

CONTRACT BIDDING DOCUMENTS
FOR
RESTORATION AND RELATED WORK
AT
CORNERSTONE AQUATICS CENTER

BID #200036



INFORMATION

RESTORATION AND RELATED WORK
CORNERSTONE AQUATICS CENTER
55 Buena Vista Road
West Hartford, CT
BID# 200036

ARCHITECT

W. ALBERT JACUNSKI, AIA
JACUNSKI HUMES ARCHITECTS, LLC
15 Massirio Drive, Suite 101
Berlin, CT 06037-2352

PROJECT MANAGER

MIKE LONGO
FACILITIES MANAGER

**ALL QUESTIONS TO
PURCHASING SERVICES**

Tammy Bradley, Sr. Buyer

All questions must be submitted in writing and emailed to Tammyb@westhartfordCT.gov, at least seven calendar days prior to the date established for the opening of bids. Please do not call the Engineer/ Architect, Project Manager or Purchasing Office with questions.

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PROJECT NARRATIVE

The project consists of an interior restoration of approximately 4,610 sq. ft. of locker room and staff area facilities. The restoration involves the removal and replacement of an elevated composite concrete floor slab due to deck deterioration. The locker room and staff areas, supported by the elevated slab, are being fully removed and replaced as new. Plumbing, Mechanical, and Electrical scopes are limited to the work required for the demolition and reconstruction of the locker rooms and staff areas with plumbing mains, air handling units, and main electrical services remaining. Extensive shoring and protective measures are included in the project to ensure continual operation of the pool equipment located below the work area.

All work must conform to all Federal, State and Local codes.

Mechanical Permits will be the responsibility of the contractor. Fee is waived.

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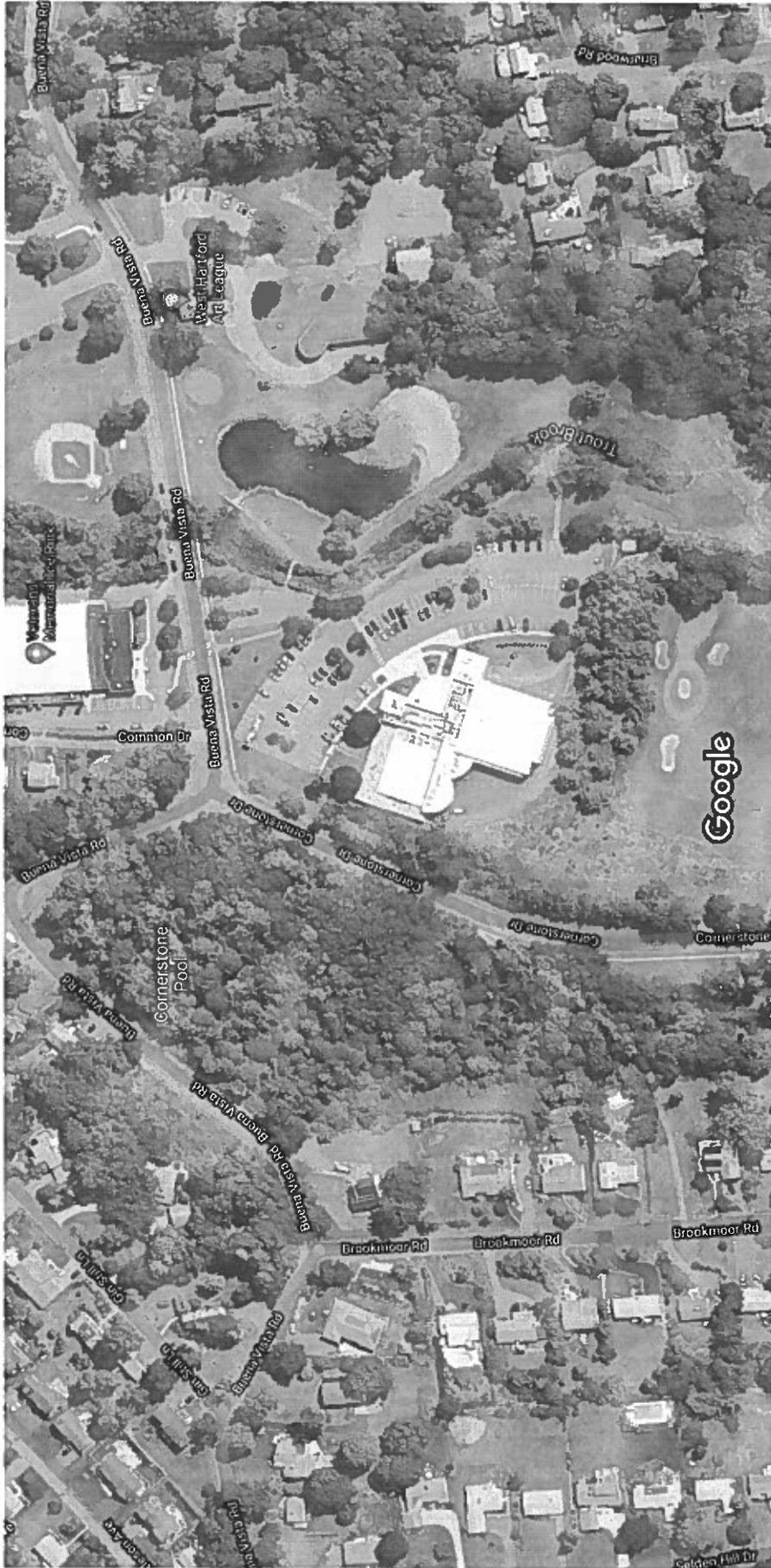
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END OF DRAWING LIST



General

1. Contractor, Supervisory, and Trades personnel will be required to be familiar with and adhere to the Project Work Rules. Failure to comply with the Work Rules may result in being banned from the project site.
2. The Contractor shall take direction only from the Capital Project Manager or their representative.
3. All construction activities that are disruptive to school operations (due to noise, vibration, dust, orders, etc.) shall occur outside regular school instructional hours.
4. Contractors shall not use Town-owned dumpsters for refuse disposal unless given prior written permission from the Town's capital projects manager.
5. No entry into the building is allowed without prior permission of the Town. When entry is granted each individual must sign in at the main office and obtain a visitor's badge.
6. Have staff available on site to receive and upload your materials whenever deliveries are made. If Contractor staff is not available the delivery will be refused.
7. The Contractor shall maintain, at the site, one copy of the drawings, specifications, addenda, change orders and other modifications, in good order and marked currently; and one copy of approved shop drawings, product data, samples and similar required submittals.
8. Maintain complete files of Material Safety Data Sheets (MSDS) on the jobsite.
9. The Owner does not provide secure storage for the Contractor's materials and tools.

Foreman/Supervisory Personnel

1. The Trade Foreman/Superintendent must be on the jobsite whenever their staff is on site. This includes subcontractor personnel.

All Contractor Personnel

1. Contractors, subcontractors, and all their personnel shall wear a uniform with the company's logo while on site.
2. For individuals working in school buildings or on school sites, the Contractors must conduct a criminal background check. Prior to working in any school building, the Contractor shall provide verification that their employees and subcontractors do not appear on any Sex Offender Registry.
3. Job hours are 7:00 AM to 3:30 PM for first shift and 3:30 PM to 11:00 PM for second shift. Additional time may be subject to custodial overtime charges of approximately \$40.00 per hour.

4. Materials deliveries or movement of construction vehicles is not permitted among buses and students during drop-off of pickup times 8:00-8:45 AM & 3:15-3:45 PM Monday, Tuesday, Thursday, Friday and 1:45-2:15 PM on Wednesday. Times vary among elementary, middle and high school and will be confirmed with the Contractor.
5. No alcohol or controlled substances are allowed on the school property.
6. No smoking is allowed within the building or on the school property.
7. No food is to be eaten in the building. All food-related trash is to be removed from the site at the end of each day.
8. Use of radios and other amplified sound systems is disruptive to building occupants and is not permitted during classroom instructional hours.
9. Clean up all work areas daily. Keep the job clean and debris free.
10. Coordinate your work with the work of other trades. Check preceding work prior to starting new work. Do not proceed unless preceding work is completely acceptable.
11. Protect your work at all times from damage.
12. Park in designated areas only. Keep parking areas accessible for emergency vehicles. Privately owned vehicles are not permitted in areas of construction.
13. Passenger elevators are not to be used by Contractors for transporting materials.

Safety

1. All work activities are to be planned with Safety as the #1 priority.
2. A copy of the Contractor's safety program shall be present at job site.
3. A first aid kit appropriate to the size of the work crew is to be provided by the Contractor
4. Appropriate fire extinguishing supplied by the Contractor shall be present at the work area.
5. All personnel in work areas will have, at a minimum, hard hats, safety glasses, work shoes, shirts with sleeves, and long pants. Hard hats have to have company and employees name.
6. No interruption of building services (e.g. power, water, fire alarm intercom, ventilation, heating, cooling, etc.) without prior coordination with, and permission from, the Owner.
7. No use of any tools, equipment or supplies, other than those supplied by the Contractor.

- L. Noise created as a result of or relating to an emergency.
- M. Noise generated by construction activity shall be exempted between the hours of 7:00 a.m. to one hour after sundown, Monday through Saturday.
- N. Noise created by blasting other than that conducted in connection with construction activities shall be exempted, provided that the blasting is conducted between 8:00 a.m. and 5:00 p.m. local time at specified hours previously announced to the local public or provided that a permit for such blasting has been obtained from local authorities.
- O. Noise created by on-site recreational or sporting activity which is sanctioned by the state or local government, provided that noise discharged from exhausts is adequately muffled to prevent loud and/or explosive noises therefrom.
- P. Patriotic or public celebrations not extending longer than one calendar day.
- Q. Noise created by aircraft.
- R. Noise created by products undergoing test, where one of the primary purposes of the test is the evaluation of product noise characteristics and where practical noise control measures have been taken.
- S. Noise generated by transmission facilities, distribution facilities and substations of public utilities providing electrical powers, telephone, cable television or other similar services and located on property which is not owned by the public utility and which may or may not be within utility easements.

TO ALL VENDORS DOING BUSINESS WITH WEST HARTFORD.

Please register in our new vendor self service center

Benefits to vendors include:

1. Notification of upcoming bids
2. Ability to see Purchase Orders and Contracts
3. Information regarding payments to you
4. The ability to update your company's information such as phone number and emails
5. The ability to provide us with all of the commodity codes for your company.

Please go to the following site

<https://selfservice.westhartfordct.gov/MSS/Vendors/default.aspx>

Create a user name and password for your company. Password must be at least 8 characters and contain a Capital and a lower case letter, a number and a symbol.

At the bottom of the page, fill in your vendor number (created by West Hartford) and your tax ID.

Your vendor number is printed on your check above your company name

Continue filling in required information. **Do not forget to choose commodity codes. These codes can be found under vendor information. We will notify you of upcoming bids by the codes that you have picked.**

In addition, please download a W9 from the resources icon on the upper right hand side of the page. Then scan and add it to the attachments under vendor information.

Please call 860-561-7471 if you have any questions.

Once registered, click on bids. To see bids "Accepting Proposals", click on status to sort. Any questions regarding bids please email tammyb@westhartfordct.gov. Thank you.

INVITATION TO BID

Sealed Bid Submissions marked “**RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER BID #200036**” will be received at the office of the Purchasing Division, Room 223, Town Hall, 50 South Main Street, West Hartford, Connecticut until **2:00 PM on June 2, 2020** at which time they will be publicly* opened and read.

Plans and specifications are available for downloading at www.westhartfordct.gov/bids. Any questions concerning this request for bid shall be addressed to the Purchasing Agent at the address above.

A pre-bid conference will be held on May 19, 2020 at 10:00 AM at Cornerstone Aquatic Center, 55 Buena Vista Road, West Hartford, CT at which time questions concerning the project will be answered. Prospective bidders are expected to attend the pre-bid meeting as this will be the only opportunity to verbalize questions relative to this project and view the job site with the Town's project team. We will follow COVID19 social distancing regulations.

All Bidders must file with their bid a bid bond, certified or treasurer's check in the amount of 10% of the total of the base bid made payable to the Town of West Hartford.

Performance and Labor and Material Payment bonds in the amount of 100% of the contract price will be required of the successful bidder if the contract pursuant to this request for bids exceeds \$50,000.00.

No bid may be withdrawn for a period of ninety (90) days after the opening of bids without the approval and written consent of the Town of West Hartford.

The right is reserved to reject any and all bids, to waive any informalities in the bidding and to make awards in any manner that is the most beneficial to the Town.

*Bidders are encouraged to attend the Town's bid opening at which time the public is afforded an opportunity to record bid prices received in response to the Town's solicitation. Bidders who would like the results of the bid but are unable to attend the bid opening, may check the Town website, www.westhartfordct.gov/gov/departments/purchasing/bid_results a week after the bid opening date. Bidders calling the Purchasing Office for bid results will be referred to the above procedure.

*Due to COVID19, the Town Hall has restricted entry. For this bid, we are allowing for electronic submission along with hard copy submission. All participants must submit both. Hard copy must match electronic submission, the Town maintains the right to reject any bid that does not meet this criteria. Hard copies are to be received in the purchasing office no later than *12:00 noon on June 9, 2020*. They can be mailed or delivered. If delivered, the Town Hall has a number posted at its entry to call for receipt.

Electronic submissions are still required by ***June 2, 2020 at 2:00 PM***. In order to provide an electronic submission you must be registered in our vendor database. Please see the vendor registration instructions. Once registered, you will gain access to the bid and the bid documents. Please follow the prompts when contact Tammy Bradley via email at tammyb@westhartfordct.gov. submitting your price structures. If you have questions regarding electronic submission, please do not hesitate to

TOWN OF WEST HARTFORD
PETER PRIVITERA
PURCHASING AGENT

AIA[®] Document A701[™] – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER
BID# 200036
55 Buena Vista Road
West Hartford, CT

THE OWNER:
(Name, legal status, address, and other information)

Town of West Hartford
50 South Main Street
West Hartford, CT 06107

THE ARCHITECT:
(Name, legal status, address, and other information)

Jacunski Humes Architects LLC
W. Albert Jacunski, AIA
15 Massirio Drive, Suite 101
Berlin, CT 06037

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- 8 **ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS**

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612[™]-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

§ 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted)

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than four days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change" or as required by the bid form.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent's authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security:

(Insert the form and amount of bid security.)

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty. In the event the Owner fails to comply with Section 6.2, the amount of the bid security shall not be forfeited to the Owner.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected. However, if no Contract has been awarded or a Bidder has not been notified of the acceptance of its Bid, a Bidder may, beginning days after the opening of Bids, withdraw its Bid and request the return of its bid security.

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

§ 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

§ 4.4.3 After the date and time designated for receipt of Bids, a Bidder who discovers that it made a clerical error in its Bid shall notify the Architect of such error within two days, or pursuant to a timeframe specified by the law of the jurisdiction where the Project is located, requesting withdrawal of its Bid. Upon providing evidence of such error to the reasonable satisfaction of the Architect, the Bid shall be withdrawn and not resubmitted. If a Bid is withdrawn pursuant to this Section 4.4.3, the bid security will be attended to as follows:

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

§ 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

§ 5.3.2 Unless otherwise prohibited by law, the Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Architect, upon request and within the timeframe specified by the Architect, a properly executed AIA Document A305™, Contractor's Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, as soon as practicable or as stipulated in the Bidding Documents, submit in writing to the Owner through the Architect:

- .1 a designation of the Work to be performed with the Bidder's own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and
- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Architect will notify the Bidder if either the Owner or Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect.

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

§ 7.2.1 The Bidder shall deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to commence sooner in response to a letter of intent, the Bidder shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section 7.2.1.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on AIA Document A312, Performance Bond and Payment Bond.

§ 7.2.3 The bonds shall be dated on or after the date of the Contract.

§ 7.2.4 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013.)

- .5 Drawings

INSTRUCTIONS TO BIDDERS

AIA Document A701, "Instructions to Bidders", 2018 Edition, American Institute of Architects, Articles 1 through 8, are bound herein and are hereby made a part of the Contract Documents, and shall apply to all Contractors and Subcontractors.

SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

Certain Articles of the AIA Instructions to Bidders are revised or replaced by requirements of the Supplementary Instructions, listed below. Such revisions are replacements and shall take precedence over the AIA Instructions to Bidders.

The Following Articles, revised paragraphs, and clauses have the same numerical designations occurring in the AIA Instructions to Bidders, and all additions follow in direct numbered sequence.

Article 1 - Definition

- 1.3 Delete paragraph 1.3 in its' entirety and substitute the following: Addenda are written or graphic instruments issued by the Architect and distributed by the Owner prior to the bid opening which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

Article 2 - Bidder's Representation

Add the following as paragraphs 2.2 and 2.3

- 2.2 A pre-bid conference may be held prior to bidding, at which time all interested parties are requested to attend. The intent of the project and Bidding Documents will be discussed. There will be a question and answer period, during which time prospective bidders are invited to request clarification or interpretation of any and all parts of the Bidding Documents. See Invitation to Bid for date, time, and location of Conference.
- 2.3 Guided tours of the Project Site, at the discretion of the owner, may be conducted prior to the pre-bid conference. Questions and or requests for clarification will not be addressed while the tour is being conducted.

ARTICLE 3 - BIDDING DOCUMENTS

- 3.1.1: Delete second sentence and substitute with the following:

Refer to instructions on Invitation to Bid Page 00201-1.

3.1.2: Delete Paragraph 3.1.2.

3.2.2: Delete the word "Architect" and substitute the word "Owner".

3.3.4: Delete paragraph 3.3.4 in its entirety and substitute with the following:

After the award of the Contract, no substitutions will be considered for the brands specified, except upon written request of the Contractor and written approval by the Architect and Owner. Substitutions shall be submitted in accordance with the requirements listed in Article 3.3.2.

3.3.5: Delete paragraph 3.3.5 in its entirety and substitute with the following:

Approval by the Owner and the Architect of any such substitution shall not relieve the Contractor requesting the substitution of any responsibility for additional costs incurred by other trades for changes made necessary to accommodate the substituted item.

3.4.1: Delete paragraph 3.4.1 in its entirety and substitute with the following:

Addenda will be issued by the Owner and will be mailed to all who are known by the Owner to have received a completed set of Bidding Documents.

ARTICLE 4 - BIDDING PROCEDURES

4.1.6: Add the following words to the beginning of paragraph - "Unless otherwise provided in the Contract Bidding Documents".

4.1.7: Delete paragraph 4.1.7 in its entirety and substitute with the following:

Each copy of the Bid shall include the legal name of the bidder and a statement that the Bidder is a sole proprietor, partnership, corporation or other legal entity. Each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and, if the Owner so requests, have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder.

4.2.3: Delete paragraph 4.2.3 in its entirety and substitute with the following:

Surety Bonds shall be written on forms substantially similar in content to AIA Document A310, and executed by a company authorized to transact business within the State of Connecticut, and the attorney-in-fact who executes the Bond on behalf of the Surety shall affix to the Bond a certified and current copy of his power of attorney.

ARTICLE 5 - CONSIDERATION OF BID

5.1.1: Add new paragraph 5.1.1 as follows:

Bidders are encouraged to attend the Town's bid opening at which time the public is afforded an opportunity to record bid prices received in response to the Town's solicitation. Bidders who would like the results of the bid but are unable to attend the bid opening must submit with their bid a self-addressed stamped envelope and note requesting a copy of the bid results. **BIDDERS CALLING THE PURCHASING OFFICE FOR BID RESULTS WILL BE REFERRED TO THE ABOVE PROCEDURE.**

5.3.1: Delete 1st sentence and substitute the following:

It is the intent of the Owner to award a Contract to the bidder providing the best value to the Owner and is in accordance with requirements of the Bidding Documents and does not exceed the funds available.

5.3.3: Add new paragraph 5.3.3 as follows:

The Owner in awarding the Contract shall be guided by pertinent provisions of the "Town Charter" and "Code of Ordinances".

5.3.4: Add new paragraph 5.3.4 as follows:

A Bid may be rejected if the Bidder cannot show that he has the necessary supervisory staff, labor, capital, materials, machinery and resources to commence the work at the time prescribed and thereafter to prosecute and complete the Work at the rate or time specified; and that he is not already obligated for other work which would delay the commencement, prosecution, or completion of this work. A Bid may also be rejected if the bidder has previously failed to complete a contract within the time required, had previously performed similar work in an unsatisfactory manner, or in the judgment of the Owner is deemed unable to satisfactorily perform the Work.

5.3.5: Add new paragraph 5.3.5 as follows:

Prior to the award of a Contract, if so requested, Bidders must present satisfactory evidence that they have been regularly engaged in the business of doing such Work as they propose to execute and that they are prepared with the necessary supervisory staff, labor, capital, materials, and machinery, resources and responsibilities to conduct and complete the work to be contracted for in accordance with the Contract Documents and to begin it promptly when ordered.

ARTICLE 6 - POST BID INFORMATION

6.3.3: Delete paragraph 6.3.3 in its entirety and substitute with the following:

Prior to the award of the Contract, the Owner will notify the Bidder in writing if either the Owner or the Architect, after due investigation, has a reasonable objection to any such proposed person or entity. If the Owner or Architect has reasonable objection to any such proposed person or entity, the Bidder may, at his option, (1) withdraw his Bid, or (2) submit an acceptable substitute person or entity. In the event of withdrawal under this sub-paragraph, Bid Security will not be forfeited, notwithstanding the provisions of Paragraph 4.4.1.

ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

7.1.1: Delete paragraph 7.1.1 in its entirety and substitute with the following:

If the amount of the Contract to be awarded is Fifty Thousand Dollars (\$50,000) or more, the successful Contract Bidder shall furnish and pay for Surety in the full amount of the Contract. This Bond shall provide 100% security for faithful performance and for payment of all persons performing labor or furnishing materials in connection with this Contract and shall be executed by a company authorized to transact business within the State of Connecticut.

The Contractor shall increase the principal amount of the performance and labor and materials payments bond(s) in direct proportion to any increase in the value of the Contract resulting from such change orders.

7.2.1: Delete paragraph 7.2.1 and substitute the following:

The Bidder shall deliver the required bonds to the Owner prior to execution of a contract and not later than (5) five days from notice of the Owner's intent to award the Contract to the bidder.

ARTICLE 9 - SUPPLEMENTARY INSTRUCTIONS

9.1: Add new paragraph 9.1 as follows:

9.1.1 - The Contractor shall agree that, except in the case of bona fide occupational qualification or need, neither he nor his Subcontractors and/or agents will refuse to hire or employ, or will bar or discharge from employment, or will otherwise discriminate against any individual in compensation or in terms, conditions, or privileges of employment because of race, color, national origin, ancestry, present or past history of mental disorder, mental retardation, or physical disability, including, but not limited to, blindness.

9.1.2 - The Contractor shall further agree that neither he nor his subcontractors and/or agents will discharge, expel, or otherwise discriminate against any person because he/she has opposed any discriminatory employment practice or because he has filed a complaint or testified or assisted in any proceeding under Connecticut General Statutes Sections 46a-82, 46a-83, or 46a-84 or as may be amended.

9.1.3 - The Contractor shall further agree that, except in the case of a bona fide occupational qualification or need, neither he nor his subcontractors and/or agents will advertise employment opportunities in such manner as to restrict such employment so as to discriminate against individuals because of their race, color, religious creed, age, sex, marital status, national origin, ancestry, present or past history of mental disorder, mental retardation or physical disability, including, but not limited to, blindness.

9.1.4 - The terms used in paragraphs 9.1.1, 9.1.2, and 9.1.3 shall have the definitions set forth in Connecticut General Statutes Section 46a-51 or as may be amended.

9.1.5 - The Contractor further agrees, for himself, his subcontractors, and agents, not to otherwise discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, sex, marital status, national origin, ancestry, present or past history of mental disorder, mental retardation or physical disability (including but not limited to blindness) in any manner prohibited by the laws and regulations of the United States, State of Connecticut or Town of West Hartford.

9.2: Add new paragraph 9.2 as follows:

Time: The Contractor to whom this Contract may be awarded, will be required to commence work at the site within ten (10) days of Contract signing unless, otherwise indicated in the sample AIA Standard Form of Agreement Form A101. The work shall be executed diligently thereafter and shall be completed in accordance with the Contract Documents.

9.3: Add new paragraph 9.3 as follows:

The Bidder is directed to the Bid Forms for additional information, instructions, qualifications and requirements.

END OF SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

(Section updated 3/20)

00203-5

Bid of _____, BIDDER,
(Name of Bidder)

FOR RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER BID #200036 FOR THE TOWN OF WEST HARTFORD, CONNECTICUT.

To: Town of West Hartford
Peter Privitera, Purchasing Agent
Purchasing Services

The undersigned proposes to furnish all labor, materials and equipment, and to perform all work described in the Contract Bidding Documents for **RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER BID #200036** in accordance with the Contract Bidding Documents for the amounts shown herein under Schedule of Bids.

Receipt acknowledged of the following addenda:

Addendum No. _____ Dated _____

It is understood and agreed that the Owner has the privilege of rejecting any or all Bids and of waiving informality in any Bid.

It is further understood and agreed that this Bid shall be irrevocable for ninety (90) calendar days after Bid receipt date.

SCHEDULE OF BIDS

1. Base Bid No. 1 for furnishing all labor, materials, equipment and all else whatsoever necessary to perform all work described in the Contract Bidding Documents for **RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER BID #200036**

for the lump sum of _____
_____ Dollars (\$ _____)

CONTRACT TIME

If awarded the Contract, the undersigned agrees that the work will commence forthwith and shall be substantially complete within _____ calendar days commencing from the date of the Standard Form of Agreement Between Owner and Contractor.

BIDDER QUALIFICATIONS

A: If the Bidder is a Corporation, fill out:

The Bidder is a Corporation, organized under the laws of _____, having its principal office at _____.
The Principal Officers of said Corporation, with their titles and addresses, are as follows:

All persons interested in the Bid as principals are to be named above.

B. Bid must be accompanied by either a certified check, treasurer's check or a Bid Bond, as provided in the Invitation to Bid. If a check is enclosed herein, fill out the following:

(Name of Bank) (Address of Bank) (Amount of Check)

C. Attached hereto are two forms entitled "Summary of Work History". The Bidder is required to complete Form 1 and 2.

- D. The Bidder is required to submit a Certificate of Insurance in amounts and types specified in Insurance Exhibit or provide a letter from the Bidder's insurance agent or broker that such insurance is obtainable at the time of execution of the Agreement and that a Certificate of Insurance shall be provided to that effect not later than the date of Contract signing. (See page #00204-7)
- E. Contract award will be by AIA Agreement Form 101. A copy of the AIA Form 101 is included for the Bidder's information. The parties shall enter into an Agreement in substantially the same form as the attached subject to technical and other modifications as the parties mutually agree. A purchase order shall be issued by the Town subsequent to the execution of the Agreement.
- F. The Contractor by executing this Bid agrees and represents that no person acting for or employed by the Town of West Hartford is directly or indirectly interested in the Bid or proposed Agreement or in the supplies or works to which it relates, or will receive any part of the profit or any commission there from in any manner which is unethical or contrary to the best interest of the Owner.
- G. The Contractor agrees and warrants that in the performance of this Contract it will not discriminate or permit discrimination against any person or group of persons on the grounds of sex, race, color, religion, age, marital status, ancestry, national origin, past history of mental disorder, mental retardation or physical disability or other basis in any manner prohibited by the laws of the United States, the State of Connecticut, or the Town of West Hartford.
- H. The Contractor shall employ a full time, on-the-job Project Superintendent as his representative.
- I. The Contractor and/or Subcontractor offers and agrees to assign to the Town of West Hartford and/or the West Hartford Board of Education all rights, titles and interest in all causes of action it may have under Section 4 of the Clayton Act., 15 U.S.C. Section 15, or under Connecticut General Statutes 35-24 et. seq., as amended, arising out of the purchase of services, property, or intangibles of any kind pursuant to the Agreement, or Subcontracts thereunder. This assignment shall be made and become effective at the time the Town/Board awards or accepts such Agreement, without further acknowledgment by the parties. In the alternative, at the option of the Town, the Contractor and/or Subcontractor agrees to pay to the Town its proportionate share of recoveries for anti-trust violations which relate to purchases pursuant to this Contract, or Subcontracts hereunder. The Contractor and/or Subcontractor agrees promptly to notify the Purchasing Agent of the Town of West Hartford of suspected anti-trust violations and claims.

- J. The Bidder is aware of and agrees that, if awarded an Agreement, he is bound by the Indemnification and Insurance Exhibit.
- K. If awarded the Contract, the undersigned agrees that the work will commence forthwith and shall be substantially complete within _____ calendar days commencing from the date of the Standard Form of Agreement Between Owner and Contractor. The Contractor shall pay the Owner liquidated damages in the amount of Three Hundred Dollars (\$300.00) per calendar day, which sum is hereby agreed upon, and shall be assessed not as a penalty, but as liquidated damages which the Owner shall suffer by reason of such default. The Owner and Contractor shall acknowledge that failure to effect substantial completion as noted above will precipitate inconvenience and disruption. The Owner and Contractor shall acknowledge that such damages are uncertain or difficult to prove and that the amounts established herein are reasonable assessment of these damages.

BIDDER:

COMPANY

Bidder must sign. Failure to provide an original signature will result in rejection of the bid.

®

SIGNATURE BY DULY AUTHORIZED
(SEAL)

PRINT OR TYPE NAME

The bidder agrees that by affixing their signature to this request for bids, the authorized signatory grants approval to the Town of West Hartford to obtain third party credit reports for the purpose of assessing the financial capacity of the business entity tendering such bid to the Town.

TITLE

DATE

ADDRESS

TELEPHONE

FAX #

E-MAIL

VENDOR FEIN #

BID FORMS TO BE SUBMITTED IN DUPLICATE

If you are not registered with the Town of West Hartford, please go to <https://selfservice.westhartfordct.gov/MSS/Vendors/default.aspx> and select register. Only registered vendors can be awarded the contract.

00204-6

TO: Town of West Hartford
Peter Privitera
Purchasing Agent

FROM:

CLIENT:

DATE:

Dear Mr. Privitera:

In accordance with page 00204-3, Paragraph D of the "Bid Form", please be advised that my client currently has or will have by the date of the execution of the Agreement for this project, a Certificate of Insurance in amounts and types as specified in Article 11 of the Supplementary General Conditions.

Signature
Authorized Agent or Broker

00204-7

Indemnification and Insurance Exhibit Cornerstone Contractor Services

For purpose of this Exhibit, the term "Contractor" shall also include their respective agents, contractors of any tier, employees, representatives; and the term "Town of West Hartford and West Hartford Board of Education" (hereinafter called the "Town") shall include their respective agents, boards, commissions, contractors of any tier, counsel, directors, employees, officers and/or officials (appointed or elected), representatives and volunteers.

I. INDEMNIFICATION

- A. To the fullest extent permitted by law, the Contractor shall defend, indemnify, release and hold harmless the Town of West Hartford, West Hartford Board of Education, and their respective agents, boards, commissions, contractors of any tier, counsel, directors, employees, officers and/or officials (appointed or elected), representatives and volunteers from any and all actions, claims, compensation, damages, fines, lawsuits, losses, costs (including without limitation reasonable attorneys' fees, filing fees, and court costs), penalties, liabilities or judgments of any name or nature for bodily injury, death, disease, or sickness; and/or damage to or destruction of real and/or personal property; and/or financial losses (including, without limitation, those caused by loss of use) sustained by any person or concern, including Town of West Hartford and West Hartford Board of Education, and/or its agents, boards, commissions, contractors of any tier, counsel, directors, employees, officers and/or officials (appointed or elected), representative, and volunteers, the Contractor, or by the public, even if caused or alleged to have been caused in whole or in part by any and all negligent or intentional acts, errors or omissions of the Contractor, and/or its agents, contractors of any tier, employees, representatives, or anyone directly or indirectly employed by them arising from or related to the performance of the underlying agreement.
- B. To the fullest extent permitted by law, the Contractor shall defend, indemnify, release and hold harmless the Town of West Hartford, West Hartford Board of Education, and their respective agents, boards, commissions, contractors of any tier, counsel, directors, employees, officers, and/or officials (appointed or elected), representatives and volunteers from any and all actions, claims, compensation, damages, fines, lawsuits, losses, costs, (including without limitation reasonable attorneys' fees, filing fees and court costs), penalties, liabilities or judgments that may arise out of the failure of the Contractor, its agents, contractors of any tier, employees, representatives, or anyone directly or indirectly employed by them to comply with any laws, statutes, ordinances, building codes, and rules and regulations of the United States of America, the State of Connecticut, the Town of West Hartford, or their respective agencies.
- C. This duty to indemnify shall not be constrained or affected by the Contractor's insurance coverage or limits, or any other portion of the agreement relating to insurance requirements. The Parties agree that the Contractor's responsibilities and obligations to indemnify shall survive the completion, expiration, suspension or termination of the agreement.

II. INSURANCE

A. Insurance Requirements

1. The Contractor shall obtain and maintain at its own cost and expense all the insurance described below continuously for the duration of the underlying agreement, including any and all extensions, except as defined otherwise in this exhibit.
2. Contractor's policies shall be written by insurance companies authorized to do business in the State of Connecticut, with a Best's rating of no less than A:VII, or otherwise approved by the Town.
3. All policies (with the exception of Worker's Compensation and Professional Liability) shall be endorsed to include the Town of West Hartford, West Hartford Board of Education, and their respective agents, boards, commissions, contractors of any tier, counsel, directors, employees, officers and/or officials (appointed or elected), representatives, and volunteers as an additional insured. The coverage shall include, but not be limited to, defense, investigation, judgment, payment, or settlement of any legal liability. Blanket Additional Insured Endorsements are acceptable. Any Insured vs. Insured language shall be amended to eliminate any conflicts or coverage restrictions between the respective Insureds.
4. When the Town or the Contractor is damaged by the Contractor's failure to purchase or maintain insurance required under this exhibit, the Contractor shall bear all reasonable costs including, but not limited to, attorney's fees, court costs, and all other costs of litigation properly attributable to the Contractor's failure to purchase or maintain insurance.

B. Required Insurance Coverages:

1. **Commercial General Liability:** \$1,000,000 each occurrence / \$2,000,000 aggregate for premises/operations, products/ completed operations, contractual liability, independent contractors, personal injury and broad form property damage. Contractor shall continue to provide products/ completed operations coverage for two (2) years after completion of the work to be performed as identified in the underlying agreement.
2. **Automobile Liability and Physical Damage Coverage:** \$1,000,000 each accident for any auto, including uninsured/underinsured motorist coverage and medical payments. Policy shall include collision and comprehensive physical damage coverage. If a vehicle is not used in the execution of the underlying agreement then the Risk Manager may waive automobile coverage.
3. **Umbrella Liability:** \$2,000,000 each occurrence / \$4,000,000 aggregate, following form.
4. **Workers' Compensation and Employer's Liability:** Statutory coverage in compliance with the Workers' Compensation laws of the State of Connecticut. Policy shall include Employer's Liability with minimum limits of \$100,000 each accident, \$500,000 disease/policy limit, \$100,000 disease/each employee.

The Contractor represents that they are currently in compliance with all requirements of the State of Connecticut Workers' Compensation Act and that it shall remain in compliance for the duration of the underlying agreement. The Contractor agrees that Workers' Compensation is their sole remedy and shall indemnify and hold harmless the Town from all actions, claims, and lawsuits, proceedings and/or exposure arising from personal injuries to the Contractor, however caused. This indemnity shall not be affected by a lapse of Workers' Compensation coverage and/or if the Contractor failed, neglected, refused or is unable to obtain Workers' Compensation insurance.

5. **Personal Property:** All personal property of the Contractor are the sole risk of the Contractor. The Contractor agrees to defend, hold harmless and indemnify the Town from any and all claims, compensation, costs, damages, fines, losses, payments, penalties of any kind, however caused, to any and all personal property belonging to the Contractor.

C. Additional Terms

1. **Minimum Scope and Limits:** The required insurance shall meet the scope and limits of insurance specified in this exhibit, or required by applicable federal, state and/or municipal law, regulation or requirement, whichever coverage is greater. The limits of insurance stated herein for each type of insurance are minimum limits only. If the Contractor's policy provides greater limits, then the Town shall be entitled to the full limits of such policy and this exhibit shall be deemed to require such full limits.

Acceptance by the Town of insurance submitted by the Contractor does not relieve or decrease in any manner the liability of the Contractor arising out of or in connection with the underlying agreement. The Contractor is responsible for any claims compensation, costs, damages, fines, losses, payments and penalties of any kind which exceed the Contractor's limits of liability, or which may be outside the coverage scope of the policies, or a result of non-compliance with any laws including, but not limited to, environmental laws. The requirements herein are not intended, and shall not be construed to limit or eliminate the liability of the Contractor that arises from the underlying agreement.

2. **Certificates of Insurance:** The Contractor shall provide certificates of insurance, policy endorsements, declaration page(s) or provisions acceptable to the Town confirming compliance with this exhibit and thereafter upon renewal or replacement of each required policy of insurance. Upon request, the Contractor agrees to furnish complete copies of the required policies.
3. **Subcontractors:** The Contractor shall cause all subcontractors of any tier, acting on its behalf, to comply with this exhibit. The Contractor shall either include its subcontractors as an insured under its insurance policies or furnish separate certificates of insurance and endorsements for each subcontractor.
4. **Premiums, Deductibles and Other Liabilities:** Any and all related costs, including but not limited to, deductibles, retentions, losses, claim expenses, premiums, taxes, and audit charges earned are the sole responsibility of the Contractor.
5. **Occurrence Form, Primary and Non-Contributory:** All required insurance coverage shall be written on an occurrence basis, except as defined otherwise in this exhibit. All policies (including primary, excess and/or umbrella) shall be primary and non-contributory with respect to any other insurance or self-insurance maintained by or available to the Town.

6. Claims-made Form: Insurance coverage written on a claims-made basis shall have a retroactive date that precedes the effective date of the underlying agreement. The Contractor shall maintain continuous coverage or obtain an extended reporting period in which to report claims following end of the underlying agreement, for a minimum of two (2) years, except as defined otherwise in this exhibit.
7. Waiver of Rights of Recovery: Both the Contractor and Contractor's insurers shall waive their rights of recovery or subrogation against the Town.
8. Claim Reporting: Any failure of the Contractor to comply with the claim reporting provisions of the required insurance policies shall not relieve the Contractor of any liability or indemnification in favor of the Town for losses which otherwise would have been covered by said policies.
9. Cancellation Notice: Each required insurance policy shall not be cancelled, reduced, suspended, voided except after thirty (30) days prior written notice has been given to the Town, ten (10) days for non-payment of premium.
10. Compliance: Failure to comply with any of the indemnification or insurance requirements may be held a willful violation and basis for immediate termination of the underlying agreement.

3.0 LABOR REQUIREMENTS

Since there are other projects anticipated to be in progress at this location during this time period, ALL BIDS MUST INCORPORATE STATE OF CONNECTICUT PREVAILING WAGE RATES AS PROVIDED IN THIS DOCUMENT. The awarded bidder will be required to pay prevailing wages.

3.01 PREVAILING WAGE RATES

- 3.01.01 The Contractor shall certify in writing and under oath to the Labor Commissioner the pay scale to be used by the Contractor and any Subcontractors. The provisions of this section shall not apply where the total cost of all work to be performed by ALL Contractors and Subcontractors in connection with new construction of any public works project is less than FOUR HUNDRED thousand dollars or where the total cost of all work to be performed by ALL Contractors and Subcontractors in connection with any remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project is less than ONE HUNDRED thousand dollars. The Contractor shall fully comply with all provisions of Connecticut General Statutes (CGS) 31-53 and shall be subject to such sanctions mandated for violations of said Public Act.
- 3.01.02 The wages paid on an hourly basis to any mechanic, laborer or workman employed upon the work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such employee to any employee welfare fund, as defined in CGS 31-53 shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the Town in which such public works project is being constructed. Any contractor who is not obligated by agreement to make payment or contribution on behalf of such employees to any such employee welfare fund shall pay to each employee as part of his wages the amount of payment or contribution for his classification on each pay day.
- 3.01.03 The contractor shall not be paid in accordance with the payment provisions of these Contract Bidding Documents unless the contractor is in full compliance with the mandates of CGS 31-53.
- 3.01.04 Bidders are further advised that if the initial consideration due and payable pursuant to the Contract exceeds the mandatory limits at which prevailing wages rates are required, then the contractor and any subcontractors shall pay the appropriate prevailing wages retroactive to the date of commencement of work on the project. The contractor shall not receive any additional compensation from the Owner as a result of an occurrence of the aforementioned event.

Project: Restoration of the Cornerstone Aquatic Center

**Minimum Rates and Classifications for
Building Construction**

ID#: 20-12305

**Connecticut Department of Labor
Wage and Workplace Standards Division**

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: Aquatic Center

Project Town: West Hartford

State#: West Hartford

FAP#: Aquatic Center

Project: Restoration of the Cornerstone Aquatic Center

CLASSIFICATION	Hourly Rate	Benefits
1b) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters.**See Laborers Group 7**		
1c) Asbestos Worker/Heat and Frost Insulator	40.21	30.99
2) Boilermaker	38.34	26.01
3a) Bricklayer, Cement Mason, Concrete Finisher (including caulking), Stone Masons	35.71	33.31 + a
3b) Tile Setter	34.9	25.87
3c) Terrazzo Mechanics and Marble Setters	31.69	22.35
3d) Tile, Marble & Terrazzo Finishers	26.7	21.75
3e) Plasterer	33.48	32.06
-----LABORERS-----		
4) Group 1: Laborers (common or general), acetylene burners, carpenter tenders, concrete specialists, wrecking laborers, fire watchers.	30.75	20.84
4a) Group 2: Mortar mixers, plaster tender, power buggy operators, powdermen, fireproofers/mixer/nozzleman (Person running mixer and spraying fireproof only).	31.0	20.84

As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

4b) Group 3: Jackhammer operators/pavement breaker, mason tender (brick), mason tender (cement/concrete), forklift operators and forklift operators (masonry).	31.25	20.84
4c) **Group 4: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license) (the pipelayer rate shall apply only to one or two employees of the total crew who primary task is to actually perform the mating of pipe sections) P6 and P7 rate is \$26.80.	31.75	20.84
4d) Group 5: Air track operator, sand blaster and hydraulic drills.	31.5	20.84
4e) Group 6: Blasters, nuclear and toxic waste removal.	33.75	20.84
4f) Group 7: Asbestos/lead removal and encapsulation (except it's removal from mechanical systems which are not to be scrapped).	31.75	20.84
4g) Group 8: Bottom men on open air caisson, cylindrical work and boring crew.	29.03	20.84
4h) Group 9: Top men on open air caisson, cylindrical work and boring crew.	28.49	20.84
4i) Group 10: Traffic Control Signalman	18.0	20.84
5) Carpenter, Acoustical Ceiling Installation, Soft Floor/Carpet Laying, Metal Stud Installation, Form Work and Scaffold Building, Drywall Hanging, Modular-Furniture Systems Installers, Lathers, Piledrivers, Resilient Floor Layers.	33.53	25.66
5a) Millwrights	34.94	26.19
6) Electrical Worker (including low voltage wiring) (Trade License required: E1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	40.0	27.67+3% of gross wage
7a) Elevator Mechanic (Trade License required: R-1,2,5,6)	55.12	34.765+a+b
-----LINE CONSTRUCTION-----		
Groundman	26.5	6.5% + 9.00
Linemen/Cable Splicer	48.19	6.5% + 22.00
8) Glazier (Trade License required: FG-1,2)	38.18	21.80 + a

As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

9) Ironworker, Ornamental, Reinforcing, Structural, and Precast Concrete Erection 36.67 35.77

----OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, hoisting engineer 2 drums or over, front end loader (7 cubic yards or over), work boat 26 ft. and over and Tunnel Boring Machines. (Trade License Required)	40.97	24.80 + a
Group 2: Cranes (100 ton rate capacity and over); Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer); Bauer Drill/Caisson. (Trade License Required)	40.64	24.80 + a
Group 3: Excavator; Backhoe/Excavator under 2 cubic yards; Cranes (under 100 ton rated capacity), Grader/Blade; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade. (slopes, shaping, laser or GPS, etc.). (Trade License Required)	39.88	24.80 + a
Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper).	39.48	24.80 + a
Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24	38.87	24.80 + a
Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller; Pile Testing Machine.	38.87	24.80 + a
Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	38.55	24.80 + a
Group 7: Asphalt roller, concrete saws and cutters (ride on types), vermeer concrete cutter, Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24	38.2	24.80 + a
Group 8: Mechanic, grease truck operator, hydroblaster; barrier mover; power stone spreader; welding; work boat under 26 ft.; transfer machine.	37.79	24.80 + a
Group 9: Front end loader (under 3 cubic yards), skid steer loader regardless of attachments, (Bobcat or Similar): forklift, power chipper; landscape equipment (including Hydroseeder).	37.34	24.80 + a
Group 10: Vibratory hammer; ice machine; diesel and air, hammer, etc.	35.24	24.80 + a
Group 11: Conveyor, earth roller, power pavement breaker (whiphammer), robot demolition equipment.	35.24	24.80 + a

As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

Group 12: Wellpoint operator.	35.18	24.80 + a
Group 13: Compressor battery operator.	34.58	24.80 + a
Group 14: Elevator operator; tow motor operator (solid tire no rough terrain).	33.41	24.80 + a
Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	32.99	24.80 + a
Group 16: Maintenance Engineer/Oiler.	32.32	24.80 + a
Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	36.76	24.80 + a
Group 18: Power safety boat; vacuum truck; zim mixer; sweeper; (Minimum for any job requiring a CDL license).	34.26	24.80 + a
-----PAINTERS (Including Drywall Finishing)-----		
10a) Brush and Roller	34.62	21.80
10b) Taping Only/Drywall Finishing	35.37	21.80
10c) Paperhanger and Red Label	34.12	21.05
10e) Blast and Spray	36.62	21.05
11) Plumber (excluding HVAC pipe installation) (Trade License required: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2)	43.62	32.06
12) Well Digger, Pile Testing Machine	37.26	24.05 + a
13) Roofer (composition)	37.6	20.65
14) Roofer (slate & tile)	38.1	20.65
15) Sheetmetal Worker (Trade License required for HVAC and Ductwork: SM-1,SM-2,SM-3,SM-4,SM-5,SM-6)	37.98	38.31
16) Pipefitter (Including HVAC work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4, G-1, G-2, G-8 & G-9)	43.62	32.06

As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

-----TRUCK DRIVERS-----

17a) 2 Axle	29.51	24.52 + a
17b) 3 Axle, 2 Axle Ready Mix	29.62	24.52 + a
17c) 3 Axle Ready Mix	29.67	24.52 + a
17d) 4 Axle, Heavy Duty Trailer up to 40 tons	29.72	24.52 + a
17e) 4 Axle Ready Mix	29.77	24.52 + a
17f) Heavy Duty Trailer (40 Tons and Over)	29.98	24.52 + a
17g) Specialized Earth Moving Equipment (Other Than Conventional Type on-the-Road Trucks and Semi-Trailers, Including Euclids)	29.77	24.52 + a
18) Sprinkler Fitter (Trade License required: F-1,2,3,4)	45.57	24.33 + a
19) Theatrical Stage Journeyman	25.76	7.34

As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

***Note: Hazardous waste premium \$3.00 per hour over classified rate*

ALL Cranes: When crane operator is operating equipment that requires a fully licensed crane operator to operate he receives an extra \$4.00 premium in addition to the hourly wage rate and benefit contributions:

- 1) Crane handling or erecting structural steel or stone; hoisting engineer (2 drums or over)**
- 2) Cranes (100 ton rate capacity and over) Bauer Drill/Caisson**
- 3) Cranes (under 100 ton rated capacity)**

Crane with 150 ft. boom (including jib) - \$1.50 extra

Crane with 200 ft. boom (including jib) - \$2.50 extra

Crane with 250 ft. boom (including jib) - \$5.00 extra

Crane with 300 ft. boom (including jib) - \$7.00 extra

Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol. For those without internet access, please contact the division listed below.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

Contracting Agencies are under no obligation pursuant to State labor law to pay any increase due to the annual adjustment provision.

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

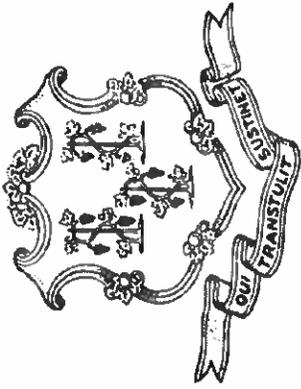
As of: April 24, 2020

Project: Restoration of the Cornerstone Aquatic Center

--Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of: April 24, 2020



THIS IS A PUBLIC WORKS PROJECT

Covered by the

PREVAILING WAGE LAW

CT General Statutes Section 31-53

If you have **QUESTIONS** regarding your wages
CALL (860) 263-6790

Section 31-55 of the CT State Statutes requires every contractor or subcontractor performing work for the state to post in a prominent place the prevailing wages as determined by the Labor Commissioner.

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice
To All Mason Contractors and Interested Parties
Regarding Construction Pursuant to Section 31-53 of the
Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.

- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

STATUTE 31-55a

- SPECIAL NOTICE -

To: All State and Political Subdivisions, Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

Information Bulletin ***Occupational Classifications***

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53(d).

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification. If unsure, the employer should seek guidelines for CTDOL.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS, PILEDRIVERMEN, LATHERS, RESILIENT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **LABORER, CLEANING**

- The clean up of any construction debris and the general (heavy/light) cleaning, including sweeping, wash down, mopping, wiping of the construction facility and its furniture, washing, polishing, and dusting.

- **DELIVERY PERSONNEL**

- If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

- An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer or tradesman, and not a delivery personnel.

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring. ****License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.***

- **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. **License required by Connecticut General Statutes: R-1,2,5,6.*

- **FORK LIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers, which require equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which require equal composite workforce.

- **INSULATOR**

• Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), decorative security fence (non-metal).

installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

- Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

- Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. **License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.*

- **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. **License required, crane operators only, per Connecticut General Statutes.*

- **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (demolition or removal of any type of roofing and or clean-up of any and all areas where a roof is to be relaid.)

- **SHEETMETAL WORKERS**

Fabricate, assemble, install and repair sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters. Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc. The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers. To include testing and air –balancing ancillary to installation and construction.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

****License required per Connecticut General Statutes: F-1,2,3,4.***

- **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

~How to pay truck drivers delivering asphalt is under REVISION~

Truck Drivers are required to be paid prevailing wage for time spent "working" directly on the site. These drivers remain covered by the prevailing wage for any time spent transporting between the actual construction location and facilities (such as fabrication, plants, mobile factories, batch plant, borrow pits, job headquarters, tool yards, etc.) dedicated exclusively, or nearly so, to performance of the contract or project, which are so located in proximity to the actual construction location that it is reasonable to include them. ****License required, drivers only, per Connecticut General Statutes.***

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

➤ *Any questions regarding the proper classification should be directed to:*
Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543.

**Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES**

- ⇒ Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

**Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)**

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

- a. Paid Holidays: Labor Day and Christmas Day.

**Power Equipment Operators
(Heavy and Highway Construction & Building Construction)**

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Ironworkers

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

- a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the day of in the year
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Town of West Hartford
50 South Main Street
West Hartford, CT 06107

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS
CENTER BID# 200036
55 Buena Vista Road
West Hartford, CT

The Architect:
(Name, legal status, address and other information)

Jacunski Humes Architects LLC
W. Albert Jacunski, AIA
15 Massirio Drive, Suite 101
Berlin, CT 06037

The Owner and Contractor agree as follows.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

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TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS**
- 2 THE WORK OF THIS CONTRACT**
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION**
- 4 CONTRACT SUM**
- 5 PAYMENTS**
- 6 DISPUTE RESOLUTION**
- 7 TERMINATION OR SUSPENSION**
- 8 MISCELLANEOUS PROVISIONS**
- 9 ENUMERATION OF CONTRACT DOCUMENTS**

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

The date of this Agreement.

A date set forth in a notice to proceed issued by the Owner.

Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

[] Not later than () calendar days from the date of commencement of the Work.

[] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
Base Bid	

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. (Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
Base Bid		

§ 4.3 Allowances, if any, included in the Contract Sum: (Identify each allowance.)

Item	Price

§ 4.4 Unit prices, if any:

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

Liquidated Damages in the amount of \$300.00 (Three Hundred Dollars) per calendar day shall be assess for the failure to achieve Substantial Completion of the work not later than Commencement Date as stated above and Final Completion of the Work also stated above.

§ 4.6 Other:

(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the first day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the first Friday after the Fifteenth day of the same month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than fifteen (15) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document ~~A201™-2017, A201™-2007~~, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed ~~Work;~~ Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of Five percent (5 %).
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 ~~That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified, less retainage of Five percent (5 %);~~

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document ~~A201-2017; A201-2007;~~
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document ~~A201-2017; A201-2007;~~ and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document ~~A201-2017~~, A201-2007.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document ~~A201-2017~~, A201-2007, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

0.00 % per annum

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document ~~A201-2017~~, A201-2007, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document ~~A201-2017, A201-2007~~, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

Arbitration pursuant to Section 15.4 of AIA Document ~~A201-2017~~A201-2007

Litigation in a court of competent jurisdiction

Other (Specify)

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent ~~jurisdiction~~jurisdiction in Hartford County, Connecticut.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document ~~A201-2017~~A201-2007.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document ~~A201-2017, A201-2007~~, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document ~~A201-2017~~A201-2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document ~~A201-2017~~A201-2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:
(Name, address, email address, and other information)

Mike Longo, Facilities Manager 860-561-7927
Town of West Hartford
17 Brixton Street
West Hartford, CT 06110

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™-2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201-2017, A201-2007, may be given in accordance with AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203-2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™-2017, Exhibit A, Insurance and Bonds
- ~~.3 AIA Document A201™-2017, A201™-2007, General Conditions of the Contract for Construction~~
- .4 AIA Document E203™-2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013 incorporated into this Agreement.)

~~.5~~ .3 Drawings

Number	Title	Date
--------	-------	------

TITLE SHEET

~~.6~~ **CODE DRAWINGS**

R-0.1 CODE INFORMATION

STRUCTURAL DRAWINGS

S-1 SLAB REPAIR PLAN AND DETAILS

S-2 SLAB REPAIR DETAILS

ARCHITECTURAL DRAWINGS

D-1.0 DEMOLITION BASEMENT FLOOR AND REFLECTED CEILING PLANS

D-1.1 DEMOLITION MAIN LEVEL SLAB PLANS

D-1.2 DEMOLITION MAIN LEVEL FLOOR AND REFLECTED CEILING PLANS

A-0.1 ARCH. GENERAL INFORMATION AND ABBREVIATIONS
A-0.2 MOUNTING HEIGHTS AND ACCESSIBILITY REQUIREMENTS
A-1-3.1 NEW WORK MAIN LEVEL CONCRETE PLAN
A-1-4.1 NEW WORK MAIN LEVEL MASONRY LAYOUT PLAN
A-1-4.2 NEW WORK MAIN LEVEL MASONRY CONTROL JOINT PLAN
A-1-7.1 NEW WORK MAIN LEVEL JOINT SEALANTS PLAN
A-1-8.1 NEW WORK MAIN LEVEL OPENINGS PLAN AND SCHEDULE
A-1-9.1 NEW WORK MAIN LEVEL TILE SETTING BED PLAN
A-1-9.2 NEW WORK CEILINGS PLANS
A-1-10.1 NEW WORK MAIN LEVEL SPECIALTIES PLAN
A-1-10.2 NEW WORK MAIN LEVEL ACCESSORIES PLAN
A-1-10.3 NEW WORK MAIN LEVEL ACCESSORIES LARGE SCALE PLANS
A-1-10.4 NEW WORK MAIN LEVEL ACCESSORIES LARGE SCALE PLANS
A-1-10.5 NEW WORK MAIN LEVEL ACCESSORIES LARGE SCALE PLANS
A-1-12.1 NEW WORK MAIN LEVEL CASEWORK PLAN
A-8.1 FRAME, LEAF, AND WINDOW TYPES AND DETAILS
A-9.1 TILING AND CEILING DETAILS
A-10.1 SIGNAGE SCHEDULE
A-10.2 SIGNAGE SCHEDULE
A-10.3 SIGNAGE SCHEDULE
A-12.1 CASEWORK PLANS AND ELEVATIONS
A-12.2 CASEWORK PLANS AND ELEVATIONS
A-12.3 CASEWORK SECTIONS

FINISH DRAWINGS

F-0.0 FINISH SCHEDULE
F-1.0 MAIN LEVEL FINISH PLAN

PLUMBING DRAWINGS

PD-1.0 LOWER LEVEL PLUMBING DEMOLITION PLAN
PD-1.1 UPPER LEVEL PLUMBING DEMOLITION PLAN
P-1.0 LOWER LEVEL PLUMBING NEW WORK FLOOR PLAN
P-1.1 UPPER LEVEL PLUMBING NEW WORK FLOOR PLAN
P-2.0 PLUMBING SCHEDULES
P-3.0 PLUMBING DETAILS
P-4.0 PLUMBING SPECIFICATIONS

FIRE PROTECTION DRAWINGS

FD-1.0 LOWER LEVEL FIRE PROTECTION DEMOLITION PLAN
FP-1.1 UPPER LEVEL FIRE PROTECTION FLOOR PLAN

MECHANICAL DRAWINGS

MD-1.0 LOWER LEVEL MECHANICAL DEMOLITION PLAN
MD-1.1 UPPER LEVEL MECHANICAL DEMOLITION PLAN
M-1.1 UPPER LEVEL MECHANICAL NEW WORK FLOOR PLAN
M-4.0 MECHANICAL SPECIFICATIONS

ELECTRICAL DRAWINGS

ED-1.0 ELECTRICAL LIGHTING/POWER DEMOLITION FLOOR PLANS
ED-1.1 UPPER LEVEL ELECTRICAL DEMOLITION PLANS
E-0.0 ELECTRICAL LEGENDS AND GENERAL NOTES
E-1.0 ELECTRICAL LIGHTING/POWER NEW WORK FLOOR PLANS
E-1.1 UPPER LEVEL ELECTRICAL LIGHTING/POWER NEW WORK FLOOR PLANS
E-2.0 ELECTRICAL LEGENDS AND GENERAL NOTES

END OF DRAWING LIST

4. Specifications are those contained in the Project Specifications Document Bid# 200036 and are as in Section 9.1.8 below.

Section	Title	Date	Pages

7—DIVISION 1 - GENERAL REQUIREMENTS

01 01 00 - SPECIAL CONDITIONS
01 11 00 - SUMMARY OF WORK
01 29 00 - PAYMENT PROCEDURES
01 31 13 - PROJECT COORDINATION
01 33 00 - SUBMITTAL PROCEDURES
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01 50 00 - TEMPORARY FACILITIES AND CONTROLS
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01 74 23 - FINAL CLEANING
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DIVISION 03 – CONCRETE

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DIVISION 12 – FURNISHINGS
12 30 00 - CASEWORK

.5 Addenda, if any:

Number	Date	Pages

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

~~.8~~ **.6** Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
 (Insert the date of the E204-2017 incorporated into this Agreement.)

The Sustainability Plan:

Title	Date	Pages

Supplementary and other Conditions of the ~~Contract~~ Contract are those contained in the Project Specifications Document Bid# 200036 and are as follows:

Document	Title	Date	Pages

.9 – INSTRUCTIONS TO BIDDERS

- 00101 PROJECT INFORMATION PAGE
- 00102 TABLE OF CONTENTS
- 00103 PROJECT NARRATIVE
- 00104 LIST OF DRAWINGS
- 00105 LOCATION MAP
- 00106 WORK RULES
- 00107 NOISE ORDINANCE
- BIDDING REQUIREMENTS AND FORMS**
- 00201 INVITATION TO BID
- 00202 INSTRUCTIONS TO BIDDERS - AIA DOCUMENT A701 - 1997
- 00203 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS
- 00204 BID FORMS
- 00205 SAMPLE AGREEMENT FORM
- LABOR REQUIREMENTS**
- 00303 CONTRACT LABOR RATES
- GENERAL CONDITIONS**
- 00401 GENERAL CONDITIONS - AIA DOCUMENT A201 - 2007
- 00402 SUPPLEMENTARY GENERAL CONDITIONS

.7 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or

proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

Contractor's Bid Response attached herein

This Agreement entered into as of the day and year first written above.

Town of West Hartford

OWNER *(Signature)*

Peter Privitera, Purchasing Agent

(Printed name and title)

CONTRACTOR *(Signature)*

(Printed name and title)



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

RESTORATION AND RELATED WORK AT CORNERSTONE AQUATICS CENTER
BID# 200036
55 Buena Vista Road
West Hartford, CT

THE OWNER:

(Name, legal status and address)

Town of West Hartford
50 South Main Street
West Hartford, CT 06107

THE ARCHITECT:

(Name, legal status and address)

Jacunski Humes Architects LLC
W. Albert Jacunski, AIA
15 Massirio Drive, Suite 101
Berlin, CT 06037

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- 3 CONTRACTOR
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- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

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G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that 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, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that 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 that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 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.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and

delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

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- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

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- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 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; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 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 that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is 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 Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or

expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 **Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 **Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during

that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;

- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

GENERAL

A. RELATED DOCUMENTS

AIA Document A 201 "General Conditions of the Contract for Construction", (Sixteenth Edition, Copyright 2007, The American Institute of Architects, Articles 1 through 15) and the Town of West Hartford's Supplementary General Conditions (Section 00402 Articles 1-15) are bound herein, and are hereby made a part of the Contract Bidding Documents and shall apply to all Contractors and Subcontractors.

B. AMENDMENTS TO THE GENERAL CONDITIONS

- a. The Supplementary General Conditions include:
 1. Any and all revisions to, deletions from, replacement of, and additions to portions of the AIA General Conditions, Articles 1 through 15.
 2. Such additional articles beyond Article 15 as may be included herein.
- b. Certain articles of the AIA General Conditions, or portions thereof, are revised by, are deleted, are replaced by, or are supplemented by the requirements of the following Supplementary Conditions. Such revisions, deletions, replacements, or additions shall take precedence over the AIA General Conditions.
- c. Where any such Article is revised, deleted, or replaced, the provisions of such Article not so specifically revised, deleted or replaced shall remain in effect.
- d. The following paragraphs are numbered in sequence corresponding to those of the General Conditions. Revised paragraphs and clauses have the same numerical designations occurring in the General Conditions. Additions to paragraphs, subparagraphs and clauses are numbered in sequence.

ARTICLE 1 – GENERAL PROVISIONS

- 1.1.1 Delete the word "not" on line 7 so that the sentence begins "The Contract Documents do include."
- 1.1.3 Add the following words after the word "obligations" in line 3:

or to be provided by Subcontractors, material suppliers, or any other entity for whom the Contractor is responsible under or pursuant to the Contract Documents.
- 1.2.4 Add new subparagraph 1.2.4 as follows:

In case of any conflict or inconsistency among the Contract Documents, the Architect's decision shall govern. If there is any inconsistency in the Drawings, or between the Drawings and the Specifications, unless otherwise ordered in writing by the Architect or the Owner, the Contractor shall provide the better quality of, or the greater quantity of, work or materials.

1.2.5 Add new subparagraph 1.2.5 as follows:

Where a typical or representative detail is shown on the Drawings, such detail shall constitute the standard of workmanship and materials throughout corresponding portions of the Work. Where necessary, the Contractor shall adopt such detail for use in said corresponding portions of the Work in a manner that is satisfactory to the Architect.

1.5.1 Add the following after the first sentence:

Such drawings, specifications, other documents and copies thereof are and shall remain the joint property of the Architect and Owner.

ARTICLE 2 - OWNER

2.2.1 Delete third and forth sentences.

2.2.2 Add the following at the end of 2.2.2 "unless otherwise provided in the contract documents."

2.2.3 Delete the words "and utility locations" on line 1.

2.2.4 Delete the second sentence of 2.2.4.

2.2.5 Delete subparagraph 2.2.5 in its' entirety and substitute with the following:

The Contractor will be furnished up to fifteen (15) sets of the Contract Bidding Documents at no charge.

2.3 Change subparagraph 2.3 as follows:

Delete the word "repeatedly" in line 2.
Add the following at the end of 2.3:

The Owner's right to order the Contractor to stop the Work shall not relieve the Contractor of any of his responsibilities and obligations under or pursuant to the Contract Documents.

2.5 Add new paragraph 2.5 as follows:

2.5 - Additional Rights

The rights stated in Article 2 shall be in addition to and shall not be in limitation of any other rights of the Owner granted in the Contract Documents or at law or in equity.

ARTICLE 3 - CONTRACTOR

3.2.2 Delete subparagraph 3.2.2 in its' entirety and substitute with the following:

The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by the Owner pursuant to subparagraph 2.2.3 and 3.2.3 and shall at once report to the Architect errors, inconsistencies or omissions discovered, or any variance from applicable laws, statutes, ordinances, building codes, rules, regulations or any lawful orders of any governmental body, or public or quasi-public authority. The Contractor shall not be liable to the Owner or Architect for damage resulting from errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized or should have recognized such error, inconsistency or omission and failed to report it to the Architect. If the Contractor performs any construction activity knowing it involves a recognized error, inconsistency or omission in the Contract Documents without such notice to the Architect, the Contractor shall assume responsibility for such performance and shall bear an appropriate amount of the attributable costs for correction.

3.2.3 Delete subparagraph 3.2.3 in its' entirety and substitute with the following:

The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Architect at once. After reporting to the Architect any error, inconsistency or omission the Contractor may discover in the Contract Documents, the Contractor shall not proceed with any work so affected without the Architect's written modifications to the Contract Documents.

3.2.4 Delete subparagraph 3.2.4 in its' entirety and substitute with the following:

The Contractor shall fully comply, or assure full compliance by Subcontractors or others under his direction, with Connecticut General Statutes Section 16-345, et seq. ("Call Before You Dig") and the regulations pertaining thereto. The Contractor shall be responsible to make certain of the exact location of the public and private mains, ducts, poles and utility services prior to excavation. The utility mains, ducts,

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poles and services in the construction area where referred to on the Project plans or elsewhere in the Contract Documents are at the approximate locations furnished by various Utilities concerned. These locations are subject to possible errors in the source of the information and also errors in transcription. Connecticut General Statutes Section 16-349, as amended, makes it mandatory to notify Utilities of any proposed excavation, discharge of explosives, or demolition within the purview of Connecticut General Statutes Section 16-345, et seq. The Contractor shall call 1-800-922-4455 (toll free), 7:00 A.M. to 6:00 P.M., Monday through Friday, at least forty-eight hours prior to beginning the excavation, discharge of explosives, or demolition. The Owner shall be notified in a similar manner. This "Call Before You Dig" service is provided by the Utility companies. Once the call is made, it is the utilities' responsibility to analyze the site and identify and mark their underground facilities. Privately or Town-owned utility mains, ducts, poles and services may be located in the construction area and the Contractor shall contact the Architect to verify their existence and location.

3.3.1 Delete the last sentence of subparagraph 3.3.1 and add the following:

Should the Contractor fail to perform his work to the satisfaction of the Architect and Owner, the Architect and Owner have the right to order that all work must stop until the work is rectified.

3.3.4 Add new subparagraph 3.3.4 as follows:

The Contractor will be required to attend weekly Project Meetings from the time the Agreement is executed until Final Acceptance.

3.4.4 Add new subparagraph 3.4.4 as follows:

The Contractor is encouraged to use local labor where feasible, but not when it is at the expense of poor workmanship and/or higher costs. The Contractor shall not discriminate or permit discrimination in employment or in the award of sub-contracts or in the selection of materials suppliers, in any manner prohibited by the laws and regulations of the United States, the State of Connecticut or the Town of West Hartford.

3.5 Add the words "or Owner" after the word "Architect" in line 8.

3.6 Delete subparagraph 3.6 in its' entirety and substitute the following:

No amount shall be included in the Bid for Connecticut Sales or Service Taxes or for Federal Excise Tax on materials or supplies purchased for this project. If applicable, the owner shall provide tax exempt documentation for the contractor's records.

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3.7.2 Add the following sentence: A copy of the State license for general and major Subcontractors issued in accordance with C.G.S Section 20-341gg shall be furnished to the Owner upon request.

3.7.4 Add the following before the word "If" on line 1: "Except as in regards to claims relating to hazardous materials which are discussed in Article 3.7.8.."

Line 6, place a period after disturbed and delete rest of sentence.

If the Contractor performs work contrary to laws, statutes, ordinances, building codes, and rules and regulations, the Contractor shall assume responsibility for such work and shall bear the costs attributable to correction.

3.7.6 Add new subparagraph 3.7.6 as follows:

The requirements of subparagraphs preceding do not waive the Contractor's responsibility of complying with the requirements of the contract documents, when such regulations and requirements exceed those of any laws, ordinances, rules, regulations, and orders of any public authority bearing on the work.

3.7.7 Add new subparagraph 3.7.7 as follows:

The Town of West Hartford Building Permit Fee will be waived, however, the General Contractor must apply for the Building Permit, and in all other ways comply with procedures of the office of the Building Official for the Town of West Hartford.

3.7.8 Add new subparagraph 3.7.8 as follows:

The Owner and Architect shall bear no responsibility to the Contractor, or sub-contractor(s) for any delay damages claimed to have resulted from activities claimed to relate to the detection, abatement, or handling of hazardous materials known to exist or subsequently discovered upon the premises. The sole remedy of the Contractor under such circumstances shall be an appropriate extension of contract completion time. No damages shall be paid by the Architect or Owner, their agents, servants or independent Contractors as a result of any such claim.

3.12.10 Delete the word "properly" in line 9 and substitute the word "Connecticut".

3.17 Delete subparagraph 3.17 and substitute with the following:

The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any copyrights and patent rights and shall hold the Owner harmless from loss (including, but not limited to, attorneys' fees and any litigation expenses) unless a particular design, process or the product of a particular

manufacturer or manufacturers is specified in the Contract Documents or where copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect; provided, however, that if the Contractor has reason to believe that the design, process or product specified is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless the Contractor promptly gives such information to the Architect and Owner.

- 3.18.1 Delete subparagraph 3.18.1 in its entirety and replace the original language with the attached Indemnification and Insurance Exhibit which shall be fully incorporated by reference into this Agreement:

ARTICLE 4 - ARCHITECT

- 4.1.2 Delete subparagraph 4.1.2 in its' entirety and substitute the following:

Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written agreement of the Owner and Architect. The Contractor shall be notified of such restriction, modification or extension in writing.

- 4.1.3 Delete the words "as to whom the Contractor makes no reasonable objection and".

ARTICLE 5 - SUB-CONTRACTORS

- 5.2.1 Delete the word "after" on the second line and substitute with the words "prior to" award.

- 5.2.3 Delete subparagraph 5.2.3 in its entirety and substitute the following:

If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If no suitable substitute is agreed upon, the Owner will allow the Contractor to withdraw its bid without penalty.

ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

- 6.1.1 Add the word "unreasonable" before the word "delay" in the last sentence, line 4.

- 6.1.4 Delete subparagraph 6.1.4 in its' entirety.

- 6.2.3 Delete the second sentence of subparagraph 6.2.3.

6.2.4 Delete the word "wrongfully" on line 1.

ARTICLE 7 - CHANGES IN THE WORK

7.3.3 Delete subparagraph 7.3.3.1 - 7.3.3.4 and substitute with the following:

- .1 Unit prices stated in the Contract Documents or subsequently agreed upon.
- .2 In the absence of unit prices, the mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation, to be determined as follows:
 - A. The cost of labor performed and material used by the Contractor with his own forces.
 - B. The cost of Worker's Compensation, Federal Social Security, and Connecticut Unemployment Compensation at established rates, actual additional cost of payment and performance bonds.
 - C. Actual cost of rental rates for equipment (exclusive of hand tools) employed and used directly on the work.
 - D. Fifteen percent (15%) of (A), (B), and (C) above mentioned for overhead, superintendence and profit. However, if the work to be performed results in a credit to the Owner, no percentage of overhead and profit will apply.
 - E. On work to be performed by a Subcontractor, the Contractor's allowance, for overhead superintendence and profit, is to be ten percent (10%) applied to total cost of Subcontractor's work, including his allowance as per paragraph G.
 - F. On any changes involving the Contractor, Subcontractor or any Contractor of theirs, their total cost and/or omissions shall be combined as one before the application of the percentage allowed for the Contractor's overhead, superintendence and profit in accordance with paragraph E above.
 - G. On work to be performed by a Subcontractor, the Subcontractor's allowance is to be fifteen percent (15%) for his overhead, superintendence and profit applied to paragraphs A, B, and C.

- H. The Contractor, when performing the work under A, B and C above shall, when requested, promptly furnish in a form satisfactory to the Owner, itemized statements of the cost of the work so ordered, including but not limited to, certified payrolls and copies of accounts, bills and vouchers to substantiate the above estimates.

7.3.4 Delete the word "shall" in line 4 and substitute the word "may".

7.3.7 Delete subparagraph 7.3.7 and substitute with the following:

If the Contractor does not respond promptly or disagrees with the method of adjustment in the Contract Sum, the method and adjustment shall be determined by the Architect in accordance with subparagraph 7.3.3. Under subparagraph 7.3.3 the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data.

7.3.8 Add the following sentence at the beginning of subparagraph 7.3.8:

"Pending final determination of cost to the Owner, amounts not in dispute may be included in Application for Payment."

7.3.9 Delete subparagraph 7.3.9 in its' entirety and substitute the following:

"If the Owner and Contractor do not agree with the adjustment in Contract Time or the method for determining it, the adjustment or the method shall be referred to the Architect for determination."

ARTICLE 8 - TIME

8.2.1 Delete second sentence only and change to read as follows:

By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work and that he is capable of properly completing the Work within the Contract Time.

8.3.1 Delete the words "and arbitration" on line 4 and substitute with the words "or resolution of claims or disputes".

ARTICLE 9 – PAYMENTS AND COMPLETION

9.2 Add the words "and the Owner" after the word Architect on line 2 and add the words "or the Owner" after the word Architect on line 4.

9.2.1 Add subparagraph 9.2.1 as follows:

The Schedule of Values to be submitted by the Contractor, will include, as a minimum, a separate line item for each Division of the Specifications. Any allowances called for in the Drawings and Specifications will be shown as a separate line item. Additional items to be listed may be required by the Architect.

9.3.1 Delete subparagraph 9.3.1 in its' entirety and substitute with the following:

Not later than the first day of each calendar month, the Contractor shall submit to the Architect an itemized Application for Payment for work performed during the previous month, notarized, supported by such data substantiating the Contractor's

right to payment as the Owner or the Architect may require, and reflecting retainage, if any, as provided elsewhere in the Contract Documents.

9.3.1.1 Delete 9.3.1.1 in its' entirety and substitute with the following:

In order to expedite monthly payments during the course of the project, the Contractor shall, no later than the first day of the month, review with the Architect and Owner a preliminary draft of the Application for Payment to assure agreement with the Contractor before final copies of the Application are typed and formally submitted. The Architect shall then review the Contractor's formal Application for Payment and certify in writing in accordance with Section 9.4, the total value of work done, including an allowance for the value of materials delivered and suitably stored at the site to the time of such estimate. The Owner shall retain five (5) percent of such estimated value until a maximum of five (5) percent of the Agreement sum has been retained, said retainage to be held by the Owner as part security for the fulfillment of the Agreement by the Contractor. Final payment, including the retainage, shall be due thirty (30) days after final completion of the work, provided the work be then fully completed and the Agreement fully performed.

9.3.3 Delete subparagraph 9.3.3 in its' entirety and substitute with the following:

The Contractor warrants that title to all work covered by an Application for Payment, except materials and equipment suitably stored on or off the site, will pass to the Owner no later than the time of payment. However, title to materials and equipment suitably stored on or off site shall not pass to the Owner until such time as said materials and equipment are properly installed by the Contractor even though payment for such materials and equipment may have been previously effected. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor,

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materials and equipment relating to the Work. This provision may not be explained, supplemented, or modified by a course of dealing, a usage of trade, a course of performance or other interpretation that may arise out of the commercial context in which this provision is used.

9.4.1 Delete subparagraph 9.4.1 in its' entirety and substitute with the following:

The Architect, will, not later than the seventh (7th) day of each calendar month, either issue and deliver to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determined is properly due, or notify the Contractor and Owner in writing the Architect's reasons for withholding a Certificate as provided in sub-paragraph 9.5.1.

9.4.3 Add new subparagraph 9.4.3 as follows:

If the Application for Payment discloses any problems, the Architect shall immediately bring such problems to the Owner's attention.

9.5.1 Delete the word "reasonably" in line 1; delete the words "in the Architect's opinion" in lines 2 and 8; delete the word "repeated" in sub-subparagraph 9.5.1.7.

9.5.2 Add the following to subparagraph 9.5.2:

The Owner shall not be deemed in default by reason of withholding payment while any of the above grounds remain uncured as stated in paragraph 9.5.1.

9.5.4 Add new subparagraph 9.5.4 as follows:

No interest is to be allowed or paid by the Owner upon any monies retained under the provisions of this Contract.

9.6.1 Delete subparagraph 9.6.1 in its' entirety and substitute with the following:

After the Architect has issued a Certificate for Payments, the Owner shall make payment to the Contractor not later than the first Friday after the 15th day of the calendar month during which the Application has been submitted. Delays in submitting the application for payment in accordance with subparagraph 9.3.1 above will result in a corresponding delay in payment.

9.7 Delete the word "seven" on lines 1, 2 and 4 and replace with the word "fourteen" on both lines. Delete the words "plus interest as provided for in the Contract Documents" on line 7.

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9.8.2 Change subparagraph 9.8.2 as follows:

In line 1, add the words "and Architect" after the word "Owner" and change the word "agrees" to "agree" in line 1. Add the words "and Owner" after the word "Architect" on line 3.

9.8.3 Insert the words "and Owner" after the word "Architect" on lines 1 and 6. Insert the words "and Owner's" after the word "Architect's" on line 2.

9.8.5 Delete subparagraph 9.8.5 in its' entirety and substitute the following:

"The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon Substantial Completion of the Work or designated portion thereof and upon application by the Contractor and certification by the Architect, the Owner shall make payment reflecting adjustments in retainage, if any, for such work or portion thereof as provided in the Contract Documents."

9.10.1 Add the words "and Owner" on both lines 2 and 3 after the word "Architect".

9.10.2 Delete subparagraph 9.10.2 in its' entirety and substitute with the following:

Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect in a form satisfactory to the Owner (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days after written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) final prints for record drawing use marked by the Contractor with record information as set forth in the Contract Documents, (6) a final sworn statement from the Contractor duly executed and acknowledged showing all Subcontractors to be fully paid and similar sworn statements from Subcontractors and, where appropriate, from Sub-Subcontractors, (7) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor or Sub-Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, or is not bonded over as provided in the preceding sentence, the Contractor shall promptly

pay to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

10.2.1.4 Add the following as new sub-subparagraph 10.2.1.4:

the environment, including, without limitation, air, water, land, including wetlands, and other natural resources, and plant and animal life of all types.

10.2.2 Delete subparagraph 10.2.2 in its' entirety and substitute with the following:

The Contractor shall give notices and comply with applicable laws (including, without limitation, the requirements of Connecticut General Statutes Section 31-40m relating to toxic substances and the requirements of the Occupational Safety and Health Act and the Construction Safety Act of 1969, as amended, and regulations and standards promulgated thereunder), ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or the environment or their protection from damage, injury, destruction, pollution or loss. Said laws, ordinances, rules, regulations, standards, and lawful orders are incorporated herein by reference.

10.2.2.1 Add new sub-subparagraph 10.2.2.1 as follows:

The Contractor shall be directly responsible for compliance therewith on the part of its agents, employees, materialmen and Subcontractors and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of its agents', employees', materialmen's or Subcontractors' failure to so comply.

10.2.4 Add the following to subparagraph 10.2.4:

The Contractor shall comply fully and require compliance with all applicable laws, including Connecticut General Statutes Sec. 16-345, et. seq., and the regulations promulgated thereunder, relating to discharge of explosives.

10.2.5 Add the number "10.2.1.4" after the number "10.2.1.3" on lines 2 and 5.

10.2.8 Delete the number "21" in line 4 and replace with the number "10".

10.2.9 Delete the number "21" in line 4 and replace with the number "10".

Add new subparagraph 10.2.9 as follows:

The Contractor shall be responsible for the adequate strength and safety of all scaffolding, staging and hoisting equipment and for temporary shoring, bracing and tying.

10.2.10 Add new subparagraph 10.2.10 as follows:

The Contractor shall protect all streets, roads and sidewalks and shall make all necessary repairs at his own expense, and shall maintain these reasonably clean of dirt, mud or other debris that is due to the construction operation.

10.2.11 Add new subparagraph 10.2.11 as follows:

It shall be the Contractor's responsibility to protect finished sidewalks and curbs against damage caused by trucks, etc., driving over them. If they are damaged they must be replaced by the Contractor without cost to the Owner.

10.2.12 Add new subparagraph 10.2.12 as follows:

The Contractor shall furnish approved hard hats, other personal protective equipment as required, approved first aid supplies, name of first aid attendant and a posted list of emergency facilities.

10.3.2 Delete subparagraph 10.3.2 in its' entirety and substitute with the following:

The Owner shall obtain the services of a licensed laboratory to verify the presence of absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to verify that it has been rendered harmless. When the material or substance has been rendered harmless, work in the affected area shall resume. The Contract Time may be extended appropriately.

10.3.3 Delete subparagraph 10.3.3 in its' entirety.

10.3.4 Insert a period after the word "Site" on line 2 and delete the rest of the paragraph.

10.3.6 Delete paragraph 10.3.6 in its' entirety.

ARTICLE 11 - INSURANCE AND BONDS

11.1.2 – 11.3.10 Delete subparagraphs 11.1.2 through 11.3.10 in their entirety and replace them with the attached Indemnification and Insurance Exhibit which shall be fully incorporated by reference into this Agreement.

11.4.3 Add new subparagraph 11.4.3 as follows:

The Contractor shall increase the principal amount of the performance and labor and materials payments bond(s) in direct proportion to any increase in the value of the Contract resulting from such change orders.

11.4.4 Add new subparagraph 11.4.4 as follows:

Bonds furnished by the Contractor shall comply with all relevant Connecticut statutes including Conn. Gen. Stat. Sec. 49-41.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.1.1 Add the words "or Owner's" after the word "Architect's" in lines 1 and 3. Add the words "or Owner" after the word "Architect" in line 2.

12.1.2 Add the words "or Owner" after the word "Architect" on lines 1 and 2.

12.2.2 Delete sub-subparagraphs 12.2.2.1, 12.2.2.2 and 12.2.2.3 in their entirety and substitute with the following:

12.2.2 If, within one year after the date of final completion of the Work or designated portion thereof, or after the date for commencement of warranties established under subparagraph 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly at the Contractor's sole expense after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. This period of one year shall be extended with respect to portions of Work first performed after final completion, by the period of time between final completion and the actual performance of the Work. This obligation under this subparagraph 12.2.2 shall survive acceptance of the Work under the Contract and termination of the Contract. The Owner shall give such notice promptly after discovery of the condition.

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 Add the following to the end of subparagraph 13.1:

The Work shall comply with all applicable laws, statutes, ordinances, codes, rules, regulations or orders during its performance and its completion.

13.4.1 Delete the words "by law" in line 3 and substitute with the words "at law or in equity".

13.4.3 Add new subparagraph 13.4.3 as follows:

No provision contained in the Contract Documents shall create or give to third parties any claim or right of action against the Owner or the Contractor except as specifically provided herein.

13.5.1 Delete subparagraph 13.5.1 in its' entirety and substitute with the following:

If the Contract Documents, or any laws, ordinances, building codes, rules, regulations or orders of any governmental body or public or quasi-public authority having jurisdiction over the Work or the site of the Project require any portion of the Work to be inspected, tested or approved, the Contractor shall give the Architect and the Owner timely notice thereof so Architect and Owner may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, test or approvals except where the Contract Documents provide otherwise.

13.6 Delete subparagraph 13.6 in its' entirety.

13.7 Delete paragraph 13.7 in its' entirety.

13.8 CAPTIONS

13.8. The captions and headings of various Articles and Paragraphs in the Contract Documents are for convenience only and are not to be construed as defining or limiting, in any way, the scope or intent of the provisions hereof.

13.9 Add a new Paragraph 13.9 as follows:

13.9 SEVERABILITY

13.9 The invalidity of any covenant, restriction, condition, limitation in any other part or provision of the Contract Documents shall not impair or affect in any manner the validity, enforceability or effect of the remainder of the Contract Documents.

13.10 Add a new Paragraph 13.10 as follows:

In the event of any unavoidable cause beyond the control of the parties, whether natural or man-made, which renders the performance of this contract impossible, the contract shall be terminated. Such occurrences shall include, without limitation, death of the Contractor (in the event that the Contractor is a sole proprietor); destruction of all, or a major portion of the Contractor's equipment; legal order by a court of competent jurisdiction, or referendum barring performance of the contract;

war, famine, flood, plague, pestilence or act of God. Any amounts due to either party by the other as the result of actions taken pursuant to the contract prior to the occurrence which renders performance impossible shall be paid, but no further sums shall be due from either party to the other, by way of damages for the termination of the contract.

13.11 Add new paragraph 13.11 as follows:

The Contractor shall comply with Section 12-43 of the Connecticut General Statutes as may be amended.

Sec. 12-43. Property of nonresidents. All owners of real estate, or of tangible personal property located in any town for three months or more during the assessment year immediately preceding any assessment day, who are nonresidents of such town, shall file lists of such real estate and personal property with the assessors of the town in which the same is located on such assessment day, if located in such town for three months or more in such year, otherwise, in the town in which such property is located for the three months or more in such year nearest to such assessment day, under the same provisions as apply to residents, and such personal property shall not be liable to taxation in any other town in this state. The list of each nonresident taxpayer shall contain his post-office and street address. The assessors shall mail to each nonresident, or to his attorney or agent having custody of his taxable property, at least fifteen days before the expiration of the time for filing lists, blank forms for filing lists of such property. The lists of taxable property of nonresidents shall be arranged in alphabetical order and separate from the lists of residents, provided no such separation shall be necessary in any town the board of assessors of which, upon the request of its property tax collector, has made rules and regulations approved by the secretary of the office of policy and management setting up an alternative method of arrangement.

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

14.1.1 Delete the number "30" on line 1 and substitute with the number "60".

14.1.3 Delete subparagraph 14.1.3 in its entirety and substitute with the following:

If one of the reasons described in subparagraph 14.1.1 or 14.1.2 exists, the Contractor may, upon seven additional days written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for work executed.

14.2.1 Delete subparagraph 14.2.1 in its' entirety and substitute with the following:

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- 14.2.1 The Owner may terminate the Contract for any of the following causes:
- 14.2.1.1 If the Contractor shall institute or consent to proceedings requesting relief or arrangement under the Federal Bankruptcy Act or any similar or applicable federal or state law or if a petition under any federal or state bankruptcy or insolvency law is filed against the Contractor and such petition is not dismissed within sixty (60) days from the date of said filing, or if the Contractor admits in writing his inability to pay his debts generally as they become due, or if he makes a general assignment for the benefit of his creditors, or if a receiver, liquidator, trustee or assignee is appointed on account of his bankruptcy or insolvency; or
 - 14.2.1.2 If a receiver of all or any substantial portion of the Contractor's properties is appointed; or
 - 14.2.1.3 If the Contractor abandons the Works; or
 - 14.2.1.4 If the Contractor fails to prosecute the Work promptly and diligently; or
 - 14.2.1.5 If the Contractor fails or refuses to supply enough properly skilled workers or proper materials for the Work; or
 - 14.2.1.6 If the Contractor submits an Application for Payment, sworn statement, waiver of lien, affidavit or document of any nature whatsoever which is intentionally falsified; or
 - 14.2.1.7 If the Contractor fails to make prompt payment to Subcontractors or for materials or labor or otherwise breaches his obligations under any Subcontract with a Subcontractor; or
 - 14.2.1.8 If a mechanic's or materialman's lien or notice of lien is filed against any part of the Work or the site of the Project and not promptly bonded or insured over by the Contractor in a manner satisfactory to the Owner; or
 - 14.2.1.9 If the Contractor disregards any laws, statutes, ordinances, rules, regulations or orders of any governmental body or public or quasi-public authority having jurisdiction of the Work or the site of the Project; or

14.2.1.10 If the Contractor otherwise substantively violates any provision of the Contract Documents.

14.2.2.1 Delete the semicolon after "Contractor" in line 2 and add:

and may request that the Contractor remove any part or all of his equipment, machinery, and supplies from the site of the Project within seven (7) days from the date of such request, and in the event of Contractor's failure to do so, may remove or store such equipment, machinery and supplies at the Contractor's expense;

14.2.4 Delete subparagraph 14.2.4 in its' entirety and substitute with the following:

If the unpaid balance of the Contract Sum exceeds all costs to the Owner of completing the Work, then the Contractor shall be paid for all Work performed by the Contractor to the date of termination. If such costs to the Owner of completing the Work exceed such unpaid balance, the Contractor shall pay the difference to the Owner immediately upon the Owner's demand. The costs to the Owner of completing the Work shall include (but not be limited to) the cost of any additional architectural, managerial and administrative services required thereby, any costs incurred in retaining another Contractor or other Subcontractors, any additional interest or fees which the Owner must pay by reason of a delay in completion of the Work, attorney's fees and expenses, and any other damages, costs and expenses the Owner may incur by reason of completing the Work or any delay thereof. The amount, if any, to be paid to the Owner or Contractor shall be certified by the Architect, upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of the Contract".

14.3.2 In line 1, delete "shall" and insert "may".

14.4.3 On line 2, insert a period after the word "termination" and delete the remaining words on lines 2 and 3.

ARTICLE 15 – CLAIMS AND DISPUTES

15.1.2 Delete the number "21" in line 4 and replace with the number "10".

15.2.1 Delete subparagraph 15.2.1 and substitute the following:

Decision of Architect. Claims, including those alleging an error or omission by the Architect, shall be referred initially to the Architect for decision. A decision by the Architect shall be required as a condition precedent to mediation, litigation or other formal method of dispute resolution of all Claims between the Contractor and the Owner arising prior to the date final payment is due, unless no decision has been

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rendered by the Architect within 45 days of referral of the Claim to the Architect or the Architect fails to provide a decision as scheduled in subparagraphs 15.2.2 through 15.2.5, whichever is later.

15.2.2 On line 4 add the word “or” after the word “Claim,” and add a period after the word “compromise.” Delete the balance of the paragraph after the word “compromise”.

15.2.3 On lines 3 and 4 replace the words “Owner” and “Owner’s” with “claimant” and “claimant’s”.

15.2.4 Delete the last sentence of subparagraph 15.2.4 and substitute the following:

“Within 10 days of receipt of the response or supporting data, if any, the Architect will either reject or approve the claims in whole or in part, or suggest a compromise.”

15.2.5 Delete the second sentence of subparagraph 15.2.5.

15.2.9 Add new subparagraph 15.2.9 as follows:

If a claim has not been resolved after consideration of steps described in subparagraphs 15.2.1 through 15.2.5, then the parties shall make an additional good faith effort to resolve the claim through an informal dispute resolution process mutually agreeable to the parties. If the claim is still not capable of resolution within ten days or such other time period that is mutually agreed upon, the parties may proceed to arbitration, litigation, or formal alternate dispute resolution.

15.2.10 Add new subparagraph 15.2.10 as follows:

If no form of dispute resolution is mutually agreed upon, no party may compel arbitration, mediation or alternate dispute resolution, and the parties may pursue whatever legal remedies are available to them.

15.3 (15.3.1 – 15.3.3) Delete in its' entirety.

15.4 (15.4.1 – 15.4.3) Delete in its' entirety.

END OF SUPPLEMENTARY GENERAL CONDITIONS

SECTION 01 01 00 - SPECIAL CONDITIONS

1.01 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.02 USE OF BUILDING BY THE OWNER

- A. The Cornerstone Aquatics Center will be occupied during the construction process. All work must be carefully coordinated with the Town, Pool Administration, and Architect to insure satisfactory operational conditions for patrons and staff.

1.03 EXISTING CONDITIONS AND MEASUREMENTS

- A. Each Bidder will be held to have examined the premises and satisfied himself with the conditions which would in any manner affect the work under the Contract, and no later claims for extra compensation for labor, materials and equipment which could have been foreseen by such examination, including, but not limited to roof test cuts, will be recognized. This Contractor shall take all necessary measurements for his work, at the site, and shall verify all measurements given on the Drawings. A Pre-Bid Conference will be held at the Cornerstone Aquatics Center, 55 Buena Vista Road, West Hartford, CT, date and time listed on Town of West Hartford bid website.

1.04 INTENT

- A. These Specifications with the accompanying Drawings are intended to describe and illustrate all material, labor, equipment and whatsoever else necessary to complete the Restoration and Related Work for Cornerstone Aquatics Center, 55 Buena Vista Road, West Hartford, CT.
- B. For convenience of reference, these Specifications are separated into titled Divisions and Sections. Such separations shall not, however, operate to make the Architect an arbiter to establish limits to Contracts between the Contractor and Subcontractors. The Divisions of the Specifications do not necessarily define the limits of the Contractor's subcontracts, the work of any one subcontract may include items specified in several Divisions or Sections. The Contractor may sublet work as he/she sees fit, but it is his/her responsibility to see that all work shown on the Drawings and or specified is completed in accordance with the Contract.

- C. All materials shall be furnished and all work shall be accomplished in strict accordance with the grades or standards of materials, standards of workmanship, and manufacturers specifications listed or mentioned in these documents.
- D. The listing or mention of materials shall be sufficient indication that all such materials shall be furnished by the Contractor, in accordance with the grades or standards indicated, free from defects impairing strength, durability or appearance and in sufficient quantity for the proper and complete execution of the work, unless specifically stated otherwise.
- E. The listing or mention of any method of installation, erection, fabrication or workmanship shall not operate to make the contractor an agent, but shall be for the sole purpose of setting a standard of quality for the finished work. Contractor is free to use any alternate method, provided only that, prior to the start of the work, such alternate method is approved in writing by the Architect, as resulting in quality equal to that intended by these documents. Unless an alternate method is approved, all work shall be in strict accordance with all methods if installation, erection, fabrication and workmanship listed or mentioned herein.

1.05 CORRELATION OF DRAWINGS AND SPECIFICATIONS

- A. In general, the Specifications will describe the “quality” of the work and the Drawings, the “extent” of the work. The Drawings and specifications are cooperative and supplementary, however, and each item of the work is not necessarily mentioned in both the Drawings and the Specifications. All work necessary to complete the project, so described, is to be included in this Contract.
- B. In case of disagreement between Drawings and Specifications, or within either document itself, the better quality or greater quantity of work for decision and or adjustment shall prevail. Any work done by the Contractor without consulting the Architect, when the same requires a decision, shall be done at the Contractor’s risk.
- C. Omissions or Errors: If any omissions or errors are noted or instructions at variance with the obvious intent of the documents, it is the responsibility of the Contractor to call them to the Architect’s attention before signing the Contract.

1.06 INTERPRETATION OF “OR EQUAL”

- A. The use of trade names, with a notation such as “or equal” in these Specifications is to establish quality required there is no attempt to limit competitive bidding, but in like manner quality specified will be rigidly maintained.
- B. The words “approved,” “equal to,” “as directed,” etc., are interpreted and will be taken to mean “to the satisfaction of the Architect.”

- C. Where three or more proprietary names are specified, and the words “or equal” are omitted, no substitute products will be considered. Bids must be based on one of the named products.

1.07 WORK SCHEDULE AND COST BREAKDOWN

- A. The work is to be carried to completion with utmost speed. Substantial completion of the project shall be achieved by the Contractor within the calendar days indicated within the proposal. The Contractor shall furnish to the Architect a Critical Path Schedule showing anticipated starting and completion dates for the various Divisions of this work. This schedule shall be furnished to the Architect prior to Contractor’s first requisition for payment.
- B. If, in the opinion of the Architect, it becomes necessary for maintaining the schedule and completing the project within the specified time, Contractor shall provide additional crews immediately so upon written request.
- B. Submit immediately after the Contract is let, an itemized breakdown of estimated cost in detail.

1.08 CONSTRUCTION COORDINATION

- A. There shall be cooperation and coordination with respect to time, space, work, etc., between General Contractor, Subcontractors and all other Contractors and no claim for extra compensation and or extension of Contract time will be allowed for conditions resulting from lack of said cooperation and coordination.

1.09 TEMPORARY UTILITIES

- A. General - All concerned with furnishing utilities for use on the project as specified in this section are cautioned to determine location of sources of supply and conditions under which services can be brought to points of use on the site. Each shall inspect premises and drawings for requirements of local installations and shall ascertain rules and fees under which various public private or municipal utilities will supply service. Upon completion of project, remove all temporary work.
- B. Water - Existing service is not available for the Contractor. Contractors shall make arrangements for their own water supply.
- C. Electrical Service
 - 1. Existing service is not available for Contractor. Contractors shall make arrangements for their own temporary power service.

2. Contractors shall be responsible for furnishing such light bulbs and extension cords as may be essential to the execution of their respective branches of the work and for extensions of lines to sheds or to power tools and remote areas which cannot be reached with extension cords.
- D. Utility Charges for electric power and water service will be paid by the Contractor.
- E. Job Telephone - Existing telephone service within the building is not available to the Contractor. Contractors shall make arrangements for their own telephone communication.

1.10 PROTECTION

- A. Contractor shall at all times protect the building from damages from rain water. He shall provide all equipment and enclosures to insure this protection. Removal of existing roofing and or work which in any way can allow water to intrude into the building, shall not be undertaken if rain is forecasted. In the event that the building or contents of the building are damaged due to negligence on the part of the Contractor, the Contractor shall fully restore the building, furniture, equipment, etc., to original conditions and compensate the Owner for all resulting losses.
- B. Contractor shall remove all snow and ice as may be required for proper protection and prosecution of the work.
- C. Contractor shall provide all shoring, bracing and sheathing as required for safety and for proper execution of work and have same removed when work is completed.
- D. During cold weather, Contractor shall protect all work from damage. If low temperatures make it impossible to continue operations safely in spite of cold weather precautions, Contractor shall cease work and shall so notify Architect. The Contractor shall be responsible for the repair and or replacement, as may be required, of all work damaged from frost, freezing or any elements of the weather.
- E. Protection at Night and when Work is not in Progress. The Contractor shall be solely responsible for damage, loss or liability, due to the theft or vandalism when work is not in progress at night, weekends, or holidays.
- F. Existing Exit ways shall be maintained to provide safe egress from occupied portions of the building at all times.
- G. Fire Protection - All fire used within the structure for working purposes shall be extinguished when not in use. No flammable material shall be stored in the

structure in excess of amounts allowed by the authorities. No gasoline shall be stored in or close to the building at any time.

- H. Precaution must be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, construction codes must be observed; Contractor shall take or cause to be taken such additional safety and health measures as are reasonably necessary. Machinery, equipment and other hazards, guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.
- I. It shall be the responsibility of the Contractor to protect and preserve, in operating condition, all utilities traversing the work area. Damage to any utility due to work under this Contract shall be repaired to the satisfaction of the Architect at no additional cost to the Owner.

1.11 USE OF PREMISES, SPECIAL WORKING CONDITIONS

- A. The Contractor shall confine his apparatus, storage of materials, supplies, equipment and operations to the areas bounded by the Contract and on-site limits as directed by the Architect. Coordination with the Owner is essential in this matter.
- B. The Contractor shall be responsible for keeping the premises clean and shall pick up rubbish and debris daily.

1.12 MAINTENANCE OF TRAFFIC AND EXITS

- A. On-site and off-site traffic and exit ways shall not be blocked by construction vehicles, parked cars, material storage and other construction operations. Interior and exterior building exit ways shall be maintained at all times during the work day.

1.13 SAMPLES

- A. All materials that will be used in the construction of this project are subject to the approval of the Architect. All samples required by the Specifications shall be submitted for approval. Where color selections are made, complete samples shall be furnished to the Architect. Carefully note that gravel application can not commence until a sample has been submitted and approved by the Architect.

1.14 EQUIPMENT AND HOISTS

- A. The Contractor shall provide at his/her own expense and risk, all tools, equipment apparatus, and temporary work that may be required for the execution of the work under his Contract.
- B. The Contractor shall provide temporary hoists with power and attendance for same as required to handle his/her own materials and rubbish.

1.15 FIRE EXTINGUISHERS

- A. Provision of fire extinguishers in the area under construction is required from the standpoint of controlling incipient fires promptly.

1.16 REPAIRS

- A. Contractor shall make all repairs to existing streets, walks, curbs, grassed areas, etc., and existing construction, furnishings, equipment, etc., made necessary and or resulting from this work.

1.17 GENERAL COORDINATION

- A. There shall be cooperation and coordination with respect to time, space, work, etc., between the General Contractor, Subcontractors and all other Contractors and no claim for extra compensation and or extension of Contract time will be allowed for conditions resulting from lack of said cooperation and coordination.
- B. The Contractor shall promptly notify the Architect and Owner of all errors, omissions or discrepancies which he finds on the Contract Documents and he shall not proceed with the work involved in such errors, omissions, or discrepancies until instructions are given by the Architect. The Contractor shall be responsible for all work erroneously installed prior to receiving said instructions.

1.18 DELIVERY STORAGE AND HANDLING

- A. All materials and equipment shall be so delivered, stored and handled as to prevent intrusion of foreign materials and damage by weather or breakage. Packaged materials shall be delivered and stored in original packages. Packages opened for Architect's inspection shall be repackaged until ready for use. Packages, materials and equipment showing evidence of damage shall be rejected.
- B. All materials which could be affected by dampness shall be stored in suitable substantial watertight storage facilities maintained in good condition throughout their use.
- C. Rigid insulation board shall not be stored within the building. Provision shall be made for its protection from the weather and vandals elsewhere on the site.

1.19 FINAL CLEANING

- A. All accumulated rubbish shall be removed from the building and points immediately adjacent thereto by the Contractor who shall transport same from premises. Flammable rubbish shall not be burned on the premises. It shall be hauled away. No rubbish shall be deposited as fill on premises.
- B. Leave the work area clean and ready for use. If the Contractor fails to clean up, the Owner may do so and the cost thereof shall be deducted from the Contract for Construction. Thoroughly wash and clean all dirt and stains on all surfaces affected by this contract. Leave the work area and interior of the building clean and ready for use seven (7) prior to achieving Substantial Completion of the project. If the Contractor fails to demonstrate a commitment to accomplish the required cleaning, the Owner reserves the right to employ a professional cleaning service and to deduct the cost thereof from the Contract for Construction.

1.20 SOCIAL SECURITY TAXES

- A. The Contractor and each Subcontractor shall pay the taxes measured by the wages of all their employees as required by the Federal Social Security Act and all amendments thereto, and accept the exclusive liability for said taxes. The Contractor shall also indemnify and hold the Owner harmless on account of any tax measured by the wages aforesaid of employees of the Contractor and his subcontractors, assessed against of the Owner under authority of said law.

1.21 UNEMPLOYMENT INSURANCE

- A. The Contractor and each Subcontractor shall pay unemployment insurance measured by the wages of his employees as required by law and accept the exclusive liability for said contributions. The Contractor shall also indemnify and hold harmless the owner on account of any contribution measured by the wages of aforesaid employees of the Contractor and their Subcontractors, assessed against the Owner under authority of law.

1.22 OCCUPATIONAL SAFETY AND HEALTH ACT

- A. The Contractor shall comply with the requirements of the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, including all standards and regulations which have been promulgated by the Governmental Authorities which administer such Acts and said requirements, standards and regulations are incorporated herein by reference.
- B. The Contractor shall comply with said regulations, requirements and standards and require and be directly responsible for compliance therewith on the part of his agents, employees, material men and Subcontractors and shall directly receive and

be responsible for all citations, assessments, fines or penalties which may be incurred by reason of their agents, employees, material men or Subcontractors failing to so comply.

- C. The Contractor shall indemnify the Owner and Architect and save them harmless from any and all losses, costs and expenses, including fines and reasonable attorney's fees incurred by the Owner and Architect by reason of the real or alleged violation of such laws, ordinances, regulations and directives, Federal, State, and Local, which are currently in effect or which become effective in the future, by the Contractor, their Subcontractors or material suppliers.

1.23 JOB MEETINGS

- A. Meetings conducted at the job site by the Architect's representative for the purpose of coordinating and observing the work shall be mandatory for the General Contractor and or his/her superintendent. Also, at times, the Architect's representative will designate certain Subcontractors to attend.

1.24 LIST OF CONTACTS

- A. General Contractor shall furnish Owner list of persons to contact with telephone numbers for emergency use during construction period (off hours, weekends, holidays).

1.25 PLANS AND SPECIFICATIONS AT THE SITE

- A. The General Contractor shall maintain at the site one copy of all Drawings, Specifications, Addenda, approved shop drawings, change orders and other modifications, schedules, and instructions in good order and marked to record all changes made during construction. These shall be available at all times to the Architect or his authorized representatives.

1.26 DRAWINGS FURNISHED

- A. Six (6) copies of the Drawings and Specifications will be allowed the General Contractor by the Owner. If more are required, the General Contractor shall pay the cost of reproduction.

END OF SECTION 01 01 00

SECTION 01 11 00 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 PROJECT DESCRIPTION

- A. The Project consists of restoration and related work for the Cornerstone Aquatics Center located at 55 Buena Vista Road, West Hartford, CT, as shown and described on Contract Documents, dated April 29, 2020, as prepared by Jacunski Humes Architects, LLC, 15 Massirio Drive, Suite 101, Berlin, CT.
- B. The Work consists of building demolition and legal disposals, complete interior renovation/restoration to an occupied existing building, and construction phasing to meet the needs of an occupied facility. Interior Renovations includes structural floor slab replacement and the restoration of the locker room and staff areas supported by it.

1.3 WORK UNDER OTHER CONTRACTS

- A. Separate contracts will be issued by the Town of West Hartford for certain additional work as deemed necessary for the completion of the Restoration. The installation of new material under these separate contracts may be required prior to the Substantial Completion of the Contract for Construction. The General Contractor shall be required to coordinate his work with and allow access to the work by separate Contractors.

1.4 WORK SEQUENCE / CONSTRUCTION SCHEDULE

- A. The Work will be conducted in such a manner to provide the least possible interference to the programmatic operations and needs of the Cornerstone Aquatics Center.
- B. The General Contractor shall anticipate that portions of work will be required to be conducted on off-hours as identified within the Contract Documents.

1.5 CONSTRUCTION TIME

- A. The Contractor shall furnish all materials, labor, and equipment to complete the entire project scope **within the calendar days noted in the proposal**. The

General Contractor shall be responsible for preparing a Project Schedule outlining the anticipated duration times each portion of construction and coordinating the required activities to achieve Substantial Completion within the time allocated.

- B. All punchlist work for the new construction and sitework shall be completed within thirty (30) days after the date of Substantial Completion as indicated above.
- C. The term “Substantial Completion” or “substantially complete” as used in the contract documents shall be deemed to refer to Substantial Completion of all contracted scope of work.
- D. The term “Contract Time” as used in the contract documents shall mean the time period from the date of commencement until the Substantial Completion. Such period may be extended in accordance with the provisions of the Contract Documents.
- E. If the General Contractor fails to achieve Substantial Completion according to the General Contractor’s schedule and the Construction Time listed above, the General Contractor shall pay to the Owner liquidated damages as outlined in Section 01 11 00 – 1.6 – Liquidated Damages.

1.6 CONTRACTOR USE OF PREMISES

- A. General: Limit use of the premises to construction activities in areas indicated.
 - 1. Confine operations to areas within Contract limit lines indicated on the Contract Documents. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed without prior authorization from the Owner.
 - 2. Confine the parking of workers, and construction vehicles, and the storage of construction materials to a designated staging area to be determined by the General Contractor with approval by the Owner.
 - 3. While the premise is owner occupied, keep entrances serving the premises clear and available to the Owner and Owner’s employees at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

1.7 OWNER OCCUPANCY

- A. Completion Requirements: Timely completion of the project is critical. Aggressive construction scheduling and careful monitoring of critical path milestones cannot be overemphasized.

- B. New Construction: The General Contractor will develop a comprehensive construction schedule.
 - 1. Subcontractors in accordance with their scope of work shall make all building and energy systems operational before Owner occupancy including, but not necessarily limited to the following:
 - a. Emergency lighting systems.
 - b. Fire rated enclosures.
 - c. Handicapped accessibility.
 - d. Hardware requirements.
 - e. All other work necessary directed by the local Building Official and Fire Marshal.
 - 2. All costs associated with performance of the Work at premium rates will be borne by the Subcontractors.
- C. Partial Owner Occupancy: The Owner reserves the right to place and install equipment in completed areas of the building, prior to Substantial Completion, provided that such placing does not interfere with completion of the Work. Such placing of equipment shall not constitute acceptance of the total Work.
 - 1. A Certificate of Substantial Completion will be executed for each specific portion of the Work to be occupied prior to Owner occupancy.
 - 2. Obtain a Certificate of Occupancy from local building officials prior to Owner occupancy.
 - 3. Prior to partial Owner occupancy, mechanical and electrical systems shall be fully operational. Required inspections and tests shall have been successfully completed. Upon occupancy the Owner will provide operation and maintenance of mechanical and electrical systems in occupied portions of the building.

1.8 INTENT

- A. These Specifications with the accompanying Drawings are intended to describe and illustrate all material, labor, and equipment necessary to complete the construction of interior renovations for the Stonington Community Center.
- B. For convenience of reference, these Specifications are separated into titled Divisions and Sections. Such separations shall not, however, operate to make the Architect an arbiter to establish limits to Contracts between the Design Builder and Subcontractors. The Divisions of the Specifications do not necessarily define the limits of the Contractor's subcontracts, the work of any one subcontract may include items specified in several Divisions or Sections. The General Contractor may sublet work as he sees fit, but it is his responsibility to see that all work

shown on the Drawings and/or specified is completed in accordance with the Contract.

- C. Furnish all materials and accomplish all work in strict accordance with the grades or standards of materials, standards of workmanship, and manufacturer's specifications listed or mentioned in these documents.
- D. The listing or mention of materials shall be sufficient indication that all such materials shall be furnished by the Subcontractor, in accordance with the grades or standards indicated, free from defects impairing strength, durability or appearance and in sufficient quantity for the proper and complete execution of the work, unless specifically stated otherwise.
- E. The listing or mention of any method of installation, erection, fabrication or workmanship shall not operate to make the Subcontractor an agent, but shall be for the sole purpose of setting a standard of quality for the finished work. The Subcontractor is free to use any alternate method, provided only that, prior to the start of the work, such alternate method is approved in writing by the Architect and Owner, as resulting in quality equal to that intended by these documents. Unless an alternate method is approved, all work shall be in strict accordance with all methods if installation, erection, fabrication and workmanship listed or mentioned herein.

1.9 SOCIAL SECURITY TAXES

- A. Each Subcontractor shall pay the taxes measured by the wages of all their employees as required by the Federal Social Security Act and all amendments thereto, and accept the exclusive liability for said taxes. The General Contractor shall also indemnify and hold the Owner, and its respective officers, agents and servants and the Architect harmless on account of any tax measured by the wages aforesaid of employees of the Subcontractors and his lower tier subcontractors, assessed against the Owner under authority of said law.

1.10 UNEMPLOYMENT INSURANCE

- A. Each Subcontractor shall pay unemployment insurance measured by the wages of his employees as required by law and accept the exclusive liability for said contributions. The Subcontractor shall also indemnify and hold harmless the Owner on account of any contribution measured by the wages of aforesaid employees of the Trade Contractor and his Subcontractors, assessed against the Owner under authority of law.

1.11 OCCUPATIONAL SAFETY AND HEALTH ACT

- A. All Subcontractors shall comply with the requirements of the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1969, including all

standards and regulations which have been promulgated by the Governmental Authorities which administer such Acts and said requirements, standards and regulations are incorporated herein by reference.

- B. All Subcontractors shall comply with said regulations, requirements and standards and require and be directly responsible for compliance therewith on the part of his agents, employees, material men and Subcontractors; and shall directly receive and be responsible for all citations, assessments, fines or penalties which may be incurred by reason of his agents, employees, material men or Subcontractors failing to so comply.
- C. The Subcontractor shall indemnify the Owner and Architect and save them harmless from any and all losses, costs and expenses, including fines and reasonable attorney's fees incurred by the Owner and Architect by reason of the real or alleged violation of such laws, ordinances, regulations and directives, Federal, State, and Local, which are currently in effect or which become effective in the future, by the Subcontractor, his lower tier Subcontractors or material men.

PART 2 - PRODUCTS (Not applicable).

PART 3 - EXECUTION (Not applicable).

END OF SECTION 01 11 00

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SECTION 01 29 00 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, “The General Conditions of the Contract for Construction,” the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.
- B. This Section specifies administrative and procedural requirements governing each prime Contractor's Applications for Payment.
 - 1. Coordinate the Schedule of Values and Applications for Payment with the Contractor's Construction Schedule, List of Subcontracts, and Submittal Schedule.
- C. The Contractor's Construction Schedule and Submittal Schedule are included in Section "Submittals".

1.3 SCHEDULE OF VALUES

- A. Coordinate preparation of the Schedule of Values with preparation of the Contractor's Construction Schedule.
- B. Each prime Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Contractors' Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's construction schedule.
 - b. Application for Payment form.
 - c. List of subcontractors.
 - d. Schedule of allowances.
 - e. Schedule of alternates.
 - f. List of products.
 - g. List of principal suppliers and fabricators.
 - h. Schedule of submittals.

2. Submit the Schedule of Values to the Architect and Owner's Project Manager at the earliest feasible date, but in no case later than 7 days before the date scheduled for submittal of the initial Application for Payment.
 3. Sub-Schedules: Where the Work is separated into phases that require separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- C. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the Designer.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:
 - a. Generic name.
 - b. Related Specification Section.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that have affected value.
 - g. Dollar value.
 - h. Percentage of Contract Sum to the nearest one-hundredth percent, adjusted to total 100 percent.
 3. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items so that individual line items shall not exceed \$25,000 in value.
 4. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
 5. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored but not yet installed, provide separate line items on the Schedule of Values for initial

cost of the materials for each subsequent stage of completion, and for total installed value of that part of the Work.

6. Unit Cost Allowances: Show line item value of unit cost allowances as a product of unit cost times measured quantity as estimated from the best indication in the Contract Documents.
7. Margins of Cost: Show line items for indirect costs, and margins on actual costs, only to the extent that such items will be listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete including its total cost and proportionate share of general overhead and profit margin.
 - a. At the Contractor's option, temporary facilities and other major cost items that are not direct cost of actual work-in- place may be shown as separate line items in the Schedule of Values or distributed as general overhead expense.
8. Schedule Updating: Update and resubmit the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Owner's Project Manager and paid for by the Owner.
 1. The initial Application for Payment, the Application for Payment at time of Substantial Completion, and the final Application for Payment involve additional requirements.
- B. Payment Application Times: Each progress payment date is as indicated in the Agreement. The period of construction work covered by each Application or Payment is the period indicated in the Agreement.
- C. Payment Application Times: The date for each progress payment is the 1st day of each month. The period of construction Work covered by each Application for Payment is the month prior to the date for each progress payment and starting the day of the preceding period.
 1. A Draft Application for Payment shall be submitted to the Owner, Architect, and Owner's Project Manager on the date of the last scheduled Job Meeting of the month preceding the payment application time.
 2. Final Application for Payment shall be prepared in triplicate (3 copies) and incorporate the revision comments as requested by the Owner, Owner's Project Manager, or Architect.

- D. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment.
- E. Suppliers, Trade and Subcontractors will be required to submit copies of their Certified Payroll forms to the Construction Manager for the current Application Period. The Construction Manager shall be responsible for transferring all Certified Payroll forms to the Owner's Project Manager. Owner has the right to withhold payments if required Certified Payroll forms are not being provided in a timely manner.
- F. Application Preparation: Complete every entry on the form, including notarization and execution by person authorized to sign legal documents on behalf of the Owner. Incomplete applications will be returned without action.
2. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions have been made.
 3. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
- G. Transmittal: Submit three (3) executed final copies of each Application for Payment to the Owner's Project Manager by means ensuring receipt within 24 hours; one copy shall be complete, including waivers of lien and similar attachments, when required.
1. Transmit each copy with a transmittal form listing attachments, and recording appropriate information related to the application in a manner acceptable to the Owner's Project Manager.
- H. Waivers of Mechanics Lien: With each Application for Payment submit waivers of mechanics liens from subcontractors or sub-subcontractors and suppliers for the construction period covered by the previous application.
1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.

4. Waiver Delays: Submit each Application for Payment with the Contractor's waiver of mechanics lien for the period of construction covered by the application.
 - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of Work covered by the application who could lawfully be entitled to a lien.
 5. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to Owner.
- I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of the first Application for Payment include the following:
1. List of subcontractors.
 2. List of principal suppliers and fabricators.
 3. Schedule of Values.
 4. Contractor's Construction Schedule (preliminary, if not final).
 5. Schedule of principal products.
 6. Schedule of unit prices.
 7. Submittal Schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. List of Contractor's principal consultants.
 10. Copies of building permits
 11. Copies of authorizations and licenses from governing authorities for performance of the Work.
 12. Initial progress report.
 13. Report of pre-construction meeting.
 14. Certificates of insurance and insurance policies.
 15. Performance and payment bonds (if required).
 16. Data needed to acquire Owner's insurance.
 17. Initial settlement survey and damage report, if required.
- J. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment. This application shall reflect any Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Administrative actions and submittals that shall proceed or coincide with this application include:
1. Occupancy permits and similar approvals.
 2. Warranties (guarantees) and maintenance agreements.
 3. Test/adjust/balance records.
 4. Maintenance instructions.

5. Meter readings.
 6. Start-up performance reports.
 7. Change-over information related to Owner's occupancy, use, operation and maintenance.
 8. Final cleaning.
 9. Application for reduction of retainage, and consent of surety.
 10. Advice on shifting insurance coverages.
 11. Final progress photographs.
 12. List of incomplete Work, recognized as exceptions to Designer's Certificate of Substantial Completion.
- L. Final Payment Application: Administrative actions and submittals, which must precede or coincide with submittal of the final payment Application for Payment, include the following:
1. Completion of Project closeout requirements.
 2. Completion of items specified for completion after Substantial Completion.
 3. Assurance that unsettled claims will be settled.
 4. Assurance that Work not complete and accepted will be completed without undue delay.
 5. Transmittal of required Project construction records to Owner.
 6. Certified property survey.
 7. Proof that taxes, fees and similar obligations have been paid.
 8. Removal of temporary facilities and services.
 9. Removal of surplus materials, rubbish and similar elements.
 10. Change of door locks to Owner's access.

PART 2 – PRODUCTS (Not Applicable to this Section.)

PART 3 – EXECUTION (Not Applicable to this Section.)

END OF SECTION 01 29 00

SECTION 01 31 13 - PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 GENERAL

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Progress Meetings.
 - 3. Administrative and supervisory personnel.
 - 4. General installation provisions.
 - 5. Cleaning and protection.
- B. Requirements for the Contractor's Construction Schedule are included in Section 01 01 00, "Special Conditions".
- C. Requirements for the Scheduling and Coordination of Tests and Inspections are included in Section 01 45 00, "Quality Control".

1.3 SUMMARY OF WORK

- A. The intent of this bid is to complete the work defined in the Contract Documents. The selected General Contractor must work harmoniously with the Owner to complete the Work within the calendar days noted in the Proposal.
- B. The balance of areas of this building, outside of the construction area, will be occupied by the general public and must remain fully operational throughout the construction period. The Contractor will be required to establish and present to the Architect in writing for approval, his own schedule that will allow the Contractor to complete the most disruptive work within the building during off-hours.
- C. The existing pool equipment, located below the work area, is required to remain in operation for the duration of the project. The contractor shall be required to provide shoring of all deck support piping, ductwork, conduits, and misc. components within the basement area for continued facility operation. The contractor shall be required to provide solid covering of all existing equipment to

protect it from falling debris and dust during all demolition and reconstruction procedures. The contractor is required to coordinate with Owner and Pool Administration to ensure that all required access to pool systems are maintained in adequate capacity for duration of construction operations. Shut-downs, or disruptions, to operation of pool equipment will not be permitted.

- D. The Contractor shall prepare a detailed construction schedule which shall be presented to the Architect and the Owner for their review, comments and approval. The schedule must clearly demonstrate the proper sequencing of construction and relocation activities and how operational and environmental conditions will be satisfactorily maintained in all occupied spaces.
- E. Contractor shall provide tight, secure, dust screens to separate all areas of the work and occupied spaces.
- F. All work must be coordinated with the Architect and the Facility Administration to insure satisfactory operational conditions. The Contractor will be required to coordinate and schedule his work to keep a minimum of the facilities shut down at any specific time. Any area that must be shut down may be only with the approval of and during the time designated by the Owner. The Contractor shall phase his work, as required, in the building. The Contractor shall insure safe access to occupied areas by the employees and public. The Contractor shall insure that heat and all other utilities are provided to these areas. Repair of any damage to existing facilities and equipment resulting from interrupted utilities, lack of heat, or Contractor's work in the areas shall be Contractor's responsibility. Also, repair of any damage to services and utilities as a result of the work shall be the Contractor's responsibility. Contractor shall insure safe egress and security of existing areas and equipment during the construction. Existing exitways shall be maintained to provide safe egress from occupied portions of the building at all times.
- G. The Contractor shall restrict the parking of workmen and construction vehicles and the storage of construction materials to a suitable parking area to be determined during a pre-construction conference.
- H. Work can proceed after open hours (second and third shifts) at the Contractor's option with the stipulation that the building is left dust free, free of barriers and absolutely safe for public occupancy by facility opening time each day. Contractor is to coordinate all work times with Owner.
- I. The priming and painting of the structural steel systems is required to be performed on off-hours (facility closed to public) for mitigation of fumes. Negative air systems are to be provided with exhaust direct to exterior. Contractor is required to coordinate the painting installation such that an adequate duration of time is allowed for the bulk off-gassing to pass prior to the facility re-opening.

1.4 COORDINATION

- A. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation. No claim for extra compensation or extension of Contract time will be allowed for conditions resulting from a lack of said coordination and cooperation.
1. Where installation of one part of the work, is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of schedules.
 2. Installation and removal of temporary facilities.
 3. Delivery and processing of submittals.
 4. Progress meetings.
 5. Project Close-out activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.5 PRE-CONSTRUCTION CONFERENCE

- A. The Architect will schedule a pre-construction conference and organizational meeting at the Project site no later than 15 days after execution of the Agreement

and prior to commencement of construction activities. Attend the meeting to review responsibilities and personnel assignments.

- B. Attendees: The Owner, Architect and their consultants, the Owner's Clerk-of-the-Works, the General Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
1. Notify and arrange for attendance by all parties except the Architect, Owner, and Owner's representative.
- C. Agenda: Items of significance that could affect progress will be discussed, including such topics as:
1. Tentative construction schedule.
 2. Critical Work sequencing.
 3. Designation of responsible personnel.
 4. Procedures for processing field decisions and Change orders.
 5. Procedures for processing Applications for Payment.
 6. Distribution of Contract Documents.
 7. Submittal of Shop Drawings, Product Data and Samples.
 8. Preparation of record documents.
 9. Use of the premises.
 10. Office, Work and storage areas.
 11. Equipment deliveries and priorities.
 12. Safety procedures.
 13. First aid.
 14. Security.
 15. Housekeeping.
 16. Working hours.

1.6 SUBMITTALS

- A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off-site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
1. Show the interrelationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Comply with requirements contained in Section 01 33 00, "Submittal Procedures".

4. Refer to Division - 23 and Division - 26, Section for specific coordination drawing requirements for mechanical and electrical installations.
- B. Staff Names: Within fifteen (15) days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses and telephone numbers.

1.7 COORDINATION MEETINGS

- A. Conduct Project coordination meetings at regularly scheduled times convenient for all parties involved. Project coordination meetings are in addition to regular progress meetings.
- B. Request representation at each meeting by every party currently involved in coordination or planning for the construction activities involved.
- C. Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.8 PROGRESS MEETINGS

- A. The Architect will conduct progress meetings at the Project site at regularly scheduled intervals. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: Notify each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities, to attend these meetings. Persons familiar with the Project and authorized to conclude matters relating to progress shall be represented.
- C. Agenda: Review and correction or approval of minutes of the previous progress meeting. Review of other items of significance that could affect progress. Topics for discussion that is appropriate to the current status of the Project.
 1. General Contractor's Construction Schedule: Prepare a written report including progress since the last meeting. Determine where each activity is in relation to the General Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 2. Review of present and future needs of each entity present, including such items as:

- a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Deliveries.
 - e. Off-site fabrication problems.
 - f. Access.
 - g. Site utilization.
 - h. Temporary facilities and services.
 - i. Hours of Work.
 - j. Hazards and risks.
 - k. Housekeeping.
 - l. Quality and Work standards.
 - m. Change Order Proposals.
 - n. Documentation of information for payment requests.
- D. Reporting: The Architect will prepare and distribute copies of minutes of the meeting to Owner and General Contractor. General Contractor shall distribute copies to others that should be informed of decisions.
- 1. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.

- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Excessively high or low temperatures.
 - 4. Thermal shock.
 - 5. Excessively high or low humidity.
 - 6. Air contamination or pollution.
 - 7. Water or ice.
 - 8. Solvents.
 - 9. Chemicals.
 - 10. Light.
 - 11. Radiation.
 - 12. Puncture.
 - 13. Abrasion.

14. Heavy traffic.
15. Soiling, staining and corrosion.
16. Bacteria.
17. Rodent and insect infestation.
18. Combustion.
19. Electrical current.
20. High speed operation,
21. Improper lubrication.
22. Unusual wear or other misuse.
23. Contact between incompatible materials.
24. Destructive testing.
25. Misalignment.
26. Excessive weathering.
27. Unprotected storage.
28. Improper shipping or handling.
29. Theft.
30. Vandalism.

END OF SECTION 01 31 13

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, “General Conditions of the Contract for Construction”, the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
 - 1. Schedule of Values.
 - 2. Shop Drawings.
 - 3. Product Data.
 - 4. Samples.
- B. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- C. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Applications for payment.
 - 2. Performance and payment bonds.
 - 3. Insurance certificates.
 - 4. List of Subcontractors.
- D. Inspection and test reports are included in Section 01 45 00 “Quality Control”

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Within 15 days of the Contract award, submit to the Architect a comprehensive Submittals listing each item to be submitted and the date proposed to be submitted. Coordinate with the Architect in the preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - b. Coordinate transmittal of all submittals requiring color selection so that comprehensive selection can be processed.
 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
 - a. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the General Contractor when a submittal being processed must be delayed for coordination.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. Allow two weeks for reprocessing each submittal.
 - d. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.**
1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 2. Include the following information on all submittals:
 - a. Name of item being submitted.
 - b. Number and title of appropriate Specification Section.
 - c. Drawing number and detail references, as appropriate.
 - d. Name of manufacturer.
 - e. Name, address and telephone number of supplier.
 - f. Bid Package number and name.
 - g. Project Name.

- h. Date.
 - i. Name, address and telephone number of Contractor.
 - j. Name, address and telephone number of Subcontractor.
 - k. Name, address and telephone number of Architect.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from General Contractor to Architect using a transmittal form. Submittals received from sources other than the General Contractor will be returned without action.
- D. Number of copies: All submittals shall be made using an Electronic Submittal Procedure established by the **General Contractor**. The **General Contractor** shall be responsible to provide a File Transfer Protocol (FTP), or third party website service, for the transmission of large file sizes (>10MB) not suitable for e-mailing.

1.4 DEFINITIONS

- A. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the General Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:
- 1. Substitutions requested by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - 2. Revisions to Contract Documents requested by the Owner or Architect.
 - 3. Specified options of products and construction methods included in Contract Documents.
 - 4. The General Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.5 SCHEDULE OF VALUES

- A. Coordinate preparation of the Schedule of Values with preparation of the General Contractor's Construction Schedule.
- 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. General Contractor's construction schedule.
 - b. Application for Payment form.
 - c. List of subcontractors.

2. Submit the Schedule of Values to the Architect at the earliest feasible date, but in no case later than seven (7) days before the date scheduled for submittal of the initial Application for Payment.
- B. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
1. Forms: Use AIA Document G702 and Continuation Sheets G703, as the form for the Schedule of Values.
 2. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of the Architect.
 - c. Project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 3. Arrange the Schedule of Values in a tabular form with separate columns to indicate the following for each item listed:
 - a. Generic name.
 - b. Related Specification Section.
 - c. Change Orders (numbers) that have affected value.
 - d. Dollar value.
 - e. Percentage of Contract Sum to the nearest one-hundredth percent, adjusted to total 100 percent.
 4. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
 5. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
 6. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 7. Show temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items in the Schedule of Values.

1.6 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
 1. Dimensions.
 2. Identification of products and materials included.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates, patterns and similar full size Drawings, submit Shop Drawings on sheets at least 8 ½" x 11", but no larger than 24" x 36".
 7. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.
- C. Shop Drawing Submissions to the Architect in electronic format only will be acceptable to the Architect given that they are in Adobe, PDF format and contain proper transmittal information.

1.7 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by field measurement.
 - f. Notation of coordination requirements.

2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
3. Submittals: Submit copies of each required submittal; submit additional copies where required for maintenance manuals.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
4. Distribution: Furnish copies of final submittal to Architect for distribution to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
 - a. Do not proceed with installation until an approved copy of Product Data applicable is in the installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.

1.8 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
 1. Mount, display, or package samples in the manner specified to facilitate review of qualities indicated. Prepare samples to match the Architect's sample. Include the following:
 - a. Generic description of the sample.
 - b. Sample source.
 - c. Product name or name of manufacturer.
 - d. Compliance with recognized standards.
 - e. Availability and delivery time.
 2. Submit samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - a. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units that show approximate limits of the variations.
 - b. Refer to other Specification Sections for requirements for samples that illustrate workmanship, fabrication techniques, details of

assembly, connections, operation and similar construction characteristics.

3. Preliminary submittals: Where samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product.
 - a. Preliminary submittals will be reviewed with the Architect indicating selection or other action.
 - b. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
4. Submittals: Except for samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, samples will not be returned, unless so requested in advance.
5. Maintain sets of returned samples, at the Project site, for quality comparisons throughout the course of construction.
 - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.9 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if received within 60 days after commencement of the Work. Requests received more than 60 days after commencement of the Work may be considered or rejected at the discretion of the Architect.
 1. Submit three (3) copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.
 2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers, complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. Samples, where applicable or requested.
 - c. A detailed comparison of significant qualities of the proposed substitution with those of the work specified. Significant qualities

- may include elements such as size, weight, durability, performance and visual effect.
- d. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors, that will become necessary to accommodate the proposed substitution.
 - e. A statement indicating the substitution's effect on the General Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.
3. Architect's Action: Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Architect will notify the General Contractor of acceptance or rejection of the proposed substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name.

1.10 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
 - 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, to indicate the action taken:
 - 1. Final Unrestricted Release: Where submittals are marked "Approved," that part of the Work covered by the submittal may proceed provided it

- complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. **Final-But-Restricted Release:** When submittals are marked “Approved as Corrected,” that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 3. **Returned for Resubmittal:** When submittal is marked “Not Approved, Revise and Resubmit,” do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked “Not Approved, Revise and Resubmit” to be used at the Project site, or elsewhere where Work is in progress.
 4. **Other Action:** Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked “Action Not Required”.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. **Conditions:** The General Contractor’s substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
 1. Extensive revisions to Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of Contract Documents.
 3. The request is timely, fully documented and properly submitted.
 4. The request is directly related to an “or equal” clause or similar language in the Contract Documents.
 5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.

7. A substantial advantage is offered the owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
 8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the General Contractor certifies that the substitution will overcome the incompatibility.
 9. The specified product or method of construction cannot be coordinated with other materials, and where the General Contractor certifies that the proposed substitution can be coordinated.
 10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the General Contractor certifies that the proposed substitution provide the required warranty.
- B. The General Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 - EXECUTION (Not Applicable).

END OF SECTION 01 33 00

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies applicability of industry standards to products specified, administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Submittals and administrative procedures for handling requests for substitutions made after award of the Contract are included under Section 01300, "Submittals and Product Substitutions."

1.3 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. Indicated: The term indicated refers to graphic representations, notes, or schedules on the Drawings, or other Paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as shown, noted, scheduled, and specified are used to help the reader locate the reference. There is no limitation on location.
- C. Directed: Terms such as directed, requested, authorized, selected, approved, required, and permitted mean directed by the Architect, requested by the Architect, and similar phrases.
- D. Approved: The term approved, when used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the Architect's duties and responsibilities as stated in the Conditions of the Contract.
- E. Regulations: The term regulations includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

- F. **Furnish:** The term furnish means supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. **Install:** The term install describes operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. **Provide:** The term provide means to furnish and install, complete and ready for the intended use.
- I. **Installer:** An Installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
1. The term experienced, when used with the term Installer, means having a minimum of five previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of the authority having jurisdiction.
 2. **Trades:** Using terms such as carpentry is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as carpenter. It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.
 3. **Assigning Specialists:** Certain Sections of the Specifications require that specific construction activities shall be performed by specialists who are recognized experts in those operations. The specialists must be engaged for those activities, and their assignments are requirements over which the Contractor has no choice or option. However, the ultimate responsibility for fulfilling Contract requirements remains with the Contractor.
 - a. This requirement shall not be interpreted to conflict with enforcing building codes and similar regulations governing the Work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- J. **Project site** is the space available to the Contractor for performing construction activities either exclusively or in conjunction with others performing other work as part of the Project. The extent of the Project site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.

- K. Testing Agencies: A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.
- L. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as “specialties,” “systems,” “structure,” “finishes,” “accessories,” and similar terms. Such terms such are self-explanatory and have well-recognized meanings in the construction industry.
 - 1. “Products” are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term “product” includes the terms “material,” “equipment,” “system,” and terms of similar intent.
 - a. “Named Products” are items identified by manufacturer’s product name, including make or model designation, indicated in the manufacturer’s published product literature, that is current as the date of the Contract Documents.
 - 2. “Materials” are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
 - 3. “Equipment” is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.4 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. These Specifications with the accompanying Drawings are intended to describe and illustrate all material, labor, and equipment necessary to complete the **Restoration and Related Work for Cornerstone Aquatics Center, 55 Buena Vista Road, West Hartford, CT.**
- B. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute’s 16 Division format and MASTERFORMAT numbering system.
- C. Specification Content: This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1. Abbreviated Language: Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words that are implied, but not stated, shall be

interpolated, as the sense requires. Singular words will be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.

2. Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.

- a. The words “shall be” are implied wherever a colon (:) is used within a sentence or phrase.

D. In general, the Specifications will describe the “quality” of the work and the Drawings, the “extent” of the work. The Drawings and Specifications are cooperative and supplementary, however, and each item of the work is not necessarily mentioned in both the Drawings and the Specifications. All work necessary to complete the project, so described, is to be included in this Contract.

E. In case of disagreement between Drawings and Specifications, or within either document itself, the better quality or greater quantity of work for decision and/or adjustment. Any work done by the Contractor without consulting the Architect, when the same requires a decision, shall be done at the Contractor’s risk.

F. Omissions or Errors: If any omissions or errors are noted or instructions at variance with the obvious intent of the documents, it is the responsibility of the Contractor to call them to the Architect’s attention before signing the Contract.

1.5 SUBMITTALS

- A. Comply with requirements contained in Section 01300, “Submittals and Product Substitutions”.

1.6 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Responsibility to furnish material: Listing or mention of materials is sufficient indication to make it the Contractor’s responsibility to furnish said materials in accordance with the grades or standards indicated, free from defects impairing

strength, durability or appearance, and in sufficient quantity for the proper and complete execution of the work, unless specifically stated otherwise.

- D. Responsibility for or methods: The listing or mention of any method of installation, erection, fabrication or workmanship shall not operate to make the contractor an agent, but shall be for the sole purpose of setting a standard of quality for the finished work. Contractor is free to use any alternate method, provided only that, prior to the start of the work, such alternate method is approved in writing by the Architect, as resulting in quality equal to that intended by these documents. Unless an alternate method is approved, all work shall be in strict accordance with all methods of installation, erection, fabrication and workmanship listed or mentioned herein.

1.7 INDUSTRY STANDARDS

- A. Compliance: Furnish all materials and accomplish all work in accordance with the grades or standards of materials, standards of workmanship, and manufacturer's literature, as referenced in these documents.
- B. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- C. Publication Dates: Comply with the standards in effect as of the date of the Contract Documents.
- D. Conflicting Requirements: Where compliance with two or more standards is specified and where the standards may establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the Architect for a decision before proceeding.
 - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Architect for a decision before proceeding.
- E. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.
- F. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products in accordance with the Architect's and manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
 1. Schedule delivery to minimize long-term storage at the 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 the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 4. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
 5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
 7. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
 8. Packages, materials and equipment showing evidence of damage may be rejected by the Architect.
 9. Store rigid insulation board away from the building.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION

- A. **General Product Requirements:** Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. **Standard Products:** Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. **Product Selection Procedures:** Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:
1. **Proprietary Specification Requirements:** Where only a single product or manufacturer is named, provide the product indicated, or equal to that described.
 2. **Semiproprietary Specification Requirements:** Where three or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
 - a. Where products or manufacturers are specified by name, accompanied by the term “or equal,” or “or approved equal” comply with the Contract Document provisions concerning “substitutions” to obtain approval for use of an unnamed product.
 3. **Descriptive Specification Requirements:** Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
 4. **Performance Specification Requirements:** Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
 - a. Manufacturer’s recommendations may be contained in published product literature, or by the manufacturer’s certification of performance.
 5. **Compliance with Standards, Codes and Regulations:** Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

6. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.
7. Visual Selection: Where specified product requirements include the phrase " as selected from manufacturer's standard colors, patterns, textures " or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS:

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01 42 00

SECTION 01 45 00 - QUALITY CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for quality control services.
- B. Quality control services include inspections and tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by the Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the General Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.
 - 2. Inspections, test and related actions specified are not intended to limit the General Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for the General Contractor to provide quality control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.3 RESPONSIBILITIES

- A. Retesting: The General Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the General Contractor's responsibility.

1. Costs of retesting construction revised or replaced by the General Contractor is the General Contractor's responsibility, where required tests, performed on original construction, do not indicate compliance with Contract Documents.
- B. Associated Services: The General Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 3. Providing facilities for storage and curing of test samples.
 4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 5. Security and protection of samples and test equipment at the Project site.
- C. Owner Responsibilities: The Owner will provide inspections, tests and similar quality control services specified to be performed by independent agencies and not by the General Contractor, except where they are specifically indicated as the General Contractor's responsibility or are provided by another identified entity. Costs for these services are not included in the Contract Sum.
1. The Owner will employ and pay for the services of an independent agency, testing laboratory or other qualified firm to perform services which are the owner's responsibility.
 2. The General Contractor agrees to engage and pay for the quality control services specified as the General Contractor's responsibility, including retesting, from the independent agency engaged by the Owner.
- D. Duties of the Testing Agency and Special Inspector: The independent testing Agency and the Special Inspector, engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections, shall cooperate with the Architect and Contractor in performance of their duties, and shall provide qualified personnel to perform required inspections and tests.
1. The Agency or the Special Inspector shall notify the Architect and General Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Neither the Agency nor the Special Inspector is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
 3. Neither the Agency nor the Special Inspector shall not perform any duties of the General Contractor.
- E. Coordination: The General Contractor and each Agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition, the General Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The General Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 MOISTURE TESTING IN CONCRETE SLABS PRIOR TO FLOORING INSTALLATIONS

- A. All concrete sub floors must be tested for moisture, PH (alkalinity) to insure proper adhesive bond.
1. Moisture tests shall be conducted in accordance with the following:
 - a. ASTM F 2170, "Standard Test Method for Determining Relative Humidity in Concrete Slabs using in situ Probes". Three Tests shall be conducted for areas up to 1000 square feet of flooring. Relative humidity of the slab should not exceed 75%.
 - b. ASTM 1869 "Standard Text Method for Moisture Vapor Emission Rate of Concrete Sub floor". Three tests shall be conducted for areas up to 100 square feet of flooring. The maximum allowable amount of moisture transmission must not exceed 3.0 lbs per 1000 square feet in 24 hours.
 2. If the test results exceed the limitations stated above, the installation of finish flooring must not proceed until the problem has been corrected to conform to the flooring manufacturer's specifications.
 3. A PH test for alkalinity must be conducted. Results should range between 5 and 9. If the test results are not acceptable, the installation must not proceed until the problem has been corrected.

3.2 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes.
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection is the General Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 01 45 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, “General Conditions of the Contract for Construction”, the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.
- B. Temporary utilities required include but are not limited to:
 - 1. Water service and distribution.
 - 2. Temporary electric power and light.
 - 3. Telephone service.
- C. Temporary construction and support facilities required include but are not limited to:
 - 1. Temporary heat (as required for construction).
 - 2. Field offices and storage sheds.
 - 3. Temporary roads and paving.
 - 4. Sanitary facilities, including drinking water.
 - 5. Dewatering facilities and drains.
 - 6. Temporary enclosures.
 - 7. Temporary Project identification signs and bulletin boards.
 - 8. Waste disposal services.
 - 9. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities required include but are not limited to:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, lights.
 - 3. Enclosure fence for the site.
 - 4. Environmental protection.

1.3 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:

1. Building Code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Fire Department Rules
 5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-ALO Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. obtain required certifications and permits.

1.4 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended.
- B. Lumber and Plywood: Comply with requirements in Division - 6 Section "Rough Carpentry."

1. For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated.
 2. For fences, barriers, sidewalk bridges and similar uses, provide minimum 5/8 inch thick exterior plywood.
- C. Gypsum Wallboard: Provide gypsum wallboard complying with requirements of ASTM C 36 on interior walls of temporary partitions.
- D. Paint: Comply with requirements of Division - 9 Section "Finish Painting."
1. For sign panels and applying graphics, provide exterior grade alkyd gloss enamel over exterior primer.
 2. For interior temporary partitions, provide two coats interior latex flat wall paint.
- E. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.
- F. Water: Owner to provide temporary water for the purposes of construction activity. Water service will be available for Contractor's use upon approval of the Owner.
- G. Open-Mesh Fencing: Provide 11-gage, galvanized 2-inch, chain link fabric fencing 6-feet high with galvanized barbed wire top strand and galvanized steel pipe posts, 1 ½ inch I.D. for line posts and 2 ½ inch I.D. for corner posts.

2.2 EQUIPMENT

- A. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Water Hoses: Provide ¾ inch heavy-duty, abrasion-resistant, flexible rubber hose 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- D. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to

connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.
- G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air- conditioned units on foundations adequate for normal loading.
- H. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- I. First Aid Supplies: Comply with governing regulations.
- J. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "All fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.
 - 1. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required, at no additional cost to the Owner.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. 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: Where required, engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
- B. Water Service: Owner to provide water service for the purposes of construction activity. **The Owner shall be responsible for all costs associated with water service and distribution.**
- C. Temporary Electric Power Service: Provide weatherproof, grounded electric power connections and distribution system of sufficient size, capacity, and power characteristics during construction period. Include transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear. **The Owner shall be responsible for all costs associated with temporary electric service consumption until Substantial Completion is granted by the Owner. If required, the General Contractor shall pay for all costs incurred by the local utility as backcharges related to the installation of temporary electric power service for the purposes of construction.**
1. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
 2. Furnish light bulbs and extensions cords as may be essential to the execution of the respective trades, and for extensions of lines to sheds or to power tools and remote areas which cannot be reached with extension cords.
- D. Temporary Lighting: Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
- E. Temporary Telephones: **General Contractor** to provide all telephones required for Contractor's use during the extent of construction and pay all costs for

installation, use, and removal. Telephones required by separate contractor's shall be installed, removed, and paid for by that contractor.

1. At Contractor's telephone, post a list of important telephone numbers.

3.3 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
 1. Confine apparatus, storage materials, equipment, supplies and operations to the areas bounded by the Contract and on-site limits as shown on the drawings.
 2. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. If required, the **General Contractor** shall furnish and pay for all necessary temporary heat to prevent injury to work or to material through dampness or cold. At all times when there is concrete or other masonry not thoroughly set, he shall maintain a temperature of at least 40 degrees F in areas where such work is located. For two (2) days previous to placement or application of any interior work, resilient tile, paint or similar finish, a temperature of at least 60 degrees F shall be maintained in those portions of building in which this work occurs.
- D. If temporary heat is required for protection of work or to hasten drying out process of construction before permanent heating apparatus is available for use, the Contractor shall provide suitable approved heating, apparatus, adequate proper fuel and maintain fires as required at his expense.
- E. All temporary heating apparatus shall be installed and operated in such a manner that finished work will not be damaged thereby. Until the permanent heating system is available, the Contractor is responsible for maintenance and costs of continuous heat in all areas being constructed as part of the building after finish has been delivered or erected.
- F. The **Electrical Contractor** shall provide temporary connections to all equipment requiring electrical power in order to provide temporary heat. The Electrical Contractor shall remove such temporary connections and equipment when the need for same is concluded.

- G. With the cooperation of all trades and separate Contractors involved, the Contractor may utilize the permanent heating and ventilating system when completely installed and operational, providing the following conditions are met by the Contractor at no additional cost to the Owner:
1. The Contractor shall minimize interruption of heat and hot water to areas of the building being utilized by the Owner and shall take adequate precaution to prevent any damage from occurring due to lack of heat.
 2. The Contractor shall take all necessary precautions to prevent waste of heat due to excessive ventilation or careless operation of openings in the building.
 3. The system shall be protected from freezing. Any frost damage shall be repaired at the Contractor's cost.
 4. Arrangements shall be made to monitor the system operation at night and over weekends and holidays by the Contractor.
 5. All safety controls shall be installed and operating.
 6. All equipment shall be serviced and brought back to "as new" condition to the Architect's satisfaction before acceptance by the Owner.
 7. All equipment warranties and guarantees shall be extended so that their full term is available to the Owner from the date of acceptance.
 8. All permanent HVAC systems utilized for heat shall be cleaned throughout the system, including but not limited to the ductwork, cores, and coils of equipment, etc. Replacement of filters alone does not constitute a thorough cleaning.
 9. **All costs for fuel shall be the responsibility of the Owner until Substantial Completion if permanent systems are functioning and energy efficient measures are installed.**
- H. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel.
- I. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces on the site.
- J. Toilets: **General Contractor to install, maintain, and remove self-contained toilet units.** Shield toilets to ensure privacy. Use of pit-type privies will not be permitted. Maintain clean, sanitary conditions.
- K. Drinking Water Facilities: Provide containerized tap-dispenser bottled-water type drinking water units, including paper supply.
1. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg F (7 to 13 deg C).

- L. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.
 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
 4. Where temporary wood or plywood enclosure exceeds 100 square feet in area, use UL-labeled fire-retardant treated material for framing and main sheathing.
- M. Protection:
1. Protect the building at all times from damages from rain water, spring water, ground water, backing up of drains and sewers and all other water. Provide all pumps, equipment and enclosures to insure this protection.
 2. Remove all snow and ice as may be required for proper protection and prosecution of the work.
 3. Provide all shoring, bracing and sheeting as required for safety and for proper execution of work.
 4. Protect all work from damage during cold weather. If low temperatures make it impossible to continue operations safely in spite of cold weather precautions, cease work and so notify Architect. Repair and/or replacement of all work damaged from frost, freezing or any elements of the weather are the responsibility of the **General Contractor**.
 5. Protect the building and the site from damage, loss or liability due to theft or vandalism when the work is not in progress at night, weekends, or holidays.
 6. Exercise precaution for the protection of persons and property at all times. Observe the provisions of applicable laws and construction codes. Take additional safety and health measures, or cause such measures to be taken as reasonably necessary. Maintain guards on machinery, equipment and other hazards as set forth in the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated Contractors of America, to the extent that such provisions are not in contravention of applicable laws.
 7. Protect and preserve in operating conditions all utilities traversing the work area. Repair all damages to any utility due to work performed under

this Contract, to the satisfaction of the Architect at no additional cost to the Owner.

- N. Temporary Lifts and Hoists: Provide facilities for hoisting materials, rubbish, and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- O. Project Identification and Temporary Signs: **General Contractor** to provide project identification and other signs of the size indicated; install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of painted wood. Do not permit installation of unauthorized signs. Wording and layout to be provided by Architect.
1. **Project Identification Sign:** Erect a 4 feet x 4 feet x 3/4 inches plywood sign. Mount sign to temporary wall framing, within lobby, with four 3/8 inch diameter lug bolts and washers on each side of the sign.
 2. Engage an experienced sign painter to apply graphics. Apply three coats to the sign face, and one coat to the sides. Architect to provide project sign layout and lettering.
 3. **Temporary Signs:** Prepare signs to provide directional information to construction personnel and visitors.
- Q. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner. **The General Contractor shall furnish and maintain dumpster service on-site for the removal of all demolition material, waste material, and debris. It is the responsibility of each contractor utilized for the completion of this project to remove all associated waste material and debris from the job site on a daily basis and place into appropriate waste receptacle as directed by the Contractor. All contractors are to coordinate with owner for approved paths and times for transport of materials from work area through the public areas to dumpsters.**

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by the Architect.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types

needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations.

1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor.
 2. Store combustible materials in containers in fire-safe locations.
 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
 4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
 5. No gasoline may be stored in or close to the building at any time.
- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- F. Environmental Protection: Provide protection, operate temporary facilities and, conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, the contractor responsible for its installation shall remove each temporary facility when the need has ended, or when 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 the 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 the Contractor. The Owner reserves the right to take possession of Project identification signs.
 - 2. At Substantial Completion, clean and renovate existing and new permanent facilities that have been used during the construction period, including but not limited to:
 - a. Replace air filters and clean inside of new ductwork and housings.
 - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
 - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 01 50 00

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SECTION 01 70 00 – EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project closeout by the General Contractor and each Trade Contractor, including but not limited to:
1. Final inspection procedures.
 2. Project record document submittal.
 3. Operating and maintenance manual submittal.
 4. Submittal of warranties.
 5. Final cleaning.
- B. Closeout requirements for specific construction activities may also be included in the appropriate Sections in Divisions - 2 through - 31.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection by the Architect for certification of Substantial Completion, complete the following. List exceptions in the request.
1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 2. Advise the Owner of pending insurance change-over requirements.
 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

4. Obtain and submit releases to the Architect enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
 5. Submit record drawings, maintenance manuals and similar final record information to the Architect.
 6. Deliver tools, spare parts, extra stock, and similar items.
 7. Remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
 8. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Final Inspection Procedures: Submit a request for final inspection, to the Architect. Following the Architect's final inspection, the Architect will either prepare the Certificate of Substantial Completion, or advise the General Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The Architect will repeat final inspection when requested by the General Contractor and assured that the Work has been substantially completed.
 2. Results of the completed final inspection will form the basis of requirements for final acceptance.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request to the Architect with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement to the Architect, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Architect's Final Inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the General Contractor.
 4. Submit consent of surety to final payment.
 5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Architect will re-inspect the work upon receipt of notice from the General Contractor that the Work, including Final Inspection list items from earlier inspections, has been completed, except items whose

completion has been delayed because of circumstances acceptable to the Owner and Architect.

1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the General Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, re-inspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. **General:** Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Owner's and Architect's reference during normal working hours.
- B. **Record Drawings:** Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
 3. Note related Change Order numbers where applicable.
 4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set. Submit to the Architect.
- C. **Maintenance Manuals:** Organize and submit two (2) copies to the Architect of all operating and maintenance data organized and indexed into suitable sets of manageable size. Bind properly indexed data into individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
 1. Emergency instructions.
 2. Copies of warranties.
 3. Recommended "turn around" cycles.
 4. Inspection procedures.
 5. Shop Drawings and Product Data.

- 6. All Maintenance Manuals are to be submitted in duplicate (2 copies).**

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General:** General cleaning during construction is required by the General Conditions and included in Section 01500 "Temporary Facilities".
- B. Cleaning:** Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- 1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.**
- a. Remove labels that are not permanent labels.**
 - b. Clean transparent materials. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.**
 - c. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.**
 - d. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.**
- C. Removal of Protection:** Remove temporary protection and facilities installed for protection of the work during construction.
- D. Compliance:** Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
- 1. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.**

- E. If the General Contractor fails to demonstrate a commitment to accomplish the required cleaning in an orderly, timely fashion, the Owner reserves the right to employ a professional cleaning service, and to deduct any costs thereof from the Contract Amount.

END OF SECTION 01 70 00

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SECTION 01 74 23 – FINAL CLEANING.

1.01 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.02 SCOPE OF THE WORK

- A. Furnish all labor, materials and other services required to give the new and existing spaces a thorough cleaning in preparation for occupancy or before the Owner takes re-occupancy after each phase. Carefully note that this specification applies to all sections of the building completed by the contractor prior to occupancy by the Owner at the completion of the project, no later than within the limit of calendar days noted in the proposal. The use of a professional cleaning service is strongly advocated.
- B. Cleaning shall consist of, but is not limited to, the items below:
1. All accumulated rubbish shall be removed from the building and points immediately adjacent thereto and removed from the site.
 2. Give the entire project a thorough cleaning at the completion of all other work but before the glass is cleaned.
 3. Clean all glass, including windows, remove putty, stains and paint, wash and polish same. Care shall be taken not to scratch glass. Cleaning of glass shall be done after completion of all other work.
 4. Clean all paint, decorated and stained work; remove all marks, stains, fingerprints and other soil or dirt from all painted and stained work.
 5. Remove all temporary protections. Clean and polish all affected floors at completion.
 6. Clean and polish all painted woodwork at completion.
 7. Clean and polish all hardware for all trades; this shall include removal of all stains, dust, dirt, paint, etc., upon completion.
 8. Remove all spots, soil and paint from all tile work; wash same upon completion.
 9. Clean all fixtures and equipment, remove all stains, paint, dirt and dust.
 10. Thoroughly wash and clean all dirt and stains on all exterior vertical and horizontal surfaces affected by this contract.
 11. Leave the final renovated area clean (for each phase) no later than **two weeks prior to Substantial Completion**. If the Contractor fails to demonstrate a commitment to accomplish the required cleaning in

adequate time for re-occupancy, the Owner reserves the right to employ a professional cleaning service and to deduct the cost thereof from the Contract for Construction.

END OF SECTION 01 74 23

SECTION 01 78 00 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
 - 1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
 - 2. General close-out requirements are included in Section 01 77 00 "Project Closeout."
 - 3. Specific requirements for warranties for the Work and products and installations that are specified to be warranted, are included in the individual Sections of Divisions - 2 through - 28.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.3 DEFINITIONS

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

1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure

or that must be removed and replaced to provide access for correction of warranted Work.

- B. **Reinstatement of Warranty:** When work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. **Replacement Cost:** Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The General Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. **Owner's Recourse:** Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
 - 1. **Rejection of Warranties:** The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
- E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.5 SUBMITTALS

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the General Contractor during the construction period, submit properly executed warranties to the Architect within fifteen (15) days of completion of that designated portion of the Work.
- B. When a special warranty is required to be executed by the General Contractor, or a subcontractor, supplier or manufacturer, prepare a written document that

contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.

- C. Form of Submittal: At Final Completion compile two (2) copies of each required warranty and bond properly executed by the General Contractor, or by the subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manuals.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 SCHEDULE OF WARRANTIES

- A. Schedule: Provide warranties on products and installations as specified in each Section relating to each product.

END OF SECTION 01 78 00

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SECTION 02075 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 DESCRIPTION OF REQUIREMENTS

- A. **Definition:** "Cutting and patching" includes cutting into existing construction to provide for the installation or performance of other work and subsequent fitting and patching required to restore surfaces to their original condition. "Cutting and patching" shall also include the removal and subsequent reinstallation of existing construction required to be removed in order to execute the work specified and/or indicated on the drawings, i.e., ceilings, electrical/mechanical equipment, etc.
- B. "Cutting and patching" is performed for coordination of the work, to uncover work for access or inspection, to obtain samples for testing, to permit alterations to be performed or for other similar purposes.
- C. Cutting and patching performed during the manufacture of products, or during the initial fabrication, erection or installation processes is not considered to be "cutting and patching" under this definition. Drilling of holes to install fasteners and similar operations are also not considered to be "cutting and patching".
- D. Refer to other sections of these specifications for specific cutting and patching requirements and limitations applicable to individual units of work.
- E. Unless otherwise specified, requirements of this section apply to mechanical and electrical work. Refer to Division 15 and Division 16 sections for additional requirements and limitations on cutting and patching of mechanical and electrical work.

1.3 QUALITY ASSURANCE

- A. **Requirements for Structural Work:** Do not cut and patch structural work in a manner that would result in a reduction of load-carrying capacity or load-deflection ratio.
- B. Before cutting and patching the following categories, or similar categories, of work, obtain the Architect's approval to proceed with cutting and patching as described in the procedural proposal for cutting and patching.

1. Structural steel.
 2. Miscellaneous structural metals, including lintels, equipment supports, stair systems and similar categories of work.
 3. Structural concrete plank floor structure.
 4. Foundation construction.
 5. Bearing and retaining walls.
 6. Structural decking.
 7. Piping, duct-work, vessels and equipment.
- C. Operational and Safety Limitations: Do not cut and patch operational elements or safety related components in a manner that would result in a reduction of their capacity to perform in the manner intended, including energy performance, or that would result in increased maintenance, or decreased operational life or decreased safety.
- D. Before cutting and patching the following elements, or similar elements, of work, and similar work elements where directed, obtain the Owner's approval to proceed with cutting and patching as proposed in the proposal for cutting and patching.
1. Shoring, bracing and sheeting.
 2. Primary operational systems and equipment.
 3. Water, moisture, vapor, air, smoke barriers, membranes and flashings.
 4. Noise and vibration control elements and systems.
 5. Control, communication, conveying, and electrical wiring systems.
- E. Visual Requirements: Do not cut and patch work exposed on the building's exterior or in its occupied spaces, in a manner that would, in the Architect's and Owner's opinion, result in lessening the building's aesthetic qualities. Do not cut and patch work in a manner that would result in substantial visual evidence of cut and patch work. Remove and replace work judged by the Architect and Owner to be cut and patched in a visually unsatisfactory manner.
- F. If possible, retain the original installer or fabricator, or another recognized experienced and specialized firm to cut and patch the following categories, and similar categories, of exposed work.
1. Processed concrete finishes.
 2. Ornamental metal.
 3. HVAC enclosures, cabinets or covers.

1.4 SUBMITTALS

- A. Procedural Proposal for Cutting and Patching: Where prior approval of cutting and patching is required, submit proposed procedures for this work well in advance of the time work will be performed and request approval to proceed. Include the following information, as applicable, in the submittal:

1. Describe nature of the work and how it is to be performed, indicating why cutting and patching cannot be avoided. Describe anticipated results of the work in terms of changes to existing work, including structural, operational, and visual changes as well as other significant elements.
 2. List products to be used and firms that will perform work.
 3. Give dates when work is expected to be performed.
 4. List utilities that will be disturbed or otherwise be affected by work, including those that will be relocated and those that will be out-of-service temporarily. Indicate how long utility service will be disrupted.
- B. Where cutting and patching of structural work involves the addition of reinforcement, submit details and engineering calculations to show how that reinforcement is integrated with original structure to satisfy requirements.
- C. Where cutting and patching of exposed finishes is to be involved, submit a drawing clearly describing in detail the location and extent of the work for the Owner's and the Architect's approval.
- D. Approval by the Owner and the Architect to proceed with cutting and patching work does not waive the Architect's right to later require complete removal and replacement of work found to be cut and patched in an unsatisfactory manner.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Except as otherwise indicated, or as directed by the Architect, use materials for cutting and patching that are identical to existing materials. If identical materials are not available, or cannot be used, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal-or-better performance characteristics than existing construction.

PART 3 EXECUTION

3.1 INSPECTION

- A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.
- B. Before the start of cutting work, meet at the work site with all parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict between the various trades. Coordinate layout of the work and resolve potential conflicts before proceeding with the work.

3.2 PREPARATION

- A. Temporary Support: To prevent failure, provide temporary support of work to be cut.
- B. Protection: Protect other work during cutting and patching to prevent damage. Provide protection from adverse weather conditions for that part of the project that may be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruptions of free passage to adjoining areas.
- D. Take precautions not to cut existing pipe, conduit, or duct serving the building but scheduled to be relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by Architect, proceed with cutting and patching at the earliest feasible time and complete work without delay.
- B. Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer, comply with original installer's recommendations.
- C. In general, where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
- D. By-pass utility services such as pipe and conduit, before cutting, where such utility services are shown or required to be removed, relocated or abandoned. Cut-off conduit and pipe in walls or partitions to be removed. After by-pass and cutting, cap valve or plug and seal tight remaining portion of pipe and conduit to prevent entrance of moisture or other foreign matter.
- E. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
- F. Where feasible, inspect and test patched areas to demonstrate integrity of work.

- G. Restore exposed finishes of patched areas and where necessary extend finished restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.
- H. Where removal of walls or partitions extends one finished area into another finished area, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. If necessary to achieve uniform color and appearance, remove existing floor and wall coverings and replace with new materials.
- I. Where patch occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing patch, after patched area has received prime and base coat.
- J. Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

3.4 CLEANING

- A. Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 02 40 00

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SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section requires the selective removal and subsequent off-site disposal of the following:
1. Portions of existing building indicated on drawings and as required to accommodate new construction.
 2. Associated supporting structures to accommodate new construction.
 3. Removal and legal disposal of all items of selective demolition by this contractor and all sub-contractors that involves demolition of existing equipment, existing installations, or existing construction elements to accommodate new construction and as indicated on the drawings.
- B. Related Work Specified Elsewhere, including but not limited to:
1. Division – Structural
 2. Division 22 – Plumbing
 3. Division 23 – HVAC
 4. Division 26 – Electrical

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections:
1. Proposed schedule of operations coordination for shutoff, capping, and discontinuation of utility services as required.
 2. Provide a detailed sequence of demolition and removal work.
 3. Permits and notices authorizing demolition from applicable regulatory agencies.
 4. Certificates of severance of utility companies.
 5. Permit for transport and disposal of demolition debris.
 6. All other items required by any agency or regulation having jurisdiction over the demolition work.

1.4 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished. Conditions existing at time of inspection for bidding purposes will be maintained by Owner insofar as practicable. However, minor variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- B. Partial Demolition and Removal: Items indicated to be removed but of salvageable value to Contractor may be removed from structure as work progresses. **Owner has right of first refusal for all salvaged items removed from the existing building and not required for the completed renovation.** Owner to designate on-site location for storage of salvaged items for their use. Owner to transport salvaged items for their retention to an off-site location as required. Transport salvaged items from site as they are removed.
1. Storage or sale of removed items on site will not be permitted.
- C. Protections: Provide temporary barricades and other forms of protection to protect Owner's personnel and general public from injury due to selective demolition work.
1. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain.
 2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 3. Protect floors with suitable coverings when necessary.
 4. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
 5. Remove protections at completion of work.
- D. Damages: Promptly repair damages caused to adjacent surfaces by demolition work.
- E. Traffic: Conduct selective demolition operations and debris removal to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
1. Do not close, block, or otherwise obstruct streets, walks, or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

- F. Utility Services: Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
1. Do not interrupt utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
 2. Contractor shall coordinate shut off of all existing utilities serving structure(s) to be demolished. Disconnecting and sealing existing utilities before starting demolition operations is part of this work.
- G. Environmental Controls: Use water sprinkling, temporary enclosures, and other methods to limit dust and dirt migration. Comply with governing regulations pertaining to environmental protection.
1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

1.5 QUALITY ASSURANCE

- A. Qualifications of Workers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section
- B. Comply with the requirements of the following
1. Local and State Building Codes and Health Departments
 2. U.S. EPA and Massachusetts Department of Environmental Protection
 3. Utility companies having jurisdiction and that may have utilities within the area of the Work.
 4. All other applicable local, state, and federal regulations

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 PREPARATION

- A. Temporary Partitions:
1. The building is intended to be occupied by the general public for the duration of the project. The contractor is required to erect temporary partitions in the locations indicated on drawing 1/D-1.1. These partitions are to be continuous horizontally, from wall-to-wall, and vertically from the floor surface to the existing overhead construction noted to remain.

- The top of the temporary walls shall provide horizontal framing systems so as to extend the covering back to face of existing walls to remain.
2. Temporary walls shall be erected utilizing stud framing and be finished with rigid 1/2" minimum thickness plywood sheathing, primed and painted, on the "client" side. Color to match adjacent finishes to remain. Ceiling portions shall consists of the same. All bays of the framing shall be filled with fiberglass batt. sound attenuation blankets.
 3. Contractor entrance door(s) shall be provided in locations coordinated with the owner and be furnished with always-locked (always free exit) door hardware for public exclusion from work zone. Unattended chocking of the door for movements of materials shall not be permitted.
 4. Any existing-to-remain finishes damaged, as result of the temporary wall erection or dismantling, shall be repaired to match as part of this contract without any additional material or labor increases to the Owner.
- B. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of areas to be demolished and adjacent facilities to remain.
1. Cease operations and notify Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
 2. Cover and protect furniture, equipment, and fixtures from soilage or damage when demolition work is performed in areas where such items have not been removed.
 3. Locate, identify, stub off, and disconnect utility services that are not indicated to remain.

3.2 DEMOLITION

- A. General: Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
1. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
 2. For interior concrete floor slabs, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
- B. If unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Construction Manager in written, accurate detail. Pending receipt of directive from Owner's Construction Manager, rearrange selective demolition schedule as necessary to continue overall job progress without undue delay.

- C. Building Demolition: Demolish building elements completely and remove from site. Use such methods as required to complete work within limitations of governing regulations.
 - 1. Proceed with demolition in systematic manner, from top of structure to ground. Complete demolition work above each floor or tier before disturbing supporting members on lower levels.
 - 2. Demolish concrete and masonry in small sections.
 - 3. Remove structural framing members and lower to ground by hoists, derricks, or other suitable methods.
 - 4. Break up all concrete slabs-on-grade.
 - 5. Locate demolition equipment throughout structure and remove materials so as to not impose excessive loads to supporting walls, floors, or framing.

- D. Below-Grade Construction: Demolish foundation walls and other below-grade construction, including concrete slabs, to a depth of not less than 42 inches below finish grade elevation.

3.3 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from building site debris, rubbish, and other materials resulting from demolition operations.
 - 1. Burning of removed or demolition materials will not be permitted on project site.

- B. Removal: Transport materials removed from demolished structures and legally dispose of at an off site location. Burying demolition debris on site will not be permitted.

3.4 CLEANUP AND REPAIR

- A. General: Upon completion of demolition work, remove tools, equipment, and demolished materials from site. Remove protections and leave interior areas broom clean.
 - 1. Repair demolition performed in excess of that required. Return elements of construction and surfaces to remain to condition existing prior to start operations. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02 41 19

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SECTION 03 21 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide all labor, materials, necessary equipment and services to complete the concrete reinforcement work, including but not necessarily limited to the following:
 - 1. Furnishing and placing of:
 - a. Deformed bar reinforcing.
 - b. Welded wire fabric.
 - c. Chairs, supports, ties and miscellaneous hardware for holding reinforcing in place.

1.2 SUBMITTALS

- A. Shop drawings for all reinforcing steel shall be submitted. Drawings shall show bending diagrams, splicing and laps of bars, shapes, dimensions, details of bar reinforcing, and accessories. Shop drawings must be reviewed by the Engineer before proceeding with the work.
- B. Review of Shop Drawings will only be for sizes and spacing of reinforcement and will not cover detailed fabricating dimensions.
- C. All concrete walls shall be drawn in elevation at a minimum of one quarter inch per foot scale showing all wall reinforcing and openings.
- D. Structural drawings or sections shall not be reproduced on shop drawings.
- E. Connecticut High Performance Building Submittals:
 - 1. Recycled Content: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.
 - 2. Related Section 018113 Sustainable Design Requirements.

1.3 QUALITY ASSURANCE

- A. All work of this section shall be provided in accordance with the latest edition of the following standards that are considered to be a part of this specification the same as if fully set forth herein.

1. Building Code Requirements for Reinforced Concrete (ACI 318).
2. Specifications for Structural Concrete for Buildings (ACI 301).
3. 2018 State of Connecticut Building Code

PART 2 -PRODUCTS

1.1 MATERIALS

- A. Material shall conform to the latest requirements of the ASTM Standard Specifications serial designated below and manufactured in the United States.
 1. A615 Grade 60 for all bar reinforcing.
 2. A185 for Welded Steel Wire Fabric for Concrete Reinforcement.
- B. Connecticut High Performance Building Submittal Requirements: Submit the following Connecticut High Performance Building certification items:
 1. A completed Green Building Materials Form, per Section 018113 A Sustainable Design Requirements: Information to be supplied includes:
 - a. The percentage by weight of recycled content in the product(s). Identify post-consumer and/or pre-consumer recycled content.
 - b. The manufacturing location for the product(s); and the location (source) of the raw materials used to manufacture the product(s).
 - c. Provide material costs for the materials included in the contractors or subcontractors work. Material cost does not include costs associated with labor and equipment.
 2. Letters of Certification, provided from the product manufacturer on the manufacturer's letterhead, to verify the amount of recycled content.
 3. Product Cut Sheets for all materials that meet the Connecticut High Performance Building Requirements of this section.
 4. Material Safety Data Sheets (MSDS), for all applicable products. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings applied on the interior of the building. MSDS shall indicate the Volatile Organic Compound (VOC) limits of products submitted (If an MSDS does not include a product's VOC content, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC content).

PART 3 -EXECUTION

3.1 FABRICATION

- A. Reinforcement shall be accurately formed in the shapes and dimensions shown on the drawings and approved schedules.
- B. Reinforcement shall be shop fabricated. No field bending or re-bending or cutting will be permitted.
- C. All material shall bear mill identification symbol and be stored so that different sizes may be identified.
- D. Wire mesh reinforcing shall be delivered in sheets.
- E. **All wire mesh and bar reinforcing used for interior slabs on deck shall be epoxy coated.**

3.2 INSTALLATION

- A. All reinforcement shall be installed in accordance with ACI 318, ACI 301 and the Connecticut Building Code.
- B. Reinforcing shall be delivered and stored at the site in a manner that will protect material from damage.
- C. When required or permitted all welding of reinforcing bars shall conform to AWS D1.4. Welding electrode used shall be compatible with Grade 60 reinforcing and the base metal specified.
- D. When required or permitted, mechanical connections shall be installed in accordance with the splice device manufacturer's recommendations.

END OF SECTION 03 21 00

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SECTION 03 30 00 - CAST IN PLACE CONCRETE

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions, and Division 1 Specification sections, apply to this section.
- B. The latest edition of referenced requirements shall apply.

1.2 DESCRIPTION OF WORK

- A. Provide all labor, materials, necessary equipment and services to complete the concrete formwork and cast-in-place concrete work as indicated on the drawings, specified herein or both.
 - 1. Forms for slabs, and any other concrete as shown on the drawings, or specified herein.
 - 2. Furnishing, placing and finishing of cast-in-place concrete for, slabs and any other concrete as shown on the drawings or specified herein.
 - 3. Placing of cast-in-items such as anchor bolts, angles, clips, anchors, and the like furnished under this and other sections.
- B. Related Work: The following sections contain requirements that may apply to this section:
 - 1. Division 3 Section "Concrete Reinforcement".

1.3 SUBMITTALS

- A. Submit sand and coarse aggregate source and physical properties.
- B. Submit laboratories trial mix designs proposed in accordance with Method 1, ACI 301 or one copy each of 30 consecutive test results and the mix design used from a record of past performance in accordance with ACI 301, Method 2.
- C. The contractor shall submit the mix designs for approval at least ten (10) days before commencing any concrete operations.
- D. Submit catalog cuts and/or appropriate descriptive material and test results for the following:
 - 1. Curing and hardening compounds

2. Air entrapment admixtures.
3. Non-Shrink grout.
- E. Submit procedures for protecting concrete during placement and curing if required.
- F. Connecticut High Performance Building Submittals:
 1. Recycled Content: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.
 2. VOC Content: For liquid floor treatments and sealing compounds, documentation including printed statement of VOC content.
 - a. Connecticut High Performance Building Submittal Requirements: Submit the following Connecticut High Performance Building certification items:
 3. A completed Green Building Materials Form, per Section 018113 Sustainable Design Requirements: Information to be supplied includes:
 - a. The percentage by weight of recycled content in the product(s). Identify post-consumer and/or pre-consumer recycled content.
 - b. The manufacturing location for the product(s); and the location (source) of the raw materials used to manufacture the product(s).
 - c. Provide material costs for the materials included in the contractors or subcontractors work. Material cost does not include costs associated with labor and equipment.
 4. Letters of Certification, provided from the product manufacturer on the manufacturer's letterhead, to verify the amount of recycled content.
 5. Product Cut Sheets for all materials that meet the Connecticut High Performance Building Requirements of this section.
 6. Material Safety Data Sheets (MSDS), for all applicable products. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings applied on the interior of the building. MSDS shall indicate the Volatile Organic Compound (VOC) limits of products submitted (If an MSDS does not include a product's VOC content, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC content).

1.4 QUALITY ASSURANCE

- A. All work of this section shall be provided in accordance with the latest edition of the following standards which are considered to be a part of this specification the same as if fully set forth herein:
1. Specifications for Structural Concrete for Buildings ACI 301.
 2. Building Code Requirements for Reinforced Concrete ACI 318.
 3. 2018 State of Connecticut Building Code.
- B. It is the intent of this specification to secure for every part of the work, concrete of homogeneous nature which, when hardened, will have the required strength, resistance to weathering, and such other qualities as the type of structure or its location may require.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cement shall be Portland Cement, Type I or II conforming to ASTM C150. Cement used in the work shall correspond to that upon which the selection of concrete proportions was based.
- B. Hi-early cement shall be used only with prior approval from the Engineer.
- C. Concrete admixtures: provide admixtures produced and serviced by established, reputable manufacturer's recommendations.
1. Air-entraining admixtures shall conform to ASTM C260. Water-reducing, set-controlling admixture shall conform to ASTM C494, Type A (water-reducing), Type D (water-reducing and retarding) and Type E (water-reducing, accelerating), Type F or G (high range water-reducing, superplasticizer).
 2. Admixtures containing calcium chloride or Thiocyanate shall not be used.
 3. Field Service: a qualified concrete technician employed by the manufacturer shall be available to assist in proportioning concrete materials for optimum use, to advise on proper use of the admixture and adjustment of concrete mix proportions to meet job site and climatic conditions.

- D. Aggregate:
1. Fine aggregate shall conform to ASTM C33 and be clean, sharp, natural sand, free from loam, clay lumps, or other deleterious substance, within allowable standards.
 2. Coarse aggregate for normal weight concrete shall conform to ASTM C33 for normal weight concrete. All aggregate shall be clean, uncoated, graded aggregate, containing no clay, mud, loam, or foreign matter.
- E. Water shall be fresh, clean, and drinkable.
- F. Curing materials for walls shall conform to the requirement of ASTM C309 "Standard Specifications for Liquid Membrane Forming Compounds for Curing Concrete."
1. Materials shall provide water retention not exceeding loss of .055 gm/sq. cm. when used at a coverage of 450 sq. ft. per gallon.
- G. Sealers:
1. All exposed concrete slabs shall be sealed with a VOC compliant, 30 percent solids content minimum sealer meeting ASTM C-1315 .
 2. Floor sealers are to be applied in accordance with manufacturer's recommendations. The Contractor is responsible to ensure that the sealer is compatible with adhesives and mastics that are to be utilized under other sections of work.
- H. Expansion Joint filler:
1. ASTM D1751.
 2. Install in sizes as shown on the drawings in accordance with manufacturer's recommendations.
- I. Curing blankets for all flatwork.

PART 3 - EXECUTION

3.1 PROPORTIONING OF CONCRETE

- A. Concrete shall be composed of Portland cement, fine aggregate, coarse aggregate, water, a water-reducing admixture, and an air-entraining admixture.
- B. Proportions of ingredients shall produce concrete which will work readily into corners and angles of forms, and bond to reinforcement without segregation or

excessive bleed water forming on the surface. Proportioning of materials shall be in accordance with ACI 211.1.

- C. Required Average Strength: Determinations of required average strength (f_c) above specified strength shall be in accordance with ACI 318 and evaluations of compressive strength results of field concrete shall be in accordance with ACI 214.

3.2 REQUIRED CONCRETE QUALITIES

- A. Specified Compressive Strength at 28 days shall be **4,000 psi** (normal weight) for all concrete see below for additional information.
- B. Concrete shall be proportioned and produced to have a maximum slump of 4 inches unless a superplasticizer is used. A maximum slump of 6" shall be allowed if a superplasticizer is used. Consolidation shall be by means of vibrators.
- C. Maximum size of coarse aggregate shall not exceed 3/4".
- D. Concrete shall be adjusted to produce the required rate of hardening for varied climatic and job site conditions.
 - 1. Under 50° F. ambient temperature - Accelerate (approval in writing required from the Engineer) (Type E admixture - ASTM C494).
 - 2. Over 80° F. ambient temperature - Retard (Type D admixture ASTM C494).
 - 3. Between 50° F. and 80° F. - Normal Rate of Hardening (Type A admixture - ASTM C494).

3.3 FORMWORK PREPARATION

- A. Forms shall be used to confine and shape concrete to required dimensions. Forms shall have sufficient strength to withstand forces from placement and vibration of the concrete, and sufficient rigidity to maintain specified tolerances.
- B. Design, engineering, and construction of the formwork shall be the responsibility of the Contractor.
- C. Work shall be designed for loads, lateral pressure and allowable stresses in accordance with ACI 347, "Recommended Practice for Concrete Formwork."
- D. All tolerances, preparation of form surfaces, removal of forms etc. shall be in accordance with chapter 4 of ACI 301.
- E. Construction joints shall be located only where approved by the Engineer.

3.4 CONCRETE PLACEMENT

- A. Formwork shall have been completed and all snow, ice, water, and debris removed from within forms.
- B. Expansion joint material, anchors and all embedded items shall have been positioned.
- C. Concrete shall be ready-mixed, batched, mixed and transported in accordance with ASTM C94.
- D. Preparations: Contractor shall provide access for delivery and provide sufficient equipment and manpower to rapidly place all concrete.
- E. Conveying: Concrete shall be handled from mixer to final deposit rapidly by methods which will prevent segregation or loss of ingredients to maintain required quality of concrete. It shall be placed in the forms or on grade as near as practicable to its final position and shall be prohibited from free falling more than 4 feet.
- F. Concrete shall be deposited continuously; when continuous placement is not possible, construction joints shall be located as approved by the Engineer. Concrete shall be placed as nearly as possible to its final position. Avoid re-handling or flowing.
- G. Hot Weather: When ambient temperatures are at or above 75°F or at 70°F and rising, the requirements of ACI 305R "Recommended Practice for Hot Weather Concreting" shall be followed.
 - 1. The temperature of concrete delivered at the job site shall comply with the requirements of ACI 305R,
- H. Curing and Protection: Immediately following placement, concrete shall be protected from premature drying, hot and cold temperatures, rain, flowing water and mechanical injury. Materials and method of curing shall be approved by the Engineer.
- I. Slab Finishes:
 - 1. Monitoring and Adjustment: Provide continuous cycle of placement, measurement, evaluation and adjustment of procedures to produce slabs within specified tolerances. Monitor elevations of structural steel in key locations before and after concrete placement to establish typical deflection patterns for the structural steel. Determine elevations of cast-in-place slab soffits prior to removal of shores. Provide information to Engineer and floor consultant for evaluation and recommendations for subsequent placements.

2. Set perimeter forms to serve as screed using either optical or laser instruments. For slabs on grade, wet screeds may be used to establish initial grade during strike off, unless the Engineer determines method is proving insufficient to meet required finish tolerances and directs use of rigid screed guides. Where wet screeds are allowed, they shall be placed using grade stakes set by optical or laser instruments. Use rigid screed guides, as opposed to wet screeds, to control strike off elevation for all types of elevated (non slab-on-grade) slabs. Divide bays into halves or thirds by hard screeds. Adjust as necessary where monitoring of previous placements indicates un-shored structural steel deflections to other than a level profile.
3. Place slabs monolithically. Once slab placement commences, complete finishing operations within same day. Slope finished slab to floor drains where they occur, whether shown or not. Coordinate requirements with Architectural drawings.
4. Use straightedges specifically made for screeding, such as hollow magnesium straightedges or power strike offs. Do not use pieces of dimensioned lumber. Strike off and screed slab to a true surface at required elevations. Use optical or laser instruments to check concrete finished surface grade after strike off. Repeat strike off as necessary. Complete screeding before any excess moisture or bleeding water is present on surface. Do not sprinkle dry cement on the surface.
5. Immediately following screeding, and before any bleed water appears, use a 10-foot wide highway straightedge in a cutting and filling operation to achieve surface flatness. Do not use bull floats or darbys, except that darbying may be allowed for narrow slabs and restricted spaces.
6. Wait until water sheen disappears and surface stiffens before proceeding further. Do not perform subsequent operations until concrete will sustain foot pressure with maximum of 1/4-inch indentation.
7. **All new slabs to have a broom finish: Finish slabs, with a bristle brush moistened with clear water after surfaces have been floated. Concrete to have a finished concrete surface profile (CSP) of 3 to 5.**
8. Finished slab flatness (FF) values comply with the following minimum requirements:

Unshored suspended slabs

Specified overall value.....FF 30

Minimum local value.....FF 24

Level tolerance such that 80 percent of all points fall within a 3/4-inch envelope (+3/8- inch, -3/8-inch) from the design elevation.

- a. "Specified overall value" is based on the composite of all measured values in a placement derived in accordance with ASTM E1155.

10. Measurements:

- a. Retained testing laboratory will take measurements as directed by Engineer, to verify compliance with FF and other finish requirements. Measurements will occur within 72 hours after completion of concrete placement (weekends and holidays excluded). Profile data for above characteristics may be collected using a laser level or any Type II apparatus (ASTM E1155, "profileograph" or "dipstick"). Contractor's surveyor shall establish reference elevations to be used by retained testing laboratory.

11. Contractor not experienced in using FF criteria is required to retain the services of a floor consultant to assist with recommendations concerning adjustments to slab thicknesses and procedures on measurements of the finish as it progresses in order to achieve the specific flatness and levelness numbers.

12. Acceptance/ Rejection:

- a. If individual slab section measures less than either of specified minimum local FF numbers, that section shall be rejected and remedial measures shall be required. Sectional boundaries may be set at construction and contraction (control) joints, and not smaller than one-half bay.
- b. If composite value of entire slab installation, combination of all local results, measures less than either of specified overall FF numbers, then whole slab shall be rejected and remedial measures shall be required.

13. Remedial Measures for Rejected Slabs: Correct rejected slab areas by grinding, planing, surface repair with underlayment compound or repair topping, re-topping, or removal and replacement of entire rejected slab areas, as directed by Engineer, until a slab finish constructed within specified tolerances is accepted.

- J. Repair of Surface Defects: All surface defects shall be repaired immediately after form removal according to Chapter 9 of the ACI 301.
- K. Do not place concrete when weather conditions prevent proper placement and consolidation, or when concrete has attained its initial set, or has contained its water or cement content for more than 1-1/2 hours.

3.5 TESTING AND INSPECTION

- A. Materials and operations shall be tested and inspected as work progresses. Failure to detect defective work shall not prevent rejections when defect is discovered.
- B. The following testing services shall be performed by the testing laboratory selected and paid for by the Owner:
 - 1. Mold and cure four specimens from each sample of concrete.
 - 2. Test specimens in accordance with "Method of Test for Compressive Strength of Molded Concrete Cylinders," ASTM C39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at 7 days for information. An additional cylinder shall be made as an extra in case a 56-day break is required.
 - 3. Make one strength test for each 50 cu. yds. or fraction thereof, but not less than one set of cylinders per 3500 SF of floor or wall area or fraction thereof, of each mix design of concrete placed in any one day. (One test consists of 4 cylinders.)
 - 4. Determine slump, air content and temperature for each strength test and whenever consistency of concrete appears to vary.
 - 5. All sampling of pumped concrete shall be done at the discharge end of the pump lines.
 - 6. Testing laboratory to provide for measurements of slab finish as required by Engineer and as described in Section 3.04, item M.12.a.
- C. To facilitate testing and inspection, the contractor shall:
 - 1. Furnish necessary labor to assist testing agency in obtaining and handling samples at the job site.
- D. Owner agrees to pay for the above tests with the exception of work that is found to be defective. Subsequent tests shall be taken and paid for by the contractor.
- E. During cold weather additional weather information shall be recorded including temperatures at several points within the enclosure and on the concrete surface, corners, and edges to show range of values. See Chapter 9 of A.C.I. 306R.

END OF SECTION 03 30 00

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04 20 00 - UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes the following:
1. Concrete unit masonry (cmu).
 2. Mortar and Grout.
 3. Reinforcing steel and joint reinforcement.
 4. Ties, anchors, flashing and lintels related to masonry construction.
- B. Products installed but not furnished under this Section include the following:
1. Steel lintels in unit masonry as specified in Section 05 50 00 "Metal Fabrications."
- C. Related Sections: The following sections contain requirements that relate to this Section:
1. Wood nailers and blocking built into unit masonry are specified in Section 06 10 00 "Rough Carpentry."
 2. Fire rated filler and caulk at tops of rated partitions are specified in Section 07 84 00, "Firestopping".
 3. Installation of recessed mounting hardware, backboxes, conduits, and related hardware is specified within Division 22, Division 23, Division 26, Division 27 and Division 28.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops the following installed compressive strengths (f'm):
1. For concrete unit masonry: As follows:
 - a. f'm = 1500 psi.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each different masonry unit, accessory, and other manufactured product indicated.
- C. Samples for verification purposes of the following:
 - 1. Full-size units for each different exposed masonry unit required showing full range of exposed color, texture, and dimensions to be expected in completed construction.
 - 2. Accessories embedded in the masonry.
- D. Material certificates for the following signed by manufacturer and Contractor certifying that each material complies with requirements.
 - 1. Each different cement product required for mortar and grout including name of manufacturer, brand, type, and weight slips at time of delivery.
 - 2. Each material and grade indicated for reinforcing bars.
 - 3. Each type and size of joint reinforcement.
 - 4. Each type and size of anchors, ties, and metal accessories.
- E. Material test reports from a qualified independent testing laboratory employed and paid by Contractor indicating and interpreting test results relative to compliance of the following proposed masonry materials with requirements indicated:
 - 1. Mortar complying with property requirements of ASTM C 270.
 - 2. Grout mixes. Include description of type and proportions of grout ingredients.
 - 3. Masonry units.

1.5 QUALITY ASSURANCE

- A. Unit Masonry Standard: Comply with ACI 530.1/ASCE 6 "Specifications for Masonry Structures," except as otherwise indicated.
 - 1. Revise ACI 530.1/ASCE 6 to exclude Sections 1.4 and 1.7; Parts 2.1.2, 3.1.2, and 4.1.2; and Articles 1.5.1.2, 1.5.1.3, 2.1.1.1, 2.1.1.2, and 2.3.3.9 and to modify Article 2.1.1.4 by deleting requirement for installing vent pipes and conduits built into masonry.
- B. Comply with ACI 530/ASCE5 "Building Code Requirements for Masonry Structures, Section 9.5 Lateral Support for bracing requirements of partitions.

- C. Fire Performance Characteristics: Where indicated, provide materials and construction identical to those of assemblies whose fire resistance has been determined per ASTM E 119 by a testing and inspecting organization, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.
- D. Single-Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
- E. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality from one manufacturer for each cementitious component and from one source and producer for each aggregate.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units off the ground, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in an air-dried condition.
- C. Store cementitious materials off the ground, under cover and in dry location.
- D. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- E. Store masonry accessories including metal items to prevent corrosion and accumulation of dirt and oil.
- F. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Comply with manufacturer's recommendations for handling, storage and protection during installation.
- G. Protect plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary, for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site ahead of installation time.
 - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

- H. Fire Protection: Do not store rigid insulation or similar combustible materials within building.

1.7 PROJECT CONDITIONS

- A. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Remove immediately any grout, mortar, and soil that comes in contact with such masonry.
1. Protect base of walls from mortar splatter by means of coverings spread on ground and over wall surface.
 2. Protect sills, ledges, and projections from mortar droppings.
 3. Protect surfaces of door frames, as well as similar products with painted and integral finishes from mortar droppings.
- B. Hot-Weather Construction: Comply with referenced unit masonry standard, BIA Technical Note 1.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Comply with referenced unit masonry standard and other requirements specified in this Section applicable to each material indicated.

2.2 CONCRETE MASONRY UNITS

- A. General: Comply with requirements indicated below applicable to each form of concrete masonry unit required.
1. Provide special shapes where indicated and as follows:
 - a. Furnish and install a **3" height soap course** to align balance of coursing with top of finish flooring at drain basin high points. Provide bullnose units for all outside corners of soap course.
 - b. Furnish and install **saw-cut chamfered units** for all outside corners at first exposed course for receipt of ceramic tile wall base. Reference detail and coordinate exact requirements with tile installers.
 - c. Furnish and install **bullnose units** for all outside corners unless otherwise indicated. Bullnose units are not to be provided in locations of wall tiling as identified on drawings A-1-10.3, A-1-10.4, and A-1-10.5.
 2. Size: Provide concrete masonry units complying with requirements indicated below for size that are manufactured to specified face

dimensions within tolerances specified in the applicable referenced ASTM specification for concrete masonry units.

- a. Concrete Masonry Units: Manufactured to specified dimensions of 3/8 inch less than nominal widths by nominal heights by nominal lengths indicated on drawings.
- B. Hollow and Solid Load-Bearing Concrete Masonry Units: ASTM C 90-90, C145, and Grade N and as follows:
1. Unit Compressive Strength: Provide units with minimum average net area compressive strength indicated below:
 - a. 1900 psi.
 2. Weight Classification: Lightweight.
 3. Aggregates: Lightweight, expanded shale, clay or slate produced by the rotary kiln method complying with ASTM C-331, and shall be graded (#4-0 Gradation) to assume constant texture. The blending of screenings or any other deleterious substance which will impair the fire rating or insulation values is prohibited.
 4. Units made with pumice or burn-off aggregates will not be accepted.
 5. **All cmu units shall contain The Dry Block Integral Water Repellent System by W.R. Grace & Co.**

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce required mortar color.
- B. Masonry Cement: ASTM C 91.
1. For colored pigmented mortars use premixed colored masonry cements of formulation required to produce color indicated, or if not indicated, as selected from manufacturer's standard formulations.
 2. **Color of mortar to match existing grout to remain.**
- C. Products: Subject to compliance with requirements, provide one of the following:
1. Colored Masonry Cement:
 - a. "Lafarge Masonry Cement," Lafarge North America Inc.
 - b. "Masonry Cement," Lehigh Hanson, Heidelberg Cement Group.
 - c. "Colored Masonry Cement," The Flamingo Brixment Corporation.
 2. Varying mortar colors may be selected for each type and color of masonry utilized.

2.4 REINFORCING STEEL

- A. General: Provide reinforcing steel complying with requirements of referenced unit masonry standard and this article.
- B. Steel Reinforcing Bars: Material and grade as follows:
 - 1. Grade 60.
- C. Deformed Reinforcing Wire: ASTM A 496.

2.5 JOINT REINFORCEMENT

- A. General: Provide joint reinforcement complying with requirements of referenced unit masonry standard and this article, formed from the following:
 - 1. Galvanized carbon steel wire, ASTM-A153, Class B-2, hot-dipped, 1.5 oz. galvanized coating.
- B. Description: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee units, and complying with requirements indicated below:
 - 1. Wire Diameter for Side Rods: 3/16 inch.
 - 2. Wire Diameter for Cross Rods: 9 gage.
 - 3. For single-wythe masonry provide type as follows with single pair of side rods:
 - a. Truss design with continuous diagonal cross rods spaced not more than 16 inches o.c.
 - b. Subject to compliance with requirements, provide one of the following:
 - 1) "120 Truss-Mesh, Extra Heavy Duty", by Hohman & Barnard, Inc., or equal.

2.6 TIES AND ANCHORS, GENERAL

- A. General: Provide ties and anchors specified in subsequent articles that comply with requirements for metal and size of referenced unit masonry standard and of this article.
- B. Galvanized Carbon Steel Wire: ASTM A 82, ASTM-A153, Class B-2, hot dipped, 1.5 oz. galvanized coating.
- C. Galvanized Steel Sheet: As follows:

1. Galvanized Steel Sheet: ASTM A 366 (commercial quality) cold-rolled carbon steel sheet, hot-dip galvanized after fabrication to comply with ASTM A 525, Class B2 (for unit lengths over 15 inches) and Class B3 (for unit lengths under 15 inches), for all sheet metal ties and anchors.

2.7 ADJUSTABLE ANCHORS FOR CONNECTING MASONRY TO CONCRETE OR METAL STUD CONSTRUCTION

- A. General: A dual-diameter barrel with factory-installed EPDM washers to seal both the face of the insulation and the air/vapor barrier (an extra-large washer helps secure insulation to backup). Projecting Thermal Wings are steel reinforced and coated with highly flame resistant plastic to create a thermal break, decreasing thermal transfer through rigid insulation. The Wings accept a standard or seismic hook, spin to easily orient pintles / hooks to masonry joints, and provide up to 1/2" of adjustability to account for variations in wall thickness. Install with a standard 5/16" hex socket.
 1. Performance Characteristics: Capable of withstanding a 200 lb. force in either tension or compression without deforming over, or developing play in excess of, .05 inch.
- B. Masonry Veneer Anchors: Units consisting of wire tie section and metal anchor section complying with the following requirements:
 1. Wire Tie Diameter: 3/16 inch
 2. Wire Tie Shape: Double Leg Pintle.
 3. Wire Tie Length: 3 inch, 4 inch or 5 inch as required to extend 1-1/2 inches, but no closer than 1-1/4 inch from the outside face of masonry, into masonry wythe of veneer.
- C. Products: Subject to compliance with requirements, provide the following:
 1. Screw-Attached Masonry Veneer Anchors:
 - a. "Thermal 2-Seal Wing Nut Anchor with 2X-Hook", Hohman & Barnard, Inc., or equal.
 - b. Stainless Steel barrel finish. Stainless Steel hook finish. Carbon Steel Screw finish.
 2. Provide powder-actuated fasteners, with a minimum working strength value of 100 lbs., driven through holes in the masonry veneer anchors into the concrete or metal stud.

2.8 ADJUSTABLE ANCHORS FOR CONNECTING MASONRY TO STRUCTURAL STEEL

- A. General: Two-piece assemblies as described below allowing vertical or horizontal differential movement between wall and structural steel parallel to plane of wall, but resisting tension and compression forces perpendicular to it.
1. Performance Characteristics: Capable of withstanding a 100 lb. force in either tension or compression without deforming over, or developing play in excess of, .05 inch.
- B. For anchorage of masonry inner wythes to the face of steel columns, and to the underside of structural steel members, furnish to the structural steel fabricator continuous channel slots formed from 16 ga. (mill) galvanized sheet steel.
1. Provide channel slot anchors formed from 3/16 inch diameter wire.
- C. Products: Subject to compliance with requirements, provide the following:
1. Channel Slots:
 - a. "362-C Gripstay Channels", Hohmann & Bernard, or equal.
 2. Triangle Tie Slot Anchors:
 - a. "363 Flexible Gripstay Anchors", Hohmann & Bernard, or equal.
 1. Hot dipped galvanized finish
- D. For the anchorage of masonry to the webs of steel beams at cavity wall conditions, furnish to the structural steel fabricator channel anchor slots formed from 16 gauge brite sheet steel, 8" long.
1. Provide channel slot anchors formed from 16 gauge corrugated brite sheet metal, 3-1/2" long.
- E. Products: Subject to compliance with requirements, provide the following:
1. Channel Slots:
 - a. "360 Gripstay Channel", Hohmann & Bernard, or equal.
 2. Corrugated Channel Slot Anchors:
 - a. PTA 364 Anchors with clear butyrate tubes, Hohmann & Bernard, or equal.
 3. Hot dipped galvanized finish.

2.9 ANCHORS FOR CONNECTING MASONRY TO CONCRETE FOUNDATION WALL

- A. General: Two-piece assemblies as described below allowing vertical differential movement.

1. Performance Characteristics: Capable of withstanding a 100 lb. force in either tension or compression without deforming over, or developing play in excess of, .05 inch.
- B. For anchorage of masonry inner wythes to the face of foundation walls, furnish to the concrete trade contractor continuous dovetail slots formed from 16 ga. (mill) galvanized sheet steel.
- C. Products: Subject to compliance with requirements, provide the following:
 1. Dovetail Slots:
 - a. 305 Dovetail Slot, Hohmann & Bernard, or equal.
 2. Triangle Tie Slot Anchors:
 - a. "315 Dovetail Triangular Ties, 14 gage, 3/16" wall tie diameter", Hohmann & Bernard, or equal.

2.10 ANCHORS FOR CONNECTING INTERIOR MASONRY PARTITIONS TO UNDERSIDE OF METAL DECKING AND JOINT STABILIZATION

- A. For anchorage of interior masonry partitions to the underside of metal decking or other structure above, and for joint stabilization assemblies at expansion, contraction or isolation joints. Spacing at 16 inches maximum centers.
- B. Products: Subject to compliance with requirements, provide the following:
 1. Joint Stabilization Anchors:
 - a. Slip Set Stabilizer, Hohmann & Bernard, or equal.

2.11 MISCELLANEOUS ANCHORS

- A. Provide 4 x 3 x 1/4 x 6 inch long steel clip angle anchors for laterally bracing masonry partitions to floor deck and underside of beams or girders above, arranged in pairs on each face of partition requiring bracing, spaced at 4' - 0" maximum centers.
 1. Provide these anchors in all locations where the length of a partition between lateral supports (buttresses, crosswalls, columns with ties), exceeds 36 times its thickness.
 2. Provide these anchors in all partitions interrupted by control joints (except crosswalls).

2.12 MISCELLANEOUS MASONRY ACCESSORIES

- A. Nonmetallic Control Joint and Expansion Joint Strips: Premolded filler strips complying with ASTM D 1056, Type 2 (closed cell) , Class A (cellular rubber and rubber-like materials with specific resistance to petroleum base oils), Grade 1

(compression-deflection range of 2-5 psi), compressible up to 35 percent, of width and thickness indicated, formulated from the following material:

1. Neoprene.
- B. Products: Subject to compliance with requirements, provide one of the following:
1. "NS Closed Cell Neoprene Sponge", Hohmann and Barnard, Inc., or equal.
- C. Bond Breaker Strips: Asphalt-saturated organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
- D. Wire Mesh Wall Ties: 2" x 2" x 16 gauge hot dipped galvanized wire for intersections of non-structural masonry walls.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. "MWT Mesh Wall Ties", Hohmann and Barnard, Inc., or equal.

2.13 MORTAR AND GROUT MIXES

- A. General: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, antifreeze compounds, or other admixtures, unless otherwise indicated.
1. Do not use calcium chloride in mortar or grout.
 2. **All cmu mortar shall contain a water repellent admixture. Provide "Integral Water Repellent (IWR) mortar" by SPEC MIX or an approved equal.**
- B. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification for job-mixed mortar and ASTM C 1142 for ready-mixed mortar, of types indicated below:
1. For interior loadbearing walls; for interior nonloadbearing partitions, and for other applications where another type is not indicated, use type indicated below:
 - a. Type S.
- C. Grout for Unit Masonry: Comply with ASTM C 476 and referenced unit masonry standard.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other specific conditions, and other conditions affecting performance of unit masonry.
- B. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.
- C. Notify Architect and do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with referenced unit masonry standard and other requirements indicated applicable to each type of installation included in Project.
- B. Thickness: Build cavity and composite walls and other masonry construction to the full thickness shown. Build single-wythe walls to the actual thickness of the masonry units, using units of nominal thickness indicated.
- C. Build chases and recesses as shown or required to accommodate items specified in this and other Sections of the Specifications. Provide not less than 8 inches of masonry between chase or recess and jamb of openings and between adjacent chases and recesses.
- D. Leave openings for equipment to be installed before completion of masonry. After installation of equipment, complete masonry to match construction immediately adjacent to the opening.
- E. Cut masonry units with motor-driven wet saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting where possible. Practice all OSHA safety recommendations for cutting of silica containing materials.

3.3 CONSTRUCTION TOLERANCES

- A. Comply with construction tolerances of referenced unit masonry standard.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid the use of less-than-half-size units at corners, jambs, and where possible at other locations.

- B. Lay up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.
- C. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
 - 1. Running bond with vertical joint in each course centered on units in courses above and below.
- D. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
- E. Stopping and Resuming Work: In each course, rake back 1/4-unit length for one-half running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly (if required), and remove loose masonry units and mortar prior to laying fresh masonry.
- F. Built-In Work: As construction progresses, build-in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around all built-in items.
 - 1. Fill masonry cores in all locations of casework assembly anchorage. See drawings and coordinate with installers.
 - 2. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.
 - 3. Fill cores in hollow concrete masonry units with grout 3 courses (24 inches) under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay solid brick masonry units with completely filled bed and head joint; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.
- B. Lay hollow concrete masonry units as follows:
 - 1. With full mortar coverage on horizontal and vertical face shells.
 - 2. Bed webs in mortar in starting course on footings and in all courses of piers, columns, and pilasters, and where adjacent to cells or cavities to be filled with grout.

3. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.
- C. Cut joints flush for masonry walls to be concealed or to be covered by other materials.
- D. Tool joints for masonry walls to be exposed in compliance with referenced masonry standard.
- E. Tool joints in block and brick veneer as directed by the Architect.

3.6 STRUCTURAL BONDING OF MULTIPLY THE MASONRY

- A. Use individual metal ties and pintles installed in continuous horizontal joint reinforcement, embedded in horizontal mortar joints to bond wythes together.
- B. Use pintles of lengths required to extend 1-1/2 inches into back of veneer wythe, and no closer than 1-1/4 inch from the exterior mortar surface.
- C. Corners: Provide interlocking masonry unit bond in each course at corners, unless otherwise shown.
 1. Provide continuity with horizontal joint reinforcement at corners using prefabricated "L" units, in addition to masonry bonding.
- D. Intersecting and Abutting Walls: Provide vertical control joints at junctures, provide same type of bonding specified for structural bonding between wythes and space as follows:
 1. Locate and provide control joints not to exceed 18 feet between joints, unless noted otherwise.
 2. Provide continuity with horizontal joint reinforcement using prefabricated "T" units.
- E. Nonbearing Interior Partitions: Build full height of story to within 1/2 inch of underside of floor or roof deck above and as follows:
 1. Install pressure-relieving joint filler in joint between top of non-fire rated partition and underside of deck above.
 2. Installation of fire rated filler and caulk by Section 07270 - Firestopping.

3.7 HORIZONTAL JOINT REINFORCEMENT

- A. General: Provide continuous horizontal joint reinforcement as indicated. Install longitudinal side rods in mortar for their entire length with a minimum cover of

5/8 inch on exterior side of walls, 1/2" inch elsewhere. Lap reinforcing a minimum of 6 inches.

- B. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.8 ANCHORING MASONRY TO STRUCTURAL MEMBERS

- A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:
 - 1. Provide an open space not less than 1 inch in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar or other rigid materials
 - 2. Anchor masonry to structural members with flexible anchors embedded in masonry joints and attached to structure.
 - 3. Space anchors as indicated, but not more than 16 inches o.c. vertically and 32 inches o.c. horizontally.

3.9 MOVEMENT JOINTS

- A. General: Install control joints in unit masonry where indicated. Build in related items as the masonry progresses. Do not form a continuous span through movement joints unless provisions are made to prevent in-plane restraint of wall or partition movement.
- B. Form control joints in concrete masonry as follows:
 - 1. Form open joint of not less than 3/8 inch and insert nonmetallic compressible joint filler in width equal to actual width of concrete masonry units, less 3/8 inch for installation of backer rod and sealant by Section 07 92 00 "Joint Sealants".
 - 2. Where backer rod and sealant will be installed on both sides of masonry units, install joint filler in width equal to actual width of unit masonry, less 3/4 inch.

3.10 LINTELS

- A. Install epoxy-coated steel lintels where indicated, and wherever openings of more than 2 feet for block size units are shown.
- B. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.14 INSTALLATION OF REINFORCED UNIT MASONRY

- A. General: Install reinforced unit masonry to comply with requirements of referenced unit masonry standard.
- B. Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.
- C. Install vertical reinforcing and secure with positioning ties before grout is placed.

3.15 FIELD QUALITY CONTROL

- A. Testing Frequency: Tests and evaluations listed in this article will be performed during construction for each 5000 sq. ft. of wall area or portion thereof.
 - 1. Mortar properties will be tested per property specification of ASTM C 270.
 - 2. Mortar composition and properties will be evaluated per ASTM C 780.
 - 3. Grout compressive strength will be sampled and tested per ASTM C 1019.
- B. Evaluation of Quality Control Tests: In absence of other indications of noncompliance with requirements, masonry will be considered satisfactory if results from construction quality control tests comply with minimum requirements indicated.

END OF SECTION 04 20 00

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SECTION 05 12 00 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Provide all labor, materials, necessary equipment and services to complete the structural steel work and related work, called for in this Section of the Specifications, including but not necessarily limited to the following:
1. Furnishing and erecting structural steel.
 2. Standard and special connections, including angles, plates, high-strength bolts, washers, and inserts.
 3. All steel support angles, plates, bolts, inserts for cast in place concrete, etc., which are attached to the structure.
 4. All welding where required.
 5. Delivery of bearing plates, anchor bolts and loose lintels to the site for installation by others.
 6. Shop and Field Painting

1.2 QUALITY ASSURANCE

- A. All work of this Section shall be provided in accordance with the latest edition of the following:
1. AISC Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
 2. AISC Code of Standard Practice.
 3. 2018 State of Connecticut Building Code.

1.3 SUBMITTALS

- A. Submit for review, prior to fabrication, anchor bolt and erection plans and shop drawings for all structural steel showing the kind of material, steel certification, sizes of members, details of pieces, and methods of securing same together.

- B. Submit for review, prior to fabrication, anchor bolt and erection plans and shop drawings for all structural steel showing the kind of material, steel certification, sizes of members, details of pieces, and methods of securing same together.
- C. Structural steel supplier is responsible for dimensions to be confirmed and correlated at the job site, for information that pertains solely to the fabrication processes or to techniques of construction and for coordination of the work of other trades. Erection plans shall be reviewed and all dimensions coordinated, before any piece detail drawings are begun.
- D. Submit for review, qualifications of welder performing shop and field welding.
- E. Substitution of sections or modifications of details shall be made only when approved by the Engineer in writing.
- F. No structural drawings shall be reproduced as shop drawings.
- G. Connecticut High Performance Building Submittals:
 - 1. Recycled Content: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.
 - 2. VOC Content: For liquid floor treatments and sealing compounds, documentation including printed statement of VOC content.
 - a. Connecticut High Performance Building Submittal Requirements: Submit the following Connecticut High Performance Building certification items:
 - 3. A completed Green Building Materials Form, per Section 018113 Sustainable Design Requirements: Information to be supplied includes:
 - a. The percentage by weight of recycled content in the product(s). Identify post-consumer and/or pre-consumer recycled content.
 - b. The manufacturing location for the product(s); and the location (source) of the raw materials used to manufacture the product(s).
 - c. Provide material costs for the materials included in the contractors or subcontractors work. Material cost does not include costs associated with labor and equipment.
 - 4. Letters of Certification, provided from the product manufacturer on the manufacturer's letterhead, to verify the amount of recycled content.
 - 5. Product Cut Sheets for all materials that meet the Connecticut High Performance Building Requirements of this section.

6. Material Safety Data Sheets (MSDS), for all applicable products. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings applied on the interior of the building. MSDS shall indicate the Volatile Organic Compound (VOC) limits of products submitted (If an MSDS does not include a products VOC content, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC content).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All structural steel shall be new, clean, free from defects impairing strength, durability and appearance, and be of the best commercial quality for purpose specified.
 1. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 50 percent.
- B. All steel shall conform to the requirements of ASTM A36, A572 Grade 50, ASTM A992, ASTM A500, grade B, or ASTM A501.
- C. High-strength bolts, including nuts and washers, shall comply with ASTM A325 OR A490. Minimum dimensions for bolts, washer, beveling, etc., shall comply with the requirements of the "Specifications for Structural Joints using ASTM A325 Bolts". All bolts shall be bearing type.
- D. Welding electrodes shall be as approved for use with ASTM A36, A50, ASTM A500, grade B, or ASTM A501 under the AISC Specification.

PART 3 - EXECUTION

3.1 FABRICATION

- A. All shop fabrication shall conform to Section M2, AISC Specification. All members shall be free of twists, kinks, buckled or open joints. Shearing and punching shall be without ragged or torn edges. Holes shall be enlarged only by reaming. Burning of holes will not be permitted.
- B. Unless otherwise noted, make all connections in accordance with the AISC Manual of Steel Construction. All shop connections shall be welded using double angles, except where otherwise noted.
- C. All welding, shop and field, shall be performed only by procedures and welders qualified in accordance with standards for workmanship of the American Welding Society.

- D. The Steel Fabricator shall be AISC Quality Certified Category 1 or 2 for Steel Structures or a member of the Structural Steel Fabricators of New England.
- E. All exposed lintels or steel framing shall be hot dipped galvanized unless noted otherwise.
- F. Framing connections shall be designed for ½ the maximum UDL load unless otherwise indicated on the plans. Connections shall be designed by a Licensed Professional Engineer registered in the State of Connecticut. Connections shall be submitted for review and approval.

3.2 SHOP PAINTING

- A. All structural steel is to be given two coats of shop primer prior to shipment in accordance with Chapter M3 of the AISC Specifications. Primer shall be modified alkyd primer or acceptable equivalent, conforming to primer specifications as listed in Steel Structures Painting Council Paint System Specifications. Structural steel to be fireproofed is not to be primed.
- B. Omit shop primer from areas requiring field welding or at locations where spray applied fireproofing is required.
- C. Coordinate primer type for compatibility with paint top coat.

3.3 ERECTION

- A. Erection of steel shall be done in conformance with Section 7 of AISC "Code of Standard Practice."
 - 1. All structural framing shall be accurately set and secured in position.
 - 2. All structural steel work shall be maintained in its position with adequate bracing and guying until all permanent field connections are completed. Guying shall not be removed without written permission from Engineer.
 - 3. All steel required to be plumb and level within a tolerance of 1:500.
- B. All field connections shall be bolted with A325-N type high strength bolts and washers or welded where required. All bolts shall be 3/4" minimum.
 - 1. High strength bolts shall be installed with hardened washers. Nuts shall be tightened by calibrated torque wrenches in conformity with minimum bolt tension values established in the "Specifications for Joints using ASTM A325 Bolts".
- C. Burned holes will not be permitted for any bolted connections.

- D. Temporary bracing for the steel frame shall be designed to support all loads to which the structure may be subjected, including wind, impact from erection equipment and its operation, and as required by applicable codes. Such bracing shall be left in place as long as required for safety.
- E. No field welding shall be done when the temperature is less than 15 degrees F.

3.4 INSPECTION

- A. The material to be furnished under the section shall be subject to inspection and tests in the shop and field.
- B. The testing agency shall have access to all quality control data.
- C. High-strength bolts will be tested in accordance with Research Council Specification for A325 Bolts. All bolts in every connection will be tested. In the event that inspections reveal bolts to be undersized, loose or defective, the cost of re-bolting and re-testing shall be at the structural steel supplier's expense.

END OF SECTION 05 12 00

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SECTION 05 31 13 - STEEL FLOOR DECK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions, and Division 1 Specification sections, apply to this section.
- B. The latest edition of referenced requirements shall apply.

1.2 SUMMARY

- A. Provide all labor, materials and equipment required to perform the work called for in this section of the Specification, or as shown on the drawings, including but not necessarily limited to the following:
 - 1. Furnishing and erecting of composite steel floor deck, metal closure plates, fillers and accessories as required.
- B. Related Work: The following sections contain requirements that may apply to this section:
 - 1. Division 5 Section "Structural Steel".

1.3 SUBMITTALS

- A. Submit for review, prior to fabrication, shop drawings of all steel decking. Shop drawings shall indicate erection details, type and gage of deck, length of sheets of deck, and all welding of deck to steel and connection of side laps.
- B. Review of shop drawings will be only for conformance with the design concept of the project and for compliance with the Contract Documents.
- C. Submit certification that steel sheets conform to ASTM A653.

1.4 QUALITY ASSURANCE

- A. All work of this Section shall be provided in accordance with the latest edition of the following standards which are considered to be a part of this specification the same as if fully set forth herein.
 - 1. AISC "Specification for the Design of Cold Formed Steel Structural Members."
 - 2. ASTM Standard A653.
 - 3. "Basic Design Specifications" as adopted by the Steel Deck Institute.
 - 4. The 2018 State of Connecticut Building Code.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. The steel floor deck shall be designed in accordance with the Steel Deck Institute "Basic Design Specifications."
- B. **Floor deck to be 3" 20 gage Lok Floor or equivalent.**
- C. All new floor deck shall have a galvanized coating conforming to ASTM A653, Class G90.

PART 3 - EXECUTION

3.1 FABRICATION

- A. Deck shall be fabricated in lengths to be continuous over three or more spans unless noted otherwise on the drawings.
- B. The deck shall be capable of supporting a superimposed load as indicated on the drawings. The deflection under the applicable live load shall not exceed 1/360 of the span length.
- C. Steel deck manufacturer shall supply decking free of amounts of lubricants or oils which would significantly impair the adhesion of sprayed fireproofing.

3.2 ERECTION

- A. All material shall be unloaded and handled with proper equipment, so as to incur no damage to the floor deck. Deck which is damaged beyond use in the Engineer's opinion shall be removed from the work and new units furnished and installed at no additional cost to the Owner.
- B. If steel floor deck is temporarily stored at the site, it shall be covered and protected from physical damage and damage from the elements.
- C. The steel floor deck shall be placed on the supporting steel frame work adjusted to final position and welded in place.
- D. The floor deck shall be placed so that flutes are in a straight alignment for the full run of deck. Side laps shall be properly engaged, 1/2 corrugation minimum.
- E. All new steel floor deck shall be fastened to the structural steel at the ends and intermediate supports with power actuated fasteners. Welding of deck will not be permitted.
- F. PAF pattern at ends of LOK floor to be 36/4 or 24/4.

- G. Side laps to be secured with #10 screws at 10" o.c. spacing (max)
- H. All steel deck which, when installed, is deformed so as to impair structural capacity, in the opinion of the Engineer, shall be removed from the work and new forms furnished and installed at no cost to the Owner.
- I. All welds which are broken or inadequate shall be re-welded, and/or abandoned and new welds placed to properly fasten the units.
- J. **NOTE: THE NEW DECKING WILL BE INSTALLED ON EXISTING STEEL BEAMS THAT CONTAIN SHEAR STUDS. THE DECKING MUST BE INSTALLED AROUND THE EXISTING STUDS. SINGLE SPAN DECK INSTALLATION IS ACCEPTABLE WITHOUT ADDITIONAL SHORING.**

END OF SECTION 05 31 13

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05 50 00 METAL FABRICATIONS

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing the following metal fabrications as described herein and indicated on the drawings:
1. Loose steel lintels
 2. Casework steel angle support frames
 3. Miscellaneous brackets, pipe sleeves to support new work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Section 03 30 00 "Cast in Place Concrete" for installation of concrete fill and reinforcing materials.
 2. Section 04 20 00 "Unit Masonry" for installation of loose lintels in masonry work and furnishing and installing metal clip angles associated with masonry wall construction.
 3. Section 05 12 00 "Structural Steel" for structural steel framing system components.
 4. Section 12 30 00 "Casework" for casework systems being supported.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.
- C. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the "Quality Assurance" Article.

- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include a list of completed projects with project name, addresses, names of architects and owners, and other information specified.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: Firm experienced in producing metal fabrications similar to those indicated for this Project with a record of successful in-service performance, and with sufficient production capacity to produce required units without delaying the Work.
- B. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding Code--Steel," AWS D1.2 "Structural Welding Code--Aluminum," and AWS D1.3 "Structural Welding Code--Sheet Steel."
 - 1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone re-certification.
- C. Installer Qualifications: Arrange for steel fabrication installation specified in this Section by the same firm that fabricated them.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions. Allow for trimming and fitting at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 FERROUS METALS

- A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness, or, for steel sheet,

variations in flatness exceeding those permitted by referenced standards for stretcher-leveled sheet.

- B. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails, unless otherwise indicated.
- D. Welding Rods and Bare Electrodes: Select according to AWS specifications for the metal alloy to be welded.

2.2 FASTENERS

- A. General: Provide 316 stainless steel fasteners unless otherwise indicated.
- B. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
 - 1. Material: 316 stainless steel bolts and nuts complying with ASTM F 593 (ASTM F 738M) and ASTM F 594 (ASTM F 836M).

2.3 FABRICATION, GENERAL

- A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.
- B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
- C. Shear and punch metals cleanly and accurately. Remove burrs.
- D. Ease exposed edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Remove sharp or rough areas on exposed traffic surfaces.
- F. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.
- G. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.
- H. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
1. Include brackets, clips, miscellaneous fittings and anchors for interconnection and attachment of metal fabrications to other work.
 2. Furnish inserts, sleeves and other devices for connecting metal fabrications to concrete or masonry work.
- I. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for re-assembly and coordinated installation.
- J. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- K. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.
- 2.4 LOOSE STEEL LINTELS
- A. Fabricate loose structural steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated.
 - B. Weld adjoining members together to form a single unit where indicated.
 - C. Size loose lintels as indicated on Contract Documents.

- D. **All loose lintels are to have duplex finishes consisting of a base finish of hot-dipped galvanizing and a top coat of polyamide epoxy coating for superior resistance to corrosion.**

2.5 CASEWORK SUPPORT STEEL FRAMING

- A. Fabricate from steel angles and shapes of size indicated on casework details on drawing A-12.2.
- B. Weld adjoining members together to form a single unit.
- C. **All casework support steel framing is to have duplex finishes consisting of a base finish of hot-dipped galvanizing and a top coat of polyamide epoxy coating for superior resistance to corrosion.**

2.6 FINISHES, GENERAL

- A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designing finishes.
- B. Finish metal fabrications after assembly.

2.7 STEEL AND IRON FINISHES

- A. Galvanizing: For those items indicated for galvanizing, items must be hot dip galvanized after fabrication in compliance with ASTM A-123, A-153 and/or A-386.
 - 1. To minimize surface imperfections (e.g. flux inclusions), material to be galvanized shall be dipped into a solution of Zinc Ammonium Chloride (ZAC) immediately prior to galvanizing.
 - 2. To minimize distortion and to thoroughly dry the ZAC, material which is less than 30 feet in length shall be placed into a suitable dryer/preheater with a heating capability of not less than 200 degrees F. The type of galvanizing process utilizing a flux blanket overlaying the molten zinc shall not be permitted.
 - 3. Following galvanizing, all items must be chromated by dipping in a chromic acid solution (minimum 0.15% by volume).
- B. Polyamide Epoxy Coating: For those items indicated for polyamide epoxy coating, apply two-part polyamide epoxy coating complying with the following requirements:
 - 1. Manufacturer: Benjamin Moore & Co., 101 Paragon Drive, Montvale, NJ 07645, Phone: 866-708-9180 or approved equal.

2. Surface Preparation: All surfaces must be sound, dry, clean and free of oil, grease, dirt, mildew, mill scale, form release agents, curing compounds, loose and flaking paint and other surface contaminants. Solvent clean all surfaces prior to priming.
3. Primer: Apply one (1) base coat of Corotech V110 Acrylic Metal Primer, or approved equal, to a dry film thickness of 3.5 to 4.6 mils.
4. Epoxy Coating: Apply Corotech CV400 Polyamide Epoxy Coating, or approved equal, to a dry film thickness of 2.0 to 2.5 mils.
5. Finish: Gloss "-90"
6. Color: Black (80)
7. Application: Follow manufacturer's instructions for all mixing and induction requirements. Apply coating within the fabrication shop utilizing all recommended personal protective equipment and ventilation systems recommended by manufacturer. Field applications of this product will not be permitted.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installing anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.2 INSTALLATION, GENERAL

- A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.
- B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.
- D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of

exterior units that have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

E. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

3.4 ADJUSTING AND CLEANING

- A. Touchup Painting: Clean and touchup epoxy coating of field welds, bolted connections, and abraded areas of the shop-applied coating on miscellaneous metal.

END OF SECTION 05 50 00

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SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and/or installing the following:
1. Wood plates, blocking, temporary enclosures and duststops, shoring, bracing and rough hardware.
 2. Wood blocking for support of built-in components, etc.
 3. Installation of door hardware, setting of all door frames and installation of all doors within frames.
 4. Installation of toilet and bath accessories as specified.
 5. Installation of cellular PVC and cast plastic products as indicated on the drawings.
 6. Installation of visual display boards and required wood blocking to support installations.
 7. Installation of all required access panels as specified in Section 08 31 13 and Division 15 and 16.
 8. Installation of equipment and/or accessories not specifically identified within the specifications.
 9. Rough carpentry work not specified elsewhere and generally intended for support of other work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Section 03 30 00 "Cast-In-Place Concrete" for wood formwork.
 2. Section 08 71 00 "Door Hardware" for hardware furnished for installation under this Section.
 3. Section 10 11 00 "Visual Display Boards" for tackboards / markerboards that require wood blocking and to be installed under this section.
 4. Section 10 28 00 "Toilet and Bath Accessories" for toilet and bath accessories for installation under this Section.

1.3 REFERENCE STANDARDS

- A. American Wood Council (AWC): ANSI NDS-2015 "National Design Specification for Wood Construction"

- B. Southern Pine Inspection Bureau (SPIB): SPIB "Grading Rules" (latest edition).
- C. Western Wood Products Association (WWPA): WWPA "Grading Rules for Western Lumber" (latest edition)
- D. National Lumber Grades Authority (NLGA): NLGA - "Standard Grading Rules" (latest edition)
- E. American Plywood Association (APA): APA C-20 "Plywood Specification and Grade Guide"
- F. American Wood Preserver's Association (AWPA): LP-2 "Above Ground Use, Pressure Treated with Water-Bourne Preservatives"
- G. American Wood Council (AWC): AWC SDPWS-2015 "Special Design Provisions for Wind and Seismic"

1.4 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.
- B. Manufacturers information pertaining to dimensional and board lumber including design strengths, species, and moisture content.
- C. Wood treatment data from chemical treatment manufacturer. Include chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated material.
 - 1. Preservative Treatment: Include certification by treatment plant stating type of solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
 - 2. Waterborne Preservative Treatment: Include certification that moisture content of treated wood was reduced to levels specified prior to shipment to Project site.
 - 3. Warranty: Include warranty of chemical treatment manufacturer for each type of treatment.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack material above ground level on uniformly spaced supports to prevent deformation.
 - 1. For material pressure treated with waterborne chemicals, place spacers between each bundle for air circulation.
- B. All wood must be covered and completely weather protected and stored at least twelve (12") inches above grade.

PART 2 - PRODUCTS

2.1 WALL SHEATHING (TEMPORARY WALL)

- A. APA Rated Sheathing, exterior glue. Span rating to suit framing spacing.

2.2 ROUGH HARDWARE

- A. General: Provide fasteners of size and type indicated that comply with requirements and products specified in this Article for material and manufacture.
1. Where carpentry is installed at exterior locations, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M, or Type 304 stainless steel fasteners, as recommended in writing by wood-preservative-treatment manufacturer.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105
- C. Power-Driven Fasteners: CABO NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1. (ASME B18.2.3.8M)
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5, for interior applications.
 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4), for exterior applications.

2.3 BOARDS FOR CONCEALED CONDITIONS

- A. Species: The following:
1. Douglas Fir, preservative treated.
- B. Moisture Content: Kiln-dry, KD 19 or MC 19 (19 percent maximum moisture content).

- C. Grade: No. 2 or better.

2.4 FASTENERS

- A. General: Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide stainless steel fasteners of AISI Type 304 stainless steel.
- B. Nails, Wire, Brads and Staples: FS FF-N-105.
- C. Wood Screws: ANSI B18.6.1., except item D.
- D. Bolts: ASTM A 307, Grade A or ASTM A36; with ASTM A 563 hex nuts and flat washers.
- E. Strapping and metal connectors as required or as indicated on the Drawings, as manufactured by Simpson Strong-Tie Company, Pleasanton, CA, or equal.
- F. Miscellaneous metal strapping and metal anchorage hardware, such as truss anchors, shall be items as indicated on the drawings as manufactured by Simpson Strong Tie Company, Pleasanton, CA, or approved equal.
- G. **Minimum fastening requirements shall meet or exceed State Building Code requirements and shall also be in accordance with exceptions that are noted or shown on the Structural Drawings and Specifications.**

2.5 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General: Obtain preservative-treated lumber complying with AWWA Standard C2. Mark each treated item with AWPB or SPIB Quality Mark Requirements. Coat surfaces cut after treatment to comply with AWWA M4.
- B. Above-Ground Wood Treatment: Pressure treat with waterborne preservatives to a minimum retention of 0.40 pcf.
1. Kiln-dry interior dimension lumber after treatment to 15 percent maximum moisture content.
 2. Kiln-dry interior construction panels after treatment to 15 percent maximum moisture content.
 3. Treat wood items indicated and in the following circumstances:
 - a. In contact with roofing, flashing, or waterproofing.
 - b. In contact with masonry or concrete.
 - c. Within 18 inches of grade.

2.6 BOND BREAKER MEMBRANE

- A. Flashing Description: 0.8 mm of self-adhesive rubberized asphalt integrally bonded to 0.2 mm of cross-laminated, high-density polyethylene film to provide a min. 1.0 mm (40 mil) thick membrane. Membrane shall be interleaved with disposable silicone-coated release paper until installed.

- C. Performance Requirements:
 - 1. Water Vapor Transmission: ASTM E96, Method B – 2.9 ng/m²sPa (0.05 perms) maximum
 - 2. Water Absorption: ASTM D570 – Max. 0.1% by weight
 - 3. Puncture Resistance: ASTM E154 – 356 N (80 lbs)
 - 4. Tear Resistance:
 - a. Initiation – ASTM D1004 – min. 58 N (13.0 lbs) M.D.
 - b. Propagation – ASTM D1938 – min. 40 N (9.0 lbs) M.D.
 - 5. Lap Adhesion at -4°C (25°F): ASTM D1876 – 880 N/M (5.0 lbs/in.) of width
 - 6. Low Temperature Flexibility – ASTM D1970 – Unaffected to -43°C (-45°F)
 - 7. Tensile Strength: ASTM D412, Die C Modified – Min. 5.5 MPa (800 psi)
 - 8. Elongation, Ultimate Failure of Rubberized Asphalt: ASTM D412, Die C – Min. 200%

- C. Product: Perm-A-Barrier® Wall Flashing manufactured by GCP Advanced Technologies Construction Products.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Provide continuous bond breaker membrane between all joints of wood and masonry, or concrete, surfaces.

- B. Discard units of material with defects that impair quality of miscellaneous carpentry and in sizes that would require an excessive number or poor arrangement of joints.

- C. Cut and fit miscellaneous carpentry accurately. Install members plumb and true to line and level.

- D. Coat cut edges of preservative-treated wood to comply with AWP A M4.

- E. Securely fasten miscellaneous carpentry as indicated and according to applicable codes and recognized standards.

- F. Countersink nail heads on exposed carpentry work and fill holes.

- G. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.
- H. Care should be taken to properly store all wood materials from damage due to handling, storage, or environmental conditions. Store all materials off of the ground and properly secured and protected.
- I. Carefully inspect the installed work of other trades and verify that all such work is complete where this installation may properly commence. Verify that rough carpentry may be performed in strict accordance with the design and all pertinent codes and regulations. In the event of discrepancy, notify Architect. Do not proceed with work until directions are received from Architect.

3.2 BLOCKING

- A. Install all blocking required to support all items of finish and to cut off all concealed draft openings, both vertical and horizontal, between ceiling and floor areas. Firestop concealed spaces with wood blocking not less than two (2") inches thick unless blocked by other framing members. Provide blocking to support edges of all flashing, etc.

3.3 FASTENING

- A. Rough Hardware: Anchor and nail shall comply with State Building Code.
- B. Nailing: Use only common wire nails or spikes of the dimensions shown on the Fastening Schedule, except where otherwise specifically noted on the drawings. For conditions not covered in the Fastening Schedule, provide penetration into the piece receiving the point of not less than one-half (1/2") inch the length of the nail or spike, provided, however, that 16d nails may be used to connect two (2) pieces of two (2") inch (nominal) thickness. Do all nailing without splitting wood. Prebore as required. Replace all split members.
- C. Bolting: Drill holes one-sixteenth (1/16) inch larger in diameter than the bolts being used. Drill straight and true from one (1) side only. Bolt threads shall not bear on wood. Use washers under head and nut where both bear on wood. Use washers under all nuts.
- D. Screws: For lag screws and wood-screws, prebore holes same diameter as root of threads; enlarge holes to shank diameter for length of shank. Screw, do not drive, all lag-screws and wood-screws.

3.4 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install where shown and where required for screeding or attachment of other work. Cut and shape to required size. Coordinate location with other work involved.

- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated.
- C. Provide wood blocking for all wall mounted or recessed equipment including, but not limited to, toilet accessories, fire extinguisher cabinet, visual display boards, metal fabrications, and wall mounted hardware.

3.9 DOOR HARDWARE INSTALLATION

- A. Mount hardware units at heights indicated in following applicable publications, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect.
 - 1. "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
- B. Install each hardware item in compliance with the manufacturer's instructions and recommendations. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation or application of surface protection with finishing work specified in the Division 9 Sections. Do not install surface-mounted items until finishes have been completed on the substrates involved.
- C. Set units level, plumb, and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. Set thresholds for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements specified in Division 7 Section "Joint Sealers."
- F. Weatherstripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.

3.10 TOILET ACCESSORIES INSTALLATION

- A. Install each toilet accessories in compliance with the manufacturer's instructions and recommendations

3.11 TEMPORARY ENCLOSURES

- A. Provide temporary enclosures, doors and dust barriers as required to protect building from weather and construction damage and to ensure building security. Upon completion, remove all temporary work and repair any damage to

permanent finishes and installations. Verify requirements with Division 1,
Section 02 41 19 "Selective Demolition, Architect, and Owner prior to erection.

END OF SECTION 06 10 00

07 84 00 - FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing firestopping for the following:
 - 1. Penetrations through fire-resistance-rated walls and partitions including both empty openings and openings containing cables, pipes, ducts, conduits, and other penetrating items.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Section 07 92 00 "Joint Sealers" for non-fire-rated joint sealers.
 - 2. Division 22 Sections specifying ducts and piping penetrations.
 - 3. Division 23 Sections specifying Heating Ventilating and air conditioning
 - 4. Division 26 Sections specifying cable and conduit penetrations.
 - 5. Division 28 Sections specifying Electronic Safety and Security

1.3 SYSTEM PERFORMANCE REQUIREMENTS

- A. General: Provide firestopping systems that are produced and installed to resist the spread of fire, according to requirements indicated, and the passage of smoke and other gases.
 - 1. All firestopping systems shall be reviewed and approved for use by the local fire authority prior to submission to Architect.
- B. F-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings indicated, as determined per ASTM E 814, but not less than that equaling or exceeding the fire-resistance rating of the constructions penetrated.
- C. T-Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with T ratings, in addition to F ratings, as determined per ASTM E 814, where indicated and where systems protect penetrating items exposed to

contact with adjacent materials in occupiable floor areas. T-rated assemblies are required where the following conditions exist:

1. Where firestop systems protect penetrations located outside of wall cavities.
 2. Where firestop systems protect penetrations located outside fire-resistive shaft enclosures.
 3. Where firestop systems protect penetrations located in construction containing doors required to have a temperature-rise rating.
 4. Where firestop systems protect penetrating items larger than a 4-inch-diameter nominal pipe or 16 sq. in. in overall cross-sectional area.
- D. Fire-Resistive Joint Sealants: Provide joint sealants with fire-resistance ratings indicated, as determined per ASTM E 119, but not less than that equaling or exceeding the fire-resistance rating of the construction in which the joint occurs.
- E. For firestopping exposed to view, traffic, moisture, and physical damage, provide products that do not deteriorate when exposed to these conditions.
1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
 2. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.
- F. For firestopping exposed to view, provide products with flame-spread values of less than 25 and smoke-developed values of less than 450, as determined per ASTM E 84.
- G. All firestopping systems shall be FM Global approved and shall meet FM Approval Class Numbers 4435, 4450, 4451, 4454, 4470, 4471.

1.4 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of product specified.
1. Certification by firestopping manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCS) and are nontoxic to building occupants.
- C. Product test reports from, and based on tests performed by, a qualified testing and inspecting agency evidencing compliance of firestopping with requirements based on comprehensive testing of current products.

1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide firestopping that complies with the following requirements and those specified under the "System Performance Requirements" article:
1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL or Warnock Hersey.
 2. Through-penetration firestop systems are identical to those tested per ASTM E 814 under conditions where positive furnace pressure differential of at least 0.01 inch of water is maintained at a distance of 0.78 inch below the fill materials surrounding the penetrating items in the test assembly. Provide rated systems complying with the following requirements:
 - a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
 - b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by UL in their "Fire Resistance Directory," or by Warnock Hersey.
 3. Fire-resistive joint sealant systems are identical to those tested for fire-response characteristics per ASTM E 119 under conditions where the positive furnace pressure differential is at least 0.01 inch of water, as measured 0.78 inch from the face exposed to furnace fire. Provide systems complying with the following requirements:
 - a. Fire-Resistance Ratings of Joint Sealants: As indicated by reference to design designations listed by UL in their "Fire Resistance Directory" or by another qualified testing and inspecting agency.
 - b. Joint sealants, including backing materials, bear classification marking of qualified testing and inspection agency.
- B. Installer Qualifications: Engage an experienced Installer who has completed firestopping that is similar in material, design, and extent to that indicated for Project and that has performed successfully.
- C. Single-Source Responsibility: Obtain through-penetration firestop systems for each kind of penetration and construction condition indicated from a single manufacturer.
- D. Provide firestopping products containing no detectable asbestos as determined by the method specified in 40 CFR Part 763, Subpart F, Appendix A, Section 1, "Polarized Light Microscopy."

- E. Coordinating Work: Coordinate construction of openings and penetrating items to ensure that designated through-penetration firestop systems are installed per specified requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver firestopping products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer; date of manufacture; lot number; shelf life, if applicable; qualified testing and inspecting agency's classification marking applicable to Project; curing time; and mixing instructions for multi-component materials.
- B. Store and handle firestopping materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Environmental Conditions: Do not install firestopping when ambient or substrate temperatures are outside limits permitted by firestopping manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilation: Ventilate firestopping per firestopping manufacturers, instructions by natural means or, where this is inadequate, forced air circulation.

1.8 SEQUENCING AND SCHEDULING

- A. Do not cover up those firestopping installations that will become concealed behind other construction until the owner's Representative and authorities having jurisdiction, if required, have examined each installation.

PART 2 - PRODUCTS

2.1 FIRESTOPPING, GENERAL

- A. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrates forming openings, and the items, if any, penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.
- B. Accessories: Provide components for each firestopping system that are needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance-rated systems. Accessories include but are not limited to the following items:

1. Permanent forming/damming/backing materials including the following:
 - a. Ceramic fiber.
 - b. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
 - c. Joint fillers for joint sealants.
 2. Temporary forming materials.
 3. Substrate primers.
 4. Collars.
 5. Steel sleeves.
- C. Applications: Provide firestopping systems composed of materials specified in this Section that comply with system performance and other requirements.

2.2 FILL MATERIALS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS

- A. Ceramic-Fiber Forming/Backing/Damming Material: Formulation of continuous filament ceramic fibers and inorganic binders.
- B. Products: Subject to compliance with requirements, provide one of the following:
1. Ceramic-Fiber Forming/Backing/Damming Material:
 - a. "Ultra Block", Backer Rod Mfg. & Supply Co.
 - b. "Vedafeu C", Veda Building Joints
 - c. "Everlastic Dynashield 600", Williams Products
 2. Sealants:
 - a. "CP 606, Flexible Firestop Sealant", Hilti
 - b. "SIL 300 Firestop Sealant", Specified Technologies, Inc.
 - c. "CLK Firestop Sealant", Hevi-Duty/Nelson.

2.3 FIRE-RESISTIVE ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that complies with ASTM 920 requirements, including those referenced for Type, Grade, Class, and Uses, and requirements specified in this Section applicable to fire-resistive joint sealants.
- B. Sealant Colors: Provide color of exposed joint sealants to comply with the following:
1. Provide selections made by Architect from manufacturer's full range of standard colors for products of type indicated.

- C. Products: Subject to compliance with requirements, provide one of the following:
1. Single Component, Neutral Silicone Sealant:
 - a. "CP 601S", Hilti.
 - b. "864NST", Pecora Corp.
 - c. "795", Dow Corning Corp.
 2. Multicomponent, Nonsag, Urethane Sealant:
 - a. "Dynatrol II", Pecora Corp.
 - b. "Sonolastic NP 2", Sonneborn Building Products Div., BASF
 - c. "Dymeric 240", Tremco Inc.

2.4 MIXING

- A. For those products requiring mixing prior to application, comply with firestopping manufacturer's directions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other procedures needed to produce firestopping products of uniform quality with optimum performance characteristics for application indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of firestopping. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Clean out openings and joints immediately prior to installing firestopping to comply with recommendations of firestopping manufacturer and the following requirements:
1. Remove all foreign materials from surfaces of opening and joint substrates and from penetrating items that could interfere with adhesion of firestopping.
 2. Clean opening and joint substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with firestopping. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form release agents from concrete.

- B. Priming: Prime substrates where recommended by firestopping manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration on to exposed surfaces.
- C. Masking Tape: Use masking tape to prevent firestopping from contacting adjoining surfaces that will remain exposed upon completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestopping materials. Remove tape as soon as it is possible to do so without disturbing firestopping's seal with substrates.

3.3 INSTALLING THROUGH-PENETRATION FIRESTOPS

- A. Install forming/damming materials and other accessories of types required to support fill materials during their application and in the position needed to produce the cross-sectional shapes and depths required to achieve fire ratings of designated through-penetration firestop systems. After installing fill materials, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.
- B. Install fill materials for through-penetration firestop systems by proven techniques to produce the following results:
 - 1. Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.
 - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 - 3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 INSTALLING FIRE-RESISTIVE JOINT SEALANTS

- A. Install joint fillers to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability and develop fire-resistance rating required.
- B. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint width that optimum sealant movement capability. Install sealants at the same time joint fillers are installed.
- C. Tool nonsag sealants immediately after sealant application and prior to the time skinning or curing begins. Form smooth, uniform beads of configuration indicated or required to produce fire-resistance rating, as well as to eliminate air

pockets, and to ensure contact and adhesion of sealants with sides of joint. Remove excess sealant from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

3.5 FIELD QUALITY CONTROL

- A. The Owner's Representative will examine completed firestopping to determine, in general, if it is being installed in compliance with requirements.
- B. The Owner's Representative will report observations promptly and in writing to Contractor and Architect.
- C. Do not proceed to enclose firestopping with other construction until installations are approved.
- D. Where deficiencies are found, repair or replace firestopping so that it complies with requirements.

3.6 CLEANING

- A. Clean off excess fill materials and sealants adjacent to openings and joints as work progresses by methods and with cleaning materials approved by manufacturers of firestopping products and of products in which opening and joints occur.
- B. Protect firestopping during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated firestopping immediately and install new materials to produce firestopping complying with specified requirements.

END OF SECTION 07 84 00

07 92 00 - JOINT SEALANTS

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 **SUMMARY**

- A. This Section includes furnishing and installing joint sealants for the following locations:
1. Interior joints in vertical surfaces and horizontal nontraffic surfaces as indicated below:
 - a. Perimeter joints of all Manufactured Architectural Casework
 - b. Perimeter joints of all composite frames and aluminum storefront framing against dissimilar materials.
 - f. Vertical control joints on exposed surfaces of interior unit masonry partitions.
 - g. Perimeter joints of all toilet fixtures.
 - h. All exposed joints between dissimilar materials.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. Section 07 84 00 "Firestopping" for fire-resistance-rated joint sealants.
 2. Section 08 16 00 "Composite Doors" for types of all composite frames.
 3. Section 08 41 13 "Aluminum Entrances & Storefronts" for types of all aluminum framing.
 4. Section 08 80 00 "Glass & Glazing" for sealants used in glazing.
 5. Section 12 32 00 "Manufactured Architectural Casework" for sealants used in perimeter joints.
 6. Division 22 "Plumbing" for types, schedules, and locations for all plumbing fixtures.

1.3 **SYSTEM PERFORMANCE REQUIREMENTS**

- A. Provide elastomeric joint sealants that have been produced and installed to establish and to maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

- B. Provide joint sealants for interior applications that have been produced and installed to establish and maintain airtight continuous seals that are water resistant and cause no staining or deterioration of joint substrates.

1.4 SUBMITTALS

- A. Product data from manufacturers for each joint sealant product required.

1.5 QUALITY ASSURANCE

- A. **Installer Qualifications:** Engage an experienced Installer who has completed joint sealant applications similar in material, design, and extent to that indicated for Project that have resulted in construction with a record of successful in-service performance.
- B. **Single Source Responsibility for Joint Sealant Materials:** Obtain joint sealant materials from a single manufacturer for each different product required.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. **Environmental Conditions:** Notify Architect and do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer.
 - 2. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer or below 40 deg F (4.4 deg C).
 - 3. When joint substrates are wet.
- B. **Joint Width Conditions:** Notify Architect and do not proceed with installation of joint sealants where joint widths are less than allowed by joint sealant manufacturer for application indicated.

- C. Joint Substrate Conditions: Notify Architect and do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.8 SEQUENCING AND SCHEDULING

- A. Sequence installation of joint sealants to occur not less than 21 nor more than 30 days after completion of waterproofing, unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. Colors: Provide color of exposed joint sealants to comply with the following:
 - 1. Provide selections made by Architect from manufacturer's full range of standard colors for products of types indicated.

2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing elastomeric sealants that comply with those requirements referencing ASTM 920 classifications for Type, Grade, Class, and Uses.
- B. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Multi-Part, Non Sag Urethane Sealants:
 - a. "Dynatrol II", Pecora Corp.
 - b. "MasterSeal NP2", BASF Corporation
 - c. "Dymeric Plus", Tremco.
 - 2. Multi-Part, Self Levelling Urethane Sealant:
 - a. "Sikaflex - 20 SL", Sika Corp.
 - b. "MasterSeal SL2", BASF Corporation.
 - c. "Dynatrol II-SG", Pecora Corp.

2.3 LATEX JOINT SEALANTS

- A. General: Provide manufacturer's standard one-part, nonsag, mildew-resistant, paintable latex sealant of formulation indicated that is recommended for exposed applications on interior and protected exterior locations and that accommodates

indicated percentage change in joint width existing at time of installation without failing either adhesively or cohesively.

- B. Acrylic-Emulsion Sealant: Provide product complying with ASTM C 834 that accommodates joint movement of not more than 5 percent in both extension and compression for a total of 10 percent.
- C. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Acrylic-Emulsion Sealant:
 - a. "AC-20", Pecora Corp.
 - b. "MasterSeal NP 250", BASF Corporation.
 - c. "Tremco Acrylic Latex 834, " Tremco, Inc.

2.4 SILICONE SEALANTS

- A. General: Provide manufacturer's standard one part, ultra-low modulus, self-leveling, elastomer joint sealant that is recommended for precast structural concrete panels and that provides an excellent adhesion to concrete surfaces once fully cured. Demonstrates superior weather resistance and remains flexible at extremely low temperatures.
- B. Color: Limestone
- C. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Single-component, Polyurethane Hybrid Sealant:
 - a. "Pecora 310SL", Pecora Corp.
 - b. "Spectrem 900SL, Tremco

2.5 SPRAY FOAM INSULATING SEALANTS

- A. General: Provide manufacturer's standard two-part, fast rise closed-cell polyurethane spray foam that is recommended for concrete and clay masonry units and that provides an excellent adhesion to concrete surfaces once fully cured. Demonstrates superior weather resistance and remains flexible at extremely low temperatures.
- B. Fire Rating: ASTM E-84 (Tested according to ASTM E-84 at a maximum thickness of 2 inches and not to exceed this thickness as recognized by ICC-ES Evaluation Report #ESR-3183). Tested at 2". Flame Spread = 20. Smoke Development = 43.
- C. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Two-part, closed-cell polyurethane Class 1 Spray Foam:

- a. Basis of Design: "Tiger Foam", by Commercial Thermal Solutions, Inc. ph: 1-800-664-0063, e-mail: customerservice@tigerfoam.com
- b. Or Equal (submit basis-of-design comparative technical chart)

2.6 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonstaining, nonwaxing, nonextruding strips of flexible plastic foam of material indicated below and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
 1. Open-cell polyurethane foam.
 2. Closed-cell polyethylene foam, nonabsorbent to liquid water and gas, non-outgassing in un-ruptured state.
 3. Proprietary, reticulated, closed-cell polymeric foam, non-outgassing, with a density of 2.5 pcf and tensile strength of 35 psi per ASTM D 1623, and with water absorption less than 0.02 gms/cc per ASTM C 1083.
 4. Any material indicated above.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.7 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming in any way joint substrates and adjacent nonporous surfaces, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. Notify Architect and do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Clean concrete, masonry, unglazed surfaces of ceramic tile, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 3. Remove laitance and form release agents from concrete.
 4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealant manufacturer based on preconstruction joint sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's recommendations. Confine primers to areas of joint sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
 - 1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - a. Do not leave gaps between ends of joint fillers.
 - b. Do not stretch, twist, puncture, or tear joint fillers.
 - c. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
 - 2. Install bond breaker tape between sealants where backer rods are not used between sealants and joint fillers or back of joints.
- C. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.
- D. Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
 - 1. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations

or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so that and installations with repaired areas are indistinguishable from original work.

3.6 WARRANTY, GUARANTEE AND CERTIFICATION

- A. This Contractor shall and hereby does guarantee that all sealant work will be free from defects of materials and workmanship for a period of five (5) years. The following types of failure will be adjusted:
 - 1. Leakage, cracking, crumbling, melting, shrinking or running of caulking, or staining of adjacent work by caulking.
- B. This Contractor shall repair and replace work which becomes defective during guarantee term without cost to the Owner.

3.7 SCHEDULE

- A. Interior Joints
 - 1. Perimeter joints of all Manufactured Architectural Casework: Acrylic-Emulsion Sealant
 - 2. Perimeter joints of all composite frames and aluminum storefront frames against dissimilar materials: Acrylic-Emulsion Sealant
 - 6. Vertical control joints on exposed surfaces of interior unit masonry: Acrylic-Emulsion Sealant
 - 7. Perimeter joints of all toilet fixtures: Acrylic-emulsion Mildew-Resistant Sealant
 - 8. All exposed joints between dissimilar materials: Urethane Sealant or Acrylic-Emulsion Sealant if in contact with epoxy paint.

END OF SECTION 07 92 00

HARDWARE SETS - RGVE # - NOTES						
DOOR OPENING NUMBER	HARDWARE SET	NOT USED	DOOR HANDING	REVISION DATE	ISSUE #	DOOR SCHEDULE NOTES
103A	401		LHR			CL06, SW2
104A	705		RHR			AOR
108A	601		LHR			AOL, DS9
109A	703		LHR			AOL
111A	602		RHR			CL01, SW1
112A	701		RHR			
113A	403		LH			
114A	301		RH			
115A	702		RHR			
115C	702		LHR			
117A	704		RHR			AOR
119A	402		RHR			CL06, SW2
120A	706		LHR			AOL

OPENING NOTES

GENERAL DOOR NOTES:

"A" All Door Hardware shall be Accessible to Persons with Disabilities. Hardware shall comply with ADA Standards.

"B" Closers shall open a minimum of 175 Degrees, where 180 Deg swing is shown as such on Floor Plans.

"C" Refer to Drawing A-1-8.1 for all "Door Undercuts"

AOL "AO" AUTO OPERATOR - "LHR LEAF" ONLY: See SECTION: 08 71 13 - AUTOMATIC DOOR OPERATORS

AOR "AO" AUTO OPERATOR - "RHR LEAF" ONLY: See SECTION: 08 71 13 - AUTOMATIC DOOR OPERATORS

CL01 Provide Par Arm Closer with Integral Heavy Duty Stop Arm.

CL06 Provide Par Arm Closer with Hold Open Arm.

DS9 Install Door Stop at 80" AFF

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SECTION 08 16 00 – COMPOSITE DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, “The General Conditions of the Contract for Construction,” the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing fiberglass reinforced plastic (FRP) doors and resin transfer molded door frames.

1.3 RELATED SECTIONS

- A. Related Sections Include The Following:
 - 1. Division 0 – Bidding and Contract Requirements
 - 2. Division 1 – General Requirements
 - 3. Division 8 – Finish Hardware

1.4 QUALITY ASSURANCE

Test certification by an independent and accredited laboratory is required for the properties listed in this Quality Assurance section. Reports shall be made available upon request for each of the standards and certifications described below.

- A. Reference Standards
 - 1. Door Properties
 - a) Standard test method for steady state thermal transmission properties by means of the heat flow meter apparatus.
 - b) Successfully completed 1,000,000 cycles test in accordance with:
 - AAMA 920-03 – Specification for Operating Cycle Performance of Side-Hinged Exterior Door Systems.
 - ANSI A250.4-2001 – Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frame Anchors and Hardware Reinforcings.
 - NWWDA TM-7 Test Method to Determine the Physical Endurance of Wood Doors and Associated Hardware Under Accelerated Operating Conditions.
 - c) Florida Building Code
 - SFBC PA 201 Impact Procedures for Large Missile Impact
 - SFBC PA 202 Uniform Static Load on Building Components

SFBC PA 203 Products Subjected to Cycle Wind Pressure
SFBC 3603.2 Forced Entry Test
ASTM E 1886 Impact and Cycling, Large Missile Impact
ASTM E 1996 Specifications for Performance of Exterior Doors
ASTM C 518 Heat Transfer
ASTM D 1761 Mechanical Fasteners

2. Laminate Properties

- a. Door face plate is a minimum of 0.125 inch thick fiberglass reinforced plastic molded into one continuous sheet starting with a 25 mil resin-rich gelcoat layer resin integrally molded with multiple layers of 1.5 oz. sq ft fiberglass mat and one layer of 18 oz per square yard fiberglass woven roving saturated with special resin. Door plate weight shall not be less than 0.97 lbs per square foot at a ratio of 30/70 glass resin.
- b. Laminated plate by itself evaluated in accordance with Florida Building Code TAS 201 Large Missile Impact Test as per ASTM-1996-05b, Standard Specification for Performance of Exterior Windows, Curtain Wall, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes. The missile (a 2 x 4 with a weight of 9 lbs shot from a cannon at a velocity of 50 ft/sec) did not penetrate the door face plate.
 1. ASTM D 638 Tensile Strength Properties of Plastic
 2. ASTM D 790 Flexural Strength Properties of Plastic
 3. ASTM D 2583 Indention Hardness of Plastics
 4. ASTM D 256 Izod Pendulum Impact Resistance
 5. ASTM D 792 Density/Specific Gravity Of Plastics
 6. ASTM D 1761 Mechanical Properties of Fasteners
 7. ASTM E 84 Surface Burning Characteristics of Materials
 8. ASTM G 155 Xenon Light Exposure of Non Metallic Materials
 9. ASTM D 635 Method For Rate of Burning
 10. ASTM D 2843 Smoke Density
 11. ASTM D 1929 Self Ignition Temperature Properties
 12. SFBC PA 201 Impact Procedures for Large Missile Impact

3. Core Properties

- a. ASTM C 177 Thermal Properties of Materials
- b. ASTM D 1622 Density and Specific Gravity
- c. ASTM E 84 Surface Burning Characteristics of Materials
- d. WDMA TM-10 and TM-5 Firestop ASTM E 152 U.L 10(b)
- e. ASTM E90-04- Sound Transmission Loss
- f. ASTM E413-04- Classification for Rating Sound Insulation
- g. ASTM E1332-90- Standard Classification for Determination of Outdoor-Indoor Transmission Class
- h. ASTM E2235-04- Standard Test for Determination of Decay Rates for Use in Sound Insulation Methods

B. Qualifications

1. **Manufacturer Qualifications:** A company specialized in the manufacture of fiberglass reinforced plastic (FRP) doors and frames as specified herein with a minimum of 30 years documented experience and with a record of successful in-service performance for the applications as required for this project.
2. **Installer Qualifications:** An experienced installer who has completed fiberglass door and frame installations similar in material, design, and extent to those indicated and whose work has resulted in construction with a record of successful in-service performance.
3. **Source limitations:** Obtain fiberglass reinforced plastic doors and resin transfer molded fiberglass frames through one source fabricated from a single manufacturer. This ensures complete uniformity of physical properties and consistency in the resin chemistry tailored for this application.
4. **Source limitations:** Hardware and accessories for all FRP doors as scheduled in Section 08 06 00 and specified in Section 08 71 00 shall be provided and installed by the fiberglass door and frame manufacturer.

1.4 SUBMITTALS

- A. **Product Technical Data Including:**
 1. Acknowledgment that products submitted meet requirements of standards referenced.
 2. Manufacturer shall provide certificate of compliance with current local and federal regulations as it applies to the manufacturing process.
 3. Manufacturer's installation instructions.
 4. Schedule of doors and frames indicating the specific reference numbers used on the owner's project documents, noting door type, frame type, size, handing and applicable hardware.
 5. Details of core and edge construction. including factory construction specifications.
 6. Certification of manufacturer's qualifications.

- B. **Submittal Drawings for Customer Approval Shall be Submitted Prior to Manufacture and Will Include the Following Information and Formatting:**
 1. Summary door schedule indicating the specific reference numbers as used on owner's drawings, with columns noting door type, frame type, size, handing, accessories and hardware.
 2. A drawing depicting front and rear door elevations showing hardware with bill of material for each door.
 3. Drawing showing dimensional location of each hardware item and size of each door.
 4. Individual part drawing and specifications for each hardware item and FRP part or product.
 5. Construction and mounting detail for each frame type.

- C. **Samples:**
 1. Provide one complete manufactured door sample which represents all aspects of the typical manufacturing process, including molded in gelcoat color and face plate

construction. One edge should expose the interior of the door depicting the unique u-shaped continuous piece stile and rail, hardware reinforcement and core material.

- D. **Operation and Maintenance Manual**
1. Include recommended methods and frequency for maintaining optimum condition of fiberglass doors and frames under anticipated traffic and use condition.
 2. Include one set of final as built drawings with the same requirements as mentioned in Section B above.
 3. Include certificate of warranty for door and frame listing specific door registration numbers.
 4. Include hardware data sheets and hardware manufacturer's warranties.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Each door and frame shall be delivered individually crated for protection from damage in cardboard containers, clearly marked with project information, door location, specific reference number as shown on drawings, and shipping information. Each crate shall contain all fasteners necessary for installation as well as complete installation instructions.
1. Doors shall be stored in the original container on edge, out of inclement weather for protection against the elements.
 2. Handle doors pursuant to the manufacturer's recommendations as posted on outside of crate.

1.6 WARRANTY

- A. All fiberglass doors and frames shall have a lifetime guarantee against failure due to corrosion. Additionally, fiberglass doors and fiberglass frames are guaranteed for ten years against failure due to materials and workmanship, including warp, separation or delamination, and expansion of the core.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with the Contract Documents, the following manufacturers are acceptable:
1. Chem-Pruf Door Co., Ltd., P.O. Box 4560 Brownsville, Texas 78523 Phone: 1-800-444-6924-7943, Fax: 956-544-7943, Website: www.chem-pruf.com
 2. Substitutions may be considered provided manufacturer can comply with the specifications as written herein.

2.2 FRP DOORS

- A. Doors shall be made of fiberglass reinforced plastic (FRP) using Class 1 premium resin with no fillers that is specifically tailored to resist chemicals and contaminants typically

- found in environment for which these specifications are written. Doors shall be 1 ¼ inch thick and of flush construction, having no seams or cracks. For consistency in the resin chemistry tailored for this application and to maintain the same physical properties throughout the structure, all fiberglass components including face plates, stiles and rails and frames must be fabricated by the same manufacturer. Components obtained through various outside sources for plant assembly will not be accepted.
- B. Door Plates shall be 0.125 inch thick minimum, molded in one continuous piece, starting with 25 mil gelcoat of the color specified, integrally molded with multiple layers of 1.5 ounces per square foot fiberglass mat and one layer of 18 ounce per square yard fiberglass woven roving. Each layer shall be individually laminated with resin as mentioned above. Door plate weight shall not be less than 0.97 lbs per square foot at a ratio of 30/70 glass to resin. Plate alone to withstand Large Missile Impact per FBC TAS 201. Face plates manufactured using the pultrusion process does not allow for a smooth molded gelcoat finish, the use of woven roving for adequate plate thickness, strength and weight, or the appropriate glass to resin ratio and will not meet the quality standards of this project.
- C. Stiles and Rails shall be constructed starting from the outside toward the inside, with a matrix of at least three layers of 1.5 ounce per square foot of fiberglass mat. The stile and rail shall be molded in one continuous piece to a U-shaped configuration and to the exact dimensions of the door. In this manner there will be no miter joints and disparate materials used to form the one-piece stile and rail.
- D. Core material shall be Polypropylene plastic honeycomb core with a non woven polyester veil for unparalleled plate bonding, 180 PSI typical compression range.
- E. Internal Reinforcement shall be #2 SPF of sufficient amount to adequately support required hardware and function of same.
- F. Finish of door frame shall be identical with 25 mil resin-rich gelcoat of the specified color integrally molded in at time of manufacture resulting in a smooth gloss surface that is dense and non-porous. To achieve optimum surface characteristics, the gelcoat shall be cured within a temperature range of 120F to 170F creating an impermeable outer surface, uniform color throughout, and a permanent homogeneous bond with the resin/fiberglass substrate beneath. Only the highest quality gelcoat shall be used to ensure enduring color and physical properties. Paint and/or post application of gelcoat results in poor mechanical fusion and will be deemed unacceptable for this application. The finish of the door and frame must be field repairable without compromising the integrity of the original uniform composite structure, function or physical strength.

2.3 FRP FRAMES

- A. Frames (rated and non-rated) shall be fiberglass and manufactured using the resin transfer method creating one solid piece (no voids) with complete uniformity in color and size. Beginning with a minimum 25 mil gelcoat layer molded in and a minimum of two layers of continuous strand fiberglass mat saturated with resin, the frame will be of one-piece construction with molded stop. All frame profiles shall have a core material of 2 psf polyurethane foam. Metal frames or pultruded fiberglass frames will not be accepted.
- B. Finish of frame shall be identical to the door with 25 mil resin-rich gelcoat of the specified color integrally molded in at time of manufacture. To achieve optimum

surface characteristics, the gelcoat shall be cured within a temperature range of 120F to 170F creating an impermeable outer surface, uniform color throughout, and a permanent homogeneous bond with the resin/fiberglass substrate beneath. Only the highest quality gelcoat will be used to ensure enduring color and physical properties. Paint and/or post application of gelcoat result in poor mechanical fusion and will be deemed unacceptable for this application. The finish of the door and frame must be field repairable without compromising the integrity of the original uniform composite structure, function or physical strength.

- C. Jamb/Header connection shall be mitered for tight fit.
- D. Internal Reinforcement shall be continuous within the structure to allow for mounting of specified hardware. Reinforcing material shall be a dense matrix of cloth glass fibers and premium resin with a minimum hinge screw holding value of 1000 lbs per screw. All reinforcing materials shall be completely encapsulated. Documented strength of frame screw holding value after third insert must be submitted. Dissimilar materials, such as steel, will be deemed unacceptable as reinforcement for hardware attachment.
- E. Mortises for hardware shall be accurately machined by CNC to hold dimensions to +/- 0.010 inch in all three axis.
- F. Hinge pockets shall be accurately machined by CNC to facilitate heavy duty hinges at all hinge locations, using shims when standard weight hinges are used.
- G. Window openings shall be provided with fiberglass retainers to hold the glazing in place. Retainers shall be resin transfer molded with a profile that drains away from glazing. The window retainer must match the color and finish of the frame plates with 25 mil of resin-rich gelcoat integrally molded in at time of manufacture. Mechanical fasteners shall not be used to attach retainers. Glass, as specified in Section 08 80 00, shall be furnished and installed by frame manufacturer. In order to maintain uniform appearance, product longevity and the corrosion resistance this application requires, window retainers fabricated from Metal, PVC or Vinyl will not be accepted.

2.4 HARDWARE

- A. See Door and Frame Schedule on drawing A-1-8.1, Opening/Hardware Set Schedule in section 08 06 00 and Hardware in Section 08 71 00.
- B. The special nature of this material requires that all related hardware as specified must be furnished and installed by the door frame manufacturer to maintain product quality and function as well as to ensure sufficient support/reinforcement, precision tooling and proper sealing methods are provided.

PART 3 – EXECUTION

3.1 INSTALLATION CONDITIONS

- A. Verification of Conditions

1. Verify openings are correctly prepared to receive doors and frames.
2. Verify openings are correct size and depth in accordance with submittal drawings.

B. Installer's Examination

1. Door installer shall examine conditions under which construction activities of this section are to be performed and submit a written report to general contractor if conditions are unacceptable.
2. General Contractor shall submit two copies of the installer's report to the architect within 24 hours of receipt.
3. Installer shall not proceed with installation until all unacceptable conditions have been corrected.

3.2 INSTALLATION

- A. Doors shall be delivered at job site individually crated. Each crate to be clearly marked with the specific opening information for quick and easy identification.
- B. All single doors to be shipped completely assembled in the frame with hardware installed. Double doors to be prehung at the factory to ensure a proper fit and that hardware functions properly, then disassembled for shipping purposes.
- C. Install door opening assemblies in accordance with shop drawings and manufacturer's printed installation instructions, using installation methods and materials specified in installation instructions.
- D. Field alteration of doors or frames to accommodate field conditions is strictly prohibited.
- E. Site tolerances: Maintain plumb and level tolerance specified in manufacturer's printed installation instructions.
- F. Fire labeled doors, frames and any associated hardware must be installed by qualified professional installers in strict accordance with manufacturer's instructions and the latest revision of NFPA 80.

3.3 ADJUSTING

- A. Adjust doors in accordance with the door manufacturer's maintenance instructions to swing open and shut without binding and to remain in place at any angle without being moved by gravitational influence.
- B. Adjust door hardware to operate correctly in accordance with hardware manufacturer's maintenance instruction.

3.4 CLEANING

- A. Clean surfaces of door opening assemblies and exposed door hardware in accordance with respective manufacturer's maintenance instructions.

3.5 PROTECTION OF INSTALLED PRODUCTS

- A. Protect door opening assemblies and door hardware from damage by subsequent construction activities until final inspection.

**CORNERSTONE AQUATICS
CENTER RESTORATION
WEST HARTFORD, CT COMPOSITE DOORS AND FRAMES** **08 16 00-8**

END OF SECTION 08 16 00

08 31 13 - ACCESS DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing access doors for installation in the following types of construction:
 - 1. Non-rated access panels for masonry wall construction.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
 - 1. Product data in form of manufacturer's technical data and installation instructions for each type of access door assembly, including setting drawings, templates, instructions, and directions for installation of anchorage, devices.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain access doors for entire project from one source from a single manufacturer.
- B. Size Variations: Obtain Architect's acceptance of manufacturer's standard size units, which may vary slightly from sizes indicated.
- C. Coordination: Furnish inserts and anchoring devices that must be built into other work for installation of access doors. Coordinate delivery with other work to avoid delay.

1.5 PROJECT CONDITIONS

- A. Verification: Obtain specific locations and sizes for required access doors from trades requiring access to concealed equipment, and indicate on submittal schedule.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide access doors by one of the following:
1. Cesco Products
 2. J.L. Industries
 3. Milcor, Inc.
 4. Nystrom, Inc.

2.2 MATERIALS AND FABRICATION

- A. General: Furnish each access door assembly manufactured as an integral unit, complete with all parts, and ready for installation.
- B. Steel Access Doors and Frames: Fabricate units of continuous welded steel construction unless otherwise indicated. Grind welds smooth and flush with adjacent surfaces. Furnish attachment devices and fasteners of type required to secure access panels to types of support shown.
- C. Frames: Fabricate from 16-gauge steel.
1. Fabricate frame with exposed flange nominal 1-inch wide around perimeter of frame for units installed in the following construction:
 - a. Exposed masonry.
 2. For installation in masonry construction, furnish frames with adjustable metal masonry anchors.
- D. Flush Panel Doors: Fabricate from not less than 14 gage sheet steel, with concealed continuous piano hinge set to open 175 degrees. Finish with manufacturer's factory-applied prime paint.
- E. Locking Devices: Furnish flush, screwdriver-operated cam locks of number required to hold door in flush, smooth plane when closed.
1. Provide one cylinder lock per access door. Furnish 2 keys per lock. Key all locks alike, unless otherwise scheduled.
- F. Finish: All steel is to be galvanized. All exposed faces of doors and frames are to be primed and painted to match adjacent wall finish color.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's instructions for installation of access doors.
- B. Coordinate installation with work of other trades.
- C. Set frames accurately in position and securely attach to supports with face panels plumb or level in relation to adjacent finish surfaces.

3.2 ADJUST AND CLEAN

- A. Adjust hardware and panels after installation for proper operation.
- B. Remove and replace panels or frames that are warped, bowed, or otherwise damaged.

END OF SECTION 08 31 13

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08 41 13 - ALUMINUM ENTRANCES AND STOREFRONT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing the following types of aluminum entrances and storefront work as indicated on the drawings and specified herein:
1. Aluminum entrance doors and matching storefront framing system.
 2. Complete weatherstripping for aluminum entrances.
- B. Related Sections: The following sections contain requirements that relate to this Section:
1. Section 08 06 00 – "Door Schedule" for hardware set allocations.
 2. Section 08 71 00 - "Finish Hardware" for additional hardware for aluminum entrances.
 3. Section 08 80 00 – "Glass and Glazing" for glazing of all aluminum entrances and storefront framing as indicated on the drawings.

1.3 SYSTEM DESCRIPTION

- A. Entrance Performance Requirements:
1. Air Infiltration Test
 - a. With door sash closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 1.57 psf.
 - b. Air infiltration shall not exceed .50 cfm/SF of unit, for single doors.
 - c. Air infiltration shall not exceed .10 cfm/SF of unit, for a pair of doors.
 2. Uniform Load Structural Test
 - a. With door sash closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 60.0 psf, both positive and negative pressure.

- b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, or actuating mechanisms, nor any other damage that would cause the door to be inoperable.
- 3. Condensation Resistance Test (CRF)
 - a. Test unit in accordance with AAMA 1503.1.
 - b. Condensation Resistance Factor (CRF) shall not be less than 67 (frame) when glazed with 0.29 center of glass U-Factor.
- 4. Condensation Resistance (CR)
 - a. With ventilators closed and locked, test unit in accordance with NFRC 500-2010.
 - b. Condensation Resistance (CR) shall not be less than 45 when glazed with 0.29 center of glass U-Factor.
- 5. Thermal Transmittance Test (Conductive U-Factor)
 - a. With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
 - b. Conductive thermal transmittance (U-Factor) shall not be more than 0.49 BTU/hr•ft²•°F when glazed with 0.29 center of glass U-Factor.

B. Storefront System Performance Requirements:

- 1. Air Infiltration Test
 - a. Test unit in accordance with ASTM E 283 at a static air pressure difference of 6.24 psf.
 - b. Air infiltration shall not exceed .06 cfm/SF of unit.
- 2. Water Resistance Test
 - a. Test unit in accordance with ASTM E 331.
 - b. There shall be no uncontrolled water leakage at a static test pressure of 12.0 psf
- 3. Uniform Load Deflection Test
 - a. Test in accordance with ASTM E 330.
 - b. Deflection under design load shall not exceed L/175 of the clear span.
- 4. Uniform Load Structural Test
 - a. Test in accordance with ASTM E 330 at a pressure 1.5 times the design wind pressure in 1.4.B.3.b.
 - b. At conclusion of the test, there shall be no glass breakage, permanent damage to fasteners, storefront parts, or any other damage that would cause the storefront to be defective.
- 5. Condensation Resistance Test (CRF)
 - a. Test unit in accordance with AAMA 1503.1.
 - b. Condensation Resistance Factor (CRF) shall not be less than 56 (frame) when glazed with 0.29 center of glass U-Factor.
- 6. Condensation Resistance (CR)
 - a. With ventilators closed and locked, test unit in accordance with NFRC 500-2010.

- b. Condensation Resistance (CR) shall not be less than 37 when glazed with 0.29 center of glass U-Factor.
- 7. Thermal Transmittance Test (Conductive U-Factor)
 - a. With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
 - b. Conductive thermal transmittance (U-Factor) shall not be more than 0.41 BTU/hr•ft²•°F when glazed with 0.29 center of glass U-Factor.

1.4 SYSTEM PERFORMANCE REQUIREMENTS

- A. General: Provide aluminum entrance and shear block storefront assemblies that comply with performance characteristics specified, as demonstrated by testing the manufacturer's corresponding stock assemblies according to test methods indicated.

1.5 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
 - 1. Product data for each aluminum entrance and storefront system required, including:
 - a. Manufacturer's standard details and fabrication methods.
 - b. Data on finishing, hardware and accessories.
 - c. Recommendations for maintenance and cleaning of exterior surfaces.
 - 2. Shop drawings for each aluminum entrance and storefront system required, including:
 - a. Layout and installation details, including relationship to adjacent work.
 - b. Elevations at 1/4-inch scale.
 - c. Detail sections of typical composite members.
 - d. Anchors and reinforcement.
 - e. Hardware mounting heights.
 - f. Provisions for expansion and contraction.
 - g. Glazing details.
 - 3. Hardware Schedule: Coordinate hardware with doors, frames, and related work to ensure proper size thickness, hand, function, and finish. Include item name, name of the manufacturer and complete designations of every item required for each door opening. Additional hardware is furnished under Section 08710, "Door Hardware".
 - 4. Samples for Initial Color Selection: Submit pairs of samples of each specified color and finish on 12-inch-long sections of extrusions or formed

- shapes. Where normal color variations are anticipated, include 2 or more units in each set of samples indicating extreme limits of color variations.
5. Samples for Verification Purposes: The Architect reserves the right to require additional samples, that show fabrication techniques and workmanship, and design of hardware and accessories.
 6. Test Reports: Provide certified test reports from a qualified independent testing laboratory showing that aluminum entrance systems have been tested in accordance with specified test procedures and comply with performance characteristics indicated.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed installations of aluminum entrances similar in design and extent to those required for the project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer's Qualifications: Provide aluminum entrance systems produced by a firm experienced in manufacturing systems that are similar to those indicated for this project and that have a record of successful in-service performance.
- C. Fabricator Qualifications: Provide aluminum entrance systems fabricated by a firm experienced in producing systems that are similar to those indicated for this Project, and that have a record of successful in-service performance. The fabricator shall have sufficient production capacity to produce components required without causing delay in progress of the Work.
- D. Single Source Responsibility: Obtain aluminum entrance systems from one source and from a single manufacturer.
- E. Design Criteria: The drawings indicate the size, profile, and dimensional requirements of aluminum entrance work required and are based on the specific types and models indicated. Aluminum entrance and storefront by other manufacturers may be considered, provided deviations in dimensions and profiles are minor and do not change the design concept as judged by the Architect. The burden of proof equality is on the proposer.
 1. Submit data for alternate manufacturers in accordance with Conditions of the Contract and Section 01300, "Submittals and Product Substitutions".

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver aluminum entrance components in the manufacturer's original protective packaging.

- B. Store aluminum components in a clean dry location away from uncured masonry or concrete. Cover components with waterproof paper, tarpaulin or polyethylene sheeting in a manner to permit circulation of air.
 - 1. Stack framing components in a manner that will prevent bending and avoid significant or permanent damage.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Check openings by accurate field measurement before fabrication. Show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delay of the work.
 - 1. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

1.9 WARRANTY

- A. Total Entrance Installation
 - 1. The responsible contractor shall assume full responsibility and warrant for eighteen months the satisfactory performance of the total entrance installation which includes that of the door, hardware, glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
 - 2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.
- B. Window Material and Workmanship
 - 1. Provide written guarantee against defects in material and workmanship for three (3) years from the date of final shipment.
- C. Finish
 - 1. Warranty period shall be for twenty (20) years from the date of final shipment.
 - 2. Provide organic finish warranty based on AAMA standard 2605.

PART 2 - PRODUCTS

2.1 MANUFACTURER AND MODEL

- A. All entrances and storefront systems shall be manufactured by:

1. EFCO Corporation, as represented by PACE Representatives, Inc., One Rockdale Street, Braintree, MA 02184, Keith Sportack, Phone: 781-541-5060.
 2. Alternate manufacturers and products: Subject to compliance with all material and performance requirements outlined in these specifications, "or equal" products by other manufacturers will be considered for use subject to review by the Architect. The Architect's decision regarding equivalency is final.
- B. Entrances (Doors): EFCO Series D500, 1-3/4" Wide Stile Non-Thermal Swing Entrance Door.
- C. Storefront (Framing): EFCO Series 402 (NT), 2" x 4-1/2" Non-Thermal Flush-Glazed Shear Block Storefront.
1. Provide variable mullions, 2-way corners, and door frame extensions to ensure a complete and uniform appearance of the angular installations indicated on the drawings.

2.2 MATERIAL

- A. Aluminum
1. Extruded aluminum shall be 6063-T5 or T6 alloy and temper.
- B. Fasteners
1. All exposed fasteners shall be aluminum or stainless steel.
- C. Additional hardware for entrance doors is specified under Section 08710 – Door Hardware of the specifications and shall be sent to the door manufacturer for application. The finish hardware supplier shall be responsible for furnishing physical hardware and templates of all hardware to the entrance door manufacturer prior to fabrication, and for coordinating hardware delivery requirements with the hardware manufacturer, the General Trades Contractor and the entrance door manufacturer to ensure the building project is not delayed.

2.3 FABRICATION

- A. Aluminum Entrances:
1. Major portions of the door sections shall have .125" wall thickness.
 2. Exterior glazing stops shall be an integral part of the door; glazing stop sections shall have .050" wall thickness. Interior stops shall be snap-in type. Both stops will have E.P.D.M. gaskets.
 3. Depth of door frame shall not be less than 1-3/4".
 4. Stiles shall be no less than 5" in width
- B. Entrance Doors

1. Door stiles and rails shall have hairline joints at corners.
2. Exterior corner construction is true mortise and tenon for physical interlock between the rails and stiles.
3. Interior corner construction shall be joined by heavy concealed reinforcement brackets with screws and shall be deep penetration and fillet welded.
4. Weather-stripping shall be wool pile and shall be installed in one stile of pairs of doors.

C. Glazing

1. All units shall be dry glazed with extruded pressure fitting aluminum glazing stops, and E. P. D. M. gasket.

D. Framing (Door, Storefront, and windows)

1. Depth of frame shall not be less than 4-1/2".
2. Face dimension shall not be less than 2".
3. Shear block construction shall be utilized throughout.
4. System design shall be such that raw edges will not be visible at joints.
5. Framing to have uniform interior and exterior finishes and/or colors.

E. Door stops shall include wool pile weather-stripping.

F. Storefront Framing:

1. All aluminum frame extrusions shall have a minimum wall thickness of .080".
2. All exposed work shall be carefully matched to produce continuity of line and design with all joints. System design shall be such that raw edges will not be visible at joints.

2.4 GLAZING

- A. Glazing of aluminum entrances, sidelights, transom lights, and storefront framing to be by Section 08 80 00 – Glass and Glazing.**

2.5 FINISH

- A. All aluminum entrances and storefront shall have manufacturers finish.**
- B. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.**
- C. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.**

D. Entrances and Framing:

Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Apply baked enamel complying with paint manufacturer's written instructions for cleaning, conversion coating, and painting.

Organic Coating: Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603 Organic Coating:
Thermosetting, modified-acrylic enamel primer/topcoat system complying with AAMA 2603.

Color: To be selected at a later date by Architect utilizing manufacturer's standard colors.

2.6 HARDWARE

- A. General: Refer to Section 08 71 00 "Door Hardware" for requirements for hardware items other than those indicated to be provided by the aluminum entrance manufacturer. Section 08 41 13 to coordinate hardware requirements with aluminum entrances and install all scheduled hardware for aluminum entrances.

2.7 COMPONENTS

- A. Storefront Framing System: Provide storefront and entrance framing systems fabricated from extruded aluminum members of size and profile indicated.
- B. Include subframes and other reinforcing members of the type indicated. Provide for flush glazing storefront from the exterior on all sides without projecting stops.
- C. Shop fabricate and preassemble frame components where possible. Provide storefront frame sections without exposed seams.
1. Mullion Configurations: Provide pockets at the inside glazing face to receive resilient elastomeric glazing. Mullions and horizontals shall be one piece. Make provisions to drain moisture accumulation to the exterior.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and supports, with the Installer present, for compliance with requirements indicated, installation tolerances, and other conditions that affect

installation of aluminum entrances. Correct unsatisfactory conditions before proceeding with the installation.

1. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's instructions and recommendations for installation.
- B. Set units plumb, level, and true to line, without warp or rack of framing members, doors, or panels. Install components in proper alignment and relation to established lines and grades indicated. support and Provide proper anchor securely in place.
- C. Construction Tolerances: Install aluminum entrance to comply with the following tolerances:
 1. Variation from Plane: Do not exceed 1/8 inch in 12 feet of length or 1/4 inch in any total length.
 2. Offset from Alignment: The maximum offset from true alignment between two identical members abutting end to end in line shall not exceed 1/16 inch.
 3. Diagonal Measurements: The maximum difference in diagonal measurements shall not exceed 1/8 inch.
 4. Offset at Corners: The maximum out-of-plane offset of framing at corners shall not exceed 1/32 inch.
- D. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
 1. Zinc or cadmium plate steel anchors and other unexposed fasteners after fabrication.
 2. Paint dissimilar metals where drainage from them passes over aluminum.
- E. Drill and tap frames and doors and apply surface-mounted hardware items. Comply with hardware manufacturer's instructions and template requirements. Use concealed fasteners wherever possible.
- F. Set sill members and other members in bed of sealant, or with joint fillers or gaskets to provide weathertight construction. Comply with requirements of Section 07 92 00 for sealants, fillers, and gaskets.
- G. Refer to Section 08 80 00 "Glazing" for installation of glass and other panels indicated to be glazed into doors and framing.

3.3 ADJUSTING

- A. Adjust operating hardware to function properly, for smooth operation without binding, and for weathertight closure.

3.4 CLEANING

- A. Clean the completed system, inside and out, promptly after installation, exercising care to avoid damage to coatings.

3.5 PROTECTION

- A. Institute protective measures required throughout the remainder of the construction period to ensure that aluminum entrances and storefronts will be without damage or deterioration, other than normal weathering, at time of Substantial Completion.

END OF SECTION 08 41 13

08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes items known commercially as finish or door hardware that are required for swing, sliding, and folding doors, except special types of unique hardware specified in the same Sections as the doors and door frames on which they are installed. Furnish and deliver all door hardware necessary for all doors, also hardware as specified herein and as enumerated in hardware sets and as indicated and required by actual conditions at the building. The hardware shall include the furnishing of all necessary screws, bolts, expansion shields, drop plates, and all other devices necessary for the proper application of the hardware.
- B. **ALL DOOR HARDWARE MUST BE FURNISHED BY SECTION 08 71 00 DOOR HARDWARE SUPPLIER.**

"CONTRACTS, Including Door Hardware, ISSUED TO ALUMINUM DOOR SUPPLIER" must stipulate aluminum door hardware must be purchased from SECTION 087100 HARDWARE SUPPLIER
- C. **HARDWARE SUPPLIER:** Must employ an experienced *Architectural Hardware Consultant (AHC)* who is available to Owner, Architect, and Contractor, at reasonable times during the course of the Work, for consultation.
- D. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Division 8 Section 08 06 00 "SCHEDULE FOR OPENINGS".
 - 2. Division 8 Section 08 16 13 "FIBERGLASS DOORS AND FRAMES".
 - 3. Division 8 Section 08 41 13 "ALUMINUM-FRAMED ENTRANCES AND
 - 4. Division 8 Section 08 71 13 "AUTOMATIC DOOR OPERATORS".
 - 5. Division 26 "ELECTRICAL".
 - 6. Division 32 Section 32 31 19 "METAL FENCES and GATES".

1.3 REFERENCES

A. Standards:

1. ANSI/BHMA, A156.1 (2013) - Butts & Hinges
2. ANSI/BHMA, A156.2 (2011) - Bored and Preassembled Locks and Latches
3. ANSI/BHMA, A156.4 (2008) - Door Controls - Closers
4. ANSI/BHMA, A156.5 (2010) - Auxiliary Locks and Associated Products
5. ANSI/BHMA, A156.6 (2010) - Architectural Door Trim
6. ANSI/BHMA, A156.7 (2009) - Template Hinge Dimensions
7. ANSI/BHMA, A156.8 (2010) - Door Controls - Overhead Stops and Holders
8. ANSI/BHMA, A156.13 (2012) - Mortise Locks & Latches, Series 1000
9. ANSI/BHMA, A156.16 (2008) - Auxiliary Hardware
10. ANSI/BHMA, A156.18 (2012) - Materials and Finishes
11. ANSI/BHMA, A156.19 (2007) - Power Assist and Low Energy Power Operated Doors
12. ANSI/BHMA, A156.21 (2009) - American National Standard for Thresholds
13. ANSI/BHMA, A156.22 (2012) - Door Gaskets and Edge Seal Systems
14. ANSI/BHMA, A156.26 (2012) - Continuous Hinges
15. ANSI/BHMA, A156.28 (2007) - Recommended Practices for Keying Systems
16. ANSI/BHMA, A156.29 (2012) - American National Standard for Exit Locks, Exit Alarms, Alarms for Exit Devices
17. ANSI/BHMA, A156.30 (2003) - American National Standard for High Security Cylinders
18. ANSI/BHMA, A156.36 (2010) - American National Standard for Auxiliary Locks
19. ANSI/BHMA, A156.115 (2006) - Hardware Preparation in Steel Doors and Steel Frames
20. NFPA 80 - Fire Doors and Windows
21. UL10C - Positive Pressure Fire Tests of Door Assemblies
22. AIA 232 2009 - General Conditions of the Contract for Construction, Construction Manager as Advisor Edition.

B. Codes:

1. Applicable state and local building codes.
2. 2015 International Building Code as Amended for the 2018 Connecticut State Code [CSBC 101.1.1]
3. NFPA 101 - Life Safety code
4. NFPA 105 - Smoke and Draft Control Door Assemblies
5. ICC / ANSI A117.1 - Accessible and Usable Buildings and Facilities
6. ADA - Americans with Disabilities Act

C. UL Underwriters Laboratories

1. UL 10C – Fire Tests of Door Assemblies
 2. UL 305 – Panic Hardware
- D. DHI – Door and Hardware Institute
1. Sequence and Form and for the Hardware Schedule
 2. Recommended Locations for Builders Hardware

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Section 1 Specification Sections.
- B. Product data including manufacturer’s technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish of door hardware.
- C. Final hardware schedule must be coordinated with doors, frames, and related work to ensure proper size, thickness, hand function, and finish of door hardware. **Conflicts between the SPECIFIED DOOR HARDWARE and the DOORS / FRAMES must be brought to the attention of the ARCHITECT prior to submitting HARDWARE SUBMITTAL to the ARCHITECT.**
- D. **HARDWARE SUPPLIER shall confirm specified LOCK FUNCTIONS with the OWNER at the KEYING MEETING.**
1. **Final Hardware Schedule Content:** Based on hardware indicated, organize schedule into “**HARDWARE SETS**” indicating complete designation of every item required for each door or opening. Include the following information:

Type, style, function, size, and finish of each hardware item.

- a. Name and manufacturer of each item.
- b. Fastenings and other pertinent information.
- c. Location of Hardware Set, cross-referenced to indication of Drawings both on floor plans, in door, and frame schedule.
- d. Explanation of all abbreviations, symbols, and codes contained in schedule.
- e. Mounting locations for hardware.
Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches (1219 mm) maximum above the finish floor. Locks used only for security purposes and not used for normal operation are permitted at any height.
Provide “DHI” Standard Mounting Locations in the Hardware Submittal.
- f. Door and frame sizes and materials.

- g. Keying information.
 - h. Name and phone number for the local manufacturer's representative for each product.
 - 2. Submittal Sequence: submit final schedule at earliest possible date particularly where acceptance of hardware schedule must precede fabrication of other work that is critical in the Project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by door hardware, and other information essential to the coordinated review to schedule.
 - 3. Keying Schedule: After a keying meeting between representatives of the Owner, Architect, hardware supplier, and, if requested, the representative for the lock manufacturer, provide a keying schedule, listing the levels of keying, as well as an explanation of the key system's function, the key symbols used, and the door numbers controlled.
- E. Samples: If requested by Architect, submit samples of each type of exposed hardware unit in finish indicated and tagged with full description for coordination with schedule. Submit samples prior to submission of final hardware schedule.
 - 1. Samples will be returned to the supplier. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated in the Work, within limitations of keying coordination requirements.
- F. Templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware. Check shop drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- G. Wiring Diagrams: Upon final approval of the hardware schedule, submit wiring and riser diagrams as required for the complete and proper installation of all electrical, electromechanical, and electromagnetic products. Submittals must represent that coordination has occurred with the security system submittals and shop drawings. Also, that shop drawings submitted, and schedules developed have been specifically reviewed and coordinated for both physical equipment fitment and power requirements with the security system contractor approved shop drawings.
- H. "Hardware Schedule and Templates", Hardware schedules shall be created which reference specifically to the specified lock voltages and separately indicating whether the door is a "fail safe" or "fail secure" electrified lock arrangement.
- I. Electrified Hardware: Electrified Hardware to be used for security purposes must be UL Listed for Burglary Applications.

- J. At the completion of hardware installation, and prior to issuance of certificate of occupancy, prepare and submit the hardware inspection report to include the following:
1. Current and predictable problems of substantial nature in the performance of the hardware.
 2. Hardware has been installed and adjusted in accordance with manufacturer's recommendations and instructions.
- K. At the completion of the project, provide Owner with two (2) copies of an Operation and Maintenance Manual. This manual shall consist of a hard cover (3) ring binder with the project name listed on the front. Included will be:
1. A final copy of the approved and as built hardware schedule.
 2. A final copy of the approved keying schedule.
 3. Catalog cuts for each item used in the project.
 4. Parts list and numbers for each item used.
 5. Maintenance instructions for all items.
 6. Name, address and phone number of local representatives for each item used.

1.5 QUALITY ASSURANCE

- A. Substitutions: Products are to be those specified to ensure a uniform basis of acceptable materials. Requests for substitutions must be made in accordance with Section 1 requirements. If proposing a substitute to a specified item, indicate basis for substitution and savings to be made. Provide sample if requested. Certain products have been selected for their unique characteristics and particular project suitability. All Hardware is "Basis-of-Design" product specification as defined in Section 08 71 00. Model numbers (and Manufacturer's) listed in "Hardware Set Schedule" are "Basis-of-Design".
1. Items specified, as "no substitution" shall be provided exactly as listed.
 2. Items listed with no substitute manufacturers listed have been requested by the Owner or Architect to match existing for continuity and/or future performance and maintenance standards or because there is no known equal product.
 3. If no other products are listed in a category, then "no substitution" is implied.
- B. Supplier Qualifications: A recognized architectural door hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that employs an experienced architectural hardware consultant (AHC) who is available to Owner, architect, and Contractor, at reasonable times during the course of the Work, for consultation.

1. Require supplier to meet with Owner to finalize keying requirements and to obtain final instructions in writing.
- C. A pre-installation meeting shall be held to instruct installers on the proper installation and adjustment of door hardware. A representative of each major hardware category, including, but not limited to, Locks, Exit Devices, & Closers, shall instruct the installers on the correct installation of their products. The manufacturers of the Door Hardware provided on this project shall certify to the Architect that the door hardware installer for this project has been trained in the proper installation procedures and is certified to install the door hardware.
- D. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by UL, Intertek Testing Services, Warnock Hersey, Factory Mutual, or other testing and inspecting organization acceptable to authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.
- E. Accessible Hardware: Door Hardware; *Handles, pulls, latches, locks and other operable parts on accessible doors shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching, or twisting of the wrist to operate. Such hardware shall 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides. EXCEPTION: Locks used only for security purposes and not used for normal operation are permitted in any location.*
- F. Accessible Hardware: Door-Opening Force; Fire Doors shall have the minimum opening force allowable by the appropriate administrative authority. The maximum force for pushing open or pulling open doors other than fire doors shall be as follows:
 1. Interior hinged door: 5.0 pounds
 2. Sliding or folding door: 5.0 pounds
 3. Fire Doors: Minimum opening force allowable by authorities having jurisdiction, but not greater than 10 lbf

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position. The maximum force required to release the latch shall not exceed 15 lbf.

 4. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch high.

5. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.

1.6 PRODUCT HANDLING

- A. Tag each item or package separately with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. Each item of hardware shall be individually packaged in manufacturer's original container.
- C. Receiving and storing of door hardware is responsibility of supplier. Prior to delivery of door hardware to the project, Hardware Supplier must sort and clearly mark with appropriate hardware set number to match set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.
- D. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- E. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).
- F. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable so that completion of the Work will not be delayed by hardware losses both before and after installation.

1.7 WARRANTY

- A. Provide manufacturer's Standard Warrantees.
- B. Starting date for all warranty periods to be date of substantial completion of the Project.
- C. No liability is to be assumed where damage or faulty operation is due to improper installation, improper use, or abuse.
- D. Products judged to be defective during the warranty period shall be replaced or repaired in accordance with the manufacturer's warranty, at no additional cost to the Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Butts and Hinges:

- a. Hager Companies
- b. Bommer
- c. Ives, Allegion
- d. McKinney Hinge, Div of Assa Abloy.
- e. PBB World Class Hinges
- f. Stanley Hardware

2. Continuous Hinges:

- a. Hager Companies
- b. Bommer
- c. Ives, Allegion
- d. McKinney Hinge, Div of Assa Abloy.
- e. PBB World Class Hinges
- f. Pemko
- g. Select

3. Key Control System:

- a. HPC
- b. Lund, Inc.
- c. Telkee Inc.

4. Locks:

- a. Best Access Systems, Div of Stanley Security Solutions, "45H", "9k" Series.
- b. Corbin-Russwin Architectural Hardware, Div of Assa Abloy, "ML2000", "CL3300" Series.
- c. Sargent, Div of Assa Abloy "8200", "10-Line x LL" Series.
- d. Schlage Lock, Allegion, "L" Series, "ND" Series.

5. Push/Pull Units:

- a. Hager Companies
- b. Burns Manufacturing, Inc
- c. Ives, Allegion
- d. Rockwood, Mfr.

6. Overhead Surface Closers:
 - a. LCN, Allegion. "4000 (Heavy Duty Arms)" Series
 - b. Norton, Div of Assa Abloy. "PR7500/PR7700" Series
 - c. Sargent, Div of Assa Abloy, Inc., "351 (Heavy Duty Arms)" Series

7. Door Control Devices:
 - a. Burns Manufacturing, Inc
 - b. Glynn Johnson, Allegion.
 - c. MAG Security
 - d. Rixson, Div of Assa Abloy
 - e. Sargent, Div of Assa Abloy

8. Kick and Mop Plates:
 - a. Hager Companies
 - b. Burns Manufacturing, Inc.
 - c. Ives, Allegion.
 - d. Rockwood

9. Weather-stripping and Seals:
 - a. Hager Companies
 - b. National Guard Products.
 - c. Pemko Manufacturing Co., Inc.
 - d. Reese Enterprises, Inc.

10. Smoke and Sound Stripping:
 - a. Hager Companies
 - b. National Guard Products.
 - c. Pemko Manufacturing Co., Inc.
 - d. Reese Enterprises, Inc.

11. Door Stops
 - a. Hager Companies
 - b. Burns Manufacturing, Inc
 - c. Glynn Johnson, Allegion.
 - d. H.B. Ives, Allegion
 - e. Rockwood Manufacturing

2.2 SCHEDULED HARDWARE

- A. Requirements for each type of door hardware are indicated on the “Door Schedule”, and in the Schedule at the end of this Section. Products are identified by using hardware designation numbers of the following:
1. **Manufacturer’s Product Designations:** The product designation and name of one manufacturer are listed for each hardware type required for the purpose of establishing minimum requirements. Manufacturer and model numbers indicated in Hardware Sets constitute a “Basis-of-Design” product specification as defined in this Section.

2.3 MATERIALS AND FABRICATION

- A. **Manufacturer’s Name Plate:** Do not use manufacturers’ products that have manufacturer’s name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise acceptable to Architect.
1. Manufacturer’s identification will be permitted on rim of lock cylinders only.
- B. **Base Metals:** Product hardware units of basic metal and forming methods indicated, using manufacturer’s standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized), quality than specified for applicable hardware units by applicable ANSI/BHMA A156 series standards for each type of hardware item and with ANSI/BHMA A156.18 for finish designations indicated. Do not furnish “optional” materials or forming methods for those indicated, except as otherwise specified.
- C. **Fasteners:** Provide hardware manufactured to conform to published templates generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- D. **Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of this other work as closely as possible including “prepared for paint” surfaces to receive paint.**
- E. **Provide concealed fasteners. Provide tamper resistant fasteners when they cannot be concealed. Fasteners shall be of the same finish as the balance of the hardware. Where thru-bolts are used as a means of reinforcing the work, provide sleeves for each thru-bolt or use sex screw fasteners.**

2.4 HINGES, BUTTS, AND CONTINUOUS HINGES

- A. Templates: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Screws: Provide Phillips flat-head screws complying with the following requirements:
 - 1. For metal doors and frames install machine screws into drilled and tapped holes.
 - 2. For wood doors and frames install wood screws.
 - 3. For fire-rated wood doors install #12 x ¼ inch, threaded-to-the-head steel wood screws.
 - 4. Finish screw heads to match surface of hinges or pivots.
- C. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - 1. Out-Swing Exterior Doors: Non-removable pins.
 - 2. Interior Doors: Non-rising pins.
 - 3. All “Card Reader Doors”: Non-removable pins.
- D. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges per door leaf for doors 90 inches of additional height.
 - 1. Fire-Rated Doors: Not less than 3 hinges per door leaf for doors 86 inches or less in height with same rule for additional hinges.
- E. Size and weight of butts:
 - 1. See Hardware Sets for Details.

2.5 LOCK CYLINDERS AND KEYING

- A. Review the keying system with the Owner and provide the type required grandmaster or great-grandmaster, integrated with Owner’s existing “BEST” system.
- B. **HARDWARE SUPPLIER SHALL CONFIRM SPECIFIED LOCK FUNCTIONS WITH OWNER AT THE KEYING MEETING.**
- C. Equip locks with manufacturer’s 6-pin tumbler “interchangeable core” cylinder employing “RESTRICTED KEYWAY”. Such cylinders have cores that are removable by the use of a special “control key”. Deliver hardware to the contractor with temporary cores installed and keyed alike. Permanent cores are to be mastered keyed as directed by the owner. Deliver permanent cores and keys to the owner when notified by the owner in writing. Temporary cores and keys are to be returned to the hardware supplier by the contractor within 10 days of their replacement by permanent cores.
(Do Not Provide Extra Key Blanks if Restricted Keyway has been specified.)

1. Furnish 12 each "Temporary Change Keys" and 2 each "Temporary Core Control Keys".
 2. Key Quantity: Furnish 3 change keys for each lock, 5 master keys for each master system, and 5 grandmaster keys for each grandmaster system. Furnish 6 each "Core Control Keys".
Furnish 6 Temporary Change Keys and 2 Temporary Core Control Keys.
 3. Furnish 6 each additional core for owner's stock.
 4. Install "FINAL CORES" when instructed by Owner.
 5. Deliver keys to Owner.
- D. Metals: Construct lock cylinder parts from brass or bronze, stainless steel, or nickel silver.
- E. Comply with Owner's instructions for master keying and, except as otherwise indicated, provide individual change key for each lock that is not designated to be keyed alike with a group of related locks.
- F. Key Material: Provide keys of nickel silver only.
- G. Final cores to be installed by the hardware supplier, installer must verify that all cylinders are working correctly.

2.6 KEY CONTROL SYSTEM

- A. Provide a key control system including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150 percent of the number of "Key Sets" required for the Project.
1. Provide complete cross-index system set up by key control manufacturer, and place keys on markers and hooks in the cabinet as determined by the final key schedule.
 2. Provide hinged-panel type cabinet for wall mounting.
 3. Acceptable Manufacturers
 - a. Lund Equipment.
 - b. MMF Industries.
 - c. Telkee.

2.7 LOCKS, LATCHES, AND BOLTS

- A. **Strikes:** Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set, unless otherwise indicated.
1. Provide flat lip strikes for locks with 3 pieces, anti-friction latchbolt as recommended by manufacturer.
 2. Provide recess type top strikes for bolts locking into head frames, unless otherwise indicated.
 3. Provide dust-proof strikes for foot bolts, except where special threshold construction provides non-recessed strike for bolt.
 4. Provide roller type strikes where recommended by manufacturer of the latch and lock units.
 5. Electrified locks, wherever possible, shall be "fail secure". Specified hardware must always allow exiting in the path of exiting travel from the secured room. Where "fail safe" doors are required to comply with life safety exiting code, insure that the fire alarm specifications call for an appropriate relay to kill power between the lock power supply and the electrified lock so that it must go to an unlocked condition.
- B. **Accessibility Requirements:** Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the 2010 ADA Standards, ICC/ANSI A117.1.
1. Comply with the following maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf applied perpendicular to door.
 - b. Folding Doors: 5 lbf applied parallel to door at latch.
 - c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction, but not greater than 10 lbf.
 2. Comply with the following maximum closing speed requirements:
 - a. Adjust closers so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees is to be 5 seconds minimum.
 - b. Adjust closers so that from an open position of 70 degrees, the time required to move the door to an open position of 3 inches from the latch is to be 3 seconds minimum.
- C. **Mortise Locks**
1. Mortise locks shall be certified as ANSI A156.13, Series 1000, Operational and Security Grade 1, and meets A117.1 Accessibility Code, and shall be manufactured from heavy gauge steel, containing components of steel with zinc dichromate plating for corrosion resistance. Lock case shall be multi-function and field reversible for handling.

2. Locks are to have a standard 2-3/4" backset with a full 3/4" throw 2-piece stainless steel mechanical anti-friction latch-bolt.
3. Lever trim shall be solid brass, bronze, or stainless steel, cast or forged in the design specified, with wrought roses and external Security requirement. Levers shall be thru-bolted to assure proper alignment and shall have a 2-piece spindle. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning.

2.8 CLOSERS AND DOOR CONTROL DEVICES.

- A. Size of Units: Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit depending on size of door, exposure to weather, and anticipated frequency of use.
 1. Where parallel arms are indicated for closers, provide closer with Heavy Duty Arm.
 2. Provide parallel arms for all overhead closers, except as otherwise indicated.
 3. Closers must operate at 180 degree opening where indicated on plans and door schedule.
 4. Provide all necessary Drop Plate Brackets, Shims, and Angle Brackets, where required to complete installation of closers on doors and frames.
- B. Access-Free Manual Closers: Where manual closers are indicated for doors required to be accessible to the physically handicapped, provide adjustable units complying with ANSI A117.1 provisions for door opening force and closing speed.

2.9 DOOR STOPS AND HOLDERS

- A. It shall be the responsibility of the hardware supplier to provide door stops for all doors in accordance with the following requirements. Where overhead stops and holders are specified, or otherwise required, they shall have 3" pins on larger doors, and be heavy duty, and of solid brass or stainless steel with no plastic type parts. Provide Door Stops as indicated in Hardware Sets.

2.10 DOOR TRIM UNITS

- A. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine screws or self-tapping screws.
- B. Fabricate protection plates not more than 2 inches less than door width on push side of door and by height indicated.
 1. Metal Plates: Stainless steel, 0.050 inch (U.S. 18 gage).

2. Provide UL Rated "KICK / ARMOR" Plates where detailed on UL Rated Openings.

2.11 THRESHOLDS, WEATHER-STRIPPING, SOUND STRIPPING AND SEALS

- A. Furnish as scheduled and per architectural details. Match finish of other items as closely as possible. Provide only those units where resilient or flexible seal strip is easily replaceable and readily available.

2.12 MISCELLANEOUS HARDWARE

- A. Furnish four (4) extra screws or fasteners of each type, used for the hinges, door closers, holders and protective plates of the same finish used in this project.
- B. Furnish two (2) additional adjusting wrenches for the door closers.

2.13 HARDWARE FINISHES

- A. Match items to the manufacturer's standard color and texture finish for the latch and lock sets (or push-pull units if not latch or lock sets).
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
- C. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18, "Materials and Finishes", including coordination with the traditional U.S. finishes show by certain manufacturers for their products.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to installation of any hardware, examine all doors, frames, walls and related items for conditions that would prevent proper installation of door hardware. Correct all defects prior to proceeding with installation.

3.2 INSTALLATION

- A. All hardware to be installed by qualified tradesmen, skilled in the application of commercial grade hardware. For technical assistance if necessary, installers may contact the manufacturer's rep for the item in question.
- B. Furnish and Install "THRU BOLTS" on Hollow Metal and Wood Doors.
- C. Electronic hardware shall be furnished and installed by qualified tradesmen. Hardware shall be wired by the security system contractor. Door Hardware installer shall be present to complete final adjustments to door hardware, when security contractor completes electrical terminations.
- D. Mount hardware units at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute.
- E. Install each hardware item in compliance with the manufacturer's instructions and recommendations, using only the fasteners provided by the manufacturer.
- F. Do not install surface mounted items until finishes have been completed on the substrate. Protect all installed hardware during painting.
- G. Set units' level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- H. All operating parts shall move freely and smoothly without binding, sticking, or excessive clearance.

3.3 ADJUSTING, CLEANING, AND DEMONSTRATING

- A. Adjust and check each operating item of hardware and each door, to insure proper operation or function of every unit. Replace units, which cannot be adjusted to operate freely and smoothly.
- B. Where door hardware is installed more than one-month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy to perform a final check and adjustment of all hardware items in such space or area. Clean operating doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- C. Clean adjacent surfaces soiled by hardware installation.
- D. At the completion of "BALANCING" of all "AIR HANDLING SYSTEMS", prior to owner taking occupancy, 'Hardware Installer' will re-adjust all closer closing and latching cycles.

- E. Approximately six months after the Date of Substantial Completion, the installer shall perform the following:**
- 1. Examine and readjust each item of door hardware as necessary to ensure function of doors, door hardware, and electrified hardware.**
 - 2. Consult with and instruct owners' personnel on recommend maintenance procedures.**
 - 3. Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.**

3.4 FIELD QUALITY CONTROL

- A. Prior to Substantial Completion, the installer, accompanied by representatives of the manufacturers of latchsets and locksets, door closers, and exit devices, and of other major hardware suppliers, shall perform the following work.**
- B. Examine (by representatives of the manufacturers) and re-adjust (by hardware installer) each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.**
- C. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures.**
- D. Replace hardware items that have deteriorated or failed due to faulty design or materials (work to be performed by representatives of the manufacturers including removal and reinstallation).**
- E. Replace hardware items that have deteriorated or failed due to incorrect installation (work to be performed by hardware installer including removal and reinstallation) of hardware units.**
- F. Prepare a written report of current and predictable problems of substantial nature in the performance of the hardware.**

3.5 PROTECTION

- A. Provide for the proper protection of all items of hardware until the Owner accepts the project as complete. Damaged or disfigured hardware shall be replaced or repaired by the responsible party.**

3.6 HARDWARE SCHEDULE

- A. General: Provide hardware for each door to comply with requirements of this Section, Door and Hardware Schedule Section 08 06 00”, and the following Hardware Sets. The door hardware sets listed herein shall not be considered as a complete hardware schedule and shall only be considered as an indication of the hardware requirements desired by the Owner. It shall be this Contractor’s responsibility to visit the site, examine the drawings and door schedule and provide all necessary hardware as shown. Such items shall be of same quality, quantity and type as that scheduled for similar doors or parts of the building used for similar purposes.
- B. **Door and Hardware Schedule Section 08 06 00, “BULLETS”, “SCHEDULE GENERAL NOTES” and “OPENING NOTES” shall be considered part of Section 08 71 00.**
- C. **Conflicts between the SPECIFIED DOOR HARDWARE and the DOORS / FRAMES must be brought to the attention of the ARCHITECT prior to submitting HARDWARE SUBMITTAL to the ARCHITECT.**

**CORNERSTONE AQUATICS
CENTER RESTORATION
WEST HARTFORD, CT**

DOOR HARDWARE

08 71 00-19

Hardware Set 301

3	Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D	Hager
1	Lockset, Entrance or Office	ML2053 - LC - NSA - 626 - M17	Corbin-Russwin
1	Cylinder, Mortise	BEST Cylinder - Mortise - 626	Section 087100
1	Closer, Reg Arm	7500 - 689	Norton
1	Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1	Stop, Wall	409 - US26D	Rockwood
3	Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 401

3	Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D - NRP	Hager
1	Lockset, Storeroom/Closet	ML2057 - C - NSA - 626 - M17	Corbin-Russwin
1	Cylinder, Mortise	BEST Cylinder - Mortise - 626	Section 087100
1	Closer, Par Arm - HO	PR7500 - H (LHR) - 689 (HD - Hold Open Arm to 180 Degrees)	Norton
1	Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
3	Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 402

3	Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D - NRP	Hager
1	Lockset, Storeroom/Closet	ML2057 - C - NSA - 626 - M17	Corbin-Russwin
1	Cylinder, Mortise	BEST Cylinder - Mortise - 626	Section 087100
1	Closer, Par Arm - HO	PR7500 - H (RHR) - 689 (HD - Hold Open Arm to 180 Degrees)	Norton
1	Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
3	Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 403

3	Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D	Hager
1	Lockset, Storeroom/Closet	ML2057 - C - NSA - 626 - M17	Corbin-Russwin
1	Cylinder, Mortise	BEST Cylinder - Mortise - 626	Section 087100
1	Closer, Reg Arm	7500 - 689	Norton
1	Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1	Stop, Wall	409 - US26D	Rockwood
3	Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 601

3	Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D	Hager
1	Lockset, Privacy	ML2060 - NSA - M34 - 626 - M17 - ML193 / ML194 / V21 (Occupancy Indicator)	Corbin-Russwin
1	Auto Door Opener/Closer	Auto Door Opener/Closer - LHR Leaf	Section
1	Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1	Stop, Door	474 - US26D (Install 6'-8" AFF)	Rockwood
3	Silencer, HM Dr. Frame	608 - Gray	Rockwood

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 WEST HARTFORD, CT**

DOOR HARDWARE

08 71 00-20

Hardware Set 602

3 Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D	Hager
1 Lockset, Privacy	ML2060 - NSA - M34 - 626 - M17 - ML193 / ML194 / V21 (Occupancy Indicator)	Corbin-Russwin
1 Closer, Par Arm - Cush/Stop	CLP-7500 - 689 (Set Stop Arm at 90 Degrees)	Norton
1 Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
3 Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 701

3 Hinge, Ball Bearing	BB1191 - 4.5 x 4.5 - US26D	Hager
1 Lock, Deadbolt - Classroom	DL4117 - LC- 626 - M34 - M40 WSB - D200	Corbin-Russwin
1 Cylinder, Mortise	BEST Cylinder - Mortise - 626	Section 087100
1 Push Plate	70C - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - 4" x 16" - US32D	Rockwood
1 Closer, Par Arm	PR7500 - 689	Norton
1 Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
3 Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 702

1 Hinge, Continuous Geared	780 - 226 HD - 99" - CLEAR - Concealed Leaf	Roton
1 Lock, Deadbolt - Classroom	DL4117 - 632 - M34 - M40 WSB	Corbin-Russwin
1 Push Plate	70C - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - 4" x 16" - US32D	Rockwood
1 Closer, Par Arm	PR7500SS - 689	Norton
1 Kick Plate	K1050 - (Furnish Nichol Plated Screws) - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
1 Weatherstrip, Adjustable	379CR - (Furnish Nichol Plated Screws) - 36" x 100"	Pemko
1 Door Bottom Sweep	315CN - (Furnish Nichol Plated Screws) x 36"	Pemko

Hardware Set 703

1 Hinge, Continuous Geared	780 - 112 HD - 85" - CLEAR - Concealed Leaf	Roton
1 Lock, Deadbolt - Classroom	DL4117 - 632 - M34 - M40 WSB	Corbin-Russwin
1 Push Plate	70C - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - (Furnish Nichol Plated Screws - 4" x 16" - US32D	Rockwood
1 Auto Door Opener/Closer	Auto Door Opener/Closer - LHR Leaf	Section
1 Kick Plate	K1050 - (Furnish Nichol Plated Screws) - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
1 Weatherstrip, Adjustable	379CR - (Furnish Nichol Plated Screws) - 36" x 86"	Pemko
1 Door Bottom Sweep	315CN - (Furnish Nichol Plated Screws) x 36"	Pemko

**CORNERSTONE AQUATICS
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WEST HARTFORD, CT**

DOOR HARDWARE

08 71 00-21

Hardware Set 704

1 Hinge, Continuous Geared	780 - 112 HD - 85" - CLEAR - Concealed Leaf	Roton
1 Lock, Deadbolt - Classroom	DL4117 - 632 - M34 - M40 WSB	Corbin-Russwin
1 Push Plate	70C - (Furnish Nichol Plated Screws) - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - (Furnish Nichol Plated Screws - 4" x 16" - US32D	Rockwood
1 Auto Door Opener/Closer	Auto Door Opener/Closer - RHR Leaf	Section
1 Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
1 Weatherstrip, Adjustable	379CR - (Furnish Nichol Plated Screws) - 36" x 86"	Pemko
1 Door Bottom Sweep	315CN - (Furnish Nichol Plated Screws) x 36"	Pemko

Hardware Set 705

1 Hinge, Continuous Geared	780 - 112 HD - 85" - CLEAR - Concealed Leaf	Roton
1 Lock, Deadbolt - Classroom	DL4117 - 626 - M34 - M40 WSB	Corbin-Russwin
1 Push Plate	70C - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - 4" x 16" - US32D	Rockwood
1 Auto Door Opener/Closer	Auto Door Opener/Closer - LHR Leaf	Section
1 Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
3 Silencer, HM Dr. Frame	608 - Gray	Rockwood

Hardware Set 706

1 Hinge, Continuous Geared	780 - 112 HD - 85" - CLEAR - Concealed Leaf	Roton
1 Lock, Deadbolt - Classroom	DL4117 - 626 - M34 - M40 WSB	Corbin-Russwin
1 Push Plate	70C - 4" x 16" - US32D	Rockwood
1 Pull Plate	BF-107 - 70C - 4" x 16" - US32D	Rockwood
1 Auto Door Opener/Closer	Auto Door Opener/Closer - LHR Leaf	Section
1 Kick Plate	K1050 - 08" x 34" - 18 ga. - US32D	Rockwood
1 Stop, Wall	409 - US26D	Rockwood
1 Silencer, HM Dr. Frame	608 - Gray	Rockwood

END OF SECTION 08 71 00

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SECTION 08 71 13 – AUTOMATIC DOOR OPERATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, “General Conditions of the Contract for Construction”, the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This section includes the furnishing and installing low-energy automatic door operators at door openings **104A, 108A, 109A, 117A, and 120A** as indicated on the drawings and specified herein.

1.3 RELATED SECTIONS

- A. Related Sections: Other specification sections which directly relate to the work of this Section include, but are not limited to, the following:
 - 1. Section 08 16 00 – “Composite Doors” for composite doors and frames to receive automatic door operators.
 - 2. Section 08 71 00 – “Door Hardware” for additional hardware requirements of composite door and frame installations.
 - 3. Electrical connections for powered operators and controls are specified in Division 26.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for automatic door operators, including activation and safety devices. Include operating characteristics, electrical characteristics, and furnished accessories.
- B. Shop Drawings: For automatic door operators. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Indicate required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Include locations and elevations of entrances showing activation and safety devices.
 - 3. Wiring Diagrams: For power, signal, and activation- and safety-device wiring.
 - 4. Include plans, elevations, sections, details, and attachments to other work for

guide rails.

- C. Samples: For each exposed product and for each color and texture specified, manufacturer's standard in size.
- D. Qualification Data: For qualified Installer.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation and maintenance of units required for this Project.
- B. Certified Inspector Qualifications: Certified by the AAADM.
- C. Source Limitations: Obtain automatic door operators, including activation and safety devices, from single source from single manufacturer.
- D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency, and marked for intended location and application.
- E. Exit-Door Requirements: Comply with requirements of authorities having jurisdiction for doors with automatic door operators serving as a component of a required means of egress.

1.6 COORDINATION

- A. Templates: Obtain and distribute, to the parties involved, templates for doors, frames, operators, and other work specified to be factory prepared and reinforced for installing automatic door operators. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing automatic door operators to comply with indicated requirements.
- B. Electrical System Roughing-in: Coordinate layout and installation of automatic door operators, including activation and safety devices, with connections to power supplies and to access-control system.

1.7 WARRANTEE

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of automatic door operators that fail in materials or workmanship within specified warranty period.
- B. Failures include, but are not limited to, the following

1. Faulty or sporadic operation of automatic door operator, including activation and safety devices.
2. Deterioration of metals, metal finishes, and other materials beyond normal weathering or use.

C. Warranty Period: One (1) year from date of Substantial Completion

1.8 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide 12 months' full maintenance by skilled employees of automatic door operator Installer. Include quarterly planned and preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door operation. Provide parts and supplies the same as those used in the manufacture and installation of original equipment.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Series 6000 Norton, an ASSA ABLOY Group company or an approved comparable product by one of the following:
1. Besam Automated Entrance Systems, Inc.; an ASSA ABLOY Group company.
 2. DORMA Architectural Hardware.
 3. DORMA Automatics.
 4. Horton Automatics; a division of Overhead Door Corporation.
 5. KM Systems, Inc.
 6. LCN Closers; an Ingersoll-Rand company.
 7. Nabco Entrances, Inc.
 8. SARGENT Manufacturing Company; an ASSA ABLOY Group company.
 9. Stanley Access Technologies; Division of The Stanley Works

2.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated, complying with standards indicated below:
1. Sheet: ASTM B 209 (ASTM B 209M).
 2. Extrusions: ASTM B 221 (ASTM B 221M).
- B. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials

2.3 AUTOMATIC DOOR OPERATORS, GENERAL

- A. General: Provide operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated; and complying with UL 325. Coordinate operator mechanisms with door operation, hinges, and activation and safety devices.
- B. Electrohydraulic Operating System: Self-contained, low-pressure unit; with separate cylinders for power and checking, connections for power and activation- and safety-device wiring, and manual operation including spring closing when power is off.
- C. Hinges: See Division 08 Section "Door Hardware" for type of hinge for each door that door operator shall accommodate.
- D. Cover for Surface-Mounted Operators: Fabricated from 0.125-inch thick extruded or formed aluminum; continuous over full width of door opening including door jambs; with enclosed end caps, provision for maintenance access, and fasteners concealed when door is in closed position.
- E. Brackets and Reinforcements: Manufacturer's standard, fabricated from aluminum with nonstaining, nonferrous shims for aligning system components.

2.4 LOW-ENERGY DOOR OPERATORS

- A. Model: Norton Series 6000 low energy automatic door operator (Basis of Design)
- B. Performance Requirements:
 - 1. Opening Force if Power Fails: Not more than 15 lbf required to release latch if provided, not more than 30 lbf required to manually set door in motion, and not more than 15 lbf required to fully open door.
 - 2. Entrapment-Prevention Force: Not more than 15 lbf required to prevent stopped door from closing or opening.
- C. Configuration: Operator to control single swinging doors as indicated on the drawings and specified below:
 - 1. Traffic Pattern: One way.
 - 2. Pairs of Doors: Independent operation
- D. Automatic Operator: Electro-hydraulic, non-handed operator, powered by 1/6 hp motor. Spring shall be adjustable to compensate for different manual push forces required on varying door widths.
- E. Door Operation:

1. **Opening Cycle:** The adjustable speed operator hydraulically powers the drive shaft which maintains constant engagement throughout the opening cycle. Operator shall allow manual door operation with operational forces of 15 lbf maximum to fully open the door applied at 1" from the latch edge of the door.
 2. **Hold Open:** The operator shall stop and hold the door open at the selected door opening angle for an adjustable period of time.
 3. **Closing Cycle:** Closing shall be provided by means of spring
 4. **Hydraulic Bypass:** Operator to include standard hydraulic bypass (relief valve) which automatically prevents motor overload if the door is restricted during the opening cycle.
- F. **Stack Pressure Compensation:** Operator is designed to counteract most wind and/or interior stack pressures without an additional power assist mechanism.
- G. **Electronic Controls:** Solid state integrated circuit controls the operation and switching of the swing power operator. The electronic control provides low voltage power supply for all means of actuation. The controls include time delay (5 to 30 seconds) for normal cycle.
- H. **Operator Interface:**
1. **Safety Sensor Integration** for overhead presence safety device and door mounted reactivation safety sensors.

2.5 ACTIVATION AND SAFETY DEVICES

- A. **General:** Provide activation and safety devices in accordance with BHMA standards, for condition of exposure and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated. Coordinate activation and safety devices with door operation and door operator mechanisms.
- B. **Presence Sensors:** Self-contained, active-infrared scanner units; adjustable to provide detection field sizes and functions required by BHMA A156.10. Sensors shall remain active at all times.
- C. **Push-Plate Switch:** Momentary-contact door control switch with flat push-plate actuator with contrasting-colored, engraved message.
- D. **Interior Configuration:** Square push plate with 4-by-4-inch junction box.
- E. **Mounting:** Recess mounted in wall where indicated on the drawings.
- F. **Electrical Interlocks:** Unless units are equipped with self-protecting devices or circuits, provide electrical interlocks to prevent activation of operator when door is locked, latched, or bolted.

2.6 FABRICATION

- A. Factory fabricate automatic door operators to comply with indicated standards.
- B. Fabricate exterior components to drain water passing joints and condensation and moisture occurring or migrating within operator enclosure to the exterior.
- C. Form aluminum shapes before finishing.
- D. Use concealed fasteners to greatest extent possible. Where exposed fasteners are required, use countersunk Phillips flat-head machine screws, finished to match operator.
- E. Provide metal cladding, completely cladding visible surfaces before shipment to Project site. Fabricate cladding with concealed fasteners and connection devices, with accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion, and with allowance for thermal expansion at exterior doors.

2.7 ACCESSORIES

- A. Signage: As required by cited BHMA standard for the type of operator.
- B. Application Process: Door manufacturer's standard process.
- C. Provide sign materials with instructions for field application when operators are installed.

2.8 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Apply organic and anodic finishes to formed metal after fabrication unless otherwise indicated.
- D. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.9 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010mm or thicker.

PART 3 -EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances, door and frame preparation and reinforcements, and other conditions affecting performance of automatic door operators.
- B. Examine roughing-in for electrical systems to verify actual locations of power connections before automatic door operator installation.
- C. Examine roughing-in for compressed-air piping systems to verify actual locations of piping connections before automatic door operator installation.
- D. Verify that full-height finger guards are installed at each door with pivot hinges where door has a clearance at hinge side greater than 1/4 inch (6 mm) and less than 3/4 inch (19 mm) with door in any position.
- E. Proceed with installation only after unsatisfactory conditions have been corrected

3.2 INSTALLATION

- A. General: Install complete automatic door operators according to manufacturer's written instructions, including activation and safety devices, control wiring, and remote power units if any; connection to the building's power supply; and signage.
- B. Do not install damaged components. Fit joints to produce hairline joints free of burrs and distortion.
- C. Install operators true in alignment with established lines and door geometry without warp or rack. Anchor securely in place.
- D. Power Door Operator Installation Standard: BHMA A156.10.
- E. Low-Energy Door Operator Installation Standard: BHMA A156.19.

3.3 FIELD QUALITY CONTROL

- A. Inspection: Construction Manager will engage a certified inspector to test and

inspect automatic door operators and prepare test and inspection reports.

- B. Certified inspector shall test and inspect each automatic door operator to determine compliance of installed systems with applicable BHMA standards.
- C. Inspection Report: Certified inspector shall submit report in writing to Architect and Contractor within 24 hours after inspection.
- D. Work will be considered defective if it does not pass tests and inspections.

3.4 ADJUSTING

- A. Adjust automatic door operators to function smoothly, and lubricate as recommended by manufacturer; comply with requirements of applicable BHMA standards.
- B. Adjust operators on doors 109A, 115A, 115C, and 117A for tight seal of weather stripping for mechanical (HVAC) isolation of areas.
- C. After completing installation of exposed, factory-finished automatic door operators, inspect exposed finishes on doors and operators. Repair damaged finish to match original finish.
- D. Readjust automatic door operators after repeated operation of completed installation equivalent to three days' use by normal traffic (100 to 300 cycles).
- E. Occupancy Adjustment: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions.

END OF SECTION 08 71 13

08 80 00 - GLASS AND GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing glazing for the following products, including those specified in other Sections where glazing requirements are specified by reference to this Section:
1. Mirrored wall surfaces over grooming counters within **Men's Lockers #104** and **Women's Lockers #120**.
 2. Non-insulated tempered glazing within aluminum entrances and sidelights.
 3. Vision lites within composite frame as indicated on the drawings.
- B. Related Sections: The following sections contain requirements that relate to this Section.
1. Section 08 16 00 "Composite Doors", for composite frames requiring glazing.
 2. Section 08 41 13 "Aluminum Entrance and Storefront", for aluminum entrances and storefronts requiring glazing.
 3. Section 10 28 00 "Toilet Accessories", for factory glass mirrors in frames.

1.3 QUALITY CONTROL

- A. Contractor Licensing Requirements: In accordance with Connecticut General Statute Chapter 393, Sections 20-330 through 20-341, all persons engaged in flat glass work must be licensed. Installation Contractor must submit evidence of current licensure under the following classification:
1. FG-1 (Unlimited Contractor's License for Flat Glass Work): The holder of this license may perform the installation, maintenance, or repair of flat glass in commercial structures.
 2. FG-2 (Unlimited Journeyman's License for Flat Glass Work): The holder of this license may perform the installation, maintenance, or repair of flat glass in commercial structures.

1.4 SYSTEM PERFORMANCE REQUIREMENTS

- A. General: Provide glazing systems that are produced, fabricated, and installed to withstand normal thermal movement, wind loading, and impact loading (where applicable), without failure including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; and other defects in construction.
- B. Glass Design: Glass thickness indicated on Drawings are for detailing only. Confirm glass thickness by analyzing Project loads and in-service conditions. Provide glass lites for the various size openings in the thickness and strengths (annealed or heat-treated) to meet or exceed the following criteria:
 - 1. Minimum glass thickness of lites, whether composed of annealed or heat-treated glass, are selected so the worst-case probability of failure does not exceed the following:
 - a. 8 lites per 1000 for lites set vertically or not over 15 degrees off vertical and under wind action. Determine minimum thickness of monolithic annealed glass according to ASTM E 1300. For other than monolithic annealed glass, determine thickness per glass manufacturer's standard method of analysis including applying adjustment factors to ASTM E 1300 based on type of glass.
- C. Normal thermal movement results from the following maximum change (range) in ambient and surface temperatures acting on glass-framing members and glazing components. Base engineering calculation on materials, actual surface temperatures due to both solar heat gain and nighttime sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C) ambient; 180 deg F (100 deg C), material surfaces.

1.5 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each glass product and glazing material

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials to comply with manufacturer's directions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.7 WARRANTY

- A. General: Warranties specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
- B. Manufacturer's Warranty on Insulating Glass: Submit written warranty signed by manufacturer of insulating glass agreeing to furnish replacements for insulating glass units that deteriorate, f.o.b. point of manufacture, freight allowed Project site, within specified warranty period indicated below. Warranty covers only deterioration due to normal conditions of use and not to handling, installing, protecting, and maintaining practices contrary to glass manufacturer's published instructions.
 - 1. Warranty Period: Manufacturer's standard but not less than ten (10) years after date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products specified.

2.2 TEMPERED FLOAT GLASS

- A. Uncoated, Clear, Heat-Treated Float Glass: ASTM C 1048, Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), quality q3 (glazing select), kind as indicated below.
 - 1. Kind FT (fully tempered), ¼ inch thickness, designated as **Type T**.
 - 2. Products: Subject to compliance with requirements, provide heat treated glass units by the following:
 - a. PPG Industries, Inc., Pittsburgh, PA
 - b. Viracon, Inc., Owatonna, MN
 - b. Guardian Industries, Auburn Hills, MI
 - c. Cardinal Glass Industries, Eden Prairie, MN
 - d. Oldcastle Building Envelope, Santa Monica, CA

2.3 ELASTOMERIC GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:

1. **Compatibility:** Select glazing sealants and tapes of proven compatibility with other materials they will contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.
 2. **Suitability:** Comply with sealant and glass manufacturer's recommendations for selecting glazing sealants and tapes that are suitable for applications indicated and conditions existing at time of installation.
- B. Elastomeric Glazing Sealant Standard:** Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with ASTM C 920 requirements.

2.4 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tape:** Preformed, butyl-based elastomeric tape with a solids content of 100 percent, nonstaining and nonmigrating in contact with nonporous surfaces, with or without spacer rod as recommended by tape and glass manufacturers for application indicated, packaged on rolls with a release paper backing, and complying with AAMA 800 for products indicated below:
1. AAMA 804.1.
 2. AAMA 806.1.
 3. AAMA 807.1.
- B. Expanded Cellular Glazing Tape:** Closed-cell, polyvinyl chloride foam tape, factory coated with adhesive on both surfaces, packaged on rolls with release liner protecting adhesive, and complying with AAMA 800 for product 810.5.

2.5 MISCELLANEOUS GLAZING MATERIALS

- A. General:** Provide products of material, size, and shape complying with referenced glazing standard, requirements of manufacturers of glass and other glazing materials involved for glazing application indicated, and with a proven record of compatibility with surfaces contacted in installation.
- B. Cleaners, Primers and Sealers:** Type recommended by sealant or gasket manufacturer.
- C. Setting Blocks:** Elastomeric material with a Shore A durometer hardness of 85 plus or minus 5.
- D. Spacers:** Elastomeric blocks or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

- E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side-walking).
- F. Plastic Foam Joint Fillers: Preformed, compressible, resilient, nonstaining, nonextruding, nonoutgassing, strips of closed-cell plastic foam of density, size, and shape to control sealant depth and otherwise contribute to produce optimum sealant performance.

2.6 FABRICATION OF GLASS AND OTHER GLAZING PRODUCTS

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system performance requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine glass framing, with glazier present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
 - 2. Presence and functioning of weep system.
 - 3. Minimum required face or edge clearances.
 - 4. Effective sealing between joints of glass-framing members.
- B. Do not proceed with glazing until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings that are not firmly bonded to substrates.

3.3 GLAZING, GENERAL

- A. Comply with combined recommendations of manufacturers of glass, sealants, gaskets, and other glazing materials, except where more stringent requirements are indicated, including those in referenced glazing publications.
- B. Protect glass from edge damage during handling and installation as follows:
 - 1. Use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar.

- Rotate glass lites with flares or bevels on bottom horizontal edges so edges are located at top of opening, unless otherwise indicated by manufacturer's label.
2. Remove damaged glass from Project site and legally dispose of off site. Damaged glass is glass with edge damage or other imperfections that, when installed, weaken glass and impair performance and appearance.
- C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by pre-construction sealant-substrate testing.
- D. Install elastomeric setting blocks in sill rabbets, sized and located to comply with referenced glazing standard, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
- E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
- F. Provide spacers for glass sizes larger than 50 united inches (length plus height) as follows:
1. Locate spacers inside, outside, and directly opposite each other. Install correct size and spacing to preserve required face clearances, except where gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and comply with system performance requirements.
 2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
- G. Provide edge blocking to comply with requirements of referenced glazing publications, unless otherwise required by glass manufacturer.
- H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

3.4 TAPE GLAZING

- A. Position tapes on fixed stops so that when compressed by glass their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously but not in one continuous length. Do not stretch tapes to make them fit opening.
- C. Where framing joints are vertical, cover these joints by applying tapes to heads and sills first and then to jambs. Where framing joints are horizontal, cover these joints by applying tapes to jambs and then to heads and sills.

- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until just before each lite is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 PROTECTION AND CLEANING

- A. Protect glass from breakage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkali deposits, or stains, and remove as recommended by glass manufacturer.
- D. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents and vandalism, during construction period.
- E. Wash glass on both faces in each area of Project not more than 4 days prior to date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

END OF SECTION 08 80 00

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SECTION 09 30 00 - CERAMIC TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY/DESCRIPTION OF WORK

- A. The extent of tile work is shown on Drawings/ Schedules. The work includes a tile setting bed, mortar set porcelain floor tile, thin-set ceramic tile walls, ceramic mosaic floor tile and base, marble thresholds at listed doorways of ceramic tiled spaces, uncoupling membrane, waterproofing membrane, grouting materials and all accessories as required.

1. Tile dimensions, coursing, colors, and manufacturer's products shall be as noted in Drawings/ Schedules as shown and specified.
2. Mosaic floor tile.
3. Glazed wall tile.
4. Unglazed ceramic mosaic floor tile.
5. Gray marble or beige filled travertine where marble thresholds are scheduled.
6. Tile setting bed.
7. Uncoupling Membrane
8. Waterproofing Membrane

- B. Related Work Specified Elsewhere:

1. Section 04 01 00- Concrete Block Assemblies.
2. Section 10 80 00 - Toilet and Bath Accessories.
3. Section 07 92 00 - Joint Sealers
5. Division 22 - Plumbing

1.3 QUALITY ASSURANCE

- A. Furnish tile conforming with the Standard Grade Requirements of ANSI/TCA 137.1.
- B. When using setting and grouting materials manufactured under TCA license, include identification and formula number on each container.

- C. Provide materials obtained from only one source for each type of tile and color to minimize variations in appearance and quality.
- D. Manufacturer's Products: Provide ceramic tile products, colors, textures, patterns, as noted on Drawings. Products where noted should be calibrated to insure dimensional accuracy required to create patterns as shown in drawings.

1.4 SUBMITTALS (all products)

- A. Manufacturer's Data.
- B. Technical Information.
- C. Warranty Information.
- D. Drawings of floor or wall tile if required.
- E. Details regarding patterns and layout information.
- F. Certificates.
- G. Electronic Submittals in addition to hard copies required.
- H. Samples:
 - 1. Tile: Submit an electronic copy and 3 tangible samples of each type and color of tile required, not less than 12" square on plywood or hardboard backing, and grouted as required.
 - 2. Marble Threshold: Submit 6" section of unit proposed for use.
 - 3. Colored Grout: Manufacturer's standard range of mineral oxide pigment grout colors.
- I. Maintenance Stock:
 - 1. After completion of work deliver replacement materials to the project site, as follows:
 - a. For each type and color of tile, including trim and special shapes of each color and type, not less than 10% of total tiled area.
 - 2. Furnish replacement materials from same manufactured lot as material installed.
- J. Tile Grade Certificate: Provide manufacturer's Master Grade Certificate bearing TCA certification mark for each shipment of tile.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver packaged materials and store in original containers with seals unbroken and labels intact until time of use, in accordance with manufacturer's directions.

1.6 PROJECTS CONDITIONS

- A. Contractor shall phase ceramic tile work to proceed only after all toilet room lighting has been installed.

PART 2 - PRODUCTS

2.1 GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TNCA installation methods specified in tile installation schedules, and other requirements specified.
- C. ISO 13007 Standards for Ceramic Tiles, Adhesives and Grouts.
- D. FloorScore Compliance: Tile for floors shall comply with requirements of FloorScore Standard.
- E. Low-Emitting Materials: Tile flooring systems shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- F. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- G. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
- H. Retain subparagraph below if tile is used in swimming pools, on exteriors, or in wet areas. According to ANSI A137.1, manufacturers must specify whether back- or edge-mounted tile assemblies are suitable for these installations because mounting materials will decrease contact area of setting material to tile, and mounting materials may not be as strong or as waterproof as setting materials.

- a. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.
- I. **Factory-Applied Temporary Protective Coating:** Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by pre-coating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces

2.2 CERAMIC AND PORCELAIN TILE

- A. **Mesh Mounted Porcelain Floor Tile: CT-1.**
 1. Manufacturer: Daltile, Keystones- Mosaic Blends.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: ½ hex Shamrock, dot mounted on 12" x 24" sheet.
 4. Finish: Matte.
 6. Recommended grout joint: 1/8".
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- B. **Mesh Mounted Porcelain Floor Tile: CT-2,CT-3**
 1. Manufacturer: Daltile, Keystones.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 2"x2" Mosaic – dot mounted on 12" x 24" sheet.
 4. Finish: Matte.
 5. Recommended grout joint: 1/8".
 6. Pattern: 2"x2" speckle color (no pattern).
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- C. **Mesh Mounted Porcelain Floor Tile: CT-4, 6.**
 1. Manufacturer: Daltile, Keystones.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 2"x2" Mosaic – dot mounted on 12" x 24" sheet.
 4. Finish: Matte.

5. Recommended grout joint: 1/8".
 6. Pattern: 2"x2" solid color (no pattern).
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- D. Mesh Mounted Porcelain Floor Tile: CT-5.
1. Manufacturer: Daltile, Keystones.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 1"x1" Mosaic – dot mounted on 12" x 24" sheet.
 4. Finish: Matte.
 5. Recommended grout joint: 1/8".
 6. Pattern: 2"x2" speckle color (no pattern).
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- E. Base tile: Porcelain Floor Tile: CTB-1, 2.
1. Manufacturer: Daltile, Keystones.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: This is a three part unit to made an 8" high base.
Cove: C-833, 2x2 tiles and bull-nose top cap when required-S-862.
Some conditions bull-nose top cap is not required due to the addition of wall tile. See drawings for additional clarification.
 4. Finish: Matte.
 5. Recommended grout joint: 1/8".
 6. Pattern: 2"x2" solid color (no pattern).
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.

- F. Ceramic Wall Tile and finished end trim pieces: CWT-1.
1. Manufacturer: Daltile, Color wheel Classics.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 6" x 6".
 4. Finish: Matte.
 5. Recommended grout joint: 1/16".
 6. Additional trim pieces: At the end of a tile run finished tile is required. Trim pieces such as S4-669 bull-nose 1 side and SCRL-4669 bull-nose 2 sided trim pieces are required to finish the wall tile.
 7. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- G. Ceramic Wall Tile Mesh Mounted: CWT-3 (Glass Blox, Glass Tile). Niche's in each shower, see drawings for details.
1. Manufacturer: Crossville.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 1" x 1" glass mosaic on a mesh mounted 12x12 sheet.
 4. Finish: Glass.
 5. Recommended grout joint: 1/8".
 6. For installation of glass tiles, please follow the manufacturer's recommendations.
 7. Contact: Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
 8. Or Approved Equal Products from the following manufacturers:
 - 1) Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 - 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com./ Mobile: 203-868-7811.
- H. Ceramic Wall Tile Mesh Mounted: CWT-2 (Retro Rounds / Penny Rounds).
1. Manufacturer: Daltile, Retro Rounds.
 2. Type: Porcelain Tile, Rectified Edges.
 3. Size: 1" x 1" penny round mosaic on a mesh mounted 12x12 sheet.
 4. Finish: Matte.
 5. Recommended grout joint: 1/8".
 6. Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930.
 7. Or Approved Equal Products from the following manufacturers:

- 1) Crossville, Garden State Tile, Pam King, pking@gstile.com, cell: 203-434-5547.
- 2) American Olean, Belnap White Group. Contact: Roanne Marquardt, roanne.marquardt@belknapwhite.com / Mobile: 203-868-7811.

2.3 MARBLE THRESHOLDS: M.TH. (Grey Marble)- M.TH.

1. Manufacturer: provide sound group "A" travertine marble 5/8" shaped as shown, with an abrasive hardness of not less than 10.0, when tested in accordance with ASTM C241. The top of threshold not more than 3/8" above the lowest finished floor. See drawings for thresholds. See Architects details for M.TH. Marble Thresholds.

2.4 SETTING MATERIALS INCLUDING TILE SETTING BED AND FLEXIBLE MORTAR.

1) The following products will require a sole sourcing to the grouping.

A. Provide Polymer Modified Sloping Mortar (tile setting bed).

1. Manufacturer: Mapei.
2. Planislope RS: Rapid setting, Pre blended, Cement based polymer modified mortar for use in sloping and thick-bed mortar installations. complying with ANSI A108.1, ASTM C109 and C348 requirements.
3. Contact: Rick Lindsey, email: rlindsey@mapei.com, Cell: 603-957-2001.
4. Equal Products by the approved manufacturers:
 - A) Laticrete, Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930
 - B) Hydroment by Bostik Americas, www.bostik-us.com.

B. Provide Flexible Mortar:

1. Manufacturer: Mapei.
2. Granirapid system : Improved modified dry-set cement mortar, fast setting for thin-set for large and heavy tile applications complying with ANSI 118.15F , A118.4 ,A118.11 and ISO 13007 C2FS2P2
3. Contact: Rick Lindsey, email: rlindsey@mapei.com, Cell: 603-957-2001.
4. Equal Products by the approved manufacturers:
 - A) Laticrete, Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930
 - B) Hydroment by Bostik Americas, www.bostik-us.com.

C. Provide Grout- GT-1 and GT-2.

1. Manufacturer: Mapei.

2. Flexcolor CQ: Ready to use Grout: Professional grade , ready to use color consistent quartz aggregate, for use with grout joints 1/16" to 1/2".
 3. Contact: Rick Lindsey, email: rlindsey@mapei.com, Cell: 603-957-2001.
 1. Equal Products by the approved manufacturers:
 - A) Laticrete, Contact: Daltile, Lucia Franco, lucia.franco@daltile.com, cell: 203-671-0930
 - B) Hydroment by Bostik Americas, www.bostik-us.com.
- D. Provide Water proofing and Crack Isolation Membrane under all tile products.
1. Manufacturer: Mapei.
 2. Mapelastic Turbo: Two component rapid-drying, cementitious -binder based membrane exceeding ANSI A118.10 and 118.12 standards and having IAPMO certification as a shower pan liner.
 3. Contact: Rick Lindsey, email: rlindsey@mapei.com, Cell: 603-957-2001.
 4. Equal Products may be submitted for approval.
- E. Provide Multi-purpose Bond Promoting Primer for Existing Glazed Block Conditions.
1. Manufacturer: Mapei.
 2. ECO Prim-Grip: Ready to use low VOC, synthetic resin-based primer with bond promoting aggregates suspended in dispersion. .
 3. Contact: Rick Lindsey, email: rlindsey@mapei.com, Cell: 603-957-2001.
 4. Equal Products may be submitted for approval.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Installer must examine the substrate and conditions under which ceramic tile is to be installed and notify the Contractor in writing of any conditions detrimental to the proper and timely completion of work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Installer.

3.2 INSTALLATION, GENERAL

- A. Comply with the ANSI standard installation specifications for applications indicated.
 - I. Handle, store, mix and apply proprietary setting and grouting materials in compliance with the manufacturer's instructions.
 - J. For pre-grouted sheets, field grout perimeters of individual sheets and other un-grouted joints using same elastomeric material as used in the factory or as recommended by manufacturer for specific application.

- B. Extend tile work into recesses and under equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disruption of pattern or joint alignment.
- E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight, aligned joints. Fit tile closely to electrical outlets, piping and fixtures so that plates, collars, or covers overlap tile.
- F. Acceptability of Surfaces: Before tiling, be sure variations of surface to be tiled fall within maximum variations of 1/8" in 8' for walls and 1/16" in 8' for floors.
- G. Surface preparation: Surface must be free of dust, grease, wax, plaster drippings or other extraneous material to assure proper adhesion. All movement joints must be located prior to starting to lay tile.
- H. Cuts must be planned to be in the least conspicuous locations, and cuts under 2" (5 cm) should be avoided.
- I. Install in accordance with the applicable standards.

3.3 SETTING MATERIALS AND MORTAR BEDS

- A. Use setting materials only on properly prepared smooth, flat surfaces.
- B. Unless otherwise shown, lay tile in grid pattern for ceramic tile. Align joints when adjoining tiles on floor, base, walls, and trim are the size. Lay out tile work and center tile fields both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths.
- C. Set marble saddles in same setting material as floor tile.
- D. Apply grout to all tile joints and at marble saddle in accordance with instructions and recommendations of approved grout manufacturer.

3.5 CLEAN, SEALING AND PROTECTION

- A. Cleaning and Sealing:
 - 1. Clean grout and setting materials from face of tile and marble where materials are workable. Leave surfaces clean and free of all foreign matter. Stained material will not be accepted.
 - 2. Unglazed tile may be cleaned with acid solutions only when permitted by the tile and grout manufacturer's printed instructions, but not sooner than 14 days after installation. Protect metal surfaces, cast iron and citreous

plumbing fixtures from effects of acid. Flush the surface with clean water before and after cleaning.

3. Leave finished installation clean and free of cracked, chipped, broken, unbonded, or otherwise defective tile work.
4. Seal all grout joints per sealer manufacturer's printed instructions.

B. Protection:

1. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to complete tile walls and floors.
2. Protect installed tile work with Kraft paper or other heavy covering during the construction period to prevent damage and wear.
3. Prohibit all foot and wheel traffic from using tiled floors for at least 5 days.
4. Before final inspection, remove protective coverings and rinse neutral cleaner from all tile surfaces.

END OF SECTION 09 30 00

09 50 00 - CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing acoustical panel ceilings installed with exposed suspension systems and accessories.
- B. This Section includes furnishing and installing linear metal ceilings installed with concealed suspension systems and accessories.
- C. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Division 23 for grilles, registers, and diffusers in acoustical ceilings.
 - 2. Division 26 for lighting fixtures in ceilings.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
 - 1. Product data for each type of product specified.
 - 2. Samples for verification purposes of each type of exposed finish required, prepared on samples of size indicated below and of same thickness and material indicated for final unit of Work. Where finishes involve normal color and texture variations, include sample sets showing full range of variations expected.
 - a. 6-inch-square samples of each acoustical panel type, pattern, and color.
 - b. Set of 12-inch-long samples of exposed suspension system members, including moldings, for each color and system type required.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has successfully completed acoustical ceilings similar in material, design, and extent to those

indicated for Project. Installer shall thoroughly review Contract Documents and be familiar with structure and all necessary requirements for attachment to same.

- B. **Fire-Performance Characteristics:** Provide acoustical ceilings that are identical to those tested for the following fire-performance characteristics, per ASTM test method indicated below, by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
 - 1. **Surface Burning Characteristics:** As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.
 - a. **Flame Spread:** 25 or less.
 - b. **Smoke Developed:** 50 or less.
- C. **Single-Source Responsibility for Ceiling Units:** Obtain each type of acoustical ceiling unit from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
- D. **Single-Source Responsibility for Suspension System:** Obtain each type of suspension system from a single source with resources to provide products of consistent quality in appearance and physical properties without delaying progress of the Work.
 - 1. Obtain suspension system from same manufacturer that produces acoustical ceiling units.
- E. **Coordination of Work:** Coordinate layout and installation of acoustical ceiling units and suspension system components with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system components.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaging units in any way.

1.6 PROJECT CONDITIONS

- A. Space Enclosure: Do not install interior acoustical ceilings until space is enclosed and weatherproof, wet-work in space is completed and nominally dry, work above ceilings is complete, and ambient conditions of temperature and humidity will be continuously maintained at values near those indicated for final occupancy.

1.7 EXTRA MATERIALS

- A. Deliver extra materials to Owner. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with appropriate labels.
1. Acoustical Ceiling Units: Furnish quantity of full-size units equal to 2.0 percent of amount installed.
 2. Exposed Suspension System Components: Furnish quantity of each exposed component equal to 2.0 percent of amount installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acoustical Ceiling Panel Products: Subject to compliance with requirements, provide the following as manufactured by USG Interiors, LLC, 550 West Adams Street, Chicago, IL 60661 (or approved equal):
1. For use in ceiling type "CA-1" where indicated on drawings:
 - a. Ceiling Tiles: 2 x 2 x 5/8 inch panels, "Radar Ceramic Perforated Panels", Item #56644.
 1. Material: Wet-formed, 100% ceramic-bonded mineral fiber capable of withstanding high heat, high humidity, corrosive chemical fumes and steam.
 2. Edge: Square
 3. Recycled Content: 44%
 4. NRC: 0.50
 5. CAC: 40
 6. Light Reflectance: 0.82
 7. Sag resistance: ClimaPlus Warranty Performance
 8. Fire rating: Firecode, Class A
 9. Color: Flat White
 10. Warranty: ClimaPlus 30-year lifetime system warranty against visible sag, mold and mildew.
 - b. Grid: Donn Brand ZXLA 15/16" Tee System, Items #ZXLA26 and #ZXLA224
 1. Material: G90 hot-dipped galvanized with aluminum cap conforming to ASTM C635 and ASTM E580.

2. Fire Rating: Firecode, Class A
 3. Finish: Standard factory-applied finish for type of system indicated.
 4. Color: Flat White
 5. Recycled Content: 50%
 6. Hanger Spacing: 4 foot spacing capable of supporting 16 lb./LF
 7. Wire for Hangers and Ties: ASTM A641, Class 1 zinc coating (Galvanized), carbon steel; soft temper; pre-stretched; yield stress load at least three times the design load (ASTM C635, Table 1, Direct Hung) but not less than 0.106-inch diameter (12-gauge).
 8. Attachment Devices: Size for 5 times design load indicated in ASTM C635, Table 1, Direct Hung unless otherwise indicated.
 9. Warranty: ClimaPlus 30-year lifetime system warranty against visible sag, mold and mildew.
- c. Molding: Donn Brand ZXLA 7/8"x7/8" Wall Angle, Item #M7Z
1. Material: G90 hot-dipped galvanized with aluminum cap conforming to ASTM C635.
 2. Fire Rating: Firecode, Class A
 3. Color: Flat White
 4. Recycled Content: 65%
 5. Warranty: ClimaPlus 30-year lifetime system warranty against visible sag, mold and mildew.
- B. Linear Metal Ceiling Products: Subject to compliance with requirements, provide the following as manufactured by USG Interiors, LLC, 550 West Adams Street, Chicago, IL 60661 (or approved equal):
1. For use in ceiling type "CM-1" where indicated on drawings:
 - b. Ceiling Panels: 3-1/4 inch x 3/4 inch x 12 foot panels, "USG Paraline I".
 1. Material: Painted Aluminum
 2. Edge: Rolled
 3. Recycled Content: 50%
 4. Surface: Smooth
 5. Light Reflectance: 0.80
 6. Fire Rating: Class A in accordance with ASTM E84
 7. Color: Flat White
 - b. Grid: USG Paraline System
 1. Main Tee: USG Paralock
 2. Cross Tee: USG Paraline, 4 feet on center spacing.

- c. Molding: Donn Brand ZXLA 7/8"x7/8" Wall Angle, Item #M7Z
 - 1. Material: G90 hot-dipped galvanized with aluminum cap conforming to ASTM C635.
 - 2. Fire Rating: Firecode, Class A
 - 3. Color: Flat White
 - 4. Recycled Content: 65%
 - 5. Warranty: ClimaPlus 30-year lifetime system warranty against visible sag, mold and mildew.

2.2 ACOUSTICAL CEILING UNITS, GENERAL

- A. Standard for Acoustical Ceiling Units: Provide manufacturers' standard units of configuration indicated that comply with ASTM E 1264 classifications as designated by reference to types, patterns, acoustical ratings, and light reflectance's, unless otherwise indicated.
 - 1. Mounting Method for Measuring NRC: Type E-400 (plenum mounting in which face of test specimen is 15-3/4 inches [400 mm] away from the test surface) per ASTM E 795.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and structural framing to which ceiling system attaches or abuts, with Installer present, for compliance with requirements specified in this and other sections that affect installation and anchorage of ceiling system. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less-than-half-width units at borders, and comply with reflected ceiling plans.

3.3 INSTALLATION

- A. General: Install acoustical ceiling systems to comply with installation standard referenced below, per manufacturer's instructions and CISCA "Ceiling Systems Handbook."
 - 1. Standards for Installation of Ceiling Suspension Systems: Comply with ASTM C 636 and ASTM E 580 for areas requiring seismic restraint. See structural drawings for appropriate Seismic Design Category.

- B. Arrange acoustical units and orient directionally patterned units in a manner shown by reflected ceiling plans.
- C. Suspend ceiling hangers from building structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling space that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 2. Where width of ducts and other construction within ceiling space produces hanger spacings that interfere with the location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
 - 3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
 - 4. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 - 5. Space hangers not more than 4 feet-0 inch o.c. along each member supported directly from hangers, unless otherwise shown, and provide hangers not more than 8 inches from ends of each member.
- D. Install edge moldings of type indicated and size required by seismic provisions of ASTM E580 at perimeter of acoustical ceiling area and where necessary to conceal edges.
- E. Install acoustical panels in coordination with suspension system, with edges concealed by support of suspension members. Scribe and cut panels to fit accurately at borders and at penetrations.
 - 1. Install hold-down clips in areas where required by governing regulations; space as recommended by panel manufacturer unless otherwise indicated or required.
- F. Remove, store, protect and reinstall acoustic panels in existing areas as necessary for the installation of work of other trades.
 - 1. Exercise caution in handling of existing panels to avoid damage. All tiles damaged by this Contract (by any Contractor or Subcontractor) shall be replaced at no cost to the Owner.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 50 00

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SECTION 09 90 00 PAINTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY/DESCRIPTION OF WORK

- A. The extent of tile work is shown on Drawings/ Schedules. The work includes Interior high-performance paint and coatings systems including surface preparation.

1.3 REFERENCES

- A. Steel Structures Painting Council (SSPC):
 - 1. SSPC-SP 13 / NACE No. 6 Surface Preparation for Concrete.
- B. Material Safety Data Sheets / Environmental Data Sheets: Per manufacturer's MSDS/EDS for specific VOCs (calculated per 40 CFR 59.406). VOCs may vary by base and sheen.
- C. California Department of Public Health (CDPH):
 - 1. CDPH v1.1-2010 and V1.2-2017

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: For each paint system indicated, including.
 - 1. Product characteristics.
 - 2. Surface preparation instructions and recommendations.
 - 3. Primer requirements and finish specification.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
 - 6. Cautions for storage, handling and installation.
- C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.
- D. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.

- E. Only submit complying products based on project requirements (i.e. LEED). One must also comply with the regulations regarding VOCs (CARB, OTC, SCAQMD, LADCO). To ensure compliance with district regulations and other rules, businesses that perform coating activities should contact the local district in each area where the coating will be used.

1.5 QUALITY ASSURANCE

- A. **Installer Qualifications:** A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. **Paint exposed surfaces.** If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors and sheens available.
- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels unless indicated.
- D. **Mock-Up:** Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish surfaces for verification of products, colors and sheens.
 - 2. Finish area designated by Architect.
 - 3. Provide samples that designate primer and finish coats.
 - 4. Do not proceed with remaining work until the Architect approves the mock-up.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. **Delivery:** Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
 - 1. Product name, and type (description).
 - 2. Application and use instructions.
 - 3. Surface preparation.
 - 4. VOC content.
 - 5. Environmental handling.
 - 6. Batch date.
 - 7. Color number.
- B. **Storage:** Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.
- D. **Handling:** Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Sherwin-Williams, which is located at: 101 Prospect Ave., Cleveland, OH 44115; Toll Free Tel: 800-524-5979; Tel: 216-566-2000; Fax: 440-826-1989; Email: request info specifications@sherwin.com; Web: www.swspecs.com. Rep: Mark Weiner, mark.t.weiner@sherwinwilliams.com. Cell Phone: 1-401-245-5176.
- B. Benjamin Moore, www.benjaminmoore.com.
- C. Zolotone Interior Coatings, Rep: John Burger, Koroseal, jburger@koroseal.com.

2.2 APPLICATIONS/SCOPE

- A. Interior High Performance Paints and Coatings:
 - 1. Concrete: Poured, precast, tilt-up, cast-in-place, cement board.
 - 2. Concrete: Ceilings.
 - 3. Masonry: CMU - concrete, split face, scored, smooth.

2.3 PAINT MATERIALS - GENERAL

- A. Paints and Coatings:
 - 1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 - 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per

manufacturer's specifications.

- D. Color: Refer to Finish Schedule for paint colors, and as selected.

2.4 HIGH PERFORMANCE INTERIOR PAINT SYSTEMS

PART 3

A. NEW-MASONRY - (CMU - Concrete, Scored, Smooth)

1. Epoxy System (Water Based):

a. Eg-Shel/Low Luster Finish:

- 1) 1st Coat: S-W Heavy Duty Block Filler, B42W46 (18.0-13.0 mils wet, 10.0-18.0 mils wet).
- 2) 2nd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series.
- 3) 3rd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series (5.0-10.0 mils wet, 2.0-4.0 mils dry per coat).

B. EXISTING-MASONRY - (CMU - Concrete, Scored, Smooth with an existing paint coating)

1. Epoxy System (Water Based):

a. Eg-Shel/Low Luster Finish:

- 1) 1st Coat: Block filler is not required on exiting surfaces. If existing substrate has a semi or gloss finish then extreme bond primer is required. S-W Extreme Bond Primer B51W00150.
- 2) 2nd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series.
- 3) 3rd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series (5.0-10.0 mils wet, 2.0-4.0 mils dry per coat).

C. EXISTING-MASONRY – GLAZED BLOCK.

1. Epoxy System (Water Based):

a. Eg-Shel/Low Luster Finish:

- 1) 1st Coat: S-W Extreme Bond Primer B51W00150.
- 2) 2nd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series.
- 3) 3rd Coat: S-W Pro Industrial Water Based Catalyzed Epoxy Eg-Shel, B73-360 Series (5.0-10.0 mils wet, 2.0-4.0 mils dry per coat).

D. NEW & EXISTING STRUCTURAL STEEL – PAINTED (for Main Level Floor Slab).

1. Polyamide Epoxy Coating: For all surfaces of new and existing structural steel supporting the main level floor slab, inclusive of the top of steel prior to metal deck installation, apply two-part polyamide epoxy coating complying with the following requirements:

- a. Surface Preparation: All surfaces must be sound, dry, clean and free of oil, grease, dirt, mildew, mill scale, form release agents, curing

- compounds, loose and flaking paint and other surface contaminants. On existing steel members, mechanically remove all rust, scale, and loose paint down to bare, clean metal substrate suitable to manufacturer's requirements. Solvent clean all surfaces prior to priming.
- b. Part 1: SSPC-SP3 Power Tool Cleaning.
 - c. Part 2: Zinc Clad 4100 - Part A B69A120, Part B B69V120, Part F B69D11.
 - d. Primer Coat: Pro-Cryl Primer - B66W1310.
 - e. Top Coat: Macropoxy 646 Fast Cure - Part A B58T604, Part B B58V600.
 - f. Color: SW-6232 Misty or match BM 2131 Silver Grey.
 - g. Scheme: Gloss.
 - h. Application: Follow manufacturer's instructions for all mixing and induction requirements.
 - i. Safety Requirements: Application of this product shall occur during off-hours. Application during public occupancy of the building is not permitted. Contractor is to provide negative air pressure, with direct exhaust to the exterior of the building, during all periods of application of this product.
2. Below is the Benjamin Moore Equal System to above. Surface Preparation, Application, and Safety Requirements, as noted above, applies to both systems.
- a. Base Primer: Apply one (1) base coat of Corotech V170 Organic Zinc-Rich Primer, or approved equal, to a dry film thickness of 1.7 to 2.3 mils.
 - b. Topping Primer: Apply one (1) coat of Corotech V110 Acrylic Metal Primer, or approved equal, to a dry film thickness of 3.0 to 4.0 mils. Color White (01).
 - c. Epoxy Coating: Apply Corotech CV400 Polyamide Epoxy Coating, or approved equal, to a dry film thickness of 2.0 to 2.5 mils.
 - d. Finish: Gloss "-90"
 - e. Color: Silver Gray (70)
3. Substitutions for either of the above noted systems must be submitted for approval by architect
- E. EXISTING-MASONRY – Multi-purpose Spray applied System.
1. Water-based single component multi-color finish – Polymx / Zolotone Interior Coatings.
 2. Provide a water-based single component multi-color finish in a single can that shall be spray-applied. Product shall contain anti-microbial product that shall fight mold and mildew build-up on the dried paint film.
 3. Fire Ratings: Provide Class A fire hazard classification, test procedure ASTM E 84.
 4. Low-Emitting Materials: Use adhesives, sealants, paints, coatings, etc., that comply with the specified limits for VOC content when calculated according to

SCAQMD Rule #1168. See LEED Green Building Rating System for VOC content limits

5. **PRIMERS SEALERS AND FILLERS:** Provide primers recommended by manufacturer for substrates.
- A) Block Filler: a. Basis of Design: Quality Block Filling Primer that accepts water-base top coat.
- B) Water Base Primer: a. Basis of Design: "SP97 Multi-Purpose Waterbase Primer," Master Coating Technologies. **Do not tint primers. Provide white only.**
- C) Master Coating Technologies 09 94 19 - www.zolatone.com.
- D) Stain Blocker: a. Basis of Design: "SP97 Multi-Purpose Waterbase Primer," Master Coating Technologies.
- E) Intermediate and Finish Coats: Finish shall be ready mixed; no tinting shall be required. 1. Basis of Design: "Polomyx," Master Coating Technologies.
- F) Polymx # 45-71054C. This is the existing paint and the touch ups and new areas must match and blend as one finish.
- G) Local Contact: John Burger of Koroseal. jburger@koroseal.com , Cell: 860-377-4295 or www.zolatone.com.
- H) Installers must follow the written instructions for the painting process, installation, cleaning and maintenance in accordance with the manufacturer (Zolatone Interior Coating) and in compliance with Specification section 09 94 19.

PART 4 EXECUTION

4.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.
- C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

4.2 SURFACE PREPARATION

- A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a

- small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply solution and scrub the mildewed area. Allow solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
 3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Block (Cinder and Concrete): Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75 degrees F (24 degrees C). The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound.
- C. Concrete, SSPC-SP13 or NACE 6: This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.
- D. Steel: Structural, Plate, And Similar Items: Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which they can be specified follow.
1. Solvent Cleaning, SSPC-SP1: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
 2. Hand Tool Cleaning, SSPC-SP2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand

- tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
3. Power Tool Cleaning, SSPC-SP3: Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
 4. White Metal Blast Cleaning, SSPC-SP5 or NACE 1: A White Metal Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 5. Commercial Blast Cleaning, SSPC-SP6 or NACE 3: A Commercial Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 6. Brush-Off Blast Cleaning, SSPC-SP7 or NACE 4: A Brush-Off Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose paint. Tightly adherent mill scale, rust, and paint may remain on the surface. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP 1 or other agreed upon methods.
 7. Power Tool Cleaning to Bare Metal, SSPC-SP11: Metallic surfaces that are prepared according to this specification, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxide corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portions of pits if the original surface is pitted. Prior to power tool surface preparation, remove visible deposits of oil or grease by any of the methods specified in SSPC-SP1, Solvent Cleaning, or other agreed upon methods.
 8. Near-White Blast Cleaning, SSPC-SP10 or NACE 2: A Near White Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 5 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
 9. High- and Ultra-High Pressure Water Jetting for Steel and Other Hard Materials:

SSPC-SP12 or NACE 5: This standard provides requirements for the use of high- and ultra-high pressure water jetting to achieve various degrees of surface cleanliness. This standard is limited in scope to the use of water only without the addition of solid particles in the stream.

10. Water Blasting, SSPC-SP12/NACE No. 5: Removal of oil grease dirt, loose rust, loose mill scale, and loose paint by water at pressures of 2,000 to 2,500 psi at a flow of 4 to 14 gallons per minute.

4.3 INSTALLATION

- A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.
- B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply coatings using methods recommended by manufacturer.
- D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.
- F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.
- G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

4.4 PROTECTION

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION 09 90 00

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10 11 00 - VISUAL DISPLAY BOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing the following types of visual display boards:
 - 1. Vinyl-fabric-faced cork tackboards.
- B. Related Sections: The following sections contain requirements that relate to this section:
 - 1. Section 06 10 00 - "Rough Carpentry" for wood blocking and grounds and installation of visual display boards.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: Include manufacturer's data substantiating that tackboard materials comply with requirements indicated.
- C. Shop Drawings: Provide shop drawings for each type of tackboard required. Include sections of typical trim members and dimensioned elevations. Show anchors, grounds, reinforcement, accessories, layout, and installation details.
- D. Samples: Provide the following samples of each product for initial selection of colors, patterns, and textures, as required, and for verification of compliance with requirements indicated.
 - 1. Samples for initial selection of color, pattern, and texture:
 - a. Vinyl-fabric-faced Cork Tackboards: Manufacturer's color charts consisting of actual sections of vinyl fabric, showing the full range of colors, textures, and patterns available for each type of vinyl-fabric-faced cork tackboard indicated.
- E. Certificates: In lieu of laboratory test reports, when permitted by the Architect, submit the manufacturer's certification that vinyl-fabric-faced cork tackboard materials furnished comply with requirements specified for flame spread ratings.

1.4 QUALITY ASSURANCE

- A. **Installer Qualifications:** Engage an experienced Installer who is an authorized representative of the manufacturer for both installation and maintenance of the units required for this Project.
- B. **Fire Performance Characteristics:** Provide vinyl-fabric-faced tackboards with surface burning characteristics indicated below, as determined by testing assembled materials composed of facings and backings identical to those required in this section, in accordance with ASTM E 84, by a testing organization acceptable to authorities having jurisdiction.
 - 1. **Flame Spread:** 25 or less.
 - 2. **Smoke Developed:** 10 or less.
- C. **Design Criteria:** The drawings indicate dimensional width requirements of visual display boards and are based on the specific type and model indicated. Other visual display boards having equal performance characteristics by other manufacturers may be considered provided that deviations in dimensions and profiles are minor and do not change the design concept or intended performance as judged by the Architect. The burden of proof of equality is on the proposer. All visual display boards to be 4 feet-0 inch, high by width indicated on documents.

1.5 PROJECT CONDITIONS

- A. **Field Measurements:** Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.
 - 1. **Allow for trimming and fitting** wherever taking field measurements before fabrication might delay the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. **Manufacturer:** Subject to compliance with requirements, provide products of one of the following:
 - 1. **Tackboards:**
 - a. **Claridge Products and Equipment, Inc.**
 - b. **Greensteel, Inc.**
 - c. **ADP Lemco, Inc.**

2.2 MATERIALS

- A. Vinyl-Fabric-Faced Tackboards: Provide mildew-resistant, washable, vinyl fabric complying with FS CCC-W-408, Type II, weighing not less than 13 ounces per square yard, laminated to 1/4-inch-thick cork sheet. Provide fabric that has a flame spread rating of 25 or less when tested in accordance with ASTM E 84. Provide color and texture as scheduled or as selected from the manufacturer's standards.
1. Vinyl Manufacturer: Subject to compliance with requirements, provide products of one of the following:
 - a. BF Goodrich, Koroseal, Harborweave.
 - b. Claridge, Fabricork.
 - c. K-Pro, Pro-Tak Fabrics.
 2. Backing: Make panels rigid by factory laminating cork face sheet under pressure to 5/16-inch-thick particleboard backing.

2.3 ACCESSORIES

- A. Metal Trim and Accessories: Fabricate frames and trim of not less than 0.062-inch-thick aluminum alloy, size and shape as indicated, to suit type of installation. Provide straight, single-length units wherever possible; keep joints to a minimum. Miter corners to a neat, hairline closure.
1. Where the size of boards or other conditions exist that require support in addition to the normal trim, provide structural supports or modify the trim as indicated or as selected by the Architect from the manufacturer's standard structural support accessories to suit the condition indicated.
 2. Field-Applied Trim: Provide the manufacturer's standard snap-on trim, with no visible screws or exposed joints.

2.4 FABRICATION

- A. Assembly: Provide factory-assembled tackboard units, except where field-assembled units are required.
1. Make joints only where total length exceeds maximum manufactured length. Fabricate with the minimum number of joints, balanced around the center of the board, as acceptable to the Architect.
 2. If required, provide manufacturer's standard mullion trim at joints between tackboard.

2.5 FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual,, for recommendations relative to application and designations of finishes.
1. Finish designations prefixed by "AA" conform to the system established by the Aluminum Association for designating aluminum finishes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Deliver factory-built tackboard units completely assembled in one piece without joints, wherever possible. Where dimensions exceed panel size, provide 2 or more pieces of equal length as acceptable to the Architect. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site. Use splines at joints to maintain surface alignment.
- B. Install units in locations and at mounting heights indicated and in accordance with the manufacturer's instructions. Keep perimeter lines straight, plumb, and level. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for a complete installation.
 - 1. Finished vertical surfaces shall be flat, free of warp or bends.
- C. Coordinate job-site assembled units with grounds, trim, and accessories. Join parts with a neat, precision fit.

3.2 ADJUST AND CLEAN

- A. Verify that accessories required for each unit have been properly installed and that operating units function properly.
- B. Clean units in accordance with the manufacturer's instructions.

END OF SECTION 10 11 00

SECTION 10 14 23 - PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing the following types of signs:
 - 1. Interior, panel room signs as specified herein and as quantified and scheduled on the drawings.

1.3 SUBMITTALS

- A. Samples: Provide samples of each sign component for initial selection of color, pattern and surface texture as required and for verification of compliance with requirements indicated.
- B. Product Data: Include manufacturer's construction details relative to materials, dimensions of individual signs, profiles, and finishes for each type of sign required.
- C. Full size or scaled proof of each type of sign for approval before fabrication.

1.3 QUALITY ASSURANCE

- A. Code Compliance: Provide panel room signs in conformance with the Uniform Federal Accessibility Standards; Section 4.30, ANSI A117.1; and Americans with Disabilities Act (ADA), sections 4.28.2, -.3, -.5.
- B. Single-Source Responsibility: For each separate type of sign required, obtain signs from one source from a single manufacturer.

1.4 PROJECT CONDITIONS

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication to ensure proper fitting. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delay.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. ADA Panels: Provide 1/2" thick Photopolymer per ANSI A117 and ADA requirements. Letters and graphics shall be raised 1/32" and Braille shall be raised tactical type.
- B. Fasteners: Panels or Backers mounted to surface w/ Double sided foam vinyl VHB.

2.2 PANEL ROOM SIGNS

- A. Panel Room Signs: Comply with requirements indicated for materials, thickness, finishes, colors, designs, shapes, sizes, and details of construction.
 - 1. Produce smooth, even, level sign panel surfaces, constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally.
- B. Unframed Panel Room Signs: Fabricate signs with edges mechanically and smoothly finished to conform to the following requirements:
 - 1. Edge Condition: Square cut.
 - 2. Corner Condition: Square, unless otherwise indicated.
 - 3. Typical panel Size: See drawings A-10.1, A-10.2, and A-10.3.
 - 4. Handicapped Accessible Signs: See drawings A-10.1, A-10.2, and A-10.3.
 - 6. Color: Backgrounds to be manufacturer's CUSTOM color as selected by Architect.
- C. Graphic Content and Style: Provide signs that comply with format and wording indicated in Schedule, Section 3.3, and conforming to the following characteristics:
 - 1. Letters and Numerals: Sans Serif font type with a width-to-height ratio of 3:3.5, and a stroke-width to height ratio of 1:5. Heights and case per drawings.
 - 2. Braille: Grade 2 (ONLY WHERE ISHA INDICATED). See drawings
 - 3. Pictograms: See drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Locate sign units and accessories where indicated, using mounting methods of the type described and in compliance with the manufacturer's instructions.
 - 1. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.

- B. Wall Mounted Panel Signs: Attach panel signs to wall surfaces using the methods indicated below:
1. Vinyl-Tape Mounting: Use double-sided VHB foam tape to mount signs. A blank sign is required to be mounted on the reverse side of any glass-mounted sign.
 3. Mounting Location and Height: Install signs on the wall adjacent to the latch side of the door. Where there is no wall space to the latch side of the door, including at double leaf doors, install signs at the nearest adjacent wall. Mounting height shall be 60" to centerline above the finish floor unless otherwise indicated on drawings. Mounting location for such signage shall be so that a person may approach within 3" of signage without encountering protruding objects or standing within the swing of a door.

3.2 CLEANING AND PROTECTION

- A. At completion of the installation, clean soiled sign surfaces in accordance with the manufacturer's instructions. Protect units from damage until acceptance by the Owner.

3.3 SCHEDULE

- A. Refer to **drawing A-1-10.1** for quantities and locations.
- B. Refer to **drawings A-10.1, A-10.2, and A-10.3** for signage schedule.

END OF SECTION 10 14 23

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10 21 13 - TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Stock, manufactured toilet compartments, solid polymer, floor mounted, overhead braced, with no site hardware
 - 2. Installation of stock manufactured toilet compartments, no site hardware.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
 - 1. Section 10 28 00 "Toilet and Bath Accessories" for toilet toilet dispensers (TTD), sanitary napkin disposals (SND), and robe hooks (RHA, RHT).

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for materials, fabrication, and installation including catalog cuts of anchors, hardware, fastenings, and accessories.
- C. Shop drawings for fabrication and erection of toilet compartment assemblies not fully described by product drawings, templates, and instructions for installation of anchorage devices built into other work.
- D. Samples of full range of colors for each type of unit required. Submit 6-inch-square samples of each color and finish on same substrate to be used in work, for color verification after selections have been made.

1.4 QUALITY ASSURANCE

- A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible, to ensure proper fitting of work. However, allow for adjustments where taking of field measurements before fabrication might delay work.

- B. Coordination: Furnish inserts and anchorages which must be built into other work for installation of toilet compartments and related items. Coordinate delivery with other work to avoid delay.

1.5 WARRANTEE

- A. Manufacturer of toilet partitions warrants its products to be free from defects delamination, corrosion or breakage in material and workmanship from the date of Substantial Completion as follows:

- 1. Polymer resin: Twenty-Five (25) years

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide the following:
 - 1. The Bradley Corporation: Model "Series 400 – Sentinel, No Site Bradmar Solid Plastic (HDPE)"
 - 2. American Sanitary Partition Corp.: Model "SP-FF"
 - 3. Global Partitions, and ASI Group Co.: Model "Solid Polymer (HDPE)"

2.2 MATERIALS

- A. General: Provide materials which have been selected for surface flatness and smoothness. Exposed surfaces which exhibit pitting, seam marks, roller marks, stains, discolorations, telegraphing of core material, or other imperfections on finished units are not acceptable.
- B. Panel, Door, and Pilaster Construction: Panels, doors and pilasters shall be made of high density polyethylene (HPDE) resins pressed under high pressure to form a single component. This material is waterproof, non-absorbent and has a self-lubricating surface which resists marks and graffiti. Laminated surfaces are unacceptable. All edges are to be machined smooth and rounded to a 3/16 inch radius
- C. Panel, Door, and Pilaster Thickness: 1 inch thickness minimum.
- D. Brackets: No site, continuous stainless steel with #4 finish.
- E. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel or brass, finished to match hardware, with one-way theft-resistant-type heads and nuts. For concealed anchors, use stainless steel.
- F. Fire resistance characteristics per ASTM E-84 Tests:
 - a. Flame-Spread Index: Class B, not greater than 75.
 - b. Smoke-Developed Index: Not greater than 450.

2.3 FABRICATION

- A. General: Furnish doors, fabricated for compartment system. Furnish units with cutouts, drilled holes, and internal reinforcement to receive hardware and accessories as indicated.
- B. Door Dimensions: Unless otherwise indicated, furnish 24-inch-wide in-swinging doors for ordinary toilet stalls and 36-inch-wide (clear opening) out-swinging doors for stalls equipped for use by handicapped.
- C. Hardware: Furnish hardware for each compartment to comply with ANSI A117.1 and U.S. ADA Guidelines for handicapped accessibility and as follows:
1. Hinges: Continuous hinge full height of door. Type 304 satin finish stainless steel; extra heavy duty 16 gauge. Through bolted to door and stile with 12 theft-resistant, one way screws fastened into threaded metal inserts.
 2. Latch and Keeper: Door latch with shock resistant nylon track into 1 inch wide keeper formed from one piece 1/8 inch 11 gauge stainless steel. Keeper shall be through bolted to stile with theft resistant one-way screws fastened into threaded metal inserts. Vinyl coated door stops. Lift-Free emergency access keepers to be provided.
 3. Coat Hook: Provide one (1) hook on each non-handicapped accessible stall (total quantity of eight (8) locations). Hook type shall be compartment manufacturer's standard unit, combination hook and rubber-tipped bumper, sized to prevent door hitting mounted accessories. Reference large scale plans for "RHT" instances. Handicapped compartment hook, and all hooks outside of compartments, are to be provided in accordance with the requirements of specification 10 28 00 – Toilet Accessories. Coordinate with supplier of specification 10 28 00 – Toilet Accessories so as to not duplicate ordering.
 4. Door Pull: Manufacturer's standard unit for out-swinging doors. Provide pulls on both faces of handicapped compartment doors. Reference large scale plans for location requirements of second pull on handicapped compartment doors.
 5. Pilaster Shoes: ASTM A 167, Type 304 stainless steel not less than 4 inches high, finished to match hardware.
 6. Overhead Bracing: Continuous stainless steel at all sides and subdivisions. Provide curtain track headrails at all shower stalls within Men's Shower #105 and Women's Shower #118.

2.4 FINISH

- A. Color: One of manufacturer's standard colors in each room, as selected by Interior Designer, Architect, and Owner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Comply with manufacturer's recommended procedures and installation sequence. Install compartment units rigid, straight, plumb, and level. Provide clearances of not more than 1/2 inch between pilasters and panels, and not more than 1 inch between panels and walls. Install brackets and accessories so as to eliminate all sight lines through compartments.

3.2 ADJUST AND CLEAN

- A. Hardware Adjustment: Adjust and lubricate hardware for proper operation. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors (and entrance swing doors) to return to fully closed position.
- B. Clean exposed surfaces of partition system components using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

END OF SECTION 10 21 13

SECTION 10 28 00 - TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing toilet and bath accessory items as shown on the drawings and as specified herein.
- B. Installation of toilet and bath accessories is specified in Section 06 10 00, "Rough Carpentry".
- C. Installation of wood blocking is specified in Section 06 10 00, "Rough Carpentry".

1.3 SUBMITTALS

- A. General: Submit the following according to Conditions of Contract and Division 1 Specifications Sections.
- B. Product data for each toilet accessory item specified, including construction details relative to materials, dimensions, gages, profiles, mounting method, specified options, and finishes.
- C. Schedule indicating types, quantities, sizes, and installation locations (by room) for each toilet accessory item to be provided for project.
- D. Setting drawings where cutouts are required in other work, including templates, substrate preparation instructions, and directions for preparing cutouts and installing anchorage devices.
- E. Maintenance instructions including replaceable parts and service recommendations.

1.4 QUALITY ASSURANCE

- A. Inserts and Anchorages: Furnish accessory manufacturers' standard inserts and anchoring devices that must be set in concrete or built into masonry. Coordinate delivery with other work to avoid delay.
- B. Single-Source Responsibility: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise acceptable to Architect.
- C. Catalog Standards: Manufacturer's catalog numbers may be shown on drawings for convenience in identifying certain work. Unless modified by notation on drawings or otherwise specified, catalog description for indicated number constitutes requirements for each item.
 - 1. The use of catalog numbers and specific requirements set forth in drawings and specifications are not intended to preclude the use of any other acceptable manufacturer's product or procedures which may be equivalent, but are given for purpose of establishing standard of design and quality for materials, construction, and workmanship.
 - 2. The approval of other listed manufacturers, products does not relieve the Contractor from compliance with the detailed requirements of this Section.

1.5 PROJECT CONDITIONS

- A. Coordination: Coordinate accessory locations, installation, and sequencing with other work to avoid interference with and ensure proper installation, operation, adjustment, cleaning, and servicing of toilet accessory items.

1.6 WARRANTY

- A. Warranty: Submit a written warranty executed by mirror manufacturer, agreeing to replace any mirrors that develop visible silver spoilage defects within warranty period.
- B. Warranty Period: 15 years from date of Substantial Completion.
- C. The warranty shall not deprive the Owner of other rights the owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Stainless Steel: AISI Type 302/304, with polished No. 4 finish, 0.034-inch (22-gage) minimum thickness.
- B. Brass: Leaded and unleaded, flat products, ASTM B 19; rods, shapes, forgings, and flat products with finished edges, ASTM B 16; Castings, ASTM B 30.
- C. Sheet Steel: Cold-rolled, commercial quality ASTM A 366, 0.04-inch (20-gage) minimum. Surface preparation and metal pretreatment as required for applied finish.
- D. Galvanized Steel Sheet: ASTM A 527, G60.
- E. Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B 456, Type SC 2.
- F. Galvanized Steel Mounting Devices: ASTM A 153, hot-dip galvanized after fabrication.
- G. Fasteners: Screws, bolts, and other devices of same material as accessory unit, or of galvanized steel where concealed.

2.2 ACCESSORIES

BCS-# BABY CHANGING STATION, (# = LENGTH IN INCHES)

1. Baby changing station body shall be durable, high-density polyethylene with embedded antimicrobial properties. Design of unit shall be surface-mounted. Unit shall be equipped with a pneumatic cylinder for controlled opening and closing of bed. Bed shall be secured to back plate with a concealed, full-length steel-on-steel hinge. No hinge structure shall be exposed on interior or exterior surfaces. Unit shall conform to ANSI Z535.4 Product Safety Signs and Labels, ASTM G21 Antifungal, and ASTM G22 Antibacterial standards. Bed shall have smooth concave changing area with a nylon safety strap and two hooks for bags or purses. Unit shall have a built-in Liner Dispenser for use with 3-ply chemical free biodegradable sanitary liners, universal instruction graphics and safety messages in 6 languages and Braille. Unit shall be backed by manufacturer's 5-year limited warranty on materials and workmanship and include a provision for replacement caused by vandalism.
2. Unit # (24): Subject to conformance with requirements, provide "KB101-05" as manufactured by Koala Kare Products, 6982 S. Quentin St., Centennial, CO 80112, P: 888-733-3456
3. Unit # (36): Subject to conformance with requirements, provide "KB200-05" as manufactured by Koala Kare Products, 6982 S. Quentin St., Centennial, CO 80112, P: 888-733-3456
4. Contractor to fill all installed units with KB150-99 bed liners (Koala Kare Products) and provide owner with an equal quantity for their custodial stock.

EAD	ELECTRIC AIR DRYER (HAIR)
EADa	ELECTRIC AIR DRYER (HAIR), ACCESSIBLE
EADt	ELECTRIC AIR DRYER (HAIR), TALL
EHD	ELECTRIC HAND DRYER

1. Surface-mounted hand dryer shall have 22-gauge galvanized steel with exposed surface type-304 stainless steel with #4 satin-finish vertical grain cover with UL 94-5VA black plastic trim. Slim profile cover shall project no more than 4" (100mm) from the finished face of wall to comply with accessible design guidelines. Unit shall be equipped with dual air outlets that provide a swirling circulation of airflow for (less than 25 seconds) hand dry. Motor shall be 1/7 hp, universal type on resilient mounting with sealed ball bearing at drive-shaft end and self-lubricating sleeve bearing at non-drive end; equipped with automatic thermal-overload switch. Heating elements shall be located on outlet side of fan, shall heat air without hot spots, be inaccessible to vandals, and protected by an automatic thermal-overload switch. Electronic sensor shall automatically turn dryer on when hands are held under air-outlet opening and across path of sensor. Dryer shall turn off automatically when hands are removed. Sensor shall automatically shut dryer off approximately 1-1/2 minutes after dryer turns on if an inanimate object is placed across air-outlet opening. After inanimate object is removed, electronic sensor shall automatically reset itself and dryer shall operate normally. Unit shall be cULus Listed, and/or VDE approved, CE marked. Unit shall comply with EU Directive "Restriction of Hazardous Substance" (ROHS) requirements for non-use of certain hazardous substances in the production of electronic products. Unit shall be protected by a limited 10 -year warranty on all parts except motor brushes. Motor brushes shall be warranted for three years from date of purchase.
2. Subject to conformance with requirements, provide "B-7128 115V" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444

FDS FOLD-DOWN SHOWER SEAT

1. Bariatric Folding Shower Seat shall have a frame and three front swing-down legs constructed of zinc-plated 3/4" steel pipe 1/10" (2.5mm) wall thickness, 1/8" (2.7mm) white vinyl antibacterial, biocompatible, coating thickness, 1-5/16" (33mm) outside diameter. Seat shall be one-piece, 3/8" (10mm) thick, high-pressure laminate with matte-finish, white-colored surfaces and black phenolic-resin core — cannot delaminate. Shower seat shall be equipped with three mounting flanges constructed of stainless steel Inox AISI 304 1/8" (3mm) thick wall plates with polyamide 6 flange cover. Stainless steel Inox AISI 304, 11-gauge (3 mm) hinge brackets align between seat and legs. Shower seat shall comply with accessible design guidelines.

2. Subject to conformance with requirements, provide "B-918116" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444
3. Contractor to coordinate requirements of right-hand "R" and left-hand "L" part number suffixes with drawings. The deep depth portion of the seat shall be oriented towards the back wall of the shower stalls.

**FHM FULL-HEIGHT MIRROR
MWF-# MIRROR WITH FRAME**

1. Mirror shall have a one-piece type-430 stainless steel channel frame, with 90° mitered corners; all exposed surfaces shall have bright polished finish. Select float glass mirror shall be guaranteed for 15 years against silver spoilage. The back shall be protected by full-size, shock-absorbing, water-resistant, nonabrasive, polyethylene padding. Galvanized steel back shall have integral horizontal hanging brackets located at top and bottom for mounting on concealed wall hanger to prevent the mirror from pulling away from the wall. Locking devices secure mirror to concealed wall hanger. Mirror shall be removable from the wall.
2. Subject to conformance with requirements, provide "B-165" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444
3. **FHM:** Provide lock tab design with suffix "3672" and include 2 hanger brackets. The suffix noted above is subject to change based on the locker manufacturer. Coordinate with locker manufacturer and provide unit dimensions of adequate size to fully cover the end panels of the locker banks.
4. **MWF-18:** Provide snap locking design with suffix "1836"

FWM FULL-WIDTH MIRROR WITH FRAME

1. Mirror shall have a one-piece type-430 stainless steel channel frame, with 90° mitered corners; all exposed surfaces shall have bright polished finish.
2. Select float glass mirror shall be guaranteed for 15 years against silver spoilage.
3. Fabricate frames for glass mirror units to accommodate wood, felt, plastic, or other glass edge protection material. Provide mirror backing and support system that will permit rigid, tamperproof glass installation and prevent moisture accumulation, as follows:
4. Provide galvanized-steel backing sheet, not less than 0.034 inch (22 gage) and full mirror size, with non-absorptive filler material. Corrugated cardboard is not an acceptable filler material.
5. Reference detail 2 on drawing A-1-10.2 for additional requirements.

GB-#	GRAB BAR (# = LENGTH IN INCHES)
GBR	GRAB BAR, REAR WALL
GBS	GRAB BAR, SIDE WALL
GBV	GRAB BAR, VERTICAL

1. Grab bar shall be type-304 stainless steel with satin-finish with peened gripping surface. Grab bar shall have 18-gauge (1.2mm) wall thickness and 1-1/2" (38mm) outside diameter. Clearance between the grab bar and wall shall be 1-1/2" (38mm). Concealed mounting flanges shall be 11-gauge (3.2mm) thick stainless steel plate, 2" x 3-1/8" (50 x 80mm), and equipped with at least two screw holes for attachment to wall. Flange covers shall be 22 gauge (0.8mm), 3-1/4" (85mm) diameter x 1/2" (13mm) deep, and shall snap over mounting flange to conceal mounting fasteners. Ends of grab bar shall pass through concealed mounting flanges and be heliarc welded to form one structural unit. Grab bar shall comply with accessible design (including ADAAG in the U.S.A.) for structural strength.
2. Subject to conformance with requirements, provide "B-6806.99" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444
3. Unit # (18): Provide unit with suffix "x 18"
4. Unit # (24): Provide unit with suffix "x 24"
5. Unit # (30): Provide unit with suffix "x 30"
6. **GBR**: Provide unit with suffix "x 36"
7. **GBS**: Provide unit with suffix "x 42"
8. **GBV**: Provide unit with suffix "x 18"

MBH MOP AND BROOM HOLDER

1. Surface-mounted mop and broom holder.
2. Mounting Base: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin finish.
3. Mop and Broom Holders: Four (4) spring-loaded rubber cam holders with anti-slip coating capable of accommodating handles from 7/8" to 1-1/4" (20 to 30mm) in diameter. Powder coated steel retainers.
4. Subject to conformance with requirements, provide "B-223 x 36" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444

PTD	PAPER TOWEL DISPENSER
PTDc	PAPER TOWEL DISPENSER, ABOVE COUNTER

1. Surface-mounted paper towel dispenser with stainless steel all-welded construction.

2. Cabinet: 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Back has recessed mounting slots to prevent mounting screw heads from snagging towels. Rounded towel tray has hemmed opening to dispense paper towels without tearing. Cabinet inside equipped with 90° return towel guide bracket to prevent paper towels from falling forward out when door is opened for servicing. Unit equipped with TowelMate consisting of a 90° return towel guide angle inside cabinet to prevent paper towels from falling forward out when door is opened for servicing and a Nylon Rod across the center of the towel tray to dispense paper towels one at a time. Equipped with a tumbler lock keyed like other washroom accessories.
3. Door: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction. Secured to cabinet with a full-length stainless steel piano-hinge. TowelMate.
4. Capacity: Unit shall be capable of dispensing 400 C-fold or 525 multifold paper towels 2-1/2" to 3-13/16" (64-97mm) deep.
5. Subject to conformance with requirements, provide "B-4262" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
6. Contractor to fill all installed units with C-fold paper towels and provide owner with an equal quantity for their custodial stock.

PTDWR PAPER TOWEL DISPENSER AND WASTE RECEPTACLE

1. Recessed paper towel dispenser and waste receptacle with stainless steel all-welded construction.
2. Cabinet: 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin-finish.
3. Flange: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin-finish. Drawn, one-piece, seamless construction.
4. Door: 18-8, type-304, 18-gauge (1.2mm) stainless steel with satin-finish. Drawn, one-piece, seamless construction. Secured to cabinet with a full-length stainless steel piano-hinge. Equipped with a stainless steel cable door-swing limiter and flush tumbler lock keyed like other washroom accessories.
5. Paper Towel Dispenser: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin-finish. Cabinet inside equipped with 90° return towel guide angle to prevent paper towels from falling forward out when door is opened for servicing. Rounded towel tray has hemmed opening to dispense paper towels without tearing. Unit equipped with TowelMate consisting of a 90° return towel guide angle inside cabinet to prevent paper towels from falling forward out when door is opened for servicing and a Nylon Rod across the center of the towel tray to dispense paper towels one at a time. Waste receptacle shall have a formed, 18-gauge (1.2mm), one-piece, seamless, removable front panel with top edge hemmed.

6. Capacity: 600 C-fold or 800 multifold paper towels.
7. Subject to conformance with requirements, provide "B-43944" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
8. Contractor to fill all installed units with C-fold paper towels and provide owner with an equal quantity for their custodial stock.

RHA ROBE HOOK, ACCESSIBLE HEIGHT
RHS ROBE HOOK, STANDARD HEIGHT
RHT ROBE HOOK, TOILET PARTITION HEIGHT

1. Surface-mounted robe hook with double hook notches.
2. Construction: 1" diameter, 2-1/2" projection, concealed mounting, solid brass coat hook with satin chrome plated finish.
3. Subject to conformance with requirements, provide "903P-US26D" as manufactured by Hager Companies, 139 Victor Street, St. Louis, MO 63104, P: 800-325-9995.
4. The "RHT" instances on the compartment side of non-handicapped toilet stalls (total quantity of eight (8) locations) shall be furnished by specification section 10 21 13 – Toilet Compartments. All other instances of "RHT" shall be furnished in accordance with this section.

RSS RECESSED SHOWER SHELF

1. Field-built masonry recessed in accordance with detail 5/A-1-4.1.

SC SHOWER CURTAIN

1. Shower curtains shall be opaque, matte white vinyl 0.008" (0.2mm) thick, containing antibacterial and flame-retardant agents (Formulated to meet CFMS Title 19.13115), and shall have nickel-plated brass grommets along top. Bottom and sides shall be hemmed.
2. Subject to conformance with requirements, provide "B-204" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
3. Handicapped accessible roll-in shower stalls, as identified on the drawings, shall be provided with a suffix "-3"
4. All shower curtains, except those identified in item 3 above, shall be provided with a suffix "-2".

SCH SHOWER CURTAIN HOOKS

1. Shower curtain hooks shall be 0.09" (2mm) diameter, 18-8, type-304 stainless steel. Hooks shall be usable with 1" and 1-1/4" (25 and 32mm) diameter shower curtain rods.
2. Subject to conformance with requirements, provide "B-204-1" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
3. For shower curtains with 42" width, provide quantity seven (7) hooks.
4. For shower curtains with 70" width, provide quantity twelve (12) hooks.

SCR SHOWER CURTAIN ROD

1. Shower curtain rod shall be 18-8, type-304, 18-gauge (1.2mm) stainless steel tubing with satin finish and have outside diameter of 1-1/4" (30mm). One-piece, die-formed flanges shall be 18-8, type-304, 20-gauge (1.0mm) stainless steel with satin finish.
2. Subject to conformance with requirements, provide "B-6047" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
3. Handicapped accessible roll-in shower stalls, as identified on the drawings, shall be provided with a suffix "x 60". Contractor to field cut rod to length as required.
4. All shower curtain rods, except those identified in item 3 above, shall be provided with a suffix "x 36". Contractor to field cut rod to length as required

SDc SOAP DISPENSER, COUNTER-MOUNTED

1. Counter-mounted soap dispenser for liquid and lotion soaps and detergents.
2. Piston, Spout, and Top Cover: Type-304 stainless steel with bright polished finish. Spout shall rotate 360 degrees without damage to valve mechanism. Piston, spout, and supply-tube assembly shall be removable from top for filling and maintenance.
3. Cover Spacer: Rigid, impact-resistant polyester.
4. Escutcheon: Chrome-plated, high-impact-resistant ABS with bright polished finish. Concealed locking mechanism opened with special key.
5. Body and Shank: High-impact-resistant plastic.
6. Valve: ABS cylinder. Stainless steel spring. U-packing seal and duckbills.
7. Container: Translucent, shatter-resistant polyethylene.
8. Capacity: 34-fl oz (1.0-L).
9. Subject to conformance with requirements, provide "B-8226" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.

SDw SOAP DISPENSER, WALL-MOUNTED

SDwc SOAP DISPENSER, WALL-MOUNTED OVER COUNTER

1. Surface-mounted soap dispenser for liquid and lotion soaps and detergents.

2. Container: 18-8, Type-304, 22-gauge (0.8mm) stainless steel with satin-finish. Body is drawn, one-piece, seamless construction. Back plate has mounting bracket attached. Furnished with concealed wall plate. Equipped with a clear acrylic refill-indicator window and a locked, hinged stainless steel lid for top filling. Concealed, vandal-resistant mounting, removable for cleaning.
3. Capacity: 40-fl oz (1.2-L).
4. Valve: Black molded plastic push button and spout. Soap head-holding mushroom valve. Stainless steel spring. U-packing seal and duckbill. Antibacterial-soap-resistant plastic cylinder. Valve is operable with one hand, without tight grasping, pinching, or twisting of the wrist, and with less than 5 pounds of force (22.2 N) to comply with accessible design guidelines (including ADAAG in the U.S.A.).
5. Subject to conformance with requirements, provide "B-2111" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.

SND SANITARY NAPKIN DISPOSAL

1. Surface-mounted sanitary napkin disposal.
2. Container: 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Integral finger depression for opening cover.
3. Cover: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction. Secured to container with a full-length stainless steel piano-hinge.
4. Subject to conformance with requirements, provide "B-270" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
5. For toilet partition mounting, provide stainless steel tamper-resistant sex bolts. Bolt length shall be sized so as to not protrude from sex bolt nut on back side of partition.

SNV SANITARY NAPKIN VENDING

1. Semi-recessed napkin/tampon vendor.
2. Cabinet: 18-8, Type-304, 18-gauge (1.2mm) stainless steel. All-welded construction.
3. Flange: 18-8, Type-304, 22-gauge (0.8mm) stainless steel with satin finish. Drawn, one-piece, seamless construction.
4. Skirt: 18-8, Type-304, 22-gauge (0.8mm) stainless steel with satin finish.
5. Door: 18-8, Type-304, 18-gauge (1.2mm) stainless steel with satin finish. Secured to cabinet with a concealed full-length stainless steel piano-hinge. Equipped with two tumbler locks keyed like other washroom accessories. Door has no brand-name advertising for products dispensed. Graphic symbols identify products dispensed and coin denomination.

6. Coin Mechanisms: Two (2) Impact-Resistant PC-ABS Push Buttons. Coin mechanisms can be converted in the field to any standard coin denomination (Free, 25¢ or 50¢). Accepts one or two quarters (U. S. or Canadian) as designated by factory setting. Coin Box is equipped with tumbler lock that opens with different key than furnished for door locks.
7. Subject to conformance with requirements, provide "B-47064" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.

TTD TOILET TISSUE DISPENSER

1. Surface-mounted multi-roll toilet tissue dispenser.
2. Cabinet: 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Radius on top corners of cabinet match corners and edges of door.
3. Door: 18-8, type-304, 22-gauge (0.8mm) stainless steel with 18-gauge (1.2mm) stainless steel door frame. Exposed surfaces have satin finish. Front of door is drawn, one-piece, seamless construction. Radius on corners and edges of door match top corners of cabinet. Secured to cabinet with two rivets. Equipped with a flush tumbler lock keyed like other washroom accessories.
4. Dispensing Mechanism, Inner Housing and Cam: 18-8, type-304, 18-gauge (1.2mm) stainless steel. Extra roll automatically drops in plate when bottom roll is depleted. Depleted rolls can only be removed after unlocking door.
5. Spindles: Two (2), Heavy-duty, one-piece, molded ABS. Theft-resistant. Retained in dispensing mechanism when door is locked.
6. Capacity: Two (2) standard-core toilet tissue rolls up to 5-1/4" (133mm) diameter (1800 sheets).
7. Subject to conformance with requirements, provide "B-4288" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
8. Contractor to fill all installed units with 5-1/4" diameter (1800) sheet toilet tissue rolls and provide owner with an equal quantity for their custodial stock.
9. For toilet partition mounting, provide stainless steel tamper-resistant sex bolts. Bolt length shall be sized so as to not protrude from sex bolt nut on back side of partition.

WR WASTE RECEPTACLE

1. Recessed waste receptacle.
2. Cabinet: 18-8, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin-finish.
3. Flange: 18-8, type-304, 22-gauge (0.8mm) stainless steel with satin-finish. Drawn, one-piece, seamless construction. Radius on corners and return edges.

4. Waste Receptacle: 18-8, type-304, 20-gauge (0.91mm) stainless steel with satin-finish. Formed, one-piece, seamless construction. Removable front panel. Top edge hemmed for safe handling. Radius on side edges of waste receptacle. Secured to cabinet with two keyholes over studs on bottom and two tamper-resistant setscrews on top.
5. Capacity: 12.8-gal. (48.3-L).
6. Trash Liner Holder: Unit equipped with LinerMate to facilitate installation and removal of disposable trash liners and retains liner inside waste receptacle. LinerMate trash liner holder is fabricated with a molded plastic bag holder sleeve and a 20-gauge (0.91mm) stainless steel, U-shaped support strap; riveted construction. Bag holder shall have an arc at front and same shape as inside of waste receptacle area
7. Subject to conformance with requirements, provide "B-43644" as manufactured by Bobrick Washroom Equipment, Inc., 200 Commerce Drive, Clifton Park, NY 12065-1350, P: 518-877-7444.
8. Contractor to fill all installed units with 13 gallon trash bags and provide owner with an equal quantity for their custodial stock.

2.3 FABRICATION

- A. General: Only a maximum 1-1/2-inch-diameter, unobtrusive stamped manufacturer logo, as approved by Architect, is permitted on exposed face of toilet or bath accessory units. on either interior surface not exposed to view or back surface, provide additional identification by either a printed, waterproof label or a stamped nameplate, indicating manufacturer's name and product model number.
- B. Surface-Mounted Toilet Accessories, General: Except where otherwise indicated, fabricate units with tight welded seams and joints, exposed edges rolled. Hang doors or access panels with continuous stainless steel piano hinge. Provide concealed anchorage wherever possible.
- C. Framed Mirror Units, General: Fabricate frames for glass mirror units to accommodate wood, felt, plastic, or other glass edge protection material. Provide mirror backing and support system that will permit rigid, tamperproof glass installation and prevent moisture accumulation, as follows:
 1. Provide galvanized-steel backing sheet, not less than 0.034 inch (22 gage) and full mirror size, with non-absorptive filler material. Corrugated cardboard is not an acceptable filler material.
- D. Mirror Unit Hangers: Provide system for mounting mirror units that will permit rigid, tamperproof, and theft proof installation, as follows:
 1. Heavy-duty wall brackets of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.

- E. Keys: Provide universal keys for access to toilet accessory units requiring internal access for servicing, resupply, etc. Provide minimum of six (6) keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install toilet accessory units according to manufacturers, instructions, using fasteners appropriate to substrate as recommended by unit manufacturer. Install units plumb and level, firmly anchored in locations and at heights indicated.
 - 1. Reinforcement of stud walls to support wall-mounted cabinets will be accomplished during wall erection by trade involved; however, indicating accurate location and sizing of reinforcement is responsibility of toilet and bath accessories installer.
 - 2. Install toilet accessory units furnished by the owner using fasteners appropriate to substrate as required.
- B. Secure mirrors to walls in concealed, tamperproof manner with special hangers, toggle bolts, or screws. Set units plumb, level, and square at locations indicated, according to manufacturer's instructions for type of substrate involved.
- C. Install grab bars to withstand a downward load of at least 250 lbs, complying with ASTM F 446.

3.2 ADJUSTING AND CLEANING

- A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.
- B. Clean and polish all exposed surfaces strictly according to manufacturer's recommendations after removing temporary labels and protective coatings.

END OF SECTION 10 28 00

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10 51 13 - METAL LOCKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201 - 2007, "General Conditions of the Contract for Construction", the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and or Subcontractor who performs this Work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing the following:
1. Metal lockers and accessories, including the following:
 - a. Locker Type "A": Handicapped accessible personal property lockers (**Men's Lockers #104, Family Locker #108, Staff Locker #111, and Women's Lockers #120**), (14 total, single tier)
 - b. Locker Type "B": Standard personal property lockers (**Men's Lockers #104, Family Locker #108, Staff Locker #111, and Women's Lockers #120**), (186 total, single tier)
- B. Related Sections: The following Sections contain requirements that relate to this Section:
1. 03 30 00 "Cast in Place Concrete" for concrete bases where indicated on the drawings.
 2. Section 06 10 00 "Rough Carpentry" for wood base, furring and grounds where indicated on the drawings.

1.3 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data: Manufacturer's printed data including materials, accessories, construction, finishes, assembly, and installation instructions for lockers and benches.
- C. Shop Drawings: Layout and dimensions of metal lockers. Indicate relationship to adjoining surfaces. Show locker elevations and details, fillers, trim, base, and accessories. Include numbering sequence for lockers. Indicate installation and anchorage requirements.

- D. Samples for Initial Color Selection: Manufacturer's color charts showing a full range of available colors.
- E. Maintenance Instructions: Instructions for cleaning lockers and for adjusting, repairing, and replacing locker doors and latching mechanisms.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility: Obtain locker units and accessories from one manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver lockers until spaces to receive them are clean, dry, and ready for locker installation.
- B. Protect lockers from damage during delivery, handling, storage, and installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products by one of the following:
 - 1. Art Metal Products, Inc. (AMP), Deerfield Beach, FL (800) 252-5633
 - 2. Architect's approved equal meeting, or exceeding, the specified products listed below.
- B. Basis of Design: Subject to compliance with requirements, provide each type of locker listed as manufacturer by AMP:
 - 1. Locker Type "A" (Handicapped Accessible): 304 Stainless Steel Lockers, Single-Tier.
 - 2. Locker Type "B" (Standard): 304 Stainless Steel Locker, Single-Tier.

2.2 FABRICATION

A. MATERIALS

- 1. Steel Sheet: All 304 stainless sheet steel used in fabrication shall be prime grade free from scale and imperfections.
- 2. Fasteners: Cadmium, zinc or nickel plated steel; bolt heads, slot less type; self-locking nuts or lock washers.
- 3. Hardware: Hooks and hang rods of cadmium plated or zinc plated steel or cast aluminum.

4. Handle: Seamless drawn 304 stainless steel recessed handle.
5. Number Plates: To be polished aluminum with not less than 3/8" high etched numbers attached to door with two aluminum rivets. Locate, vertically, as indicated in details 2/A-1-10.1 and 3/A-1-10.1 and horizontally centered. Number lockers in sequence with formatting as follows:
 - a. Lockers within Men's Lockers #104 shall be formatted as "M##" where "##" is the sequential numbering starting with "01".
 - b. Lockers within Family Locker #108 shall be formatted as "F##" where "##" is the sequential numbering starting with "01".
 - c. Lockers within Staff Locker #111 shall be formatted as "S##" where "##" is the sequential numbering starting with "01".
 - d. Lockers within Women's Lockers #120 shall be formatted as "W##" where "##" is the sequential numbering starting with "01".

B. CONSTRUCTION

1. Fabricate lockers square, rigid and without warp, with metal faces flat and free from dents or distortion. Make all exposed metal edges safe to touch. Weld frame members together to form a rigid, one-piece structure. Weld, bolt or rivet other joints and connections as is standard with manufacturer. Grind exposed welds flush. Do not expose bolts or rivet heads on front of locker doors or frames except for fastening of number plates and recessed handle.
2. Frame: Fabricate of 304 stainless steel, 16 gauge (minimum) channels, with integral continuous door stop/strike formed on both latch and hinge side vertical members. Cross frame members of 16 gauge channel shapes, including intermediate cross frame members on double tier lockers shall be securely welded to the vertical framing members to ensure rigidity. Rubber bumpers shall be provided to cushion door closing.
3. Bottoms: Shall be formed with 24 gauge (minimum) 304 stainless solid sheet steel with single return bends at all sides. Bolt bottom to front horizontal frame members at not less than one place in addition to side panels.
4. Shelves: Form shelves of 16 gauge (minimum) 304 stainless sheet steel with single bends at sides and back and a double bend at front.
5. Backs: Shall be of 24 gauge (minimum) 304 stainless sheet steel, with double flanged connections extending full height.
6. Doors: Doors to be fabricated from 304 stainless steel single sheet prime 16 gauge with single bends at top and bottom and double bends at the sides. The channel formed by the double bend at the latch side is designed to fully conceal the lock bar. Doors shall be louvered. Doors shall be louvered in groups of 6 with a set at both top and bottom of door.
7. Door Latching: The latching mechanism shall be finger lift control type constructed of 14 gauge (minimum) stainless steel with a nylon cover that has a generous finger pull. Lock bar shall be hot dip galvanized. Spring

activated nylon slide latches shall be completely enclosed in the lock channel allowing doors to close with the lock in the locked position. Latch hooks shall be securely welded to the vertical frame channel on the strike side to engage the nylon slide latches. Three latch hooks to be provided. Firmly secure one rubber silencer in frame at each latch hook.

8. Door Locking: The latch assembly must have a padlock loop that inserts through the recessed pan. No pad locks are to be provided.
9. Door Handle: Doors shall have a seamless drawn 304 stainless steel recessed handle shaped to allow for unlatching with one hand and not require tight grasping, pinching, or twisting of the wrist.
10. Door Hinges: All doors hinges shall not be less than 2" long 16 gauge 5-knuckle stainless steel hinges securely welded to frame and riveted to the door. Provide 3 hinges per door. All doors to be right hand, side hinged.
11. Certification: Lockers shall be GREENGUARD Children & Schools CertifiedSM.
12. Locker Base: Cast-in-place concrete with integral blocking as detailed on drawing A-1-3.1.

C. EQUIPMENT

1. Type "A" (Handicapped Accessible) lockers: Provide two (2) hat shelves, one double prong ceiling hook and a minimum of three (3) single prong wall hooks.
2. Type "B" (Standard) lockers: Provide one (1) hat shelf, one double prong ceiling hook and a minimum of three (3) single prong wall hooks.
3. Finished End Panels: Shall be "Boxed" type formed from 16 gauge 304 stainless steel with 1" O.D. double bends on sides and a single bend at top and bottom with no exposed holes or bolts. Finished to match lockers. Provide at all exposed ends.
4. Fillers: Provide where indicated, of not less than 16 gauge 304 stainless steel sheet, factory fabricated and finished to match lockers.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates and bases have been properly prepared.
- B. If substrate and bases are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

- A. Install metal lockers and accessories at locations shown in accordance with manufacturer's instructions.

- B. Install lockers plumb, level, square, rigid, and flush with adjacent units, and securely anchored to the wall (or bolted together if back-to-back)..
- C. Anchor lockers to floor and wall at 48 inches on-center or less, as recommended by the manufacturer. Avoid metal distortion using concealed fasteners. Friction cups are not acceptable.
- D. Bolt adjoining locker units together to provide rigid installation. Align all faces for flush transitions between adjoining locker units.
- E. Install end panels, tops, and metal fillers using concealed fasteners. Provide flush hairline joints against adjacent surfaces.

3.3 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust doors and latches to operate easily without binding. Verify that integral locking devices are operating properly.
- B. Clean interior and exposed exterior surfaces and polish nonferrous metal surfaces.
- C. Protect lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit locker use during construction.
- D. Touch up marred finishes, or replace locker units that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

3.4 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION 10 51 13

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SECTION 12 30 00 - CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Instructions to Bidders, AIA Document A201-2007, "The General Conditions of the Contract for Construction," the Supplementary General Conditions and Division 1, General Requirements, are a part of this Section and shall be binding on the Contractor and/or Subcontractor who performs this work. Note also all Addenda.

1.2 SUMMARY

- A. This Section includes furnishing and installing the following:
1. Solid surface countertops and aprons as indicated on the drawings.
 2. High-density polyethylene (HDPE) benches.
 3. Bench pedestals.
 4. Solid surface backsplashes and sidesplashes.
- B. Related Sections: The following sections contain requirements that relate to this section:
1. Section 04 20 00 "Unit Masonry" for supporting wall systems.
 2. Section 05 50 00 "Metal Fabrications" for steel angle supporting framing.

1.3 DEFINITIONS

- A. Exposed Surfaces: Surfaces visible when drawers and opaque doors are closed; behind clear glass doors; bottoms of casework 43 inches or more above finished floor.
- B. Semi-exposed Surfaces: Surfaces which become visible when opaque doors are open or drawers are extended; bottoms of casework are more than 30 inches and less than 42 inches above finished floor.
- C. Concealed Surfaces: Surfaces considered concealed when surfaces not visible after installation; bottoms of casework less than 30 inches above finished floor; tops of casework over 78 inches above finished floor and not visible from an upper level; stretchers, blocking, and components concealed by drawers.
- D. Flush Overlay: Door and drawer faces cover cabinet frame with space between faces sufficient for operating clearance.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data for each type of product and process specified in this section and incorporated into items of architectural casework during fabrication, finishing, and installation.
- C. Shop drawings for casework and fittings showing plan layout, elevations, ends, cross-sections, service run spaces, location and type of service fittings, together with associated service supply connection required.
 - 1. Include details and location of anchorages and fitting to floors, walls, and base, including required blocking or back-blocking.
 - 2. Include layout of units with relation to surrounding walls, doors, windows, and other building components.
 - 3. Coordinate shop drawings with other work involved.
 - 4. Include manufacturer's recommendations for blocking and securing of casework units and fittings.
- D. Samples for initial selection purposes of the following in form of manufacturer's color charts consisting of actual units or sections of units showing full range of colors, textures, and patterns available for each type of material indicated.
 - 1. Plastic laminate.
 - 2. Exposed cabinet hardware, one unit of each type and finish.
- E. Product certificates signed by casework manufacturer certifying that products comply with specified requirements.
- F. Qualification data for firms and persons specified in "Quality Assurance" article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, names of Architects and Owners, and other information specified.

1.5 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Firm experienced in successfully producing architectural casework similar to that indicated for this Project, with sufficient production capacity to produce required units without causing delay in the Work.
- B. **Single-Source Manufacturing and Installation Responsibility:** Engage a qualified Manufacturer to assume undivided responsibility for casework specified in this section, including fabrication, finishing, and installation.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect casework during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration. Keep covered with polyethylene film or other protective coating.
- B. Do not deliver casework until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Project Conditions."
 - 1. Follow procedures and schedules as provided by the General Contractor.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Where casework is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before manufacturing casework; show recorded measurements on final shop drawings. Coordinate manufacturing schedule with if construction progress to avoid delay of Work.
 - 1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with manufacture of casework without field measurements. Coordinate other construction to ensure that actual dimensions correspond to guaranteed dimensions.
- B. Field Measurements: Verify bench and countertop size and shape prior to fabrication by field measurements taken after walls and supporting units are installed.

PART 2 - PRODUCTS

2.1 SOLID SURFACE

- A. Provide solid surface materials for the following applications: Countertops, backsplashes, sidesplashes, aprons, concealment panels, and shower niche returns.
- B. Provide thicknesses, orientations, and edge treatments as indicated on drawings.
- B. Solid surface product and color to be as scheduled on the finish plans.
- C. Any graining of product of shall be aligned between all seamed sections. Installations with misaligned graining will be rejected.
- D. Sinks: See Division 22 – Plumbing. Sink basins are to be single-sourced with the countertop so they are both made from the same material and under-mount welded into a homogenous unit.

2.2 HIGH DENSITY POLYETHYLENE (HDPE) CHANGING BENCHES

- A. General: Provide solid high density polyethylene (HDPE) plastic consisting of 30 percent pre-consumer recycled content polyethylene thermoplastic formed under high pressure into solid plastic components.
1. Manufacturer: Bradley Corporation, Menomonee Falls, WI, Phone (800) 272-3539 or approved equal.
 2. Construction: 1-1/2 inch (38.1 mm) thickness with homogenous color
 3. Dimensions: Provide in the widths and orientations indicated on the drawings and details.
 4. Color: As selected by Architect from manufacturer's full range.
 5. Finish: Matte texture
 6. Edges: All exposed outside corners to have 3/8 inch (9.525 mm) radius fillet edge.

2.3 CHANGING BENCH PEDESTALS

- A. General: Changing bench pedestal with welded anchoring flanges on both ends.
1. Manufacturer: Bradley Corporation, Menomonee Falls, WI, Phone (800) 272-3539 or approved equal.
 2. Construction: 1-5/8 inch (41.275 mm) diameter anodized aluminum pipe with 6 inch (152.4 mm) diameter anodized aluminum anchoring flanges welded to each end.
 3. Dimensions: 17 inch (431.8 mm) height including both anchoring flanges.
 4. Finish: Anodized. Reference Section 08 41 13 - Aluminum Entrances and Storefront for coating standards and requirements.
 5. Color: Black
 6. Anchors: Provide 316 stainless steel anchors for both floor and bench anchoring. Minimum of four (4) fasteners per anchoring plate.

2.4 HARDWARE

- A. Anchors: Anchors shall be fabricated from 316 stainless steel.

PART 3 - EXECUTION

3.1 STORAGE AND PROTECTION

- A. Casework shall be protected in transit. Store under cover in a ventilated building not exposed to extreme temperature. Do not install casework in building until concrete, masonry, tiling, and painting work is dry.

3.2 WORKMANSHIP

- A. Erect casework straight, level and plumb and securely anchor in place. Scribe and closely fit to adjacent work. Cut and fit work around pipes, ducts, etc.
- B. Install all items complete and adjust all moving parts to operate properly.
- C. Leave surfaces clean and free from defects at time of final acceptance.

3.3 CLEAN UP

- A. Installer to remove all cartons, debris, sawdust, scraps, etc. and leave spaces clean and all casework ready for use.

END OF SECTION 12 30 00

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