITIONS**

- 4.1.100 If conditions are encountered at the site which are (1) subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then notice by the Contractor shall be given to the Authority promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions.
- 4.1.101 The Authority will promptly investigate such conditions and, if they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the work, will recommend an equitable adjustment in the contract sum or contract time, or both. If the conditions at the site are not materially different from those indicated in the Contract Documents, no change in the terms of the Contract is justified. No adjustment shall be made to the contract sum, however, for concealed conditions encountered during cutting and patching of work.

#### **4.2 CLAIMS FOR ADDITIONAL TIME OR COST**

- 4.2.100 If the Contractor wishes to make a claim for an increase in the Contract Sum, written notice shall be given to the Authority before proceeding to execute the work.

- 4.2.101 If the Contractor wishes to make a claim for an increase in Contract Time, written notice shall be given, including an estimate of cost and of probable effect of delay on the progress of the work. If adverse weather conditions are the basis for a claim for additional time, such claim shall be documented by data from a recognized weather authority substantiating that weather conditions were abnormal for the period and could not have been reasonably anticipated. The Contractor shall also substantiate that weather conditions had an adverse effect on the scheduled construction.
- 4.2.102 No claims for increased costs, charges, expenses, or damages of any kind, except as provided in the General Conditions, shall be made by the Contractor against the Authority for any delays or hindrances from any cause whatsoever, including but not limited to strikes, walkouts or work stoppages during the progress of any portion of the work. The Authority may, however, compensate the Contractor for any such delays by extending the time for completion of the work, as provided in the Contract, which extensions shall constitute the exclusive remedy between the parties.

### **4.3 DISPUTES WITH THE AUTHORITY**

- 4.3.100 The Contractor shall carry on the work and maintain the progress schedule during any claims, disputes questions, other related matters or proceedings unless otherwise agreed to in writing by the Contractor and the Authority.
- 4.3.101 In the event of any dispute, claim, question or other matter (hereinafter called disputed item) the Contractor shall immediately refer the disputed item in writing to the Authority Project Manager for a Determination, which said Determination shall be rendered in writing within a reasonable time.
- 4.3.102 Disputed items by the Contractor must be made known by written notice within 21 days after occurrence of the event giving rise to such disputed item, or within 21 days after the Contractor first recognizes the condition giving rise to the disputed item, whichever is later.
- 4.3.103 Claims Procedure: Determinations made by the Authority Project Manager shall be subject to the claims procedure as described herein. Any disputed item which the Contractor may have against the Authority under this contract, except those settled under these provisions, shall be subject to the following procedure for the resolution of same:
- A. Dispute Conference. Any disputed item which the Contractor may have against the Authority under this contract or any breach thereof that has been referred to the Authority Project Manager, except as has been waived by the failure of the Contractor to present a timely claim in accordance with this section, shall be subject to negotiation at a Dispute Conference. A Dispute Conference shall be scheduled by the Authority upon the written demand of the Contractor if submitted no later than thirty (30) days after the date of the Determination by the Authority Project Manager.
  - B. Pre-Claim Hearing. Upon written demand by the Contractor, all disputed items which the Contractor may have against the Authority which have not been resolved at a Dispute Conference shall be heard at a Pre-Claim Hearing chaired by the Authority Director for Engineering & Capital Projects.

No demand for a Pre-Claim Hearing shall be made later than thirty (30) days after the date on which the Contractor has received a decision rendered by the Authority Project Manager as a result of a Dispute Conference, or from the fortieth (40th) day after the Dispute Conference was held, if the Contractor has not received a decision. Failure to demand a Pre-Claim Hearing within the required time period shall result in the decision of the Dispute Conference becoming final and binding upon the Contractor.

#### **4.4 DISPUTES WITH OTHER CONTRACTORS**

- 4.4.100 The Authority shall have no obligation to any third parties for any claim, nor be a party to any claims, disputes or actions between prime contractors or subcontractors concerning such additional expense or damage. Nor shall such claims or disputes be subject to Board of Claims proceedings.
- 4.4.101 Should the Contractor, either directly or by the Contractor's subcontractors, or their respective agents, servants, or employees, cause damage or injury to the property or work of any other prime contractor or contractors, or by failing to perform the Contractor's work (including the work of the Contractor's subcontractors) hereunder with due diligence, delay any other prime contractors who shall suffer additional expense or damage thereby, the parties involved in such dispute shall settle by agreement or arbitrate said claim, dispute or disputes by referring same to the American Arbitration Association. Said dispute or disputes shall be determined pursuant to the construction industry arbitration rules of the American Arbitration Association then in effect. Notice of the demand for arbitration shall be filed in writing with the other prime Contractors and with either the Philadelphia or Pittsburgh Regional Office of the American Arbitration Association, and a copy shall be filed with the professional and the Authority. The demand for arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen.
- 4.4.102 It is agreed by all parties that disputes or actions between Contractors concerning the additional expense or damage herein before mentioned shall not delay completion of the work which shall be continued by the parties, subject to the rights herein before provided. It is agreed by the parties to the contract (the Authority as promisee and the Contractor as promisor) that the intent of this clause is to benefit the other prime Contractors on the project or related projects and to serve as an indication of the mutual intent of the Authority and the Contractor that this clause raise such other prime Contractors to the status of third party beneficiaries only as to the terms and conditions of sections entitled Subcontractors and Disputes with the Authority. The Contractor agrees that these sections are provided as a benefit to the Contractor and that they specifically exclude claims against the Authority for delay or other damages.
- 4.4.103 The Contractor agrees that all claims, disputes and other matters in question between prime Contractors, which arise out of, or are related to this contract or the breach thereof shall be settled by agreement or resolved by arbitration in accordance with the construction industry arbitration rules of the American Arbitration Association then in effect, unless the parties mutually agree otherwise. This agreement to arbitrate shall be in consideration of the fact that all prime Contractors agree to this same arbitration provision as provided in each separate prime contract and that arbitration of all claims disputes and other matters in question shall be held within a reasonable time after the claim, dispute or other matter in question has arisen.

### **ARTICLE 5**

#### **SUBCONTRACTORS**

- 5.1 A Contractor may not, except with the consent of the Authority, have a financial interest in any other contractor, subcontractor, or supplier providing services, labor, or material on this project. Failure to disclose the names of such subcontractors and/or suppliers shall be sufficient grounds for termination of this contract. Such failure may also be grounds for the initiation of civil or criminal proceedings.

- 5.2** Subcontractors employed by the prime contractors are solely responsible to the prime Contractor, and shall have no contractual relationship with the Authority.
- 5.3** All work performed for the Contractor by a subcontractor shall be pursuant to an appropriate agreement between the Contractor and the subcontractor. All agreements between Contractors and subcontractors shall contain provisions that:
- A. Preserve and protect the rights of the Authority and the Professional under the Agreement with respect to the work to be performed under the subcontract, so that the subcontracting thereof will not prejudice such rights.
  - B. Require that such work be performed in accordance with the terms, conditions and requirements of the Contract Documents.
  - C. Require that all claims for additional costs, extensions of time or otherwise with respect to subcontracted portions of the work, shall be submitted to the Contractor in the manner provided in the Contract Documents for like claims by the Contractor upon the Authority.
  - D. Require that each subcontractor and/or supplier fully warrants and guarantees for the benefit of the Authority as purchaser the effectiveness, fitness for the purpose intended, quality and merchantability of any item provided and/or installed by such subcontractor.
  - E. Require that the subcontractor is without privity of Contract to the Authority and that it agrees by signing the subcontract that it neither acquires nor intends to acquire any rights against the Authority on a third party beneficiary theory or any others.
- 5.4** The Contractor shall not sublet any part of this contract without written approval of the Authority. Within 30 days of a Notice to Proceed, the Contractor shall submit a list of all subcontractors they propose to use for written approval by the Authority. In all cases, this shall be prior to the first application for payment being submitted.
- 5.5** The Authority has the right to direct the Contractor to replace any subcontractor that the Authority objects to, for reasons that:
- A. The subcontractor has failed to work in accordance with the contract provisions, rules and regulations regarding Contractor performance, contract compliance, good order and conduct of their employees.
  - B. The subcontractor has defaulted or failed to perform on previous Authority projects.
  - C. The subcontractor has been suspended or debarred from doing business with the Commonwealth. The Contractor shall then submit another subcontractor for approval.
- Should there be a cost differential to the Contractor, the Contractor shall submit evidence to that fact, and the Contract Sum shall be increased or decreased by the cost difference by an appropriate Change Order.

## **ARTICLE 6**

### **CHANGES IN THE WORK**

#### **6.1 RIGHT TO ORDER CHANGES**

- 6.1.100 The Authority, without invalidating the agreement, may order changes in the work within the general scope of the agreement consisting of additions, deletions, or other revisions. The contract sum and time shall be adjusted accordingly, as they relate to the cost of the work, and

impact on completion of the work. The Contractor agrees that payment under any method shall be the exclusive compensation for such addition, deletion, or other revision to the original agreement.

- 6.1.101 Minor changes in the work not affecting the contract sum or extension of time, consistent with the intent of the Contract Documents, may be directed by the Authority without additional compensation or time extension.
- 6.1.102 Work that can reasonably be done concurrently with other contract work, without significant addition of labor or equipment or increasing the contract completion date, will not be subject to time extension.

## **6.2 CHANGE ORDERS**

- 6.2.100 The cost or credit of changed work will be determined by one of the methods described herein:
  - A. By a detailed cost breakdown properly itemized. The breakdown shall include size, quantity, type, etc., and may include a maximum of fifteen percent (15%) markup to labor costs and a maximum of ten percent (10%) markup to material and equipment costs for overhead and profit.

The Contractor may include a maximum of ten-percent (10%) total markup to any subcontractor costs for overhead and profit. Subcontractors cannot exceed the markups stated herein for labor, material, or equipment costs.

- B. By unit prices stated in the bid proposal.
  - C. From prices as agreed upon in the Schedule of Values.
- 6.2.101 The Contractor shall not be entitled to profit which is lost as a result of deleted work, but shall be entitled to the overhead attributed to the items of work deleted from the Schedule of Values only when the contract completion date is not reduced.

## **6.3 UNILATERAL CHANGE ORDER**

- 6.3.100 In the event that agreement cannot be reached as to the cost or credit of the changed work, the Authority shall prepare a cost estimate, and the Contractor will be issued a unilateral change order to proceed with the changed work at a cost not-to-exceed the Authority's estimate. The Contractor shall proceed with the work and maintain accurate records of the actual cost of labor and material to perform the work.
- 6.3.101 Upon completion of the work, if the Contractor's actual cost including profit and overhead for the work does not exceed the Authority's not-to-exceed cost estimate, a new change order will be issued in the amount of the Contractor's actual cost.
- 6.3.102 If the work is not completed, and if the Contractor's actual cost has equaled or exceeded the not-to-exceed limit of the unilateral change order, the Authority will audit the Contractor's actual cost and subsequently attempt to negotiate a cost for the remaining work. If agreement cannot be reached for the remaining work, another unilateral change order will be issued at the Authority's revised cost estimate to complete the work. In this case, the Contractor retains the right to claim for equitable adjustment under the disputes clause of this agreement.

## **ARTICLE 7**

### **TIME**

- 7.1 The time specified for the contract completion is the number of calendar days from the date of

the Notice to Proceed. The date for commencement of the work is the date of the Notice to Proceed. On site work shall commence no later than ten (10) days after the date of the Notice to Proceed.

- 7.2** Time extensions may be granted for events impacting the work beyond the control of the Contractor if the changed condition impacts a work item on the critical path of the project schedule, and the scheduled substantial completion date is extended.

## **ARTICLE 8**

### **PAYMENTS AND COMPLETION**

- 8.1** The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an application for payment, whether incorporated in the project or not, will pass to the Authority upon the receipt of such payment, free and clear of all terms, claims, security interests, or encumbrances.

#### **8.2 PAYMENTS**

- 8.2.100** Performance by the contractor in accordance with the provisions of the contract shall entitle the contractor to payment by the Authority. The Authority shall pay the contractor according to the provisions of this section for all items that appear on the application for payment and have been satisfactorily completed. Applications for payment will not be considered to be acceptable unless they meet all the requirements specified in Section 012900 - Payment Procedures and as outlined elsewhere in the contract documents.

**8.2.101** Schedule of Values:

The contract sum is stated in the agreement and is the total amount payable for the performance of the work in compliance with the Contract Documents. Before any application for payment can be submitted, the Contractor shall submit to the Authority for its approval a detailed breakdown of the costs indicating a schedule of quantities and values for the items of work included in the contract, as required in Section 012900-Payment Procedures. Each item in the Schedule of Values shall include its proper share of overhead and profit.

The Schedule of Values, when approved by the Authority shall be used as a basis for the Contractor's application for payments. This Schedule of Values may also be used to determine the cost or credit to the Authority resulting from the changes in the work.

- 8.2.102** The Authority may decline to approve any Application for Payment, or portion thereof, because of subsequently discovered evidence or subsequent inspections, which may nullify the whole or part of any Application for Payment previously issued, to such extent as may be necessary to protect the Authority from loss because of:

- A. Defective work not remedied.
- B. Failure of the Contractor to make payments properly to subcontractors or for labor, materials, and equipment.
- C. Reasonable evidences that the work cannot be completed for the unpaid balance of the Contract Sum.
- D. Reasonable evidence that the work will not be completed within the Contract Time and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay.

E. Unsatisfactory prosecution of the work by the Contractor.

8.2.103 Retainage:

Normally, payment of the total amount will be made upon substantial completion, final inspection, and acceptance of the work. However, when a contract exceeds \$10,000 and upon written request, partial payments may be made after completion of portions of the work. To ensure proper performance of the contract, the Authority shall retain from all partial payments an amount not to exceed ten percent (10%) of the amount due the contractor until fifty percent (50%) of the contract is completed. The sum to be withheld from the contractor after the contract is fifty percent (50%) completed shall not exceed five percent (5%) of the value of the completed work based on monthly progress payment requests.

When the contract is fifty percent (50%) completed, one half of the amount retained by the Authority shall be returned to the contractor. However, the architect, engineer, or Authority project representative must approve the application for payment for reduction in retainage. The contractor must be making satisfactory progress, and there must be no specific cause for greater withholding.

All money retained by the Authority may be withheld from the contractor until substantial completion of the contractor. However, in the event a dispute arises between the Authority and any prime contractor, which dispute is based upon increased costs claimed by one prime contractor occasioned by delays or other actions of another prime contractor, additional retainage in the sum of one and one-half times the amount of any possible liability may be withheld until such time as a final resolution is agreed to by all parties directly or indirectly involved, unless the contractor causing the additional claim furnishes a bond satisfactory to the Authority to indemnify the Authority against the claim.

In absence of sufficient reason, within 20 days of receipt of payment of retainage, the contractor shall pay all subcontractors with which it has contracted their earned share of the retainage payment the contractor received.

8.2.104 Withholding of Payments for Good Faith Claims

The Authority may withhold payment for deficiency items according to the terms of the contract. If the Authority withholds payment from a contractor for a deficiency item, the Authority shall notify the contractor of the deficiency item within the timeframe specified in the contract or 15 calendar days of the date that the application for payment is received.

The Contractor may withhold payment from any subcontractor who is responsible for any deficiency item for good faith claims. If a contractor withholds payment from a subcontractor for a deficiency item, it must notify the subcontractor or supplier and the Authority of the reason within 15 calendar days of the date after receipt of the notice of the deficiency item from the Authority.

8.2.105 Payments to Subcontractors

For the purposes of this section, the contract between the contractor and the subcontractor is presumed to incorporate the terms of the contract between the contractor and the Authority. When a subcontractor has performed in accordance with the provisions of the contract, a contractor shall pay to the subcontractor, and each subcontractor shall in turn pay to its subcontractors, the full or proportioned amount received for each such subcontractor's work and material, 14 days after receipt of a progress payment. Neither the Authority nor any Professional shall have any obligation to pay or see to the payment of any monies to any subcontractor except as may be otherwise required by law.

8.2.106 Substantial Completion and Final Payment:

For all contracts containing a provision for retainage, the design professional shall make a final inspection within 30 days receipt of a request by the contractor for final inspection and



application for final payment. If the work is substantially complete, the design professional shall issue a certificate of substantial completion and a final certificate for payment.

The Authority shall make payment in full within 45 days except as provided for in Article 8.2.103 Retainage, less only one and one-half times the amount required to complete any then-remaining uncompleted minor items, which amount shall be certified by the design professional and, upon receipt by the Authority of any guarantee bonds which may be required, in accordance with the contract, to ensure proper workmanship for a designated period of time. The certificate of substantial completion given by the design professional shall list in detail each uncompleted item and a reasonable cost of completion. Final payment of any amount withheld for the completion of the minor items shall be paid upon completion of the uncompleted items listed in the certificate of substantial completion of the design professional.

Payment under this section will be made upon satisfactory completion of the work specified in the Contract Documents and completion of all requirements listed in Section 012900 - Payment Procedures.

### **8.3 ACCEPTANCE OF WORK**

8.3.100 An application for progress payment, a progress payment, or any partial or entire use or occupancy of the project by the Authority shall not constitute an acceptance of any work not in accordance with the Contract Documents.

8.3.101 Partial Occupancy or Use:

The Authority may occupy or use any completed or partially completed portion of the work at any stage when such portion is so designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer, and authorized by public authorities having jurisdiction over the work. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Authority and the Contractor have accepted in writing the responsibilities assigned to each of them for payments, security, maintenance, heat, insurance, etc.

Immediately prior to such partial occupancy or use, the Authority, Contractor, and Design Professional shall jointly inspect the area in order to determine and record the condition of the work, and agree to the period for correction of this work and as to the commencement of warranties.

8.4 Any person, co-partnership, association, or corporation furnishing labor, material, equipment or renting equipment or rendering public utility services in connection with performance of this contract shall have a right of action to recover the cost thereof from the Contractor and the Surety on the bond given to secure the payment for such labor, material, equipment or equipment rental and services rendered by public utility as though such person or corporation had been named as obligee in such bond; subject to the provisions of the act 1998 Act 57 Commonwealth Procurement Code.

### **8.5 NO ESTOPPEL OR WAIVER OF LEGAL RIGHTS**

8.5.100 Neither the Authority nor the Professional shall be precluded or estopped by the measurements or approved applications for payment made or given by any of them or by any of their agents or employees, at any time, either before or after the completion and acceptance of the work and payment thereof, from showing the true and correct amount and character of the work performed and materials and equipment furnished by the Contractor. The Authority and/or the Professional may show at any time, that any such measurements or approved applications for payment are untrue or incorrectly made in any particular; or that the work or materials, equipment or any parts thereof do not conform to the Contract Documents.

8.5.101 The Authority shall have the right to reject the whole or any part of the aforesaid work or

materials and equipment should the said measurements or approved applications for payment be found or be known to be inconsistent with the terms of the contract, or otherwise improperly given. The Authority shall not be precluded or estopped, notwithstanding any such measurements or approved applications for payment in accordance therewith, from demanding and recovering from the Contractor or their Surety, or both, such damages as it may sustain by reason of the Contractor's failure to comply with the terms of the Contract Documents, or on account of any over-payments made on any approved applications for payment.

- 8.5.102 Neither the acceptance by the Authority or the Professional or any of their agents or employees, nor any certificate approved for payment of money; nor any payments for, nor acceptance of the whole or any part of the work by the Authority, nor any extension of time, nor any position taken by the Authority or its employees, shall operate as a waiver of any portion of the contract or any power herein reserved by the Authority or any right to damages. A waiver of any breach of the contract will not be held to be a waiver of any other or subsequent breach.

## **ARTICLE 9**

### **PROTECTION OF PERSONS AND PROPERTY**

#### **9.1 SAFETY PRECAUTIONS AND PROGRAMS**

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs required under their portion of the work and maintained during the term of the contract.

#### **9.2 SAFETY OF PERSONS AND PROPERTY**

- 9.2.100 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

- A. All employees on the work, and all other persons who may be affected thereby.
- B. All the work materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of their subcontractors.
- C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

- 9.2.101 The Contractor shall comply with all applicable, laws, ordinances, rules, regulations and orders of any public authority having jurisdiction of the safety of persons or property or to protect them from damage, injury or loss. The Contractor shall erect and maintain as required by existing conditions and progress of the work, until the acceptance of the completion of their portion of the project, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities.

- 9.2.102 The Contractor shall designate a responsible member of their organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by the Contractor to the Authority and the Professional.

- 9.2.103 Explosives shall not be used in the work without specific written approval by the Authority of the Contractor's plan for storage and use of them for accomplishing the work, and the Contractor providing the local Blasting Permit if required, the license for the person doing the blasting, and the Certificate for Insurance indicating blasting is included in the coverage.

### 9.3 EMERGENCIES

In any emergency affecting the safety of persons or property, the Contractor shall act, at their discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor because emergency work shall be determined as provided in Changes in the Work.

## ARTICLE 10

### INSURANCE

#### 10.1 GENERAL

10.1.100 All policies shall be issued by insurance companies known to be financially sound and authorized to conduct such business under the laws of the Commonwealth of Pennsylvania.

10.1.101 Coverage shall be maintained without interruption from the date of commencement of the work until the date of final payment and termination of any coverage required to be maintained after final payment.

10.1.102 Insurance required herein shall also name the Authority of the Commonwealth of Pennsylvania as an additional insured, as its interest may appear, and Additional Insured Endorsements shall be provided along with the Certificates of Insurance.

10.1.103 Certificates of Insurance: A Certificate of Insurance acceptable to the Authority shall be filed with the Authority prior to the Authority issuing a Notice to Proceed. In no case shall any commencement of work on site be permitted until the required Certificates of Insurance have been provided and accepted by the Authority.

A. The Certificates of Insurance shall contain a provision that "coverage afforded under the policies will not be canceled, allowed to expire, or in any way changed, including alterations to the conditions of the policy, until at least thirty (30) days written notice has been given, by registered mail, to the Authority".

The Contractor will be responsible to ensure these notifications occur. Furthermore, should there be no notifications of policy expirations, terminations, or alterations of the insurance coverage, it will be the understanding of the Authority that the insurance coverage will be as required in the Contract, or as has been indicated in the latest issued Certificate of Insurance accepted by the Authority.

B. All exclusions to the insurance policies shall be either provided on the Certificate of Insurance, or attached to it as a List of Exclusions. Such exclusions must be acceptable to and agreed to by the Authority. If no such listing is provided, it will be understood by the Authority that there are no exclusions to the policies.

C. The deductible amounts for the coverage provided shall be indicated by the insurance company or companies providing the policies. This information shall be sent along with the Certificates of Insurance.

10.1.104 Copies of all insurance policies shall be made available upon request of the Authority.

10.1.105 At any time the insurance provisions of the agreement, as described herein, are not being maintained, the work of the Contractor may be terminated or suspended, according to the provisions of Article 12-Suspension of the Work and Article 13-Termination of the Work

Agreement.

## 10.2 CONTRACTOR'S LIABILITY INSURANCE

10.2.100 The Contractor shall purchase and maintain such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- A. Claims under Workers Compensation Disability Benefit and other similar employee benefit Acts. Employees Liability Insurance, with a minimum of \$1,000,000 aggregate coverage, is to be provided on the same operations.
- B. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees.
- C. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees.
- D. Claims for damages because of injury to or destruction of tangible property including loss of use resulting therefrom.

10.2.101 The Contractor's commercial general liability insurance and automobile liability insurance shall be written for not less than \$500,000 for injuries including accidental death to any one person, and subject to the same limit for each person, in an amount not less than \$3,000,000 for each occurrence. The Contractor's property damage liability insurance shall be in an amount not less than \$3,000,000 for each occurrence.

10.2.102 The commercial general liability insurance shall:

- A. Include completed operations and products liability coverage.
- B. Shall include contractual liability coverage as necessary to meet the Contractor's obligations under Third Party Indemnification and Authority Indemnification and Hold Harmless.
- C. Shall include the special property damage liability coverage commonly referred to as XCU (explosion, collapse, and underground damage), unless the Authority approves a Contractor's request to exclude this coverage.
- D. Shall include adequate protection against special hazards when required, i.e.: blasting, etc.

10.2.103 Subcontractors Insurance:

- A. The Contractor shall either require each of its subcontractors to procure and to maintain during the life of its subcontractor's commercial general liability, automobile liability, and property damage liability insurance of the type and in the same amounts as specified in this Article, or insure the activity of its subcontractors in its own insurance policies.
- B. The Contractor shall require each subcontractor to provide Worker's Compensation and Employer's Liability insurance covering all persons employed by such subcontractors on work to be performed on this contract.

- C. The Contractor must submit to the Authority, prior to any subcontractors or sub-subcontractors commencing of any on site work, evidence that the subcontractors or sub-subcontractors are covered by insurance as required herein.

### **10.3 PROPERTY INSURANCE**

- 10.3.100 The Contractor shall purchase and maintain property insurance for all insurable work included in the Contract, in the amount of the original Contract Sum as well as subsequent modifications thereto, in the names of the Authority and the Contractor as their respective interests may appear, in full 100% of the insurable value thereof, including:
  - A. Items of labor and materials connected therewith whether in or adjacent to the structure insured.
  - B. Materials in place or to be used as part of the permanent construction, including surplus materials, protective fences, bridges, temporary structures, miscellaneous materials and supplies incident to the work.
- 10.3.101 The property insurance will include and fully protect the interest of the Authority, the Commonwealth of Pennsylvania, the Contractor, subcontractors, and sub-subcontractors. The Contractor shall submit to the Authority for its approval all items deemed to be uninsurable.
- 10.3.102 Property insurance shall be on an all-risk policy form and shall insure against the perils of fire and extended coverage and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse due to ice and snow, temporary structures, and debris removal as associated hereto.
- 10.3.103 The risk of damage to the construction work due to the perils covered by the said property insurance with extended coverage, is that of the Contractor, and no claims for such loss or damage will be recognized by the Authority, nor will such loss or damage excuse the complete and satisfactory performance of the Contract by the Contractor.
- 10.3.104 Partial occupancy or use in accordance with Article 8.3.101 Partial Occupancy or Use shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise.

## **ARTICLE 11**

### **UNCOVERING AND CORRECTION OF WORK**

#### **11.1 UNCOVERING OF WORK**

- 11.1.100 Work performed under the contract is subject to inspection by the Authority. If a portion of the work is covered contrary to the request of the Authority or Professional, it must, if required by the Authority or Professional, be uncovered for its observation, and replaced at the Contractor's expense without change in Contract Time.
- 11.1.101 If a portion of the work has been covered which the Authority or Professional has not specifically requested to observe prior to being covered, the Authority or Professional may request to see such work, and it shall be uncovered by the Contractor. If such work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall be charged to the Authority.

If the work is not in accordance with the Contract Documents, the work will be removed and

replaced by the Contractor, within the period specified by the Authority by written notice, at no additional cost to the Authority. The Authority may, upon failure by the Contractor to replace the nonconforming work, have the work removed and replaced at the Contractor's expense.

## **11.2 CORRECTION OF DEFECTIVE OR NON-CONFORMING WORK**

11.2.100 The Contractor shall promptly correct all work rejected by the Authority or Professional as defective or as failing to conform to the Contract Documents, whether observed before or after substantial completion and whether or not fabricated, installed or completed. All defective or non-conforming work shall be promptly removed from the site. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Professional's additional services and any additional cost incurred by the Authority. Should the Contractor fail to respond in an expedient manner, the Authority may correct the work under Article 2.2-the Authority's Right to Carry Out the Work.

11.2.101 If, within one year after the date of substantial completion and acceptance of all work performed under the Contract or within such longer period of time as may be prescribed by Law or by the terms of any applicable special guarantee required by the Contract Documents, any of the work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the Authority to do so, unless the Authority has previously given the Contractor a written acceptance of such specific condition. The Authority shall give such notice promptly after discovery of the condition.

If required, the Maintenance Bond hereto attached and made a part hereof shall provide a guarantee in the sum of ten percent (10%) of the total Contract sum of the work done for the correction and remedy of such defect. If the corrective work is not completed within thirty (30) days after notification by the Authority to the Contractor, the Authority may do the work and submit those costs to the Contractor's Surety for reimbursement.

11.2.102 The Contractor shall bear the cost of making good all work of other Prime Contractors destroyed or damaged by such removal or correction.

11.2.103 If the Contractor does not remove such defective or non-conforming work within the time fixed by written notice from the Authority, the Authority may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, the Authority may, upon ten (10) additional days written notice, sell such work at auction or at private sale and, after deducting all the costs that should have been borne by the Contractor pursuant to the provisions of this paragraph, shall account for the net proceeds of the sale. If such proceeds of sale do not cover all costs that the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate change order shall be issued. If the payments then or thereafter due to Contractor are not sufficient to cover such amount, the Contractor and/or the Contractor's Surety shall pay the difference to the Authority.

11.2.104 The obligations of the Contractor under this section are in addition to and not in limitation of any obligations imposed upon the Contractor by special guarantees required by the Contract Documents or otherwise prescribed by law. Correction of defective work in no way reduces or eliminates the Contractor's responsibilities under the warranty provisions of the contract.

**11.3 ACCEPTANCE OF NON-CONFORMING WORK**

If the Authority elects to accept non-conforming work, it may do so instead of requiring its correction or removal and replacement. If nonconforming work is accepted, a change order shall be issued to reflect an appropriate reduction in the Contract Sum to reflect the actual cost reduction of the change in the work, or, if the amount is determined after final payment, it shall be paid by the Contractor and/or its Surety. In this case, all the costs of uncovering and recovering the work shall be at the expense of the Contractor, and which costs shall not be included as part of any deduct change order.

**ARTICLE 12**

**SUSPENSION OF THE WORK**

**12.1 SUSPENSION OF WORK FOR CONVENIENCE**

12.1.100 The Authority may order the Contractor in writing to suspend all or any part of the work for such period of time as it may determine to be appropriate for the convenience of the Authority. This paragraph does not apply under conditions enumerated in Paragraph 12.2--Suspension of Work due to Unfavorable Conditions.

12.1.101 If the performance of all or any part of the work is, for an unreasonable period of time, suspended by the Authority, an adjustment shall be made for any increase in the cost of performance of this Contract (excluding profit) necessarily caused by such unreasonable suspension. The Contract shall be modified in writing accordingly. No adjustment shall be made under this clause for any suspension to the extent that performance would have been so suspended by any other cause, including the fault or negligence of the Contractor; or for which an equitable adjustment is provided for or excluded under any other provision of this Contract.

12.1.102 No claim under this clause shall be allowed unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension. The claim may not be asserted later than the date of Final Completion under the Agreement.

**12.2 SUSPENSION OF WORK DUE TO UNFAVORABLE CONDITIONS**

12.2.100 If, in the judgment of the Authority, the Contractor is taking undue risk of damage to any part of a structure or installation by proceeding with the work during unfavorable weather or other conditions, then the Authority may suspend the work temporarily, either wholly or in part for such periods as are necessary. In case of such suspension, a proper extension of time will be allowed as provided herein, but no allowance will be made to the Contractor for any expense or damages resulting from the suspension. The failure of the Authority to suspend the work does not relieve the Contractor of its responsibility to perform the work in accordance with the Contract Documents.

12.2.101 The Authority may require a suspension of the work if, in its opinion, unforeseen conditions warrant such stoppage. When the Authority directs resumption of the work, the Contractor shall resume full operations within a period of ten (10) days after the date of written notice to do so. The Authority is not liable for any damage or anticipated profits on account of the work being suspended.

12.2.102 Any work done by the Contractor during the period of suspension is its responsibility. The contractor shall receive no payment for the work unless the construction is subsequently resume and the work done during the intervals of suspension can be utilized in the resumed work.

12.2.103 Suspensions of work as outlined above shall not in themselves operate to extend the Contract date of completion. Requests for extensions of time shall be submitted in writing by the Contractor, setting forth its reasons for the extension.

### **12.3 SUSPENSION OF WORK FOR FAULT OF THE CONTRACTOR**

Should the Contractor fail to comply with the orders of the Authority relative to any particular parts of the work, the Authority may suspend the work on any or all parts until its orders respecting the particular parts are complied with. In case of such suspension, which shall be considered due to the fault of the Contractor, no extension of time shall be given and no allowance will be made for the expenses incurred by the Contractor during the suspension period.

## **ARTICLE 13**

### **TERMINATION OF THE AGREEMENT**

#### **13.1 TERMINATION FOR CONVENIENCE**

13.1.100 The Authority may, at any time and for any reason, terminate this Agreement for the convenience of the Authority. In such case, the Contractor shall be paid (and shall accept payment) for that portion of the entire Contract actually performed to the date of termination, excluding, however, any loss of anticipated profits. Disputes as to the sum payable to the Contractor shall be settled in accordance with the Disputes Article of the Agreement.

13.1.101 Such termination shall be effective in the manner and at the time specified in such notice and shall be without prejudice to any claims that the Authority may have against the Contractor. Upon receipt of such notice from the Authority, the Contractor shall immediately discontinue all work and the placing of all orders for materials and equipment, facilities and supplies in connection with the performance of this Contract. The Contractor shall cancel promptly all existing orders and terminate work under all subcontracts so far as such orders and work are chargeable to this Contract. The Contractor shall take such measures for the protection of the property of the Authority as may be directed by the Authority.

13.1.102 Upon termination of this Agreement, as provided by this paragraph, full and complete adjustment and payment of all amounts due the Contractor arising out of this Agreement as determined by an audit conducted by or for the Authority, as soon as practicable after such termination, shall be made as follows:

- A. The Authority shall reimburse the Contractor for all costs incurred to date of termination, including reasonable overhead and expense made in the performance of this Contract, less amounts previously paid.
- B. The Authority shall also reimburse the Contractor for all costs to which the Contractor has been subjected or is legally liable for by reason of the termination of this Contract, including reasonable costs related to cancellation of orders, termination of subcontracts, etc.
- C. The Authority shall also reimburse the Contractor for the reasonable cost of providing protection of the property of the Authority as directed by the notice of termination.
- D. The sum total of the payments made under this paragraph shall not exceed the total amount of the Agreement, less payments previously made.
- E. Title to all property accruing to the Authority by reason of the termination of this Contract shall immediately vest in the Authority, and the Contractor will execute and deliver to the Authority all papers necessary to transfer title.



- F. The Authority or its representative shall be afforded full access to all books, correspondence, data and papers of the Contractor relating to this Contract in order to determine the amount due.

## **13.2 TERMINATION FOR DEFAULT OF THE CONTRACTOR**

- 13.2.100 If the Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workmen or proper materials, or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or fails to proceed as directed by the Authority, or performs the work unsuitably, or neglects or refuses to remove materials or replace rejected work, or discontinues the prosecution of the work without approval of the Authority, or otherwise is guilty of a substantial violation of a provision of the Contract Documents, then the Authority may, without prejudice to any of its other rights or remedies, give the Contractor and its Surety written notice that the Contractor has seven (7) days from the date of the Authority's notice to cure the default set forth in the notice.

The discretion to declare the Contractor in default is solely the Authority's, and, no party, whether bound by Agreement to the Authority or attempting to raise a third party relationship, which this Contract specifically precludes, has standing to raise the failure of the Authority to exercise its discretion, if default is the basis of a claim against the Authority.

Should the Contractor fail to cure said default within the specified time, the Authority may terminate the Agreement between the Authority and the Contractor and may take possession of the site and of all materials, equipment, tools, construction equipment and machinery, which is owned by the Contractor, located on the property and may finish the work by whatever method it may deem expedient.

- 13.2.101 In such case, the Contractor is not entitled to receive any further payment until the work is finished, at which time the Contractor shall be paid any excess remaining. If the unpaid balance of the Contract sum exceeds the cost of finishing the work, including compensation for the Professional's additional services and any other damages which the Authority has incurred in accordance with the Agreement, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor or the Surety or both shall pay the difference to the Authority.
- 13.2.102 In the event the Authority wrongfully terminates the contract, as determined by disputes resolution procedures in the disputes section of the General Conditions, such termination shall be considered termination for convenience. The Contractor shall be paid only for the work completed to the termination date and for the materials delivered to the site that is peculiar to the project, and for other costs incidental to termination to the date of termination.

## **ARTICLE 14**

### **DEFINITIONS**

- 14.1** As used in these General Conditions, and in the Agreement, the following definitions shall be described herein, unless the context clearly dictates otherwise.
- A. Agreement means the Agreement or Contract, for construction services of which these general conditions are made a part. The term "Agreement" shall be interchangeable with the term "Contract" throughout this document.
  - B. Change Order is a written order to the Contractor, signed by the Authority, and issued after the execution of the Contract, authorizing a change in the work or an adjustment in the Contract sum or the Contract time. The Contract sum and the Contract time may be changed only by change order.

- C. Claim or Disputed Item means a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract.
- D. Contract Sum is the sum stated in the Agreement, and, including authorized adjustments, is the total amount payable by the Authority to the Contractor for performance of the work under the Contract Documents.
- E. Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for substantial completion of the work.
- F. Contractor, or Prime Contractor shall be the entity with whom the Authority shall enter into an agreement to provide the means and methods to construct the Project in accordance with the Contract Documents.
- G. Deficiency Item is work performed but which the design professional, the contractor, or the inspector will not certify as being completed according to the contract.
- H. Final Completion is when the project is completed, in accordance with the Contract Documents.
- I. Inspector is the person authorized or engaged by the Authority to inspect the work performed and materials furnished pursuant to a contract to determine whether the work completed is in compliance with the contract.
- J. Professional is a person or entity that acts as an agent for the Authority in the administration of the contract and may perform any functions deemed necessary as determined through agreement with the Authority.
- K. Subcontractor is a person or entity who has contracted to furnish labor or materials to or has performed labor for a contractor or another subcontractor in connection with a contract.
- L. Substantial Completion is the stage in the progress of the work when the work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so the Authority can occupy or utilize the work for its intended use. In no event shall a project be certified as substantially complete until at least 90% of the work on the project is completed.
- M. Authority shall mean the Authority or Pennsylvania Convention Center Authority authorizing the contract or any authorized representative thereof.
- N. Work includes all services and labor necessary to produce the construction required by the Contract Documents. It also includes all material and equipment incorporated or to be incorporated into such construction.

**END OF SECTION**

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## SECTION 011000 - SUMMARY

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

## A. Section Includes:

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

## 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 Restroom Renovations -

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

## B. Owner: Pennsylvania Convention Center, 1101 Arch Street, Philadelphia, PA 19107

1. Owner's Representative: Stephen Shepper

## C. Architect: Elin Westrick RA, Converse Winkler Architecture LLC, 331 Montgomery Avenue, Bala Cynwyd, PA 19004

## D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Mechanical Electrical Plumbing and Fire Protection services: Kevin Sultanik, Arora Engineers, 61 Wilmington – West Chester Pike , Suite 100, Chadds Ford PA 19317

2. Structural Engineering – CSA Group 1341 North Delaware Avenue, Suite 507, Philadelphia PA 19125

#### 1.4 WORK COVERED BY CONTRACT DOCUMENTS

The Work of Project is defined by the Contract Documents and consists of the following:

Renovations include replacing worn and outdated finishes, fixtures, piping, accessories and lighting, as well as minor modifications to some interior non-loadbearing walls within the toilet rooms for the purpose of increasing Accessibility.

A. Type of Contract:

1. Project will be constructed under a single prime contract.

#### 1.5 WORK BY OWNER

A. General: Cooperate fully with Owner so work may be carried out smoothly, without interfering with or delaying work under this Contract or work by Owner. Coordinate the Work of this Contract with work performed by Owner.

B. Preceding Work: Owner will perform the following construction operations at Project site. Those operations are scheduled to be substantially complete before work under this Contract begins.

1. Miscellaneous projects and events are ongoing.

C. Concurrent Work: Owner will perform the following construction operations at Project site. Those operations will be conducted simultaneously with work under this Contract.

1. Miscellaneous projects and events are ongoing.

D. Subsequent Work: Owner will perform the following additional work at site after Substantial Completion. Completion of that work will depend on successful completion of preparatory work under this Contract.

1. Miscellaneous projects and events are ongoing.

#### 1.6 WORK UNDER SEPARATE CONTRACTS

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

B. Owner retains the right to award separate contracts for other construction projects at the project site preceding, concurrent or subsequent to the work of this project.

## 1.7 ACCESS TO SITE

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to work in areas indicated. Coordinate with the Owner if access is needed to other areas. Do not disturb portions of Project site beyond areas in which the Work is indicated.
  - 1. Driveways, Walkways and Entrances: Keep driveways parking garage, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
    - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

## 1.8 COORDINATION WITH OCCUPANTS

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

## 1.9 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 in the existing building to normal business working hours of 7:00 a.m. to 3:30 p.m., Monday through Friday, unless otherwise indicated.
  - 1. Weekend Hours: Upon special request if agreed to by Owner.
  - 2. Early Morning Hours: Upon special request if agreed to by Owner.
  - 3. Hours for Utility Shutdowns: As coordinated with Owner.

4. Hours for Core Drilling and/or noisy activity: As coordinated with Owner.
- 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 not less than two days in advance of proposed utility interruptions.
  2. Obtain Owner's 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 not less than two days in advance of proposed disruptive operations.
  2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Controlled Substances: Use of tobacco products and other controlled substances within the existing building or on Project site is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
  1. Maintain list of approved screened personnel with Owner's representative.

#### 1.10 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.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000



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## SECTION 012200 - UNIT PRICES

## PART 1 - GENERAL

## 1.1 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.

## 1.2 DEFINITIONS

- A. Unit price is 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.

## 1.3 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 –PENETRATION FIREPROOFING:

1. Description: Penetration fireproofing as may be required at existing or new floor penetrations according to Section 078413 –Penetration fireproofing."
2. Unit of Measurement: Square foot.

B. Unit Price No. #2 –FLASH PATCHING

1. Description: Provide price for flash patching as may be required for floor tile installation if existing floor is not sufficiently level for a new tile installation.
2. Unit of measurement : Square foot

C. Unit Price No. #3 –RELOCATION AND REPLACEMENT OF SPRINKLER HEAD

1. Description: Relocation and replacement of sprinkler head with new sprinkler head as may be needed if not shown on the drawings. Section 211313 –Wet Pipe Sprinkler Systems ."
2. Unit of Measurement: linear feet of pipe plus new sprinkler head

.

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
  - 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, from as listed in the project documents
  - 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 10 days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 10 days of receipt of request, or 10 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. Requested substitution meets the aesthetic requirements of the design.
    - c. Substitution request is fully documented and properly submitted.
    - d. Requested substitution will not adversely affect Contractor's construction schedule.
    - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - f. Requested substitution is compatible with other portions of the Work.
    - g. Requested substitution has been coordinated with other portions of the Work.
    - h. Requested substitution provides specified warranty.
    - i. 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: Architect will consider requests for substitution if received within 30 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
1. Conditions: Architect will consider Contractor's request for substitution when all the following conditions are satisfied. If all of the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
    - b. Requested substitution meets the aesthetic requirements of the design.
    - c. Requested substitution does not require extensive revisions to the Contract Documents.
    - d. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - e. Substitution request is fully documented and properly submitted.
    - f. Requested substitution will not adversely affect Contractor's construction schedule.
    - g. Requested substitution has received necessary approvals of authorities having jurisdiction.

- h. Requested substitution is compatible with other portions of the Work.
- i. Requested substitution has been coordinated with other portions of the Work.
- j. Requested substitution provides specified warranty.
- k. 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

## 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.

## 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 the Owner and Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Separate Elements of Work: Where the Contractor's construction schedule defines separate elements of the Work, provide subschedules showing values coordinated with each element.
- 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. 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.
2. 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.
3. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
4. 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. If required, include evidence of insurance.
5. 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.
6. 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.
7. 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/or Construction Manager 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: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the 15<sup>th</sup> 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.
- D. Application for Payment Forms: Use forms acceptable to Architect, Construction Manager, and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect and/or Construction Manager 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.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. 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.

- G. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect and/or Construction Manager by a method ensuring receipt. 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.
- 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. Submittal schedule (preliminary if not final).
  6. List of Contractor's staff assignments.
  7. List of Contractor's principal consultants.
  8. Copies of building permits.
  9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  10. Initial progress report.
  11. Report of preconstruction conference.
  12. Certificates of insurance and insurance policies.
  13. Performance and payment bonds.
  14. 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. Retainage will be held as per the Owner's General Conditions section 8.2 Payments.
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

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## 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. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
  - 2. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
  - 3. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
  - 4. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

## 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

#### 1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
  2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
  3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
    - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
  4. Format: Arrange the following information in a tabular format:
    - a. Scheduled date for first submittal.
    - b. Specification Section number and title.
    - c. Submittal category: Action; informational.
    - d. Name of subcontractor.
    - e. Description of the Work covered.
    - f. Scheduled date for Architect's final release or approval.
    - g. Scheduled date of fabrication.

#### 1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Limited electronic digital background files will be provided by Architect for Contractor's use in preparing submittals.
1. Architect will furnish Contractor one set of digital background drawing files of the Contract Drawings for use in preparing Shop Drawings.
    - a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings. All existing dimensions will have to be field verified
    - b. Digital Drawing Software Program: The digital background drawing files are available in AutoCAD and Revit.
    - c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 15 days for review of each resubmittal.
  4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
    - a. Section 042200 Concert Unit Masonry
    - b. Section 055000 Metal fabrications
    - c. All Electrical, HVAC, Plumbing sections.
  5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
    - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01).



Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
  - a. Project name.
  - b. Date.
  - c. Name and address of Architect.
  - d. Name of Construction Manager.
  - e. Name of Contractor.
  - f. Name of firm or entity that prepared submittal.
  - g. Names of subcontractor, manufacturer, and supplier.
  - h. Category and type of submittal.
  - i. Submittal purpose and description.
  - j. Specification Section number and title.
  - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
  - l. Drawing number and detail references, as appropriate.
  - m. Location(s) where product is to be installed, as appropriate.
  - n. Related physical samples submitted directly.
  - o. Indication of full or partial submittal.
  - p. Transmittal number, numbered consecutively.
  - q. Submittal and transmittal distribution record.
  - r. Other necessary identification.
  - s. Remarks.
- E. Options: Identify options requiring selection by Architect.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  1. Note date and content of previous submittal.
  2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## PART 2 - PRODUCTS

### 2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  1. Post electronic submittals as PDF electronic files directly to Project Web site or site specifically established for Project. Notify the architect via email of every individual submittal posting.
    - a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
  2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
    - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:

- a. Wiring diagrams showing factory-installed wiring.
  - b. Printed performance curves.
  - c. Operational range diagrams.
  - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
  6. Submit Product Data in the following format:
    - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
  3. Submit Shop Drawings in the following format:
    - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
    - e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
  4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
  6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    - a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
  5. Submit product schedule in the following format:
    - a. PDF electronic file.

- F. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
- G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
- K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."
- L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

- T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
1. Name of evaluation organization.
  2. Date of evaluation.
  3. Time period when report is in effect.
  4. Product and manufacturers' names.
  5. Description of product.
  6. Test procedures and results.
  7. Limitations of use.
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

### PART 3 - EXECUTION

#### 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date

of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

### 3.2 ARCHITECT'S ACTION

- A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

## SECTION 014000 - QUALITY REQUIREMENTS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
  - 4. Specific test and inspection requirements are not specified in this Section.
- C. Related Requirements:

## 1.3 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 or Construction Manager.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where



indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. 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. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: 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 conflicting 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.

#### 1.5 ACTION SUBMITTALS

- A. Shop Drawings: For mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
  - 1. Indicate manufacturer and model number of individual components.
  - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article 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.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Entity responsible for performing tests and inspections.
  - 3. Description of test and inspection.
  - 4. Identification of applicable standards.
  - 5. Identification of test and inspection methods.
  - 6. Number of tests and inspections required.
  - 7. Time schedule or time span for tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.

#### 1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.
  
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
  
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
  1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
  2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
  3. Owner-performed tests and inspections indicated in the Contract Documents.
  
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
  
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

## 1.8 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. 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. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.

## 13. Recommendations on retesting and reinspecting.

- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement that equipment complies with requirements.
  3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  4. Statement whether conditions, products, and installation will affect warranty.
  5. Other required items indicated in individual Specification Sections.
- 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.

## 1.9 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. 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.
- C. 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.

- D. **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.
- 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 product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Technical Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.

- d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
  - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
  - f. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect and Commissioning Authority, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
  4. Demonstrate the proposed range of aesthetic effects and workmanship.
  5. Obtain Architect's and Construction Manager's approval of mockups before starting work, fabrication, or construction.
    - a. Allow 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. Demolish and remove mockups when directed unless otherwise indicated.

#### 1.10 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.

5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

#### 1.11 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections and in Statement of Special Inspections attached to this Section, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
  2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
  4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  6. Retesting and reinspecting corrected work.



## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

## 3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Description of the Work tested or inspected.
  - 3. Date test or inspection results were transmitted to Architect.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

## 3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

## SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 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" 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, Architect, Owner's construction manager testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Owner will pay sewer-service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Pay water-service use charges for water used by all entities for construction operations.
- D. Electric Power Service: Owner will pay electric-power-service use charges for electricity used by all entities for construction operations.
- E. 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.
- F. 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. 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.
- C. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control 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. HVAC system isolation schematic drawing.
  - 3. Location of proposed air-filtration system discharge.
  - 4. Waste handling procedures.
  - 5. 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.
- C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

#### 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 MATERIALS

- A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- B. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).

## 2.2 TEMPORARY FACILITIES

- A. Field Offices, General: Coordinate with the owner allowable location of Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Coordinate with the owner for location of Common-Use Field Office: Of sufficient size to accommodate construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections.
- C. Coordinate with Owner for use of existing building for storage and protection of materials to be incorporated into Project.
- D. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
  - 1. Store combustible materials apart from building.

## 2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.
  - 1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
  - 2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
- C. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

## 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. Relocate and modify facilities as required by progress of the Work.
  - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- 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. General: Install temporary service or connect to existing service.
  - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
  - 1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.
- C. 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.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
- F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
  - 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.
    - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.

- b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
  - 2. 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.
  - 3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
  - 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- H. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
  - 1. Connect temporary service to Owner's existing power source, as directed by Owner.
- I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
  - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
  - 2. Install lighting for Project identification sign.
  - 3. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.
- J. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications. Equip computer with hardware and software sufficient to view documents and access the internet.

### 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. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
1. Identification Signs: Provide Project identification signs as indicated on Drawings.
  2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
    - a. Provide temporary, directional signs for construction personnel and visitors.
  3. Maintain and touchup signs so they are legible at all times.
- C. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Empty containers promptly and at the direction of the owner. Comply with requirements of authorities having jurisdiction.
- D. Existing Elevator Use: Use of one of the Owner's existing elevators will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. Coordinate details of use with the owner in advance. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.
1. Do not load elevators beyond their rated weight capacity.
  2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage elevator Installer to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.
- E. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use.
1. Provide protective coverings, barriers, devices, signs, or other procedures to protect stairs and to maintain means of egress. If stairs become damaged, restore damaged areas so no evidence remains of correction work.
- F. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, 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.
- 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. Site Enclosure Fence: Before construction operations begin, coordinate with the owner any need to furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site/ storage area except by entrance gates.
- D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.
- G. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.
  1. Construct covered walkways using scaffold or shoring framing.
  2. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
  3. Paint and maintain appearance of walkway for duration of the Work.
- H. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.
  1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.
  2. Construct dustproof partitions with two layers of 6-mil (0.14-mm) polyethylene sheet on each side. Cover floor with two layers of 6-mil (0.14-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
    - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
  3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
  4. Insulate partitions to control noise transmission to occupied areas.
  5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
  6. Protect air-handling equipment.
  7. Provide walk-off mats at each entrance through temporary partition.



- I. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
  1. Prohibit smoking in construction areas.
  2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
  3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
  4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

### 3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
- B. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
  1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
  2. Use permanent HVAC system to control humidity.
  3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    - c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

### 3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.

END OF SECTION 015000

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## 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 seven days of receipt of additional information or documentation, whichever is later.
    - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
- 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.

## 1.6 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.
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. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
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.

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.
3. Products:
  - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
  - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
  - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
  - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable

Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
  - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 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 utilizes the same refillable products such as soap or paper products.
  - 4. Evidence that the product meets the aesthetic design requirements.
  - 5. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
  - 6. Samples, if requested.
  - 7. Evidence that product accommodates the same use of

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000



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## 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 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 2. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
  - 3. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.

## 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.
- C. Field Report: For pest control inspection.

## 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.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
  - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
5. Submit test/adjust/balance records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

- C. Procedures 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. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.

4. Perform preventive maintenance on equipment used prior to Substantial Completion.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
  6. Advise Owner of changeover in heat and other utilities.
  7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
  8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  9. Complete final cleaning requirements, including touchup painting.
  10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- 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 list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. 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.
  4. 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. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- 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.

4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- 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.

## 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.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - e. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - f. Sweep concrete floors broom clean in unoccupied spaces.
    - g. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.

- h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- i. Remove labels that are not permanent.
- j. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- k. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- l. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- m. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
  - 1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
- n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- o. Leave Project clean and ready for occupancy.

- 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. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700



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## SECTION 017823 - OPERATION AND MAINTENANCE DATA

## 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 preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Emergency manuals.
  - 3. Operation manuals for systems, subsystems, and equipment.
  - 4. Product maintenance manuals.
  - 5. Systems and equipment maintenance manuals.
- B. Related Requirements:
  - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

## 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

## 1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
  - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:

1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
    - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
    - b. Enable inserted reviewer comments on draft submittals.
  2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two copies to the Owner.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect and Commissioning Authority will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

## PART 2 - PRODUCTS

### 2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
  2. List of systems.
  3. List of equipment.
  4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

## 2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
  - 1. Title page.
  - 2. Table of contents.
  - 3. Manual contents.
- B. Title Page: Include the following information:
  - 1. Subject matter included in manual.
  - 2. Name and address of Project.
  - 3. Name and address of Owner.
  - 4. Date of submittal.
  - 5. Name and contact information for Contractor.
  - 6. Name and contact information for Construction Manager.
  - 7. Name and contact information for Architect.
  - 8. Name and contact information for Commissioning Authority.
  - 9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
  - 10. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
  - 1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
    - a. Identify binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
  2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
  4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
  5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

### 2.3 EMERGENCY MANUALS

- A. Content: Organize manual into a separate section for each of the following:
1. Type of emergency.
  2. Emergency instructions.
  3. Emergency procedures.
- B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

## 2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.

7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.5 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.

4. Schedule for routine cleaning and maintenance.
  5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## 2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
  2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.



1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
  2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

### PART 3 - EXECUTION

#### 3.1 MANUAL PREPARATION

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
  - 1. Do not use original project record documents as part of operation and maintenance manuals.
  - 2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."
- F. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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## 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.
  - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

## 1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit one set(s) of marked-up record prints.
    - a. Initial Submittal:
      - 1) Submit one paper-copy set(s) of marked-up record prints.
      - 2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
    - b. Final Submittal:
      - 1) Submit three paper-copy set(s) of marked-up 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. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Reports: Submit written report weekly indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

## PART 2 - PRODUCTS

### 2.1 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. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Accurately record information in an acceptable drawing technique.
    - c. Record data as soon as possible after obtaining it.
    - d. Record and check the markup before enclosing concealed installations.
    - e. Cross-reference record prints to corresponding archive 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. Depths of foundations below first floor.
    - d. Locations and depths of underground utilities.
    - e. Revisions to routing of piping and conduits.
    - f. Revisions to electrical circuitry.
    - g. Actual equipment locations.
    - h. Duct size and routing.
    - i. Locations of concealed internal utilities.
    - j. Changes made by Change Order or Construction Change Directive.
    - k. Changes made following Architect's written orders.
    - l. Details not on the original Contract Drawings.

- m. Field records for variable and concealed conditions.
  - n. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
  4. Mark record sets 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.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of 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.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
  1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders and record Drawings where applicable.
- B. Format: Submit record Product Data as annotated PDF electronic file.
  1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

## 2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as PDF electronic file.
  - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

## PART 3 - EXECUTION

### 3.1 RECORDING AND MAINTENANCE

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

END OF SECTION 017839

## SECTION 017900 - DEMONSTRATION AND TRAINING

## 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.
- B. Related requirements:
  - 1. Section 017832 Operation and Maintenance Data
  - 2. Section 017839 Project Record Documents

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video recordings.

## 1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training. Include a list of training modules and a schedule of proposed dates, times, length of instruction time. Include learning objective and outline for each training module.
  - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For instructor.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.

## 1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
  - 1. Identification: On each copy, provide an applied label with the following information:



- a. Name of Project.
  - b. Name and address of videographer.
  - c. Name of Architect.
  - d. Name of Construction Manager.
  - e. Name of Contractor.
  - f. Date of video recording.
2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
  3. At completion of training, submit complete training manual(s) for Owner's use prepared and bound in format matching operation and maintenance manuals.

#### 1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

#### 1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

## PART 2 - PRODUCTS

## 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
  - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    - a. System, subsystem, and equipment descriptions.
    - b. Performance and design criteria if Contractor is delegated design responsibility.
    - c. Operating standards.
    - d. Regulatory requirements.
    - e. Equipment function.
    - f. Operating characteristics.
    - g. Limiting conditions.
    - h. Performance curves.
  - 2. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Operations manuals.
    - c. Maintenance manuals.
    - d. Project record documents.
    - e. Identification systems.
    - f. Warranties and bonds.
    - g. Maintenance service agreements and similar continuing commitments.
  - 3. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 4. Operations: Include the following, as applicable:
    - a. Startup procedures.
    - b. Equipment or system break-in procedures.
    - c. Routine and normal operating instructions.

- d. Regulation and control procedures.
  - e. Control sequences.
  - f. Safety procedures.
  - g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
  - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## PART 3 - EXECUTION

## 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

## 3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
  - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
  - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. F.
  - 1. Schedule training with Owner with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of a demonstration performance-based test.
- F. Cleanup: Collect used and leftover educational materials and remove from Project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

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## SECTION 024119 - SELECTIVE DEMOLITION

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

## A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.
- 2. Salvage of existing items to be reused or recycled.

## B. Related Requirements:

- 1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.

## 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

## 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
  - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

#### 1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at the project site.
  - 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  - 3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  - 4. Review areas where existing construction is to remain and requires protection.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
  - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's on-site operations are uninterrupted.
  - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
  - 3. Coordination for shutoff, capping, and continuation of utility services.
  - 4. Use of elevator and stairs.
  - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

## 1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

## 1.9 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

## 1.10 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

## PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.



## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
  - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
  - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
  - 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

## 3.2 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

## 3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
  - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.

- a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
- b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
- c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
- e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
- g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

### 3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
  1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
  2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
  3. Cover and protect furniture, furnishings, and equipment that have not been removed.
  4. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  1. Strengthen or add new supports when required during progress of selective demolition.
- C. Remove temporary barricades and protections where hazards no longer exist.

### 3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.

2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
  3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
  5. Maintain fire watch during and after flame-cutting operations.
  6. Maintain adequate ventilation when using cutting torches.
  7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  10. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items: All fixtures and faucets and accessories will be salvages for use by the owner unless noted otherwise.
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Owner.
  4. Transport items to Owner's storage area designated by Owner.
  5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
  2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  3. Protect items from damage during transport and storage.
  4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition, cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

### 3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

### 3.8 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

### 3.9 SELECTIVE DEMOLITION SCHEDULE

- A. Remove: Fixtures, devices and interior finishes as noted on the drawings.
- B. Remove and Salvage: Toilet room signage, and all fixtures, faucets and accessories will be salvages for use by the owner unless noted otherwise.
- C. Remove and Reinstall: Signage as may be directed by the owner
- D. Existing to Remain: adjacent construction
- E. Dismantle: non-bearing partitions as noted on the drawings.

END OF SECTION 024119

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