



PROJECT MANUAL
FOR
LIBRARY RESTROOM RENOVATION
JACKSON STATE COMMUNITY COLLEGE
166/019-01-2025
JACKSON, TENNESSEE

CONSTRUCTION DOCUMENTS

ALLEN & HOSHALL
1661 INTERNATIONAL DRIVE SUITE 100
MEMPHIS, TENNESSEE 38120

JOB NO. 63745

DATE: JULY 15, 2026

PROJECT MANUAL
FOR
LIBRARY RESTROOM RENOVATION
JACKSON STATE COMMUNITY COLLEGE
166/019-01-2025
JACKSON, TENNESSEE

CONSTRUCTION DOCUMENTS

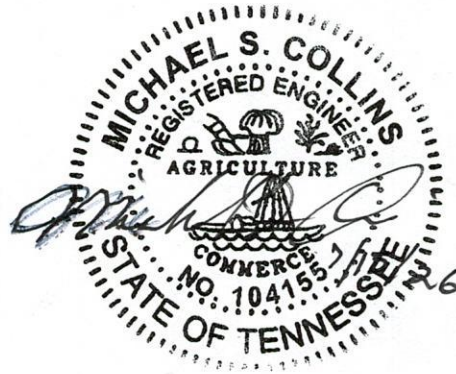
ALLEN & HOSHALL
1661 INTERNATIONAL DRIVE SUITE 100
MEMPHIS, TENNESSEE 38120

Job No. 63745

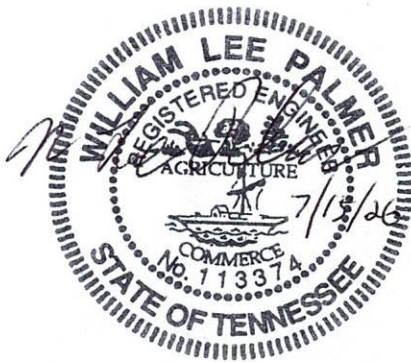
Date: JULY 15, 2026



Architectural Design



Electrical Design



Plumbing Design

SECTION 00 01 10

TABLE OF CONTENTS

<u>DOCUMENT NUMBER</u>	<u>TITLE</u>	<u>PAGES</u>
<u>INTRODUCTORY INFORMATION</u>		
00 00 01	TITLE PAGE	1
00 00 01A	STAMP	1
00 01 10	TABLE OF CONTENTS	3
00 01 15	LIST OF DRAWINGS	1
<u>DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS</u>		
00 11 16	INVITATION TO BID	2
00 21 13	INSTRUCTIONS TO BIDDERS	4
00 25 13	PRE-BID MEETING	1
00 31 26	ASBESTOS SURVEY INFORMATION	1
00 41 13	BID FORM	3
00 45 21	DRUG FREE WORK PLAN AFFIDAVIT	1
00 47 13	CONSTRUCTION BID ENVELOPE	1
00 52 13	AGREEMENT	4
00 61 13	CONTRACT BOND	2
00 61 43	THREE YEAR ROOF BOND	2
00 72 13	GENERAL CONDITIONS	54
<u>DIVISION 01 - GENERAL REQUIREMENTS</u>		
01 11 00	SUMMARY OF WORK	1
01 23 40	COORDINATION	3
01 25 13	PRODUCT SUBSTITUTION PROCEDURES	1
01 25 33	PRODUCT SUBSTITUTION REQUEST FORM	2
01 26 00	CONTRACT MODIFICATION PROCEDURES	1
01 26 20	WEATHER DELAYS	2
01 26 25	WEATHER DELAY REPORT	1
01 26 40	FORM FOR AMENDMENT, CHANGE ORDER, OR DIRECTIVE	1
01 26 54	FORM FOR PRICE SUMMARY	1
071526	TABLE OF CONTENTS	00 01 10-1

01 26 55	FORM FOR PRICE OF WORK	1
01 26 56	FORM FOR PRICE OF TIME	1
01 29 54	RETAINAGE ESCROW INITIATION	2
01 29 73	SCHEDULE OF VALUES	1
01 29 76	PROGRESS PAYMENT PROCEDURES	4
01 31 19	PROJECT MEETINGS	2
01 31 80	REVISED 360 EVAL FEB 2020	1
01 31 90	ADMINISTRATIVE LOGS	1
01 31 93	VISITOR LOG	1
01 32 00	CONSTRUCTION PROGRESS DOCUMENTATION	2
01 33 00	SUBMITTALS	6
01 41 15	BASIC REGULATORY REQUIREMENTS	2
01 42 10	REFERENCE STANDARDS AND DEFINITIONS	16
01 45 00	QUALITY CONTROL	3
01 45 29	TESTING LABORATORY SERVICES	2
01 50 00	CONSTRUCTION FACILITIES AND TEMP CONTROLS	2
01 60 00	PRODUCT REQUIREMENTS	2
01 65 05	MATERIALS AND EQUIPMENT	3
01 73 29	CUTTING AND PATCHING	3
01 77 70	CLOSEOUT PROCEDURES	3
01 78 01	CLOSEOUT SUBMITTALS	2
01 78 25	DATA BINDER RECEIPT	1
01 78 88	REPORT OF SUBCONTRACTORS AND SUPPLIERS	1
<u>DIVISION 02 – EXISTING CONDITIONS</u>		
02 41 19	SELECTIVE DEMOLITION	6
02 82 33	REMOVAL AND DISP. OF ASBESTOS-CONTAINING MAT.	19
02 83 33	STABILIZATION/DEMO. & WASTE DISP. OF LEAD-CONT. SURFACES	14
02 84 00	WORK WITH OTHER HAZARDOUS MATERIALS	7
<u>DIVISION 08 – OPENINGS</u>		
08 83 00	MIRRORS	2

DIVISION 09 – FINISHES

09 29 00	GYPSUM BOARD	10
09 30 13	CERAMIC TILING	10
09 91 23	INTERIOR PAINTING	6

DIVISION 10 – SPECIALTIES

10 21 13.19	PLASTIC TOILET COMPARTMENTS	5
10 28 00	TOILET, BATH AND LAUNDRY	6

DIVISION 22 – PLUMBING

22 00 10	BASIC PLUMBING MATERIALS AND METHODS	8
22 13 16	SANITARY WASTE AND VENT PIPING	4
22 42 00	PLUMBING FIXTURES	6

DIVISION 26 – ELECTRICAL

26 01 00	GENERAL PROVISIONS, ELECTRICAL	3
26 05 00	BASIC ELECTRICAL MATERIALS AND METHODS	6

DOCUMENT 00 01 15

LIST OF DRAWINGS

The following is a list of Contract Drawings which this contract is to be based. These drawings are entitled LIBRARY RESTROOM RENOVATION – JACKSON STATE COMMUNITY COLLEGE – 166/019-01-2025 and dated 7-15-26 with revision dates (if any), as noted. They will be supplemented by additional shop and dimensional drawings of materials and equipment and other drawings where specified.

Drawing Number	Sub-Title	Revision Date
	COVER SHEET	
A0.1	ABBREVIATIONS, SYMBOLS, SHEET INDEX, AND CODE DATA	
A0.2	OVERALL FLOOR PLAN	
A1.1	NEW WORK FLOOR PLAN	
A3.1	REFLECTED CEILING PLAN	
A11.1	INTERIOR ELEVATIONS AND DETAILS	
A11.2	INTERIOR ELEVATIONS AND DETAILS	
A12.1	FINISH PLAN, FINISH SCHEDULE, AND FINISH LEGEND	
AD1.0	DEMOLITION PLAN	
P0.1	LEGEND, NOTES, AND SCHEDULES - PLUMBING	
P1.1	ENLARGED PLAN VIEWS - PLUMBING	
E0.1	LEGEND & NOTES	
E1.1	DEMOLITION AND NEW WORK	

00 11 16 – INVITATION TO BID

PROJECT:

LIBRARY RESTROOM RENOVATION
SBC Number 166/019-01-2025
JACKSON STATE COMMUNITY COLLEGE
JACKSON, TENNESSEE

INVITATION:

The State of Tennessee is inviting General Contractor bids for the Work of this project. Examine documents at the Designer's office or Plan Rooms on or after 08/26/26.

Bidding Documents in PDF format may be obtained at no cost from the following source.
allenhoshallplanroom.com

Entities obtaining Bidding Documents become Bidders of Record for notifications. Bidders of Record may purchase hard copies of Bidding Documents from the same source (nonrefundable).

Bidders shall be licensed and qualified per state law. Five percent (5%) Bid Security is required in the form of a Bid Bond or check (certified or cashier's) made payable to State of Tennessee. Non-discrimination policy applies.

BIDS RECEIVED AT:

Jackson State Community College
Office of the Vice President for Financial Affairs
Room 113, F.E. Wright Administration Building
2046 North Parkway
Jackson, TN 38301-3797

BIDS BY MAIL:

Same address as above, Attention: Roz Blackwell
Until 2:00 P.M., local time
On WEDNESDAY, SEPTEMBER 23, 2026

PRE-BID CONFERENCE AT:

Jackson State Community College
Office of the Vice President for Financial Affairs
Room 113, F.E. Wright Administration Building
2046 North Parkway
Jackson, TN 38301-3797
At WEDNESDAY, SEPTEMBER 9, 2026, local time
On 10:30 A.M.

00 11 16 – INVITATION TO BID

PLAN ROOMS:

West Tennessee Plan Room Jackson, Tennessee

Memphis Builder's Exchange Memphis, Tennessee

Mid-South Minority Business Council Memphis, Tennessee

DESIGNER:

Allen & Hoshall

1661 International Drive Suite 100

Memphis, Tennessee 38120

END OF SECTION

00 21 13 – INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.01 BIDDING DOCUMENTS

- A. Bidding Documents may be obtained by Bidders and Subcontractors as described in the Invitation to Bid.
- B. Bidders of Record will be issued subsequent addenda.

1.02 EXAMINATION

- A. Bidders shall carefully examine site and documents to obtain first-hand knowledge of existing conditions and Work proposed.
- B. Contractor will not be given extra payment for conditions which can be determined by examining site and documents.

1.03 QUESTIONS

- A. Bidders shall submit questions about bidding documents to Designer in writing. Replies will be issued to Bidders of Record by addenda and will become part of Contract Documents. Designer and Owner will not make oral clarifications.
- B. Questions shall be received by Designer at least six calendar days before bid opening date.
- C. Normal practice is that no addenda affecting pricing will be issued less than three calendar days before bid opening date.

1.04 SUBSTITUTIONS

- A. Substitution requests before receipt of bids shall be prepared in accordance with 01 25 13 Product Substitution Procedures.
- B. Substitution requests before receipt of bids shall be received ten calendar days before date set to receive bids. However, regardless of the date received, consideration of substitution requests is not an obligation of the Designer or Owner and the Designer will determine if sufficient time is available for evaluation of the request.
- C. Acceptable substitutions will be identified in addenda.
- D. Bidders submitting bids in reliance upon a substitution when the substitution has not been approved prior to bidding do so at their own risk.

1.05 LICENSING AND QUALIFICATIONS

- A. Bidders shall be familiar with the Contractors Licensing Act of 1976, as currently amended (codified in Tennessee Code Annotated (TCA) § 62-6-101, et seq.). A contract will not be awarded to a bidder whose bid is in conflict with State licensing law.
- B. Bidders with five or more employees are required by TCA § 50-9-113 to submit a completed Section 00 45 21 Drug-Free Workplace Affidavit with their bid that attests they have a complying drug-free workplace program.
- C. In compliance with TCA § 50-9-114 bidders are advised that the Owner does not operate a certified drug-free workplace program that serves for compliance with TCA § 50-9-113.

00 21 13 – INSTRUCTIONS TO BIDDERS

- D. Bids submitted shall not include a contractor or subcontractor disqualified from participating in State Building Commission projects. The State Architect maintains a list of those that are disqualified.
- E. The bidder and its subcontractors shall not knowingly utilize the services of an illegal immigrant in the performance of the Work, and shall not knowingly utilize the services of any subcontractor, sub-subcontractor, or consultant who utilizes the services of an illegal immigrant in the performance of the Work.
- F. In compliance with the Iran Divestment Act bids submitted shall not include a contractor or subcontractor on the list created pursuant to TCA § 12-12-106.

1.06 BID FORM

- A. Make bids on an unaltered Bid Form. Submit one Bid Form. Failure to completely fill out Bid Form may cause bid to be rejected.
- B. To indicate availability of an Add Alternate at no additional charge, write "No Charge" in the space. Additional stipulations or qualifications on Bid Form may cause bid to be rejected.
- C. Bid Form shall be signed by person or persons legally authorized to bind Bidder to contract.

1.07 BID SECURITY

- A. Bid Security is required in the amount of five percent (5%) of total amount of bid, including alternates, in the form of a Bid Bond or check (certified or cashier's) made payable to State of Tennessee.
- B. Bid Bonds shall be issued by Surety company licensed to do business in Tennessee by Tennessee Department of Commerce and Insurance, and shall have certified and current Power-of-Attorney for Attorney-in-Fact attached.
- C. Owner may retain Bid Security of bidders to whom award is being considered until either (a) Contract has been executed, or (b) specified time has elapsed so that bid is not binding, or (c) bid has been rejected. If Bidder refuses to enter into Contract or fails to furnish all required attachments properly executed, the amount of Bid Security shall be forfeited to Owner as liquidated damages, not as penalty.

1.08 BID SUBMITTAL

- A. Submit Bid Form, with required attachments, enclosed and sealed in a 9 inch by 12 inch Bid Envelope with Bid Envelope cover information as provided in Section 00 47 13 attached to the Bid Envelope. Bidder shall fill in blank spaces on face of Envelope except the blank space provided for Designer's approval.
- B. If any work, regardless of dollar value, is required for any or of the subcontract trades listed on the Bid Envelope form, list subcontractor(s) that will perform that work. If Bidder will perform that work with Bidder's own forces, fill in Bidder's name as subcontractor. If no work is required in a category, write "None Required" in space provided for subcontractor(s). If acceptance of Alternate or combination of Alternates changes subcontractor, indicate change on Bid Envelope.
- C. Provide State contractor license number, expiration date, and applicable classifications for Bidder and listed subcontractors, as applicable by State licensing law.

00 21 13 – INSTRUCTIONS TO BIDDERS

- D. Bidders are solely responsible for ensuring that bids are received by the time and at the place identified for receipt of bids. The bid opening time shall be established by the timepiece of the Owner's representative. Bids received late will be returned unopened.
- E. A bid sent by mail or courier shall be enclosed in an envelope clearly marked "Bid Envelope Enclosed".

1.09 MODIFICATION AND WITHDRAWAL PRIOR TO CLOSE OF BIDDING

- A. Modification: Bids, once submitted, may be modified before the scheduled opening time only upon receipt of a written modification signed by a person legally authorized to bind Bidder to contract. Modification to a bid may be made as an "Add" or "Deduct" only. Modification to bid may be written on the Bid Envelope with the signature of an authorized representative of the Bidder also written on the Bid Envelope. Modification shall indicate only the amount of change, clearly identified as an "Add" or "Deduct", and not indicate either the prior or resulting bid amount.
- B. Withdrawal: Bids, once submitted, may be withdrawn before the scheduled opening time only upon receipt of a written withdrawal request signed by a person legally authorized to bind Bidder to contract.

1.10 POST-BID WITHDRAWAL OF BID FROM CONSIDERATION DUE TO MISTAKE

A request to withdraw a bid due to a mistake shall follow the Policy and Procedure of the State Building Commission. In addition to the requirements therein, such requests shall be delivered in writing to the Owner not later than twenty-four hours after the time fixed for receipt and opening of bids.

1.11 CONSIDERATION OF BIDS

- A. To be considered, bids shall be made in accordance with these Instructions to Bidders. Failure to comply with these requirements may cause bid to be rejected.
- B. The Owner reserves right to: reject Unit Prices proposed in a bid without invalidating other portions of bid; reject a bid which does not provide all required Unit Prices; waive informalities; and, reject any or all bids.
- C. It is Owner's intent to award contract based upon lowest evaluated responsive bid submitted by responsible Bidder for Base Bid plus Alternates (if any) taken in order up to, but not to exceed the Bid Target. If the Base Bid of all bidders exceeds the established Bid Target, the low Bidder is determined by the lowest Base Bid submitted by a responsible Bidder irrespective of any Alternates (if any) bid. When Alternates are included in bidding, Bid Target will be announced at bid opening prior to opening bids. Alternates may be accepted or rejected at Owner's discretion, provided that final combination of Base Bid and accepted Alternates does not change low Bidder as established by above method.
- D. In the event of tie bids, preference will be given to in-State bidder over out-of-State bidder; and, if a tie still exists, successful Bidder will be determined by chance, e.g. a coin toss.

1.12 POST-BID INFORMATION

Each Bidder shall be prepared, if requested by Owner or Designer, to present, within ten days of the request, evidence of experience, qualifications, and financial ability to carry out the terms of the contract.

00 21 13 – INSTRUCTIONS TO BIDDERS

1.13 BONDS

- A. If the initial Contract Sum as awarded exceeds \$100,000, the successful Bidder shall provide Contract Bond in an amount of 100 percent of Contract Sum and in accordance with the requirements and form exhibited as Section 00 61 13.
- B. The successful Bidder shall furnish, if applicable, a Three Year Roof Bond in an amount stipulated on the Bid Form and in accordance with the requirements and the form exhibited as Section 00 61 43.

1.14 EXECUTION OF THE CONTRACT

- A. If a Bidder is presented the written Agreement form for signing, then that Bidder shall deliver to the Owner, within ten calendar days after presentation, the required number of counterparts of the signed Agreement Form, Contract Bond, Roof Bond (if required), and certificates of insurance, ACH Credits Form, and W-9 federal tax form.
- B. Failure of the Bidder to return the Agreement as stipulated above shall entitle the Owner to require forfeiture of Bid Security and to proceed with award to the next lowest responsive Bidder.

1.15 AWARD OF THE CONTRACT

Presentation of Agreement form by Owner to Bidder for signature does not constitute award of Contract. Contract shall not be considered awarded until Bidder has received a fully executed Agreement.

1.16 DIVERSITY PARTICIPATION

- A. It is the express desire of the Owner and the State Building Commission to include an emphasis on diversity in its contractual relationships with contractors for the construction, demolition or renovation of State projects under jurisdiction of the Commission. The Commission acknowledges that firms who demonstrate and embrace diversity within their programs and policies are assisting the State in achieving its goals in building a more reflective marketplace of the community within this State.
- B. It is a requirement of all successful Bidders or proposers on projects under the jurisdiction of the State Building Commission that they report to the State the names and amounts of contracts entered into with diversity-owned businesses on their contract with the State in order for the State to collect data on such participation.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 00 25 13

PREBID MEETINGS

1.1 PREBID MEETING

- A. Attendance:
 - 1. Prime Bidders: Attendance at Prebid meeting is recommended.
 - 2. Subcontractors: Attendance at Prebid meeting is recommended.
- B. Bidder Questions: Submit written questions to be addressed at Prebid meeting minimum of **two** business days prior to meeting.
- C. Agenda: Prebid meeting agenda will include review of topics that may affect proper preparation and submittal of bids, including the following:
 - 1. Procurement and Contracting Requirements:
 - a. Advertisement for Bids.
 - b. Instructions to Bidders.
 - c. Bidder Qualifications.
 - d. Bonding.
 - e. Insurance.
 - f. Bid Security.
 - g. Bid Form and Attachments.
 - h. Bid Submittal Requirements.
 - i. Bid Submittal Checklist.
 - j. Notice of Award.
 - 2. Communication during Bidding Period:
 - a. Obtaining documents.
 - b. Bidder's Requests for Information.
 - c. Bidder's Substitution Request/Prior Approval Request.
 - d. Addenda.
 - 3. Contracting Requirements:
 - a. Agreement.
 - b. The General Conditions.
 - c. The Supplementary Conditions.
 - 4. Construction Documents:
 - a. Scopes of Work.
 - b. Temporary Facilities.
 - c. Use of Site.
 - d. Work Restrictions.
 - e. Alternates, Allowances, and Unit Prices.
 - f. Substitutions following award.
 - 5. Schedule:
 - a. Project Schedule.
 - b. Contract Time.
 - c. Liquidated Damages.
 - d. Other Bidder Questions.
 - 6. Site/facility visit or walkthrough.
- D. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes to attendees and others known by the issuing office to have received a complete set of Procurement and Contracting Documents. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents. Modifications to the Procurement and Contracting Documents are issued by written Addendum only.
 - 1. Sign-in Sheet: Minutes will include list of meeting attendees.

END OF DOCUMENT

00 31 26 – ASBESTOS SURVEY INFORMATION AVAILABLE TO BIDDERS

PART 1 - GENERAL

1.01 PURPOSE

This section identifies information that was gathered solely for the use of the Designer, is not a Bidding Document, but is available for review by Bidders. Bidders have the entire responsibility for their interpretation and use of this information and shall not rely on the information for preparation of a bid.

1.02 ASBESTOS INVESTIGATION AND REPORT

- A. An investigation has been performed at the project site to determine the presence and probable extent of asbestos in the existing building materials.
- B. The Owner is not responsible for variations in the actual composition of existing materials. Bidders shall decide for themselves the character of the material to be encountered.
- C. The report of the findings of this investigation is on file in the Designer's office, and may be reviewed there by any prospective Bidder of Record. Bidders should call ahead to schedule an appointment. A copy will be provided to any Bidder of Record upon request.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

00 41 13 – BID FORM

TO: State of Tennessee **FROM BIDDER:** _____

FOR:

Project Title: LIBRARY RESTROOM RENOVATION

Project SBC No.: SBC-166/019-01-2025

A. The Bidder hereby acknowledges, attests, certifies, warrants, and assures that:

1. Bidder has received, read and understands the Bidding Documents and this bid is made in accordance therewith.
2. Bidder has visited the site and become familiar with the local conditions under which the Work is to be performed and has correlated all observations with the requirements of the Bidding Documents.
3. Documents identified as "Information Available to Bidders" are prepared solely for the Designer's use in design of this Work and have not been relied upon in the preparation of this bid. The use and interpretation of such information for any purpose is entirely the responsibility of the using party.
4. Bidder shall not utilize the services of a contractor or subcontractor disqualified from participating in State Building Commission projects.
5. Bidder shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor or consultant who will utilize the services of an illegal immigrant in the performance of this Contract.
6. In compliance with the Iran Divestment Act the Bidder is not on the list created pursuant to Tennessee Code Annotated (TCA) § 12-12-106 and shall not utilize any subcontractor on that list.
7. Bid Security, in the amount of five percent (5%) of the total amount of bid, including Alternates, is attached hereto.
8. A Drug-Free Workplace Affidavit, in the form of Section 00 45 21, is attached hereto.
9. Failure to complete this Bid Form, provide required attachments, or comply otherwise with instructions to Bidders, may be cause for rejection of bid.
10. The person who signs this bid on behalf of the Bidder is legally empowered to bind the Bidder to a Contract.
11. The following statement is (mark the one that is applicable) ☐ True ☐ False:
The Bidder and/or any of the Bidder's employees, agents, independent contractors and/or proposed Subcontractors have been convicted of, pled guilty to, or pled nolo contendere to any contract crime involving a public contract.
12. Bidder has received the following addenda:
Addendum No. _____ dated _____. Addendum No. _____ dated _____.
Addendum No. _____ dated _____. Addendum No. _____ dated _____.

00 41 13 – BID FORM

PAGE 2 FROM BIDDER: _____

B. The Bidder agrees to:

1. Honor this bid for 45 days following the date of the scheduled opening of bids.
2. Enter into and execute a contract, if presented on the basis of this bid, and to furnish certificates(s) of insurance, bond(s), and other documents related to the contract as required, including, if the initial Contract Sum as awarded exceeds \$100,000, the Contract Bond.
3. Accomplish the Work in accordance with the Contract Documents.
4. Furnish Three Year Roof Bond in the form of Section 00 61 43 in the amount of: Roof Bond Not Required.
5. Achieve Substantial Completion of the Work in accordance with the number of calendar days Contract Time set forth, allotted from and including the date stipulated in the Notice to Proceed; and, accept the conditions for Liquidated Damages in the amount set forth per calendar day.

Phase	Commencement	Contract Time	Liquidated Damages
ALL	Notice to Proceed for All Work	90 Days	\$500 Per Day
	Not Applicable	Days	\$ Per Day
	Not Applicable	Days	\$ Per Day
	Not Applicable	Days	\$ Per Day

C. BASE BID: The Bidder agrees to complete the Work of the Base Bid for this project for the lump sum of the following amount (In both words and figures. Figures prevail. Words clarify at Owner's discretion.):

_____ and _____/100ths Dollars
\$ _____

D. ALTERNATES: The Bidder agrees to include Work of the following Alternate(s), as specified in Section 01 23 00 Alternates, for the additional lump sum(s) of the following amount(s) (In both words and figures. Figures prevail. Words clarify at Owner's discretion.):

ALTERNATE No.1: Not Applicable

_____ and _____/100ths Dollars
\$ _____

ALTERNATE No. 2: Not Applicable

_____ and _____/100ths Dollars
\$ _____

ALTERNATE No. 3: Not Applicable

_____ and _____/100ths Dollars
\$ _____

ALTERNATE No. 4: Not Applicable

_____ and _____/100ths Dollars
\$ _____

00 41 13 – BID FORM

- E. UNIT PRICES: The Bidder agrees to include work in the Base Bid and Alternates as specified for the Quantity Allowance of Unit Price Items and propose, subject to Owner acceptance, the following Unit Prices for inclusion in the Agreement as specified in Section 01 22 13 Unit Prices:

Not Applicable

Item No.	Unit Price per Unit	Unit	Name, Work Included

F. BID SUBMITTAL:

This bid is submitted by:

Authorized Signature: _____ Date: _____

Printed Name, Title: _____

On behalf of:

Bidder Name: _____

Bidder's Address: _____

Bidder's Phone: _____

Bidder's Fax: _____

Bidder's Email: _____

END OF SECTION

00 45 21 – DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF _____

COUNTY OF _____

The undersigned, principal officer of _____, the Contractor, an employer of five or more employees contracting with _____, the Owner, to provide construction services, hereby states under oath as follows:

1. The undersigned is a principal officer of the Contractor and is duly authorized to execute this Affidavit on behalf of the Contractor.
2. The Contractor submits this Affidavit pursuant to Tennessee Code Annotated (TCA) § 50-9-113, which requires each employer with five or more employees receiving pay who contracts with the state to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with TCA Title 50, Chapter 9.
3. The Company is in compliance with TCA § 50-9-113.

Further affiant saith not.

Principal Officer

STATE OF _____

COUNTY OF _____

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 20____.

Notary Public

My commission expires: _____

END OF AFFIDAVIT

00 47 13 – CONSTRUCTION BID ENVELOPE

Bid to the State of Tennessee for Project:

Project Title: _____

SBC Number: _____

Institution: _____

City/County: _____

Project Designer: _____

Any blank spaces may cause bid to be unacceptable and rejected.

Provide state contractor license number, expiration date, and classification
for Bidder and listed subcontractors as applicable.
Provide all names as used for licensing.

Bidder Identification:

Bidder: _____

Address: _____

Tennessee Contractor License Information: ☐ Or check here if Bidder is unlicensed.

License Number _____
License Classification _____
Applicable to Project _____

License Expiration Date _____ Dollar Limit: \$_____.

Subcontractors to be used on this Project (or Bidder if Bidder is to perform the work):

- If any work, regardless of dollar value, is required for trades below, list subcontractor(s) that will perform that work, or, if Bidder will perform work in that category with Bidder's own forces, fill in Bidder's name as subcontractor.
- If no work is required in a subcontractor category, write "None Required".
- If the monetary amount of a subcontractor's work is such that no license is required, write "N/A" in the license number column, but still write name.

	Name	License Number	Expires	Classification
Electrical				
Geothermal				
HVAC				
Masonry				
Plumbing				
Roofing				

This Bid Envelope approved for public opening _____

Signature of Designer or its representative

Agreement

Between Owner and Contractor

Where the Basis of Payment is a
Stipulated Sum.

AGREEMENT

made as of the <<Number, e.g. "2nd">> day of <<Month>>
in the year of <<Year number in words>>.

BETWEEN THE OWNER:

State of Tennessee, via the Contracting Agency:

<<State Procurement Agency>>

<<Street or P.O. Box>>

<<City, State, Zip Code>>

AND THE CONTRACTOR:

<<Contractor Name>>

<<Street or P.O. Box>>

<<City, State, Zip Code>>

ACH Address: <<Street or P.O. Box>>

<<City, State, Zip Code>>

THE PROJECT:

<<SBC Number>>

<<Campus or Institution Name>>

<<Project Title Designated by Owner>>

THE DESIGNER:

<<Designer Name>>

<<Street or P.O. Box>>

<<City, State, Zip Code>>

THE OWNER AND THE CONTRACTOR AGREE AS SET FORTH BELOW.

00 52 13 – AGREEMENT

ARTICLE 1 – THE WORK AND THE CONTRACT DOCUMENTS

- 1.1 The Contractor shall perform all the Work required by the Contract Documents for the Project identified on page one.
- 1.2 The Contract Documents are identified in the Conditions of the Contract (General, Supplementary, and other Conditions). These form the Contract and constitute the entire agreement between the Owner and the Contractor, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. An enumeration of the Contract Documents appears in paragraph 1.4.
- 1.3 Terms used in this Agreement which are defined in the Conditions of the Contract shall have the meanings designated in those Conditions.
- 1.4 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated as follows:
 1. This Agreement.<<Continued list of Contract Documents including applicable drawings, project manual, and addenda>>

00 52 13 – AGREEMENT

ARTICLE 2 – TIME OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

- 2.1 The Work to be performed under this Contract shall be commenced on the date stipulated in the Notice to Proceed; and, subject to authorized adjustments, Substantial Completion shall be achieved in
<<Number of calendar days from and including the date stipulated in the Notice to Proceed>>
- 2.2 Liquidated Damages, as set forth in the Conditions of the Contract, are
<<Dollar amount per calendar day>>

ARTICLE 3 – CONTRACT SUM

- 3.1 The Owner shall pay the Contractor in current funds for the performance of the Work, subject to Modifications as provided in the Contract Documents, the Contract Sum of
<<Contract Sum in words>>
(\$<<Contract Sum in numbers>>)
- 3.2 The Contract Sum is determined as follows:
<<Listing of base bid and any alternates and total>>
- 3.3 The following Unit Prices will be used as specified:
<<Listing or statement of none established at initial award>>

00 52 13 – AGREEMENT

This instrument may be executed in one or more counterparts. It shall be fully executed when each party whose signature is required has signed at least one counterpart, even though no one counterpart contains the signatures of all the parties to this instrument. Electronic, scanned or facsimile signatures shall have the same force and effect as original signatures.

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

BY CONTRACTOR: <<Contractor Name>>

Signature: _____
Name: _____
Title: _____

AND BY OWNER: State of Tennessee,
<<State Procurement Agency>>

By: _____
Head of Higher Education Institution
<<Name>>
<<Title>>

Approved: _____
Head of Financial Office
<<Name>>
<<Title>>

Approved: _____
Head of Legal Office
<<Name>>
<<Title>>

Approved: _____
Head of State Procurement Agency
<<Name>>
<<Title>>

Approved: _____
State Architect

END OF AGREEMENT FORM for the Project titled:

<<SBC Number>>
<<Campus or Institution Name>>
<<Project Title Designated by Owner>>

00 61 13 – CONTRACT BOND

Bond No. <<Number>>

TENNESSEE STATE BUILDING COMMISSION STANDARD FORM

Know all men by these presents: that we

<<Name>>

(hereinafter called the "Principal") and

<<Name>>

(hereinafter called the "Surety") do hereby acknowledge ourselves indebted and securely bound and held unto

State of Tennessee

<<State Procurement Agency>>

<<Address Line 1>>

<<Address Line 2>>

(hereinafter called the "Owner"), and in the penal sum of

<<Amount>>

good and lawful money of the United States of America, for the use and benefit of those entitled thereto, for the payment of which, well and truly to be made, we bind ourselves, our heirs, our administrators, executors, successors, and assigns, jointly and severally, firmly by these presents.

But the condition of the foregoing obligation or bond is this:

Whereas, the Owner has engaged the principal for the sum of

<<Amount>>

to complete the Work of the project titled: <<Title>>

SBC No. <<Number>>

as more fully appears in a written agreement or contract bearing the date of <<Date>>

a copy of which said agreement or contract is by reference hereby made a part thereof, as fully and to the same extent as if copied in length herein, and it is the desire of the Owner that the Principal shall assure all undertakings under said agreement or contract and shall assure and protect all laborers and furnishers of material on said Work both as provided by Tennessee Code Annotated Sections 4-15-102 (f)(2) and 12-4-201 through 12-4-206, and any and all amendments thereto, and shall assure the prompt payment of claims as provided by Tennessee Code Annotated Sections 12-4-207 through 12-4-208, and any and all amendments thereto. The Principal shall also comply with provisions of Tennessee Code Annotated Sections 12-4-401 through 12-4-415, and any and all amendments thereto, pertaining to the payment of the prevailing wage rate.

00 61 13 – CONTRACT BOND

Now, therefore, if the Principal shall fully and faithfully perform all undertakings and obligations under the contract hereinbefore referred to and shall fully indemnify and hold harmless the Owner from all costs and damage whatsoever which it may suffer by reason of any failure on the part of the Principal to do so, and shall fully reimburse and repay the Owner any and all outlay and expense which it may incur in making good any such default, and shall fully pay for all of the labor, material and work used by the Principal and any immediate or remote sub-contractor or furnisher of material under him in the performance of said contract, in lawful money of the United States, as the same shall become due, then this obligation or bond shall be null and void, otherwise to remain in full force and effect.

And for value received, it is therefore stipulated and agreed that no change, extension of time, alteration or addition to the terms of the contract or to the Work to be performed thereunder or to the specifications accompanying the same shall in any wise affect the obligation under this bond, and notice is hereby waived of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the specifications.

In witness whereof the Principal has hereunto affixed its signature and Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this <<Day number>> day of <<Month>>, 20<<Year number>>.

Executed in <<Number>> counterparts.

Witness:

<<Name of Principal>>
(Name of Principal)

(Authorized Signature)

<<Name of Signatory>>
(Name of Signatory)

<<Title of Signatory>>
(Title of signatory)

<<Name of Surety>>
(Name of Surety)

(Signature of Attorney-in-fact)

<<Name of Attorney-in-fact>>
(Name of Attorney-in fact)

<<License Number>>
(Tennessee license number of Agent
or Attorney-in-fact)

(Countersignature of Agent
if not same as Attorney-in-fact)

Surety Company issuing bond shall be licensed to transact business in State of Tennessee by Tennessee Department of Commerce and Insurance. Bonds shall have certified and current Power-of-Attorney for the Surety's Attorney-in-Fact attached. Attorney-in-Fact who executes bond on behalf of Surety shall be licensed by the State of Tennessee, and shall affix license number to bond; or, countersignature by a licensed agent of the State of Tennessee, and the agent's license number, shall be affixed to the bond in addition to the signature of the Attorney-in-Fact.

END OF SECTION

00 61 43 – THREE YEAR ROOF BOND

Bond No. <<Number>>

TENNESSEE STATE BUILDING COMMISSION STANDARD FORM

GENERAL INFORMATION:

Principal: <<Name>>

Surety Name: <<Name>>

Surety Address: <<Address Line 1>>

<<Address Line 2>>

Building Owner: State of Tennessee

<<State Procurement Agency>>

<<Address Line 1>>

<<Address Line 2>>

Project Title: <<Title>>

SBC No.: <<Number>>

Project Contract Date: <<Date>>

KNOW ALL MEN BY THESE PRESENTS:

That we, the Principal and the Surety, are held and firmly bound unto the Building Owner in the amount of

<<Amount>>

for the payment thereof in good and lawful money of the United States of America the Principal and the Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

Whereas, Principal has, by written agreement referenced above, entered into a contract (hereinafter referred to as "the Contract" and hereby referenced herein) with the Owner for the construction of the Project identified above.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall fully indemnify the Owner for all loss that the Owner may suffer by reason of any defective material and/or workmanship in the materials furnished for and the installation of the above referenced Project roofing system which become apparent during the period of three (3) years from the date of Substantial Completion of the above referenced Project roofing system, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

00 61 43 – THREE YEAR ROOF BOND

Surety hereby agrees that no change, extension of time, alteration or addition to the terms of the contract or to the Work to be performed thereunder or to the specifications accompanying the same shall in any way affect the obligations under this bond, and notice is hereby waived of any such change, extension of time, alteration or addition to the terms of the contract or to the Work or to the specifications.

IN WITNESS WHEREOF the Principal has hereunto affixed its signature and Surety has hereunto caused to be affixed its corporate signature and seal, by its duly authorized officers, on this <<Day number>> day of <<Month>>, 20<<Number>>.

Executed in <<Number>> counterparts.

Witness:

<<Name of Principal>>
(Name of Principal)

(Authorized Signature)

<<Name of Signatory>>
(Name of Signatory)

<<Title of Signatory>>
(Title of signatory)

<<Name of Surety>>
(Name of Surety)

(Signature of Attorney-in-fact)

<<Name of Attorney-in-fact>>
(Name of Attorney-in fact)

<<License number>>
(Tennessee license number of Agent
or Attorney-in-fact)

(Countersignature of resident Agent
if not same as Attorney-in-fact)

Surety Company issuing bond shall be licensed to transact business in State of Tennessee by Tennessee Department of Commerce and Insurance. Bonds shall have certified and current Power-of-Attorney for the Surety's Attorney-in-Fact attached. Attorney-in-fact who executes bond on behalf of Surety shall be licensed by and a resident of State of Tennessee, and shall affix license number to bond; or, countersignature by a licensed agent who is a resident of State of Tennessee, and the agent's license number, shall be affixed to the bond in addition to the signature of the Attorney-in-Fact.

END OF SECTION



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Section 00 72 13 of all General Work of the Owner as of April 2025

THE OWNER:

(Name, legal status and address)

Tennessee Board of Regents

THE ARCHITECT; DESIGNER:

(Name, legal status and address)

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.

TABLE OF ARTICLES

- | | |
|----|--|
| 1 | GENERAL PROVISIONS |
| 2 | OWNER |
| 3 | CONTRACTOR |
| 4 | ARCHITECT; DESIGNER |
| 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 |
| 13 | MISCELLANEOUS PROVISIONS |
| 14 | TERMINATION OR SUSPENSION OF THE CONTRACT |
| 15 | CLAIMS AND DISPUTES |

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 13:12:56 CT on 04/16/2025 under Order No.3104241756 which expires on 04/26/2025, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiaccontracts.com.

User Notes:

(2050127943)

INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work

9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3**

Access to Work

3.16, 6.2.1, **12.1**

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,

10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

Additional Inspections and Testing

9.4.2, 9.8.3, 12.2.1, **13.4**

Additional Time, Claims for

3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6**

Administration of the Contract

3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances

3.8

Applications for Payment

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,

3.12.10.1, 4.2.7, 9.3.2, 13.4.1

Arbitration

8.3.1, 15.3.2, **15.4**

ARCHITECT/DESIGNER

4

Architect, Designer, Definition of

4.1.1

Architect, Designer, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Designer, Limitations of Authority and
Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3,
4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2,
9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Designer's Additional Services and
Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Designer's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Designer's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Designer's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Designer's Copyright

1.1.7, 1.5

Architect's Designer's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.4.2, 15.2

Architect's Designer's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Designer's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Designer's Interpretations

4.2.11, 4.2.12

Architect's Designer's Project Representative

4.2.10

Architect's Designer's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,
3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,
3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Designer's Relationship with
Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Designer's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Designer's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

**Award of Subcontracts and Other Contracts for
Portions of the Work**

5.2

Basic Definitions

1.1

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,
15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

Bonds, Performance, and Payment

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5**

Building Information Models Use and Reliance

1.8

Building Permit

3.7.1

Capitalization

1.3

Init.

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval
13.4.4

Certificates of Insurance

9.10.2

Change Orders

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, **7.2**, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

Change Orders, Definition of

7.2.1

CHANGES IN THE WORK

2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

Claims, Definition of

15.1.1

Claims, Notice of

1.6.2, 15.1.3

CLAIMS AND DISPUTES

3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, **15**, 15.4

Claims and Timely Assertion of Claims

15.4.1

Claims and Disputes, Resolution of

15.2

Claims for Additional Cost

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, **15.1.5**

Claims for Additional Time

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, **15.1.6**

Concealed or Unknown Conditions, Claims for

3.7.4

Claims for Damages

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7

Claims Subject to Arbitration

15.4.1

Cleaning Up

3.15, 6.3

Commencement of the Work, Conditions Relating to

2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, **15.1.5**

Commencement of the Work, Definition of

8.1.2

Commissioning Consultant

3.10.5

Communications

3.9.1, **4.2.4**

Completion, Conditions Relating to

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2

COMPLETION, PAYMENTS AND

9

Completion, Substantial

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

Compliance with Laws

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2

Consolidation or Joinder

15.4.4

CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

1.1.4, **6**

Construction Change Directive, Definition of

7.3.1

Construction Change Directives

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, **7.3**, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Contingent Assignment of Subcontracts

5.4, 14.2.2.2

Continuing Contract Performance

15.1.4

Contract, Definition of

1.1.2

CONTRACT, TERMINATION OR SUSPENSION OF THE

5.4.1.1, 5.4.2, 11.5, **14**

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to

3.7.1, 3.10, 5.2, 6.1

Contract Bond

11.4

Contract Documents, Copies Furnished and Use of

1.5.2, 2.3.6, 5.3

Contract Documents, Definition of

1.1.1

Contract Sum

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, **9.1**, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, **15.1.5**, **15.2.5**

Contract Sum, Definition of

9.1

Contract Time

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

Contract Time, Definition of
8.1.1

CONTRACTOR

3

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction and Submittal Schedules

3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Contractor's Employees

2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2.1.1

Contractor's Liability Insurance

11.1

Contractor's Relationship with Separate Contractors and Owner's Forces

3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4

Contractor's Relationship with the ~~Architect~~ Designer

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

2.2.2, 9.7

Contractor's Right to Terminate the Contract

14.1

Contractor's Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction

Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.3.6, 3.11

Copyrights

1.5, 3.17

Correction of Work

2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, **12.2**, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1

Correlation and Intent of the Contract Documents

1.2

Cost, Definition of

7.3.4

Costs

2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14

Cutting and Patching

3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7

Damages for Delay

6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2

Date of Commencement of the Work, Definition of
8.1.2

Date of Substantial Completion, Definition of
8.1.3

Day, Definition of

8.1.4

Decisions of the ~~Architect~~ Designer

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, **9.5**, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1

Delays and Extensions of Time

3.2, **3.7.4**, 5.2.3, 7.2.1, 7.3.1, **7.4**, **8.3**, 9.5.1, **9.7**, 10.3.2, **10.4**, 14.3.2, **15.1.6**, 15.2.5

Digital Data Use and Transmission

1.7

Direct Personnel Expense (DPE)

7.3.4.2

Disputes

6.3, 7.3.9, 15.1, 15.2

Diversity-Owned Businesses, Participation of

3.20

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of
3.11

Effective Date of Insurance

8.2.2

Emergencies

10.4, 14.1.1.2, 15.1.5

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1

Equipment, Labor, or Materials

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Extensions of Time

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, **15.2.5**

Failure of Payment

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

Final Completion and Final Payment

4.2.1, 4.2.9, 9.8.2, **9.10**, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

Financial Records

3.21

GENERAL PROVISIONS

1

Governing Law

13.1

Guarantees (See Warranty)

Hazardous Materials and Substances

10.2.4, 10.3

Identification of Subcontractors and Suppliers

5.2.1

Illegal Immigrants, Prohibition of

3.4.5

Indemnification

3.17, **3.18**, 9.6.8, 9.10.2, 10.3.3, 11.3

Information and Services Required of the Owner

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5, 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Initial Decision

15.2

Initial Decision Maker, Definition of

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

Instruments of Service, Definition of

1.1.7

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, **11**

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

Insurance, Boiler and Machinery

11.3.2

Insurance, Contractor's Liability

11.1

Insurance, Effective Date of

8.2.2, 14.4.2

Insurance, Loss of Use

11.3.3

Insurance, Owner's Liability

11.2

Insurance, Property

10.2.5, 11.2, 11.4, 11.5, 11.3,

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS

11

Insurance Companies, Consent to Partial Occupancy

9.9.1

Insured loss, Adjustment and Settlement of

11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

Interest

13.5

Interpretation

1.1.8, 1.2.3, **1.4**, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, **3.4**, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8,

15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6, 4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3, 11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7, 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15, 15.1.2, 15.1.3, 15.1.5

Liquidated Damages

9.12

Materials, Hazardous

10.2.4, **10.3**

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Mediation

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, **15.3**, 15.4.1, 15.4.1.1

Minor Changes in the Work

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, **7.4**

MISCELLANEOUS PROVISIONS

13

Modifications, Definition of

1.1.1

Modifications to the Contract

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2

Mutual Responsibility

6.2

Nonconforming Work, Incomplete or Acceptance of

9.6.6, 9.9.3, **12.3**

Nonconforming Work, Rejection and Correction of 2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2

Non-Discrimination in Employment

3.4.6

Notice

1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1

Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, **15.1.3**, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1

Notice of Testing and Inspections

13.4.1, 13.4.2

Observations, Contractor's

3.2, 3.7.4

Occupancy

2.3.1, 9.6.6, 9.8

Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1

Overhead and Profit

7.3.11

OWNER

2

Owner, Definition of

2.1.1

Owner, Evidence of Financial Arrangements

2.2, 13.2.2, 14.1.1.4

Owner, Information and Services Required of the

2.1.2, **2.2**, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Insurance

11.2

Owner's Relationship with Subcontractors

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Representatives, Relations with

3.19

Owner's Right to Carry Out the Work

2.5, 14.2.2

Owner's Right to Clean Up

6.3

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

6.1

Owner's Right to Stop the Work

2.4

Owner's Right to Suspend the Work

14.3

Owner's Right to Terminate the Contract

14.2, 14.4

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

1.1.1, 1.1.6, 1.1.7, **1.5**, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

Partial Occupancy or Use

9.6.6, **9.9**

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, **9.4**, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4

Payment, Failure of

9.5.1.3, **9.7**, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, **9.10**, 12.3, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

Payments, Progress

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

PAYMENTS AND COMPLETION

9

Payments to Subcontractors

5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2

PCB

10.3.1

Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, **11.1.2**

Permits, Fees, Notices and Compliance with Laws

2.3.1, **3.7**, 3.13, 7.3.4.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION OF

10

Polychlorinated Biphenyl

10.3.1

Product Data, Definition of

3.12.2

Product Data and Samples, Shop Drawings

3.11, **3.12**, 4.2.7

Progress and Completion

4.2.2, **8.2**, 9.8, 9.9.1, 14.1.4, 15.1.4

Progress Payments

9.3, **9.6**, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Project, Definition of

1.1.4

Project Representatives

4.2.10

Project Manual

1.1.9

Property Insurance

10.2.5, **11.2**

Proposal Requirements

1.1.1

PROTECTION OF PERSONS AND PROPERTY

10

Provide or Provided

1.1.10

Regulations and Laws

1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4

Rejection of Work

4.2.6, 12.2.1

Releases and Waivers of Liens

9.3.1, 9.10.2

Representations

3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1

Representatives

2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1

Responsibility for Those Performing the Work

3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10

Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

Review of Contract Documents and Field Conditions by Contractor

3.2, 3.12.7, 6.1.3

Review of Contractor's Submittals by Owner and ~~Architect~~ Designer

3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2

Review of Shop Drawings, Product Data and Samples by Contractor

3.12

Rights and Remedies

1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2, 12.2.4, **13.3**, 14, 15.4

Royalties, Patents and Copyrights

3.17

Rules and Notices for Arbitration

15.4.1

Safety of Persons and Property

10.2, 10.4

Safety Precautions and Programs

3.3.1, 4.2.2, 4.2.7, 5.3, **10.1**, 10.2, 10.4

Samples, Definition of

3.12.3

Samples, Shop Drawings, Product Data and

3.11, **3.12**, 4.2.7

Samples at the Site, Documents and

3.11

Schedule of Values

9.2, 9.3.1

Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Scheduling Assistance

3.10.4

Separate Contracts and Contractors

1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2

Separate Contractors, Definition of

6.1.1

Shop Drawings, Definition of

3.12.1

Shop Drawings, Product Data and Samples

3.11, **3.12**, 4.2.7

Site, Use of

3.13, 6.1.1, 6.2.1

Site Inspections

3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4

Site Visits, ~~Architect's~~ Designer's

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Special Inspections and Testing

4.2.6, 12.2.1, 13.4

Specifications, Definition of

1.1.6

Specifications

1.1.1, **1.1.6**, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14

State Prevailing Wage

3.4.7

Statute of Limitations

15.1.2, 15.4.1.1

Stopping the Work

2.2.2, 2.4, 9.7, 10.3, 14.1

Stored Materials

6.2.1, 9.3.2, 10.2.1.2, ~~10.2.4~~

~~Subcontractor~~, **Subcontractor**, Definition of

5.1.1

SUBCONTRACTORS

5

Subcontractors, Work by

1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7

Subcontracts

3.4.9

Subcontractual Relations

5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3

Submittal Schedule

3.10.2, 3.12.5, 4.2.7

Subrogation, Waivers of

6.1.1, **11.3**

Substances, Hazardous

10.3

Substantial Completion

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, **9.8**, 9.9.1, 9.10.3, 12.2, 15.1.2

Substantial Completion, Definition of

9.8.1

Substitution of Subcontractors

5.2.3, 5.2.4

Substitution of ~~Architect~~**Designer**

2.3.3

Substitutions of Materials

3.4.2, 3.5, 7.3.8

Sub-subcontractor, Definition of

5.1.2

Subsurface Conditions

3.7.4

Successors and Assigns

13.2

Superintendent

3.9, 10.2.6

Supervision and Construction Procedures

1.2.2, **3.3**, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4

Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1

Surety

5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7

Surety, Consent of

9.8.5, 9.10.2, 9.10.3

Surveys

1.1.7, 2.3.4

Suspension by the Owner for Convenience

14.3

Suspension of the Work

3.7.5, 5.4.2, 14.3

Suspension or Termination of the Contract

5.4.1.1, 14

Taxes

3.6, 3.8.2.1, 7.3.4.4

Termination by the Contractor

14.1, 15.1.7

Termination by the Owner for Cause

5.4.1.1, **14.2**, 15.1.7

Termination by the Owner for Convenience

14.4

Termination of the ~~Architect~~**Designer**

2.3.3

Termination of the Contractor Employment

14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT

14

Tests and Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, **13.4**

TIME

8

Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

Time Limits on Claims

3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work

9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK

12

Uncovering of Work

12.1

Unforeseen Conditions, Concealed or Unknown

3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 9.1.2

Use of Documents

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

Use of Site

3.13, 6.1.1, 6.2.1

Values, Schedule of

9.2, 9.3.1

Waiver of Claims by the ~~Architect~~Designer
13.3.2

Waiver of Claims by the Contractor

9.10.5, 13.3.2, **15.1.7**

Waiver of Claims by the Owner

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, **15.1.7**

Waiver of Consequential Damages

14.2.4, 15.1.7

Waiver of Liens

9.3, 9.10.2, 9.10.4

Waivers of Subrogation

6.1.1, **11.3**

Warranty

3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2,
15.1.2

Weather Delays

8.3, 15.1.6.2

Work, Definition of

1.1.3

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3,
13.2, 13.3.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Orders

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

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-Designer~~. 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-Designer~~ or the ~~Architect's-Designer's~~ consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the ~~Architect-Designer~~ or the ~~Architect's-Designer's~~ consultants, or (4) between any persons or entities other than the Owner and the Contractor. The ~~Architect-Designer~~ shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the ~~Architect's duties-Designer's~~ duties.

§ 1.1.2.1 Presentation by Owner of an unexecuted Agreement or Modification does not constitute a commitment by Owner to execute the subject document and does not provide Owner authorization to any person or entity to proceed as if document will be executed.

§ 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. The Project is identified in the first page of the Agreement with an Owner's project number in the format of 999/999-99-9999. This project number may differ from the number as used on other Contract Documents. This Owner's project number is to be shown in all correspondence related to the Project.

§ 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-Designer~~ and the ~~Architect's-Designer'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-Designer.~~

Init.

§ 1.1.9 Project Manual

The Project Manual is a volume or set that may include portions of the Contract Documents and other documents.

§ 1.1.10 Provide or Provided

"Provide" or "Provided" as used in Contract Documents includes furnishing and installing a thing, product, system or the like.

§ 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.

§ 1.2.4 Within the Specifications, the sections of Division One (01) are General Requirements, and apply to all sections of the Specifications.

§ 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-Designer and the Architect's-Designer's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, except the design and the Contract Documents, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The design and the Contract Documents are property of the State of Tennessee, and may be used again only for the benefit of the State and on authority of the State Building Commission (SBC). The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service-Service, the design, or the Contract Documents. 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-Service, the design, or the Contract Documents~~ 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-Service, the design, or the Contract Documents~~ 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-~~Owner with respect to the design and the

Contract Documents, and the Designer and the Designer's consultants with respect to the Instruments of Service other than the design and the Contract Documents.

§ 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.transmission. .

§ 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 ~~written protocols governing the transmission and use of, and reliance on, protocols governing the development, use, transmission, and exchange of~~ Instruments of Service or any other information or documentation in digital form.form

§ 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 ~~written protocols governing the use of, and reliance on, the information contained in the model and without having those protocols~~ 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~~ Designer 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. Public construction projects are not subject to mechanic's liens in Tennessee. The remedy afforded to laborers and furnishers of material on State projects is referenced in Section 15.2.8.~~

§ 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.~~ The SBC project number constitutes verification that funding has been established as a matter of public record.

§ 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. "Designer" is the licensed prime design professional or firm lawfully practicing architecture, landscape architecture, or engineering, identified in Bidding Documents and Agreement form for project, or the authorized representative thereof.

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

§ 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. The Contractor will be furnished, free of charge, such copies of Contract Documents as are reasonably necessary for execution of the Work.

§ 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.~~ § 2.5.1 If Contractor defaults or neglects to carry out the Work in accordance with Contract Documents and fails within a ten-day period after receipt of written 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 deficiencies.

§ 2.5.2 If the Contractor fails to complete the Work in accordance with the time limit stipulated in the Certificate of Substantial Completion, then Owner may take over the completion of Work without advance notice to Contractor and without prejudice to any other remedy that Owner may have.

§ 2.5.3 In such cases as described in Sections 2.5.1 and 2.5.2, an appropriate modification will be issued deducting from the Contract Sum the reasonable cost of correcting such deficiencies or completing such Work, regardless of whether Owner actually undertakes completing such Work, in which case the deduction shall be based on the Designer's estimate in accordance with Section 7.3.7, including Owner's expenses and compensation for the Designer's additional services made necessary by such default, neglect, or failure. Such action by the Owner and amounts charged to Contractor are both subject to prior approval of the Designer. If the unpaid balance of the Contract Sum is not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.5.4 In the case of a Contract Sum based upon a Guaranteed Maximum Price that includes a GMP Contingency, the unused GMP Contingency shall not be included in the calculation required by Section 2.5.3 of unpaid balance of the Contract Sum, and the reduction in the Contract Sum shall not be applied to the GMP Contingency.

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 term "Contractor" means the Contractor or the Contractor's authorized representative. When the Agreement is a Construction Services Agreement between the Owner and a Construction Manager / General Contractor, the term "Contractor" means Construction Manager / General Contractor or its 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~~ Designer in the ~~Architect's~~ Designer's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 At the time of bid and award, Contractor shall not be currently disqualified from participating in State construction projects under the supervision of the SBC. Such disqualification extends to succeeding or related corporations, partnerships, joint ventures, and other business organizations having substantial factual or legal connections, continuity, or identity with those that have been disqualified.

§ 3.1.5 Boycott of Israel

Pursuant to Tenn. Code Ann. § 12-4-119, Contractor certifies that it is not currently engaged in, and will not for the duration of the Contract, engage in a boycott of Israel, as defined by Tenn. Code Ann. § 12-4-119(a)(1).

§ 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~~ Designer may require prior to proceeding with the work. 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. Contractor shall not perform construction activity when Contractor knows, in exercise of reasonable diligence, that the activity involves error, inconsistency, or omission in 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~~ Designer may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the ~~Architect~~ Designer 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~~ 3.2.3 with reasonable diligence, 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~~ obligations with reasonable diligence. If the Contractor performs those ~~obligations~~ obligations with reasonable diligence, the Contractor shall not be liable to the Owner or ~~Architect~~ Designer 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~~ Designer, and shall propose alternative means, methods, techniques, sequences, or procedures. The ~~Architect~~ Designer shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the ~~Architect~~ Designer objects to the Contractor's proposed alternative, the Contractor shall perform the Work that the Designer accepted and the Contractor approved 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. Contractor shall receive neither material, equipment, labor, nor services from one who submitted a competing general bid for the same contract and subsequently withdrew, reneged, or otherwise failed to enter into the contract.

§ 3.4.2 Except in the case of minor changes in the Work approved by the ~~Architect-Designer~~ in accordance with Section 3.12.8 or ordered by the ~~Architect-Designer~~ in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the ~~Architect-Designer~~ and in accordance with a Change Order or Construction Change Directive. Specified materials, equipment, and systems are essential elements of the Contract. If Contractor desires to use another material, equipment, or system in lieu thereof, Contractor shall request approval in writing and shall submit samples and data, including an estimate of difference in cost, as required for Designer's consideration. No substitution shall be made without approval in writing from Designer. Owner will be final judge of acceptability of substitution.

§ 3.4.2.1 Not later than 21 days after award of contract, Contractor shall provide a list showing names of manufacturers proposed for each specified project, and applicable name of installer, whether Contractor or subcontractor. Designer will within 14 days reply in writing to Contractor stating whether Owner or Designer, after due investigation, has reasonable objection to any such manufacturer or installer. If adequate data on proposed manufacturer or installer is not available, designer may state that action will be deferred until Contractor provides further data. Contractor shall not make use of a manufacturer, or installer to which Owner or Designer has reasonably objected. Contractor shall receive appropriate adjustment in Contract Sum, Contract Time, or both for making such change unless objection was based on failure of manufacturer or installer to meet requirements of Contract Documents, in which case neither Contract Sum nor Contract Time shall be adjusted. Failure to object to a manufacturer shall not constitute waiver of requirements of Contract Documents. Projects furnished by listed Contractor's manufacturers must conform to requirements of Contract Documents.

§ 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.

§ 3.4.4 Contractor shall disclose existence and extent of financial interests, whether direct or indirect, which Contractor has in proposed subcontractors and material suppliers.

§ 3.4.5 Prohibition of Illegal Immigrants

§ 3.4.5.1 The requirements of Public Acts of 2006, Chapter Number 878, of the State of Tennessee, addressing the use of illegal immigrants in the performance of any contract to supply goods or services to the State of Tennessee, shall be material provision of this Contract, a breach of which shall be grounds for monetary and other penalties, including termination of this Contract.

§ 3.4.5.2 The Contractor by entering into this contract attests, certifies, warrants, and assures that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor or consultant who will utilize the services of any illegal immigrant in the performance of this Contract.

§ 3.4.5.3 The Contractor understands and agrees that failure to comply with this section will be subject to the sanctions of Public Chapter 878 of 2006 for acts or omissions occurring after its effective date. This law provides for the prohibition of a Contractor from contracting with, or submitting an offer, proposal, or bid to contract with the State of Tennessee to supply goods or services for a period of one year after a Contractor is discovered to have knowingly used the services of illegal immigrants during the performance of this Contract.

§ 3.4.5.4 For purposes of this Contract, "illegal immigrant" shall be defined as any person who is not either a United States citizen, a lawful permanent resident, or a person whose physical presence in the United States is authorized or allowed by the Department of Homeland Security and who, under Federal immigration laws and/or regulations, is authorized to be employed in the U.S. or is otherwise authorized to provide services under the Contract.

§ 3.4.6 Non-Discrimination in Employment

§ 3.4.6.1 Contractor shall not discriminate against any employee nor applicant for employment because of race, creed, color, religion, sex, age, or national origin as defined in Tennessee Code Annotated (TCA) § 4-21-401, et seq, nor because of handicap, in accordance with TCA § 8-50-103.

§ 3.4.6.2 Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to handicap, race, creed, color, religion, sex, age, or national origin, including but not limited to practices in recruitment, recruitment advertising, employment, selection for training or apprenticeship, rates of pay or other forms of compensation, upgrading, demotion, transfer, layoff, or termination.

§ 3.4.6.3 Contractor shall post in conspicuous places, available to employees and applicants for employment, notices setting forth these policies of non-discrimination.

§ 3.4.6.4 Solicitations or advertisements for employees placed by or in behalf of Contractor shall state that qualified applicants shall receive consideration for employment without regard to handicap, race, creed, color, religion, sex, age, or national origin.

§ 3.4.7 State Prevailing Wage

§ 3.4.7.1 On contracts determined by the Department of Labor and Workforce Development to be "Highway Construction", Contractor is required to comply with policies, conditions and rules of the Tennessee Department of Labor pursuant to TCA §12-4-401, et. seq., and pay prevailing highway wage scale to laborers and mechanics employed on the Work or designated portion thereof, as set forth in said rules, policies, and statute, and to furnish weekly payrolls with the decision number noted on each to the Tennessee Department of Labor and Workforce Development.

§ 3.4.7.2 Owner and Designer shall have endeavored to provide current state highway prevailing wage decision and rate scale as an attachment to this section; however, their failure to do so shall not relieve Contractor of responsibility to comply with the requirement. If state highway prevailing wage decision and rate scale applicable to Project changes during the course of Project, or differs from rate scale provided in Contract Documents, there shall be an equitable adjustment of Contract Sum.

§ 3.4.7.3 When a federal wage scale applies to the Project, it will also be included in the Contract Documents, and the Contractor shall pay not less than the rates set forth therein; and so, shall pay the higher of the state rate and the federal rate if a labor classification exists in both wage scales applicable to the same worker.

§ 3.4.8 Payrolls and Basic Records

§ 3.4.8.1 Contractor and its subcontractors shall maintain payrolls and basic payroll records for all laborers and mechanics working on the contract during the contract and shall make them available to the government until 3 years after contract completion. Records shall contain the name and address of each employee, social security number, labor classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. If federal wage rates and record-keeping apply, the records need not duplicate those required for federal compliance.

§ 3.4.8.2 Contractor and its subcontractors shall allow authorized representatives of the government to inspect, copy, or transcribe records maintained these requirements, and shall allow authorized representatives of the government to interview employees in the workplace during working hours.

§ 3.4.9 Subcontracts

Contractor shall insert these provisions in subcontracts and require subcontractors to include these provisions in any lower tier subcontracts. Contractor shall be responsible for compliance with the provisions set forth herein by direct subcontractors and lower tier subcontractors.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect-Designer 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. defects. 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, Designer~~, 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.~~

§ 3.6 Taxes **§ 3.6.1** 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.

§ 3.6.2 If the State of Tennessee enacts, after bids are received or negotiations concluded, a change in sales, consumer, use, or similar state tax for the Work or a portion thereof provided by the Contractor, the Contract Sum shall be accordingly adjusted by appropriate modification or the Owner may make other lawful provision to mitigate the change.

§ 3.6.3 Neither Contract Sum nor Contract Time shall be adjusted for impacts resulting from a change in a tax by a governmental body other than the State of Tennessee, regardless of when the tax is enacted or goes 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~~ Contractor, except as provided in Section 3.7.3, 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~~ Contractor, except as provided in this section, 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. The Owner is an agency of state government, and as such has sovereign immunity from the laws, ordinances, rules, regulations, and lawful orders of local governments within the state; however, the Contractor shall obtain all normal permits whenever possible as if the Owner had no such immunity. If a delay or denial in securing a local permit occurs, the Contractor shall continue the Work, inform the Designer and the Owner of the situation, propose corrective measures, and continue to pursue the customary permits.

§ 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 taking into account that unless otherwise stipulated in Contract Documents, excavations and other subsurface construction activity shall be considered unclassified down to design depth, regardless of substrate and abandoned or inactive infrastructure, 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~~ Designer in accordance with Section 15.1.4 before continuing activities that could lead to a claim for additional cost and in no event later than 14 days after first observance of the conditions. ~~The Architect~~ Designer will promptly investigate such conditions and, if the ~~Architect~~ Designer 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 an adjustment in the Work, Contract Sum and/or Contract Time. If the Designer 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-Designer shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's-Designer'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-Designer~~. 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. by Modification~~. The amount of the ~~Change Order-Modification~~ 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~~.Section 3.8.2.2; and
- .4 Contractor shall monitor the costs included in allowances, and shall not incur excess costs without first obtaining a Modification adjusting the allowance sufficient for the excess.

§ 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 and designate a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the ~~Work-Work through final inspection~~. 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-Designer~~ 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 Designer'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~~ Designer's approval. The ~~Architect's~~ Designer'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-Designer~~ 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-Designer~~.

3.10.4 Scheduling Assistance

Owner may provide the Scheduling Assistance. If provided, such services will be set forth in the specifications of Progress Schedules.

§ 3.10.5 Commissioning Consultant

Owner may provide the services of a Commissioning Consultant, either as a consultant engaged by the Owner, or as Subcontractor under a specified allowance and selected by the Owner. If provided, such services will be set forth in the Specifications. The Contractor retains full responsibility for compliance with the Contract Documents. Contractor shall fully cooperate in commissioning, and shall require the necessary forces assisting the Contractor to likewise cooperate fully. If commissioning activities are included in the Work they shall not be a cause for delay or cost claims.

§ 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-Designer~~ and Owner, and delivered to the ~~Architect-Designer~~ 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-Designer~~ is subject to the limitations of Section 4.2.7. Informational submittals upon which the ~~Architect-Designer~~ 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-Designer~~ without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the ~~Architect-Designer~~, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the ~~Architect-Designer~~ 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-Designer~~ 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 prior to providing that which is the subject of the submittal, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents. If a portion of Work demonstrated by a submittal deviates from the requirements of the contract Documents, the Contractor shall specifically identify the deviation and its difference in cost as part of the submittal.

§ 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-Designer~~.

§ 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-Designer's~~ approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the ~~Architect-Designer~~ of such deviation and its difference in cost at the time of submittal and (1) the ~~Architect-Designer~~ 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-Designer'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-Designer~~ on previous submittals. In the absence of such notice, the ~~Architect's-Designer'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-Designer~~ 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-Designer~~. The Owner and the ~~Architect-Designer~~ 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-Designer~~ 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-Designer~~ at the time and in the form specified by the ~~Architect-Designer~~.

§ 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-Designer~~ 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, indemnify and hold harmless the Owner, Designer, Designer's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorney's fees, arising out of or resulting from alleged infringement of copyrights and patent rights,~~ 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-Designer~~. 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-Designer~~.

§ 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~~ the Owner 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~~ property, including loss of use resulting therefrom (other than the Work itself), but only to the extent caused by the willful or 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. Contractor agrees to indemnify the Designer and Designer's consultants based on the willful or negligent acts or omissions of the Contractor, except that Contractor shall not indemnify the Designer and Designer's consultants based on design mistakes and errors or omissions.

§ 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

§ 3.19 Relations with Owner's Representatives

§ 3.19.1 Contractor, subcontractors, material suppliers, and sub-subcontractors shall neither offer nor give a product, service, payment, negotiable instrument, gift, gratuity, or other compensation in connection with this project to a representative or employee of the State of Tennessee, the Designer, or the Designer's consultants without Owner's consent. Evidence of a violation of this requirement may be cause for termination of this Contract.

§ 3.20 Participation of Diversity-Owned Businesses

§ 3.20.1 To the extent that the Contractor or a subcontractor is a Diversity-Owned Business, the Contractor shall report to the State its own status in this regard and the names and amounts of contracts entered into with Diversity-owned Businesses on the State projects in order for the State to collect data on such participation.

§ 3.21 Financial Records

§ 3.21.1 The Contractor shall maintain documentation for all charges under this Contract. The books, records, and documents of the Contractor, insofar as they relate to work performed or money received under this contract, shall be maintained for a period of five (5) full years from the date of the final payment and shall be subject to audit at any reasonable time and upon reasonable notice by the State, the Comptroller of the Treasury, or their duly appointed representatives. The financial statements shall be prepared in accordance with generally accepted accounting principles.

ARTICLE 4 DESIGNER

§ 4.1 General

§ 4.1.1 The ~~Architect-Designer~~ 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-Designer~~ as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and ~~Architect-Designer~~. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The ~~Architect-Designer~~ 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 (1) during construction, (2) until final payment is due, and (3) at the Owner's request during the one-year period for correction of Work described in Section 12.2.~~ The Designer will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The ~~Architect-Designer~~ will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, (1) to become generally familiar with the progress and quality of the portion of the Work completed, (2) endeavor to guard the Owner against defects and deficiencies in the Work, and (3) 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-Designer~~ will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The ~~Architect-Designer~~ 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 which~~ are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the ~~Architect-Designer~~ 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-Designer~~ will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The ~~Architect-Designer~~ 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-Designer~~ in all communications that relate to or affect the ~~Architect's-Designer's~~ services or professional responsibilities. The Owner shall promptly notify the ~~Architect-Designer~~ 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-Designer's~~ consultants shall be through the ~~Architect-Designer~~. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the ~~Owner-Owner or the Designer~~. The Contract Documents may specify other communication protocols.

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

§ 4.2.6 The ~~Architect-Designer~~ has authority to reject Work that does not conform to the Contract Documents. Whenever the ~~Architect-Designer~~ considers it necessary or advisable, the ~~Architect-Designer~~ 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-Designer~~ 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-Designer~~ to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The ~~Architect-Designer~~ 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 checking for compliance with the requirements and conformance with the intent of the Contract Documents. The ~~Designer's~~ action will be taken in accordance with the submittal schedule approved by the ~~Architect-Designer~~ or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the ~~Architect's-Designer'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-Designer'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-Designer's~~ review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The ~~Architect's-Designer'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~~ ~~Designer will assist the Owner in preparing~~ Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The ~~Architect-Designer~~ will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The ~~Architect-Designer~~ 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-Designer~~ agree, the ~~Architect-Designer~~ will provide one or more Project representatives to assist in carrying out the ~~Architect's-Designer'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-Designer~~ 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-Designer'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-Designer~~ 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-Designer~~ 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 accordance with a reasonable and professional standard of care.

§ 4.2.13 The ~~Architect's-Designer'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-Designer~~ will review and respond to requests for information about the Contract Documents. The ~~Architect's-Designer's~~ response to such requests will be made in writing within any time limits agreed upon or otherwise ~~with reasonable promptness, within 14 days.~~ If appropriate, the ~~Architect-Designer~~ 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 within 21 days after~~ award of the Contract, shall notify the Owner and ~~Architect-Designer~~ 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-Designer~~ may notify the Contractor whether the Owner or the ~~Architect-Designer~~ (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the ~~Architect-Designer~~ to provide notice within the 14-day period shall constitute notice of no reasonable objection. No construction activity shall be commenced by a person or entity in question until all objections have been resolved. If required, Contractor shall furnish evidence satisfactory to Designer, showing each proposed Subcontractor is competent to execute work covered by the subcontract. Subcontractors identified as part of Contractor's bid for this Project shall be used in the capacity listed, unless otherwise approved by the Owner in accordance with State Building Commission policy.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or ~~Architect-Designer~~ 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-Designer~~ 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.~~ Designer has no reasonable objection.

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

§ 5.2.5 Contractor shall not award subcontract to one who submitted a competing general bid for the same Contract and subsequently withdrew, reneged, or otherwise failed to enter into contract.

§ 5.2.6 Contractor shall not allow work under the Contract to be performed contrary to the requirements of Section 3.4.5 nor by a Contractor or Subcontractor that has been disqualified from participating in State construction projects under the supervision of the State Building Commission. Such disqualification extends to succeeding or related corporations, partnerships, joint ventures, and other business organizations having substantial factual or legal connections, continuity, or identity with those that have been disqualified. If such a participant is discovered, Contractor shall immediately discontinue the participation and provide a suitable substitute at no additional cost to the Owner, and provide documentation to the Owner of the action taken to comply with this requirement.

§ 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-Designer~~. Each subcontract agreement shall preserve and protect the rights of the Owner and ~~Architect-Designer~~ 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.

Assignment is at the option of Owner, and creates no duty or obligation upon Owner to exercise this option, nor is any right created for any subcontractor to expect or rely upon such assignment. 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-Designer~~ 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-Designer~~ 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-Designer~~ 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-Designer~~. A Construction Change Directive requires agreement by the Owner and ~~Architect-Designer~~ 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-Designer~~ 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-Designer~~ 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 that the price includes all eligible overhead and profit, and represents all direct and indirect costs associated with the change; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2. Unless otherwise agreed in writing by Owner and Contractor, the method of determining adjustments in Contract Sum shall be by one or more of the methods set forth in Section 7.3.3, and shall be based on reasonable expenditures and savings as set forth in Section 7.3.4.

§ 7.2.3 When the Owner and Contractor agree with a determination made by the Designer concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, the Owner may issue a written approval of the adjustment(s) prior to being recorded in a Change Order. Such approval shall be effective immediately and shall be recorded by preparation and execution of an appropriate Change Order.

§ 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-Designer~~, 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~~ Designer 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 accordance with Section 7.3.11. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the ~~Architect~~ Designer 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:

§ 7.3.4.1 Costs for the purpose of this Section 7.3.4 shall be limited to the following:

- .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;~~ Direct personnel expense (DPE);
- .2 Costs of materials, supplies, and equipment, including cost of transportation, thereof, whether incorporated or consumed;
- .3 ~~Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;~~ Machinery and equipment costs based on (1) rental costs for rental of machinery and equipment rented from others and (2) costs for machinery and equipment owned by the Contractor limited to not more than eighty percent (80%) of the applicable average rental rate as listed in the current edition of the AED Green Book for Rental Rates and Specifications for Construction Equipment;
- .4 Costs of premiums for all bonds and insurance, insurance to the extent required by Contract Documents, permit fees, and sales, use, or other similar taxes, directly related to the change; and
- .5 ~~Costs of supervision and field office personnel directly attributable to the change.~~ Additional DPE of superintendence directly attributable to authorized overtime; and,
- .6 Reasonable DPE of project manager and clerical work directly attributable to estimating and coordinating the change.
- .7 The following items are "Class 1 Time-Related Expenses", and shall be considered as costs when Contract Time is extended due to additional work or a Class 1 cause defined in Section 8.3, and solely to the extent directly attributable to extension of time; field offices, sheds, phones/communication devices, sanitary facilities, dumpsters, trash collection and disposal, on-site utilities, drinking items, supplies, cleaning, safety programs, and all other construction facilities, temporary controls and fixtures not specifically required for additional work; costs of superintendence; superintendent's vehicle; and other general use vehicles, being those requiring a class D, H, or M license, and excluding those requiring a class A, B, or C license, as set forth in the Tennessee Driver Handbook or comparable current successor publication of the Tennessee Department of Safety and Homeland Security. The daily maximum amount allowed for Class 1 Time-Related Expenses shall be calculated as, and equal to four and one-half percent (4.50%) of the original Contract Sum divided by the original Contract Time.
- .8 If the Contract Sum is a Guaranteed Maximum Price between the Owner and a Construction Manager / General Contractor, the costs for project manager, clerical work, and Class 1 Time-Related Expenses included by Sections 7.3.4.1.6 and 7.3.4.1.7 and the extra five percent (5%) for the Contractor in Section 7.3.11.1 shall not apply. In such cases, the CM/GC Fee and General Conditions costs shall apply in accordance with the Master Contract provisions for Modifications and Change in GMP.

§ 7.3.4.2 Direct Personnel Expense (DPE)

§ 7.3.4.2.1 Direct personnel expense (DPE) costs delineated in Sections 7.3.4.1, 7.3.4.1.5, 7.3.4.1.6, and 7.3.4.1.7 shall be limited to base salary or hourly wage plus a maximum of thirty-nine percent (39%) of base salary or hourly wage, and further limited to a maximum of \$155 per hour, including all labor burden.

§ 7.3.4.3 Specifically excluded from costs and included in overhead or general requirements are: corporate, home office, and branch office overhead, rent, mortgage, off-site utilities, project management, and personnel not otherwise mentioned; capital expenses and interest on capital; hand tools; and the items of cost listed in Section 7.3.4.1.7 when Contract Time is not extended due to additional work or a Class 1 clause.

§ 7.3.4.4 To facilitate checking for increases or decreases in the Contract Sum, proposals, shall be accompanied by Contractor's complete itemization of costs of work including labor, materials and equipment, plus an amount for overhead and profit.

§ 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-Designer~~ 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-Designer~~. When both additions and credits covering related Work or substitutions are involved in a change, the allowance amount 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-Designer~~ 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 and shall be recorded by preparation and execution of an appropriate~~ Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 Overhead and Profit

§7.3.11.1 The amount recoverable as overhead and profit on costs stipulated in Section 7.3.4 shall be limited to the following:

- .1 For Contractor performed work, the Contractor shall be entitled to overhead of ten percent (10%) of the cost of the self-performed work (the "Overhead") and profit of five percent (5%) of the sum of the cost of the self-performed work and the Overhead. The Contractor's Overhead of ten percent (10%) is not applied to the Class I Time Related Expenses in § 7.3.4.1.7.
- .2 For Subcontractor performed work:
 - .a The Contractor shall be entitled to profit of five percent (5%) of the sum of all Subcontractor's itemized costs, Subcontractor Overhead, and Subcontractor Profit. The Contractor shall not be entitled to recover any overhead on work performed by a Subcontractor.

- .b The Subcontractor shall be entitled to overhead of ten percent (10%) of its itemized cost ("Subcontractor Overhead") and profit of five percent (5%) of the sum of its itemized cost and the Subcontractor Overhead ("Subcontractor Profit").
- .3 For Sub-subcontractor performed work, a Subcontractor shall be entitled to profit of five percent (5%) of the sum of all Sub-subcontractor's cost. The Subcontractor shall not be entitled to recover any overhead on work performed by its Sub-subcontractors.

§ 7.3.11.2 When the Contract Sum is a Guaranteed Maximum Price between the Owner and a Construction Manager / General Contractor, the extra five percent (5%) for the Contractor in Section 7.3.11.1 shall not apply. In such cases, the CM/GC Fee shall apply in accordance with the Master Contract provisions for Modifications and Change in GMP.

§ 7.4 Minor Changes in the Work

The ~~Architect-Designer~~ 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-Designer'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-Designer~~ and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the ~~Architect's-Designer's~~ order for a minor change without prior notice to the ~~Architect-Designer~~ 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-Designer~~ 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 in accordance with the Agreement.

§ 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. The basis exists for an extension of time if Contractor is delayed in performing Work, but solely to the extent that delays are unforeseeable, unavoidable, and beyond the control and without fault or negligence, in whole or in part, of Contractor, subcontractors, sub-subcontractors, and suppliers at every tier, and said delays directly impact the Contractor's ability to achieve Substantial Completion in accordance with the Contract Time requirements, and said delays cannot be made up by reasonable efforts otherwise and said delays stem from the following causes:

§ 8.3.1.1 Class 1 causes: an act or failure to act that is contrary to the Contract Documents on the part of Owner or Designer or an employee of either, or of a separate Contractor employed by Owner, or an injunction against Owner or Owner's representatives which causes an impact to the Contractor that requires an adjustment in the Contract Sum and Contract Time.

§ 8.3.1.2 Class 2 causes: abnormal weather, acts of God, riots, civil commotion, acts of War, fire, unavoidable casualties, epidemics, quarantine restrictions, labor disputes, unusual delay in transportation, freight embargoes, or insolvency of subcontractors, sub-subcontractors, or suppliers.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. If the basis exists for an extension of time under Section 8.3.1, Owner may either:

- .1 in the case of additional work or a Class 1 cause, assign the Class 1 Time-Related Expenses, defined in Section 7.3.4.1.7, plus the overhead and profit allowed in Section 7.3.11, to a special allowance that can be earned based upon the extent of actual use of the related Time Extension in completion of the Work;
- .2 accept the reasonable and appropriate time extension as determined by Designer to cover such delay, and in the case of a Class 2 cause, there will be no corresponding adjustment in Contract sum, and the sole recourse of Contractor will be entitlement to time extension as provided by Designer regardless of actual source or cause of delay;
- .3 order Contractor to accelerate construction activity by working overtime and by adding extra forces in order to overcome such delays, and adjusting the Contract Sum in accordance with Article 7 to compensate Contractor for such directed acceleration; however, direct costs used in determining such compensation shall be limited to properly substantiated and documented premium or overtime labor costs; or
- .4 employ a combination of the above remedies.

§ 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. Extension of Contract Time due to Class 2 causes shall be applied to the Contract Time prior to the application of Class 1 time.

§ 8.3.4 Neither Owner nor Designer will be obligated or liable to Contractor for, and Contractor hereby expressly waives claims against Owner and Designer on account of damages, costs, expenses, or related impacts which Contractor, subcontractors, sub-subcontractors, suppliers, or other persons may incur as a result of a Class 2 cause enumerated in Section 8.3.1. Contractor's sole and exclusive remedy and full compensation in such event shall be extension of Contract Time in accordance with provisions of the Contract Documents. Contractor likewise waives claims of damages, costs, or expenses due to a delay resulting from a Class 1 cause except and solely to the extent of costs allowed under Section 7.3.4.

§ 8.3.5 Claims relating to time shall be made in accordance with applicable provisions of Article 15 or shall receive no consideration. If monthly Weather Delay Reports are required by the specifications, then claims for time extension based upon weather delays will be denied if a submitted report does not corroborate the Claim or if no report was submitted when it was required, and Contractor waives the right to such claims.

§ 8.3.6 Extensions of time shall be implemented in accordance with Article 7.

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. The Contract Sum is not subject to change due to commodity, equipment, or labor cost fluctuations.

§ 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. adjusted subject to limitation and requirements contained in the Contract Documents.

§ 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-Designer~~ 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-Designer~~. This schedule, unless objected to by the ~~Architect-Designer~~, 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-Designer~~ and supported by such data to substantiate its accuracy as the ~~Architect-Designer~~ may require, and unless objected to by the ~~Architect-Designer~~, 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~~ Prior to the date established for each progress payment, the Contractor shall submit to the ~~Architect-Designer~~ 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-Designer~~ 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~~, extent those costs have been included in the Contract Sum and actually incurred. Additional costs, which may be attendant to the off-site storage, are the responsibility of the Contractor, and cannot be claimed by Contractor against Owner.

§ 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~~ at the time payment is received by the Contractor. 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.

§ 9.3.4 In Applications for Payment, the amount represented as total completed and stored to date shall reflect that portion of the Contract Sum properly allocable to labor, materials, and equipment incorporated in the Work and materials and equipment suitably stored in accordance with Section 9.3.2, and not exceed the Contract Sum less the value of incomplete Work and corrections required. This total completed and stored to date shall not be construed to define completion as determined by Substantial Completion or final completion of the Work according to Sections 9.8, 9.9, or 9.10.

§ 9.3.5 Applications for Payment shall indicate retainage withheld from the total completed and stored to date as follows: five percent (5%) until acceptance of a certificate of Substantial Completion; and, thereafter two percent (2%) until final payment. The resulting amount shall be indicated as the total earned less retainage. Applications that reduce retainage shall be accompanied by Consent of Surety, if a bond was required according to Section 11.4.

§ 9.3.6 Applications for Payment shall indicate the total earned less retainage, and the aggregate of previous payments made subtracted therefrom, and an amount requested.

§ 9.4 Certificates for Payment

§ 9.4.1 The ~~Architect-Designer~~ 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-Designer~~ determines is properly due, and notify the Contractor and Owner of the ~~Architect's-Designer'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-Designer'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-Designer~~ to the Owner, based on the ~~Architect's-Designer's~~ evaluation of the Work and the data in the Application for Payment, that, to the best of the ~~Architect's-Designer'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-Designer~~. However, the issuance of a Certificate for Payment will not be a representation that the ~~Architect-Designer~~ 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-Designer~~ 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-Designer's~~ opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the ~~Architect-Designer~~ is unable to certify payment in the amount of the Application, the ~~Architect-Designer~~ will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and ~~Architect-Designer~~ cannot agree on a revised amount, the ~~Architect-Designer~~ will promptly issue a Certificate for Payment for the amount for which the ~~Architect-Designer~~ is able to make such representations to the Owner. The ~~Architect-Designer~~ 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-Designer'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;
- .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; Documents, or
- .8 potential liquidated damages and other unsettled claims.

§ 9.5.2 When either party disputes the ~~Architect's-Designer'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 any of the reasons for withholding certification are removed, certification will be made for respective amounts previously withheld.

§ 9.5.4 If the ~~Architect-Designer~~ 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-Designer~~ and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the ~~Architect-Designer~~ 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~~, accordance with TCA § 12-4-701 et seq. as may from time to time be amended.

.1 Payment is due not later than 45 days after an undisputed Certificate for Payment has been received by Owner. Owner will endeavor to make payment within 21 days, but shall not be obligated to do so.

.2 Based upon Certificates for Payment issued by the Designer, correcting the Application for Payment as appropriate, the Owner shall make progress payments to the Contractor as provided in the Contract Documents.

§ 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~~ entitled for 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-Designer~~ and Owner 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-Designer~~ 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-Designer~~ 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. When Contract Sum meets the statutory threshold, pursuant to TCA § 66-34-104, the Contractor shall comply with the procedures established by the Tennessee State Treasurer and Department of Finance and Administration for establishment of an interest-bearing retainage escrow account.~~

§ 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~~. Contractor and the Designer. 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. The Designer may act in accordance with Section 9.5 or the Contractor may furnish acknowledgement of the claim from the Surety satisfactory to the owner to indemnify the Owner in making payment to the Contractor without reduction of the claim.

§ 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 payment is due as established in the Contract Documents, the amount ~~certified by the Architect or awarded by binding dispute resolution, currently due as of that date pursuant to the terms of the Contract Documents~~ (including certification by the Designer), then the Contractor may, upon seven additional days' notice to the Owner and Architect-Designer, stop the Work until payment of the amount owing due 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. In order to occupy or utilize the Work for its intended use, Owner must have received from the State Fire Marshal the Certificate of Occupancy, or in the case of renovations the Project Completion Form, and the Owner must have received substantially complete Product Data, Operating and Maintenance Data, orientation, and training, as may be required by specifications.

§ 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-Designer 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-Designer will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's Not later than at the time of this inspection, the Contractor will submit its application for payment commensurate with Substantial Completion. If the Designer'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-Designer. In such case, the Contractor shall then submit a request for another inspection by the Architect-Designer to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect-Designer 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. the Certificate, subject to the provisions of Section 9.12.2. 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-Designer 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-Designer.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and ~~Architect-Designer~~ 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-Designer~~ will promptly make such inspection. When the ~~Architect-Designer~~ finds the Work acceptable under the Contract Documents and the Contract fully performed, the ~~Architect-Designer~~ will promptly issue a final Certificate for Payment stating that to the best of the ~~Architect's Designer's~~ knowledge, information and belief, and on the basis of the ~~Architect's-Designer'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-Designer'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-Designer~~ (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~~ shall furnish acknowledgement of the matter from the Surety satisfactory to the Owner to indemnify the Owner against such ~~lien, claim, security interest, or encumbrance~~. If a ~~lien, claim, security interest, or encumbrance~~ matter in lieu of such a release or waiver. If such matter 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, such matter, 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-Designer~~ so confirms, the Owner shall, upon application by the Contractor and certification by the ~~Architect, Designer,~~ 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 Designer~~ 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 not constitute a waiver of Claims by the Owner ~~except those arising from for the following:~~

- .1 ~~liens, Claims, security interests, or encumbrances arising out of the Contract Documents and unsettled;~~
- .2 ~~failure of the Work to comply with the requirements of the Contract Documents; Documents,~~
~~irrespective of when such failure is discovered;~~
- .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, payment,~~ 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.

§ 9.10.6 Final payment constituting the entire unpaid balance of Contract Sum, shall be paid by Owner to Contractor when Work has been completed, the Contract fully performed, and a final Certificate for Payment issued by Designer.

§ 9.10.7 If there is no Contract Bond, the final Certificate may be withheld until the prospect of final payment is advertised once, 30 days prior to issuance of the final payment, for the benefit of those to whom the Contractor may be indebted.

§ 9.11 Method of Payment

§ 9.11.1 Payments to Contractor shall be made through Owner's automated clearing house wire transfer system. Contractor shall have completed an Authorization Agreement for Automatic Deposits ACH Credits Form prior to commencing Work and prior to submitting a first application for payment. At the Owner's option, other payment options may be utilized.

§ 9.11.2 Debit entries to correct errors authorized by the Authorization Agreement for Automatic Deposits ACH Credits Form shall be limited to those errors detected prior to the effective date of the credit entry. The remittance advice shall note that a correcting entry was made. Corrections shall be made within two banking days of the effective date of the original transaction. Other errors detected at a later date shall take the form of a refund, or in some instances, a credit memo if additional payments are to be made.

§ 9.11.3 The Owner reserves the right to deduct from amounts which are or shall become due and payable to Contractor under this or any contract between the parties any amounts which are or shall become due and payable to the State by the Contractor.

§ 9.12 Liquidated Damages

§ 9.12.1 Time being of the essence, Contractor further agrees to accept conditions for Liquidated Damages in the amount set forth in Contract Documents for each calendar day in excess of allotted time for Substantial Completion, or approved extension thereof, parties agreeing that the amount of damages resulting from delay would be uncertain and difficult to prove, and further agreeing that such Liquidated Damages set forth in the Owner-Contractor Agreement are a reasonable estimate of those damages which could result from delay.

§ 9.12.2 If a portion of the Work is certified Substantially Complete, the amount of Liquidated Damages applicable to the remaining Work may be reduced by Written mutual agreement.

§ 9.12.3 Secondary Liquidated Damages shall be twenty-five percent (25%) of that originally required by the Contract Documents, and shall accrue until such time that Work has been completed and the Contract fully performed if:

- .1 the time for completion stipulated in the Certificate of Substantial Completion has passed; or, if no such time was stipulated, then 30 calendar days has passed following the certified date of Substantial Completion and;
- .2 the Contract Time, including approved extensions, plus 30 calendar days, has passed.

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-Designer~~ 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. Owner reserves the right to make repairs to damaged property and deduct all costs from the Contract Sum. 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-Designer~~.

§ 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~~14 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-Designer~~ of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, pursuant to circumstances described in Section 10.3.1, Owner will have the option to either terminate the contract as provided in Article 14, proceed with Contractor in a mutually agreed plan of action, or as follows: 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-Designer~~ 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-Designer~~ 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-Designer~~ has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the ~~Architect-Designer~~ 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, Following claim and modification processes in accordance with Articles 15 and 7,~~ 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. Contractor may file claim under Article 15 for consideration.~~

§ 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 Liability 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, from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance required by the Contract Documents as will protect the Contractor and the Owner from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:~~

- ~~.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;~~
- ~~.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;~~
- ~~.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;~~
- ~~.4 Claims for damages insured by usual personal injury liability coverage;~~
- ~~.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property on or away from the site, including loss of use resulting therefrom;~~
- ~~.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;~~

- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 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. Insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until four years after Substantial Completion. Specific lines of coverage and limits of liability provided by the Contractor shall be written in a comprehensive form satisfactory to the Owner in the following minimum requirements:

- .1 Commercial General Liability, with limits for bodily injury and property damage of

Each Occurrence	\$1,000,000
Annual Aggregate	\$2,000,000

and including:
 - premises & operations;
 - underground, explosion, & collapse;
 - products & completed operations;
 - contractual;
 - independent contractors; and,
 - personal injury (employment exclusion deleted).The General Aggregate shall apply specifically to this project, using ISO form CG 2503 or the equivalent. The policy will contain a Waiver of Subrogation endorsement in favor of the Owner.
- .2 The Contractor will maintain a Contractor's Pollution Liability policy with limits of

Each Occurrence	\$1,000,000
Annual Aggregate	\$2,000,000

Coverage will commence prior to the beginning of the Work and will be maintained until four years after Substantial Completion. The policy will be written on a primary and non-contributory basis and will name the Owner as an additional insured for both on-going and completed operations. Coverage will apply to all construction operations, transit and disposal of material at non-owned disposal sites performed by or on behalf of the Contractor. The Policy shall not contain coverage exclusions related to asbestos, lead, silica or mold/microbial matter. The policy will contain a Waiver of Subrogation endorsement in favor of the Owner.
- .3 Commercial Automobile Liability, with combined single limits for bodily injury and property damage of

Each Occurrence	\$1,000,000
-----------------	--------------------

and including owned, hired, and non-owned vehicles; or, if there are no owned vehicles, Contractor may provide written certification of such and provide coverage limited to hired and non-owned vehicles. The policy will be written on a primary and non-contributory basis and will name the Owner as an additional insured, and will contain a Waiver of Subrogation endorsement in favor of the Owner.
- .4 Workers Compensation and Employer's Liability, (without restriction as to whether covered by Worker's Compensation law), with Workers Compensation according to statute, and Employer's Liability:

\$500,000 per occurrence	for bodily injury, \$500,000 per employee for bodily injury by disease and a \$500,000 policy limit for bodily injury by disease.
---------------------------------	---

The policy will contain a Waiver of Subrogation endorsement in favor of the Owner.
- .5 If an exposure exists, Aircraft and Watercraft Liability (owned & non-owned), with limits approved by Owner shall be provided.
- .6 The Contractor will maintain Excess or Umbrella Liability coverage that is as broad or broader than the required Commercial General Liability, Commercial Automobile Liability and Employer's Liability with minimum limits of \$5,000,000 per Occurrence, \$5,000,000 Annual Aggregate. The Excess or Umbrella policy will be written on a primary and non-contributory basis and will name the Owner as an additional insured.

§ 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. Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to Owner's execution of the Agreement and thereafter upon renewal or replacement of each required policy of insurance. Certificate(s) of insurance provided to attest to coverage shall specifically cite each element of coverage and not less than limits set forth in Section 11.1.2, as confirmation of complete coverage, and shall identify Contractor, Producer, Insurance Carrier, Project, and certificate holder, and state Producer's notice requirements as set forth in Section 11.1.4. The term "Commercial General Liability" shall mean all of the coverage listed in Section 11.1.2.1a unless specifically noted otherwise in the certificate. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 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. The Contractor and its subcontractors shall cause the commercial general liability, auto, pollution and excess/umbrella coverage required by the Contract Documents to include (1) the Owner, the Designer and the Designer's consultants as additional insureds on a primary and non-contributory basis for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations using ISO form CG 2010 (07/04); and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations, using ISO form CG 2037 (07/04) edition.

§ 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.

§ 11.1.5 Contractor shall notify Owner in writing of changes in coverage or carrier not later than ten days after notification of Contractor by Producer, or ten days before Contractor makes a change, whichever occurs first. By way of an endorsement to the policy, the Insurer will be required to provide written notice if policies are cancelled or modified before expiration date thereof.

§ 11.1.6 If professional design services or certifications by an appropriately licensed design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, as referenced in Sections 3.12.10.1 and 3.12.10.2, then that professional(s) shall maintain Professional Liability Insurance in the amount of: Each Claim \$ 1,000,000, Annual Aggregate \$1,000,000. The Professional Liability Insurance coverage shall be maintained for four years after the date of Substantial Completion of the Project. The Contractor is responsible for requiring that the Professional Liability Insurance is acquired and maintained.

§ 11.2 (Deleted)

§ 11.3 Waivers of SubrogationProperty Insurance

§ 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. Contractor shall purchase from and maintain, with a company or companies licensed to do business in Tennessee by the Department of Commerce and Insurance, property insurance written on a builder's risk "all risk" or equivalent policy form in the amount of the initial Contract Sum plus value of subsequent Contract modifications for the covered project at the site on a replacement cost basis. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall specify the Owner as named insured, and the Contractor, Subcontractors and Sub-subcontractors as insureds under the policy.

§ 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

AIA Document A201 – 2017. Copyright © 1911, 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1966, 1970, 1976, 1987, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This document was produced at 13:12:56 CT on 04/16/2025 under Order No.3104241756 which expires on 04/26/2025, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiaccontracts.com.

User Notes:

(2050127943)

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.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, and debris removal and shall cover reasonable compensation for Designer's services and Contractor's work required as a result of such insured loss. The policy will be written to include a waiver of subrogation applying to all parties.

§ 11.3.1.2 For Work stored off the site, or in transit, the Contractor shall provide insurance upon such Work to protect the Owner's Interest.

§ 11.3.1.3 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.1.4 Builder's Risk Insurance (BRI) for the full amount of the Contract Sum, unless the Work consists entirely of hazardous materials abatement or other demolition with no constructive patching or renovating, in which case there will be no BRI.

§ 11.3.1.5 The Contractor will be responsible for maintaining its own insurance for owned, leased and borrowed tools and equipment. The policy will contain a Waiver of Subrogation endorsement in favor of the Owner.

§ 11.3.2 Boiler and Machinery Insurance

The Contractor shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 Loss of Use Insurance

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§ 11.3.4 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the Issuing company will endeavor to provide ten days written notice to the Owner should the policy be canceled prior to the expiration date.

§ 11.3.5 A loss insured under the Contractor's property insurance shall be adjusted by the Contractor as fiduciary and made payable to the Contractor as fiduciary for the insureds. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.6 If after an insured loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor.

§ 11.4 Contract Bond

§ 11.4.1 If the initial Contract Sum as awarded exceeds \$100,000, Contractor shall provide Contract Bond, in the amount of one hundred percent (100%) of Contract Sum covering faithful performance of contract and payment of obligations arising thereunder. If a Contract Bond is required, and a Three Year Roof Bond is also stipulated in the Bidding Documents, then the Three Year Roof Bond shall be provided as stipulated. Bond(s) shall be executed on Tennessee State Building Commission Standard Form(s) exhibited in Bidding Documents for project, and subject to provision of Section 11.4.3.

§ 11.4.2 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.

§ 11.4.3 Surety is the person or entity identified as such in a bond and is referred to throughout the Contract Documents as if singular in number. The term "Surety" means the Surety or the Surety's authorized representative. Surety Company issuing Bond shall be licensed to transact business in Tennessee by Department of Commerce and Insurance. Bonds shall have certified and current Power-of-Attorney for the Surety's Attorney-in-Fact attached. Attorney-in-Fact who executes bond on behalf of Surety shall be one who is licensed by Tennessee as a resident agent, and shall affix license number to bond; or, countersignature by and license number of a licensed resident agent shall be affixed to the bond in addition to the signature of the Attorney-in-Fact.

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-Designer's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, Designer, be uncovered for the Architect's-Designer'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-Designer has not specifically requested in writing to examine prior to its being covered, the Architect-Designer may request in writing 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 and recovering 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-Designer 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-Designer'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 of known noncomplying Work 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~~ noncomplying Work within a reasonable time ~~during that period~~ after receipt of notice from the Owner or Architect, Designer, the Owner may correct it in accordance with Section 2.5. If Three Year Roof Bond has been provided, then with regard to the total roofing system, its installation, and materials, the one year time period hereunder is extended for two additional years for a total period of three years. Until such time as the three years hereunder have expired, Contractor's obligations hereunder shall be joint and several with Company as defined and set forth in the Roofing System Warranty. For the purpose of Section 12.2.2, all of Company's actions, whether of omission or commission, pursuant to the Roofing System Warranty are likewise actions of contractor hereunder and shall in no way negate or reduce the responsibilities of Contractor hereunder.

§ 12.2.2.2 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.

§ 12.2.2.3 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 and time period of applicable special warranties 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 Incomplete or 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 completion or 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. located.

§ 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~~ 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-Designer~~, 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.

§ 13.3.3 If procedures within the Contract fail to satisfy a Claim against the Owner, further action is to be taken up with the Tennessee Claims Commission, pursuant to TCA § 9-8-101, et seq. Damages recoverable against the State shall be limited expressly to claims awarded by the Commission, or any appellate decision of such claim awarded by the Commission.

§ 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-Designer~~ 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 authority~~. The Owner shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect-Designer timely notice of when and where tests and inspections are to be made so that the Architect-Designer 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-Designer~~, 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-Designer~~ 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-Designer~~ of when and where tests and inspections are to be made so that the ~~Architect-Designer~~ 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-Designer'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-Designer~~.

§ 13.4.5 If the ~~Architect-Designer~~ is to observe tests, inspections, or approvals required by the Contract Documents, the ~~Architect-Designer~~ 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~~

Init.

~~the Project is located past due as stated in Section 9.6.1 in accordance with TCA § 12-4-704 as may from time to time be amended.~~

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-Designer~~ 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~~ one hundred percent (100%) 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-Designer~~, 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 including eligible overhead, profit, and costs as defined in Section 7.3.4~~ 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-Designer~~, 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-Designer~~ 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 Work, the site, and 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~~ Designer'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~~, Designer, 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~~; Work, including materials for which Owner has paid and which are stored off-site; 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 the event 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. Contractor's sole and exclusive remedy shall be to receive payment for the reasonable value of the completed portion of Work plus a portion ("P") of the remaining balance of the Contract Sum calculated under the following formula.~~

$$"P" = [(Remaining\ Balance\ of\ Contract\ Sum) \times (.05)] \times [(Value\ of\ the\ Work\ Completed) / (Contract\ Sum)]$$

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~~ 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 Owner 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-Contract Documents and Section 13.3.3 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~~ Contractor waives 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~~ shall be initiated by written 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. Designer. . Claims by either party under this Section 15.1.3.1 shall be initiated within ~~21~~ 14 days after occurrence of the event giving rise to such Claim or within ~~21~~ 14 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. If the effect of the condition giving rise to the Claim cannot be fully evaluated, a preliminary notice of pending claim shall be made within the stated time limit subject to further action in a timely manner.

§ 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. Designer will issue recommendations for change orders and certificates for payment in accordance with its decisions issued pursuant to Section 15.2.5.

~~§ 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.~~ written notice as required by the Contract Documents shall be given to the Owner by the Contractor, and written notice received by the Contractor from Owner acknowledging the claim and authorizing construction activity to proceed, before the Contractor shall proceed to execute the construction activity giving rise to the claim; thence, the claim shall be addressed under provisions of Section 15.2. Documentation of claims shall conform to the requirements of Article 7. 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.~~ To make Claim for an increase in Contract Time, Contractor shall give written notice as provided herein, and include an estimate of cost, which shall be limited to that allowed by Section 8.3.3, and an explanation of the cause and probable effect on progress of the Work. In the case of a continuing delay, only one Claim is ~~necessary~~ necessary, and Contractor shall subsequently detail the full scope of the delay.

§ 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.~~ waives Claims against the Owner 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 Contract including but not limited to either party's termination in accordance with Article 14, principal office expenses, including the compensation of personnel stationed there, at the principal office, and any damages for losses of financing, business-business, and reputation, and for loss of profit, except anticipated profit arising directly from the Work.profit.~~

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 DecisionResolution of Claims and Disputes

§ 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 Claims shall be referred to the Designer for initial decision. An initial decision or other action by the Designer in accordance with Section 15.2.2 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.Claims or action pursuant to remedies provided by law for Claims between Owner and Contractor, unless the Designer fails to timely comply with Section 15.2.2.

§ 15.2.2 The Initial Decision Maker-Designer will review Claims and within ten days of the receipt of a Claim or information preliminary or pursuant to a Claim or modification to a Claim and 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-Designer is unable to resolve the Claim if the Initial Decision Maker-Designer lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker-Designer concludes that, in the Initial Decision Maker's-Designer's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Designer to resolve the Claim. If Designer approves or rejects the Claim, parties have ten days to request reconsideration based upon additional information, or the decision shall be final. If Designer suggests compromise, parties have ten days to respond. If the Designer declines to resolve the claim, the Owner may, but is not obligated to, take the lead in resolving the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker-Designer 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-Designer in rendering a decision. The Initial Decision Maker-Designer may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker-Designer 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-Designer when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker-Designer that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker-Designer 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 Designer will render an initial decision which 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: the provisions in Section 15.2.2, and thereafter to mediation if consented to by both parties, and to remedies as otherwise provided by law.

§ 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. As a matter of law, the State of Tennessee and its property are not subject to mechanic's and material suppliers liens. Subcontractors, suppliers, and other claimants are protected through the Contract Bond as required by TCA § 12-4-201 et seq., and Section 11.4 of these Conditions. Specific requirements for notice of Claims on the bond are set forth in the TCA § 12-4-205.~~

§ 15.3 Mediation

The State of Tennessee is not subject to mandatory 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

The State of Tennessee is not subject to mandatory 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.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Dick Tracy, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with this certification at 13:12:56 CT on 04/16/2025 under Order No. 3104241756 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, other than changes shown in the attached final document by underscoring added text and striking over deleted text.

(Signed)

(Title)

(Dated)

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 RELATED SECTIONS

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

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The project consists of the demolition and replacement of the existing restroom finishes in the Jackson State Community College Library Building. The approximate renovation square footage is 645 SF. The existing plumbing fixtures will be removed and replaced. The existing lay in ceilings will be demolished and existing hard ceiling above will be repaired and painted. In addition to the new finishes and plumbing fixtures, new lighting fixtures will be installed in the spaces. Finally, the concrete slab in the janitor's closet will be demolished and the sanitary piping will be repaired in that location to enhance proper drainage.

Project Location:

Jackson State Community College
2046 North Parkway
Jackson, TN 38301

Owner: Tennessee Board of Regents

- B. The work will be constructed under a single prime contract.

1.3 WORK SEQUENCE

- A. Except as may be indicated otherwise, the work will be conducted in one phase.
- B. Because of the long lead time for roofing products, this project will be done in two steps. Once a notice to proceed has been given, the contractor will order all materials. When the materials arrive on-site, construction can begin. The contract duration period will not begin until materials are on-site and ready for installation.

1.4 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have full use of the premises for construction operations, including use of the site except as described in the specifications or indicated on the drawings. See drawings pertaining to coordination and phasing for restriction of site premises. The Contractor's use of the premises may be limited by the Owner's right to perform work or to retain other contractors on portions of the Project.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 23 40

COORDINATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
 - 1. General project coordination procedures.
 - 2. Conservation.
 - 3. Coordination Drawings.
 - 4. Administrative and supervisory personnel.
 - 5. Cleaning and protection.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Division 01 Section "Field Engineering" specifies procedures for field engineering services, including establishment of benchmarks and control points.
- C. Division 01 Section "Project Meetings" for progress meetings, coordination meetings, and preinstallation conferences.
- D. Division 01 Section "Submittals" for preparing and submitting the Contractor's Construction Schedule.
- E. Division 01 Section "Materials and Equipment" for coordinating general installation.
- F. Division 01 Section "Contract Closeout" for coordinating contract closeout.
- G. See plans for additional coordination requirements especially coordination with other construction contracts and utility contracts associated with development of this project.

1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in the sequence required to obtain the best results where installation of one part of the work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make 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 assure 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 closeout activities.
- D. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. Salvage materials and equipment involved in performance of, but not actually incorporated in, the work.
- 1.4 SUBMITTALS
- A. Coordination Drawings: Prepare coordination drawings where careful coordination is needed for installation of products and materials fabricated by separate entities. Prepare coordination drawings where limited space availability necessitates maximum utilization of space for efficient installation of different components.
1. Show the relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Comply with requirements contained in Section "Submittals."
- B. Staff Names: Within 15 days of commencement of construction operations, submit a list of the Contractor's principal staff assignments, including the superintendent and other personnel in attendance at the Project Site. Identify individuals and their duties and responsibilities. List their addresses and telephone numbers.
1. Post copies of the list in the Project meeting room, the temporary field office, and each temporary telephone.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 GENERAL COORDINATION PROVISIONS

- A. Coordinate scheduling, submittals, and work of the various Sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Coordinate completion and clean-up of work of separate Sections in preparation for substantial Completion and for portions of work designated for Owners partial occupancy.
- C. After Owner occupancy of premises, coordinate access to site for correction of effective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

3.2 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.

- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION

01 25 13 PRODUCT SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SUBSTITUTIONS:

- A. Contractor assumes all risks associated with premature ordering and installation of substitute products.
- B. The specifically named manufacturers, products, and systems, and descriptive characteristics used in the Contract Documents normally serve only to establish a level of quality and a performance standard. Unless a specific restriction is placed upon an item in the specifications, Contractor may submit proposals for substitutions. The Owner reserves the right to disallow substitutions.
- C. Delays caused by tardiness of Contractor in preparing and forwarding submittals do not constitute an acceptable basis for consideration of substitute products. Delays due to factors which were in effect prior to project bidding do not constitute an acceptable basis for consideration of substitute products.
- D. Decisions heretofore made concerning the equivalence or equality of materials, supplies and equipment furnished for or incorporated in other projects, completed or under construction for the Owner shall not be considered as precedents or criteria and shall have no bearing or influence on the question of equivalent, equal or comparable materials, supplies and equipment for the Work.

1.02 SUBSTITUTION REQUEST FORM:

- A. Requests for substitutions shall be submitted to Designer on the form exhibited as Section 01 25 33, or in a similar format which provides the same or more information.
- B. When making requests for substitutions, Contractor assumes the following responsibilities:
 - 1. To have investigated the proposed substitute product and determined it is equal or superior in all respects to that specified;
 - 2. To provide the same warranty for substitute that Contractor would for that specified;
 - 3. To provide complete cost data, and waive all claims for additional costs related to substitution which subsequently become apparent; and
 - 4. To coordinate installation of the accepted substitute, making such changes as may be required for Work to be complete in all respects.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 25 33 – PRODUCT SUBSTITUTION REQUEST FORM

To: <<Designer name>>	Project: <<Project name>>
Attention: <<Designer contact>>	SBC Number: <<Number>>
Specified Item Name and Manufacturer: <<Item name and manufacturer>>	Proposed Substitute Item Name and Manufacturer: <<Item name and manufacturer>>

1. The following are attached (mark all that apply):
☐ Complete Description ☐ Catalog
☐ Laboratory Tests ☐ Specifications Data
2. This substitution will have the following effects on dimensions, gauges, weights, etc.:
<<Comments>>
3. This substitution will have the following effects on wiring, piping, ductwork, etc.:
<<Comments>>
4. This substitution will have the following effects on other trades:
<<Comments>>
5. This substitution will have the following effect on construction schedules:
<<Comments>>
6. The proposed substitute(s) differs from the specified product(s) in quality and performance as follows:
<<Comments>>
7. Manufacturer guarantees for the substitute(s) and the specified product(s) are (check one):
☐ The Same ☐ Different (if different, explain below)
<<Comments>>

01 25 33 – PRODUCT SUBSTITUTION REQUEST FORM

8. Information on the availability of maintenance services and replacement materials for proposed substitute(s) is provided on an attached sheet.

☐ Attached ☐ Not Applicable

9. Names, addresses, and phone numbers of fabricators and suppliers for proposed substitute(s) are provided on an attached sheet.

☐ Attached ☐ Not Applicable

10. If the proposed substitution is accepted, it will result in:

☐ No Cost Impact
☐ A Cost Decrease of \$<<Amount>>
☐ A Cost Increase of \$<<Amount>> As Shown on Attached Itemization

11. License fees or royalties are pending on the proposed substitute.

☐ No ☐ Yes (if yes, explain below)

<<Comments>>

12. The undersigned shall pay for additional studies, investigations, submittals, redesign, and analysis by the Designer necessitated by this substitution request.

Substitutions must be requested in accordance with applicable Contract requirements. After bidding, substitutions are to be submitted only by Contractor. Substitute products should not be ordered or installed without written acceptance.
--

Submitted By:

Signature:	Date: <<Date>>
Printed Name: <<Name>>	Firm Name: <<Name>>

13. Designer Review and Comments:

☐ Accepted ☐ Rejected
☐ Accepted as Noted ☐ Rejected (received too late)
☐ Rejected (submitted incomplete)

<<Comments>>

Signature:	Date:
Printed Name:	Firm Name:

14. Owner Review:

Signature:	Date:
------------	-------

END OF SECTION

01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.01 SUPPORTING DOCUMENTATION FOR PROPOSALS OR CLAIMS

- A. Propose related changes to Work, Contract Sum, and Contract Time, in writing together. Propose unrelated changes separately. Attach and reference pertinent documents related to the change.
- B. For a change in the Work, specifically describe proposed change, or briefly describe the proposed change with specific reference to a completely descriptive attachment, such as a request for proposal from the Designer.
- C. For a change in Contract Sum, state briefly the reason for change, state the amount, and provide itemization of values on the following forms or similar forms providing the same information:
 - 1. Section 01 26 54 Form for Price Summary, listing the itemizations of Work by subcontractors and the Contractor that together apply to an entire related change in work.
 - 2. Section 01 26 55 Form for Price of Work, detailing the quantities, units, costs, and extensions for materials, equipment, and labor, subtotaled, plus overhead, and profit related to a specific proposed change in the Work.
 - 3. Section 01 26 56 Form for Price of Time, if applicable, deriving an average cost per day.
- D. For a change in Contract Time:
 - 1. Fully describe the extent of and reasons for the change and effect of the change on the construction schedule, and attach a revised construction schedule. Take into account weekends, holidays, and the specified standard baseline for weather delays during the period of the requested extension.
 - 2. For a change based on weather-related delay refer to Section 01 26 20.

1.02 SIGNATURES FOR CHANGE ORDER

Form shall be similar in format and content to Section 01 26 40 and signed by authorized representatives of the Owner, Designer, and Contractor according to the following procedure:

- 1. Designer prepares and submits supporting documents to Owner.
- 2. Owner produces and signs three (3) counterparts of form. Owner scans and transmits an informational copy to its construction representative, Designer, and Contractor.
- 3. Owner's construction representative brings owner's three original, signed counterparts to next progress meeting, unless urgency and opportunity make for a more timely execution.
- 4. Designer and Contractor both sign all three (3) counterparts at progress meeting. Each retains a counterpart, and the Owner's construction representative retains the third for the Owner.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 26 20 – WEATHER DELAYS

PART 1 - GENERAL

1.01 EXTENSION OF CONTRACT TIME

If a Claim is made for an extension of time based upon weather delays in accordance with the General Conditions an extension may be granted only for the number of weather delay days in excess of the number of days listed for the applicable month on the standard baseline.

1.02 STANDARD BASELINE FOR ADVERSE WEATHER

- A. The standard baseline is defined as the number of calendar days for each month during which construction activity exposed to weather conditions is expected to be prevented and suspended by cause of adverse weather. Suspension of construction activity for the number of days each month as listed in the standard baseline is included in the Work and is not eligible for extension of Contract Time.
- B. The Owner has established a standard baseline for the State of Tennessee as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	11	8	7	7	6	7	5	4	5	6	11

1.03 ADVERSE WEATHER AND WEATHER DELAY DAYS

- A. Adverse weather is defined as the occurrence of one or more of the following conditions within a 24 hour day that prevents construction activity exposed to weather conditions or access to the site:
1. Precipitation (rain, snow, or ice) in excess of one-tenth inch liquid measure.
 2. Temperatures that do not rise above the minimum required for the day's construction activity, if such temperature requirement is specified or accepted as standard industry practice.
 3. Sustained wind speed in excess of the maximum for the day's construction activity, if such sustained wind speed maximum is specified or accepted as standard industry practice.
 4. Dry out days under the following conditions:
 - a. more precipitation days occur than listed in the standard baseline;
 - b. there is a hindrance to site access or sitework and Contractor has taken all reasonable accommodations to avoid such hindrance; and,
 - c. no more than one dry out day is allocated for each additional day of precipitation more than the standard baseline that total one inch or more, liquid measure, unless specifically recommended by the Designer.
- B. A weather delay day may be counted if adverse weather prevents work on the project for 50% or more of the contractor's scheduled work day and critical path construction activities were included in the day's schedule, including a weekend day or holiday if Contractor has scheduled construction activities that day.

01 26 20 – WEATHER DELAYS

1.04 DOCUMENTATION AND SUBMITTALS

A. Weather Delay Report:

1. Use a copy of Section 01 26 25 as a weather delay report, indicating for each calendar month the days on which construction activity affecting the critical path of the Work was prevented by weather conditions.
2. In the column for the cause, indicate measurement of precipitation, temperature, wind, or other influencing factors.
3. Describe the construction activity that was scheduled, on the critical path, and delayed.
4. At the end of the month, add up the number of days delay, subtract the baseline number given in this Section, and show the resulting claimable days in excess of baseline.
5. Submit a copy of the completed report with the next application for payment. Reports submitted with applications for payment do not constitute a claim or preliminary claim for extension of time.

B. Claim for a time extension based on weather delay(s):

1. Submit a copy of all reports completed since the last month for which a time extension was previously claimed, or the commencement of Work if no previous claim, through the last month for which delay is being claimed. Claims for time extension based upon weather delays are unjustified if a submitted report does not corroborate the claim or if no report was submitted when it was required with an application for payment.
2. Submit daily jobsite work logs showing which and to what extent critical path construction activities have been affected by weather on a monthly basis.
3. Submit actual weather data to support claim for time extension obtained from nearest NOAA weather station or other independently verified source approved by Designer at beginning of project.
4. Organize claim documentation to facilitate evaluation on a basis of calendar month periods and the standard baseline.
5. Submit in accordance with the requirements of the Contract Documents.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 26 25 – WEATHER DELAY REPORT

SBC Project Number and Project Name:		Month and Year Reported Below:
Date	Weather condition causing delay	Work scheduled on critical path for this day that was delayed.
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
	Total number of days this month with delay due to weather	
	Baseline number from Section 01 26 20	
	Total – Baseline = claimable days	

END OF SECTION

01 26 40 – FORM FOR AMENDMENT, CHANGE ORDER, OR DIRECTIVE

[] Amendment PROJECT:

[] Change Order Project Number:

[] Construction Change Directive Modification Number:

Original Contract Date: Date This Change Initiated:

The following changes in the Contract are hereby directed:

Item	Reference	Work	Contract Sum	Contract Time
------	-----------	------	-----------------	------------------

The original Contract Sum \$

Net Change previously authorized \$

The Contract Sum prior to this Modification \$

This modification (*increases / does not change / decreases*) the Contract Sum... \$

The new Contract Sum, including this modification \$

This Modification (*increases / does not change / decreases*) the Contract Time..

The new Contract Time, including this Modification.....

The last day of the Contract Time, including this Modification.....

CONTRACTOR Signed	DESIGNER Signed	OWNER Signed
----------------------	--------------------	-----------------

Name & Date	Name & Date	Name & Date
-------------------	-------------------	-------------------

For	For	For
-----	-----	-----

Changes over 10% cumulatively or exceeding \$500,000.00, STATE ARCHITECT:

Signed	Name	Date
--------	------	------

01 26 54 - FORM FOR PRICE SUMMARY

SBC Project Number:	Project Name:
---------------------	---------------

Name of General Contractor:

Proposal Number:	Date Itemized:	Page	of	pages
------------------	----------------	------	----	-------

Work by Subcontractors	Name of Subcontractor	Costs and Allowances

Subtotal:	0.00
General Contractor mark-up on Subtotal: % =	0.00
Subtotal for General Contractor for work by subcontractors:	0.00

Work by General Contractor

Subtotal (including Subcontractors and the General Contractor):	0.00
---	------

Cells with red underline (if viewed in color) are for you to fill in. Others are protected.

Rounding off is permitted if rounding up for decreases and rounding down for increases. Math functions in Excel show rounded to nearest penny, but carry exact value for calculations. Let embedded math do its work.

This spreadsheet is available on the Owner's Designers' Manual website.

Bond Premium:	% =	0.00
---------------	-----	------

Total:	0.00
---------------	------

01 26 55 - FORM FOR PRICE OF WORK

SBC Project Number:	Project Name:
---------------------	---------------

Work itemized below provided by:

Proposal Number:	Date Itemized:	Page	of	pages
------------------	----------------	------	----	-------

[illegible]

Cells with red underline
(if viewed in color)
are for you to fill in.
Other cells are protected.
Rounding off is permitted

Math functions in Excel show rounded to nearest penny, but carry exact value for calculations.

Let embedded math in "extension" columns do its work.

This spreadsheet is available on the Owner's Designers' Manual website.

Materials	Subtotal	0.00	Equipment	Labor	Subtotal	0.00
	% Sales Tax =	0.00			% Burden =	0.00
	Cost:	0.00	Cost:		Cost:	0.00

Subtotal of Costs of Materials + Equipment + Labor = \$	0.00
---	------

10% Overhead allowed on costs = \$	0.00
------------------------------------	------

Subtotal of Costs + Overhead = \$	0.00
-----------------------------------	------

5% Profit allowed on Costs + Overhead = \$ 0.00

Total for this change = \$ 0.00

01 26 56 - FORM FOR PRICE OF TIME

SBC Project Number:	Project Name:
---------------------	---------------

Work itemized below provided by:

Proposal Number:	Date Itemized:	Page	of	pages
------------------	----------------	------	----	-------

Description	Period Cost	Period (Year, Month, Week, Day)	Cost Per Day
Superintendent Salary			
Superintendent Vehicle			
General Use Vehicles			

Field Office			
Field Office Equipment			
Computer			
Fax Machine			
Copier			
Typewriter			
Calculator			
Field Office Utilities			
Electricity			
Natural Gas			
Water Service			
Drinking Water			
Telephone Service			
On-Site Storage			
Shed			
Trailer			
Safety Program			
Cleaning			
Site Toilet(s)			

Cells with red underline (if viewed in color) are for you to fill in. Other cells are protected. Math functions show rounded to penny, but carry exact value for calculations. Let embedded math do its work. Use "Year", "Month", "Week", or "Day" for period. This spreadsheet is available on the Owner's Designers' Manual website. See A201 7.3.11.1 for Class 1 time.

Subtotal of Costs:

5% for Profit:

Total per day:

01 29 54 – RETAINAGE ESCROW INITIATION

PART 1 - GENERAL

1.01 BASIC REQUIREMENTS

- A. Reference Tennessee Code Annotated (TCA) § 66-34-104.
- B. In accordance with State law retainage shall be deposited into an interest-bearing escrow account if the original Contract Sum is \$500,000 or greater.
- C. Failure to have the escrow account operational by the time of the Contractor's second application for payment will result in delay of payment or inability of the Owner to make payment. Any such delay or inability to pay will not be grounds for relief under the prompt payment statutes.

1.01 BANKING INSTITUTION REQUIREMENTS

The banking institution handling the retainage escrow account must be in an appropriate custodial care agreement with the State Treasurer. If not already in such an agreement, a banking institution can request such an agreement from the State Treasurer, subject to meeting eligibility requirements of TCA §12-4-108(c).

1.03 PROCESS

- A. Shortly after award of contract, the Tennessee Department of Finance and Administration (F&A) will send the Contractor information for starting the account. This information typically includes the following:
 - 1. Procedural guide
 - 2. Forms including the basic application provided herein as Form A.
 - 3. List of banks that currently have agreements with the State to host retainage escrow accounts.
- B. The instructions from F&A will include a name and phone number to call for help if the Contractor needs help completing Form A or if the Contractor plans to use a lending institution that does not have a current agreement with the State for hosting retainage escrow.
- C. Immediately upon award of a contract with a Contract Sum of \$500,000 or greater, complete the Form A shown in this section, arrange for the completed Form A to be executed by the escrow bank, and instruct the bank to submit the original wet-signature Form A to the following address.

Retainage Escrow Coordinator
Tennessee Department of Finance and Administration
Office of Business and Finance
Suite 2000 William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue
Nashville TN 37243-0294

01 29 54 – RETAINAGE ESCROW INITIATION

FORM A

APPLICATION FOR THE SUBSTITUTION OF SECURITIES FOR ALL AMOUNTS
RETAINED ON STATE BUILDING COMMISSION CONSTRUCTION CONTRACTS

Date: _____

RE: Contract Number: _____

Project No.: _____

Location: _____

Dear State Building Commission:

Pursuant to the provisions of Tennessee Code Annotated, Sections 12-4-108,

Contractor's name and
address as appearing
on construction
Contract:

--

hereby requests that whenever payment for which certain amounts are retained by the State Building Commission as determined by the subject construction contract, the amount so retained be substituted for approved securities, as designated by the Tennessee State Treasurer.

The undersigned Contractor hereby appoints _____
(Name of Banking Institution)

located at _____ to be its
(Complete Address of Banking Institution)

agent and attorney-in-fact to receive all amounts retained by the State Building Commission under the provisions of the subject construction Contract and to purchase Retainage Securities of the following type: _____
(Description & Account Number)

The appointed Banking Institution, as indicated by the acceptance signature shown below, agrees to enter or has already entered into a Trust Agreement with the Tennessee State Treasurer to act as custodian and servicing agent of Retainage Securities and to perform all assigned duties and responsibilities with respect thereto as set forth in the Trust Agreement, which is herein incorporated by reference.

Very truly yours,

(Signature of Authorized Representative of Contractor)

(Title)

ACCEPTED:

(Signature of Authorized Officer of Banking Institution)

(Title)

CONTACT PERSON (BANK) _____

PLEASE PRINT

PHONE NUMBER _____

END OF SECTION

01 29 73 – SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 FORM AND APPROVAL

- A. The form for the Schedule of Values shall be AIA Document G703 Continuation Sheet.
- B. If objected to by the Designer or the Owner revise and resubmit the Schedule of Values to the Designer's and Owner's satisfaction prior to submitting an Application for Payment.

1.02 LEVEL OF DETAIL

- A. Provide a breakdown of the Contract Sum in sufficient detail to facilitate ongoing evaluation of Applications for Payment and progress measurement and reports.
- B. Round off line items to the nearest whole dollar with the total equal to the Contract Sum.

1.03 ALLOCATION OF VALUES

- A. Phases:
 - 1. If Phases are stipulated with distinct commencement, duration, or completion requirements, divide the allocation to correspond to the Phases.
 - 2. Within each Phase subdivide the allocations as described below and subtotal.
- B. Sitework:

Provide line items for sitework including categories for site utilities, roads and parking, and appurtenances according to general type and physical separation.
- C. Each involved building or major structure:
 - 1. Categorize items by major trades or units of work corresponding to the divisions and sections of the specifications.
 - 2. Further subdivide as desired but maintain a distinct and identifiable correspondence to this allocation.
- D. If allowances are stipulated in the Work, provide a line item in the Schedule of Values for each allowance, including quantity allowances associated with Unit Prices. If the project has phases associate the allowance with the relevant phase.
- E. If the Contract is a CM/GC contract based on a Guaranteed Maximum Price (GMP) with estimated trades identified as a part of the GMP, provide a distinct line item for each estimated trade.
- F. Prior to receipt of written approval of a Change Order, do not show in any respect a Change Order intended to modify the Contract sum, regardless of the Change Order's status prior to being fully execute. After a Change Order which modifies the Contract Sum is approved and fully executed by the Owner show the Change Order as follows.
 - 1. Provide a single line item for each fully executed Change Order with identification by Change Order number.
 - 2. Maintain these line items through the balance of the project.
- G. For the final statement of accounting incorporate Change Orders that modify the Contract Sum into the appropriate allocations.

END OF SECTION

01 29 76 – PROGRESS PAYMENT PROCEDURES

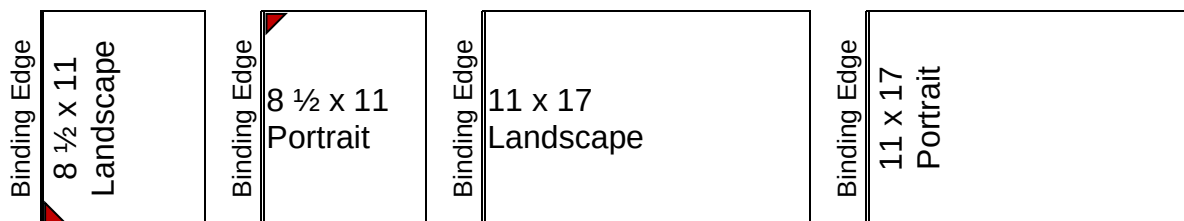
PART 1 – GENERAL

1.01 SUBMITTAL:

- A. In each Application for Payment provide the document indicated in the following table according to its context.

Counterpart or Copy	Progress Payment	Reducing Retainage Upon Subst. Completion	Final Payment	Document	§ 1.03 Subsection
counterpart	YES	YES	YES	G702 Application	A
copy	YES	YES	YES	G703 Continuation	B
copy	no	no	YES	Final Accounting	C
copy	YES	YES	YES	Contingency & Reserve Logs (if CM/GC)	D
copy	if any	if any	no	Off-Site Stored Materials documents	E
counterpart	no	no	YES	Affidavit of Payment	F
counterpart	no	YES	YES	Consent of Surety with Power of Attorney	G
copy	no	no	YES	Insurance Certificate	H
copy	no	no	YES	Statement of Continuing Insurability	I
copy	no	if any	if any	U&O Permit	J
copy	no	YES	YES	Data Binder Receipt(s)	K
copy	no	no	YES	Roof Warranty or Warranties	L
copy	no	no	YES	Report of Subcontractors and Suppliers	M
copy	YES	if any	no	Visitor Log	N
copy	YES	if any	no	Weather Delay Report	O

- B. Provide application documents assembled in order listed above on 8½" x 11" pages, except 11" x 17" pages can be used for Progress Schedules and Submittal Logs if folded to fit an 8½" x 11" size. Orient all pages as shown below. Provide application sets bound with a single clip (no staple) affixed to the upper left of the G702 first page (according to its orientation ▽).



- C. Counterpart documents shall be original instruments with wet signatures and embossed or wet-stamped seals, in each set of application documents.

01 29 76 – PROGRESS PAYMENT PROCEDURES

- D. Provide a draft submission, including attachments, as a PDF attached to an email, to Designer and to the Owner's construction representative three days prior to actual submittal.
- E. Provide actual submission of five sets of the application documents to the Designer at progress meeting, substantial completion inspection meeting, or final inspection meeting. If submitted outside of these meetings, provide conveyance of application to Designer, from Designer to Owner's construction representative, and from Owner's construction representative to Owner's central office.

1.02 INCLUSIONS AND CALCULATIONS:

- A. Accurately represent all values with two decimal places, calculated to the penny.
- B. Stored Materials: Materials suitably stored on-site but not yet incorporated into the Work can be included; and, those suitably stored off-site can be included if documented in accordance with later provisions of this section.
- C. On CM/GC contracts, the total completed and stored to date for estimated trades can only be included once bids have been taken, subcontracts awarded, and the actual price reconciled to the Reserve Log.
- D. Calculation of retainage and amounts withheld:
 - 1. Credit for completed work and stored materials, and deductions for incomplete work, comprise the Total Completed and Stored to Date. The Total Completed and Stored to Date shall not include the value of punch list items that remain incomplete after Substantial Completion.
 - 2. Retainage is calculated as a percentage of Total Completed and Stored to Date: 5% prior to Substantial Completion; 2% after Substantial Completion; then, none at final payment. In the continuation sheets, showing retainage at individual line items is not required and is discouraged, as it promotes rounding errors. Retainage should only be shown at phase sub-totals, if phases exist, and when retainage rates vary between phases.
 - 3. Other amounts withheld (i.e., potential liquidated damages or in response to subcontractor claims of non-payment) can be added to the continuation sheet and deducted from the Total Completed and Stored to Date, or can be deducted from the resulting current payment due after retainage and prior payments are accounted.
- E. If a billing period would cross a State fiscal year (ending June 30, starting July 1), provide separate pay requests for the portion of work performed in each fiscal year.

1.03 FORMS, FORMAT, AND CONTENT:

- A. G702 Application: Use AIA Document G702 Application and Certificate for Payment
 - 1. For project identification, include the Owner's project number featured prominently, institution name, and work name, which is normally the project title shown in the Agreement.
 - 2. Provide a unique, sequential application number.
 - 3. Include the Contractor's address exactly as provided in the ACH Form.
 - 4. Show the county where the Work is located, normally where AIA captions "Contract for".

01 29 76 – PROGRESS PAYMENT PROCEDURES

- B. G703 Continuation: Use AIA Document G703 Continuation Sheet itemized with the line items and values of the schedule of values accepted by Designer, and values and percentages for each line item. If there are phases, include a sub-total for each phase as well as a grand total.
- C. Final Accounting: Allocate final Contract Sum as if Modifications had been fully incorporated in Contract Sum at award of Contract, and shall follow the same format as the schedule of values.
- D. GMP Contingency Log and Reserve Log, only if a CM/GC contract.
- E. Off-Site Stored Materials: If any, provide the following.
 - 1. Statement identifying where materials are stored, and assuring that materials are tagged to identify them for use in the project.
 - 2. Bill(s) of sale for materials claimed that list(s) all items.
 - 3. Certificate of insurance covering materials claimed, recognizing Owner's right to make claims.
- F. Affidavit of Payment of Debts and Claims: Provide counterpart using AIA Document G706, when requesting final payment for the Work or reduction of retainage to zero for any portion of the Work.
- G. Consent of Surety:
 - 1. If seeking reduction in retainage prior to final payment for the entire Work, or final payment on only a portion of the Work, provide counterpart using AIA Document G707A Consent of Surety to Reduction in Retainage, or a similarly formed letter.
 - 2. If seeking final payment, provide counterpart using AIA Document G707 Consent of Surety Company to Final Payment, or a similarly formed letter.
 - 3. If Contractor has listed exceptions in the affidavit of payment, Surety's consent shall acknowledge such exceptions.
 - 4. If Contract is not bonded, consent of surety is not required, and Owner will instead advertise a public notice of settlement, and wait 30 days for responses, before accepting the application.
 - 5. Provide counterpart of power of attorney with consent of surety.
- H. Insurance Certificate: If seeking final payment, provide certificate of insurance for products and completed operations as required by the General Conditions of the Contract for Construction.
- I. Statement of continuing insurability: If seeking final payment, a letter written to the effect required by the General Conditions of the Contract.
- J. Use & Occupancy Permit (some jurisdictions have a different name): Provide copy with first application following substantial completion.
- K. Data Binder Receipt:
 - 1. With first application following substantial completion, provide copy of document identifying to whom Contractor delivered the operating and maintenance data binders.
 - 2. With application for final payment, provide copy of document identifying to whom Contractor delivered project data binders

01 29 76 – PROGRESS PAYMENT PROCEDURES

- L. Roof Warranty or Warranties, if any required, on the Owner's section 07 50 36 standard form.
- M. Report of Subcontractors and Suppliers, on the standard form.
- N. Visitor Log for the period covered by application. After substantial completion, provide log(s) for periods prior to substantial completion that have not been provided in a prior application.
- O. Weather Delay Report for all calendar months completed, up to the date of substantial completion, and not previously submitted.

1.04 CERTIFICATION

- A. Designer, if in disagreement with the amounts claimed in an application, may either return application to Contractor for revision and resubmittal, or revise application by hand to indicate corrections Designer considers appropriate.
- B. Designer, finding an application complete and correct, will certify the application and return one of the sets to Contractor to indicate the action taken.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 31 19 – PROJECT MEETINGS

PART 1 - GENERAL

1.01 SCHEDULING AND ATTENDANCE

- A. The Designer, in cooperation with the Owner and the Contractor, will schedule and administer a pre-construction meeting, periodic progress meetings, and any required special meetings.
- B. Representatives of the Owner and the Designer will attend.
- C. Attending representatives of the Contractor, subcontractors, and suppliers shall be qualified and authorized to act on behalf of the entity each represents.
- D. The Contractor representative shall be authorized to sign Change Orders.

1.02 PRE-CONSTRUCTION MEETING

- A. A pre-construction meeting will be scheduled upon the award of the contract prior to the issuance of the Notice to Proceed.
- B. The Contractor shall arrange for the following participants in the pre-construction meeting:
 - 1. The Contractor's superintendent and management representative having authority to sign change orders.
 - 2. Major subcontractors' representatives
 - 3. Major suppliers' representatives
 - 4. Others as desired

1.03 PROGRESS MEETINGS

- A. Progress meetings are held to provide a regular and frequent opportunity for the following purposes:
 - 1. Conduct a general review of the progress of the Work aimed at identifying and mitigating impediments to timely completion.
 - 2. Provide an opportunity for the Contractor to submit Applications for Payment along with appropriate attachments and other submittals.
 - 3. Designer and Contractor sign Change Orders in accordance with § 01 26 00.
- B. Progress meetings will be scheduled and conducted at the project site when deemed advisable by the Designer until the Work is complete, typically twice monthly.
- C. The Contractor shall arrange for the following participants in progress meetings:
 - 1. The Contractor's superintendent and management representative having authority to sign change orders.
 - 2. Subcontractors' representatives, as befits the agenda
 - 3. Suppliers' representatives, as befits the agenda
 - 4. Others, as appropriate.
- D. Proceedings of these meetings will be recorded and the Contractor will be furnished copies for its use and for distribution to subcontractors, material suppliers and vendors.

01 31 19 – PROJECT MEETINGS

1.04 SPECIAL MEETINGS

The Contractor and its subcontractors and suppliers shall attend special meetings as deemed necessary and requested by the Designer.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 31 80 – Project Team Evaluation

PART 1 - GENERAL

1.01 REQUIREMENTS

- A. State of Tennessee Office of the State Architect requires that all Contractors and Designers Comply with the TEAM EVALUATION found on their website <https://www.tn.gov/content/tn/osa/capital---real-estate/capital-projects.html>.
- B. Comply with PROJECT TEAM EVALUATIONS GUIDELINES in Appendix 3: System or Campus Specific Guidelines and Requirements; TBR Instructions for Project Execution; Team, 360 Evaluations Instructions - September 2019.

1.02 EVALUATIONS OF DESIGNER AND OWNER BY CONTRACTOR

- A. Provide complete evaluations of the Designer and Owner at project team evaluations meetings.
- B. Provide evaluations and use the forms in the Project Team Evaluations format and evaluation rubric provided on the State of Tennessee Office of the State Architect (OSA) website. on the Office of the State Architect website.
- C. Provide interim evaluations as needed during the construction.
- D. Provide final evaluations prior to Final Inspection.
- E. Final project payment will be withheld until Final Team Evaluations have been completed and submitted to Designer.

1.03 EVALUATIONS OF CONTRACTOR BY OWNER AND DESIGNER

The Owner and Designer shall complete evaluations of the Contractor in accordance with the Project Team Evaluations information provided on the OSA website.

1.04 PROJECT TEAM EVALUATION MEETINGS

Provide a representative at project team evaluation meeting(s) at times and locations established by the Owner or Designer to support required evaluations. The representative shall have knowledge of the project to enable discussion of evaluation of project team members and authority to adjust evaluations in the meeting(s).

1.05 EVALUATION GRIEVANCES

Grievances with evaluations shall be handled in accordance with Scoring Reviews information provided on the OSA website.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 31 90 – ADMINISTRATIVE LOGS

PART 1 - GENERAL

1.01 SUBMITTALS LOG

- A. If any shop drawings, product data, or sample submittals are required by the Contract Documents, maintain a submittals log to record the status of submittals made to the Designer.
- B. Process:
 - 1. Submit three (3) copies with each Application for Payment.
 - 2. Clearly identify the Project.
 - 3. Record activities with respect to shop drawings, product data, samples, and such other submittals which are required by the Contract Documents.
 - 4. Indicate for each submittal made to date:
 - a. Title or name, and type of submittal.
 - b. Date submitted to the Designer.
 - c. Date returned by the Designer.
 - d. General nature of the Designer's response.

1.02 VISITOR LOG

- A. Maintain visitor log in the field office (or with the project superintendent when no field office is required) to record visits by all persons not a part of the Contractor's forces, materials suppliers, or subcontractors' forces, until substantial completion of the entire Work.
- B. Process:
 - 1. Submit a copy with each counterpart of each application for payment, covering the period since the last log(s) submitted.
 - 2. Clearly identify the Project.
 - 3. Use the form of specification Section 01 31 93, and indicate:
 - a. Visitor name and affiliation.
 - b. Date and time of visit.
 - c. Length of time on site.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 31 93 – VISITOR LOG

Please print information below if you represent the Owner, institution, Designer or a consultant, a testing agency engaged by the Owner or Designer, a regulatory authority, or yourself as a private individual. Please estimate how long you will be on site, rather than logging out when you leave.

Persons who are employed by the Contractor, a subcontractor, a sub-subcontractor, a supplier, or a testing agency engaged by any of these, are NOT VISITORS, and should not log in on this Log.

[illegible]

01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.01 IDENTIFICATION

- A. Identify clearly the Project, SBC Number, and date of issuance or revision on each submitted schedule.

1.02 CONSTRUCTION SCHEDULE FORMAT

- A. Use a bar chart or critical path schedule format or other method approved by the Designer. A critical path schedule is recommended to enable meeting requirements for documentation for time extension requests.
- B. Utilize a construction scheduling software for development and updates.
- C. Outline the orderly progress of the Work as planned from the Notice to Proceed through Substantial Completion on the contractually required date.
- D. Categorize the Work by major work area and distinct trade or team. If phases are specified also categorize by phase.
- E. Divide work activities into one month or less duration.
- F. Provide an identifiable relationship to the schedule of values.
- G. Identify projected monthly progress, points of 50% completion and Substantial Completion, and other major milestones.
- H. If included in the Work, commissioning and storm water pollution protection plan activities shall be major milestones.
- I. If planting that is seasonally sensitive is included in the Work, show such distinctly in a seasonally appropriate time.
- J. Transmit the schedule in PDF format when requested by the Owner or Designer.

1.03 INITIAL CONSTRUCTION SCHEDULE

Submit within 21 days of award of the Contract and no later than the date of submission of the first Application for Payment.

1.04 UPDATED CONSTRUCTION SCHEDULE

- A. Submit a copy attached to each counterpart of Applications for Payment.
- B. Format in a manner similar to the initial progress schedule and as follows:
 - 1. Indicate the initial construction schedule for the Work.
 - 2. Identify the actual progress through the period covered by the current Application for Payment.
 - 3. Indicate the planned progress through Substantial Completion including extensions of time made by Modification.
 - 4. If actual progress falls behind previous projections, indicate the recovery plan so that the Work will be completed on time.

1.05 SUBMITTALS SCHEDULE

- A. Submit in writing with the initial construction schedule.
- B. The submittals schedule may be incorporated into the construction schedule if clearly identified.

01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION

- C. Identify submittals to be made.
- D. Show date for submission and date by which Designer should respond, allowing sufficient time for review. Designer may require revision of the submittals schedule if times allotted for review are insufficient.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for submittals required for performance of the work, including the following:
 - 1. Contractor's construction schedule.
 - 2. Submittal schedule.
 - 3. Shop Drawings.
 - 4. Product Data.
 - 5. Samples.
- B. Administrative Submittals: Refer to other Division 01 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:
 - 1. Permits.
 - 2. Applications for Payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of subcontractors.
- C. With mutual agreement of the Contractor and Architect, submittals may be processed electronically. If so, the same basic principals established herein shall be followed with the electronic submittal process. The details of said process shall be developed prior to beginning transmittal of the submittal documents for review.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Coordination Drawings show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or to function as intended.
 - 1. Preparation of Coordination Drawings is specified in Division 01 Section "Coordination" and may include components previously shown in detail on Shop Drawings or Product Data.
- B. Field samples are full-size physical examples erected on-site to illustrate finishes, coatings, or finish materials. Field samples are used to establish the standard by which the work will be judged.
- C. Mockups are full-size assemblies for review of construction, coordination, testing, or operation; they are not samples.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate 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 all related submittals are received.
 3. Processing: To avoid the need to delay installation as a result of the time required to process submittals, allow sufficient time for submittal review, including time for resubmittals.
 - a. Allow 2 weeks for initial review. Allow additional time if the Architect must delay processing to permit coordination with subsequent submittals.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. Allow 2 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 by 5 inches (100 by 125 mm) 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 the label for processing and recording action taken.
 - a. Project name.
 - b. Date.
 - c. Name and address of the Architect.
 - d. Name and address of the Contractor.
 - e. Name and address of the subcontractor.
 - f. Name and address of the supplier.
 - g. Name of the manufacturer
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Architect using a transmittal form. The Architect will not accept submittals received from sources other than the Contractor.
 1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 30 days after the date established for "Commencement of the Work."
 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the work as indicated in the "Schedule of Values."

2. Within each time bar, indicate estimated completion percentage in 10 percent increments. As work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 4. Secure time commitments for performing critical elements of the work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the work.
 5. Coordinate the Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittal Schedule, progress reports, payment requests, and other schedules.
 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Phasing: On the schedule, show how requirements for phased completion to permit work by separate Contractors and partial occupancy by the Owner affect the sequence of work.
- C. Work Stages: Indicate important stages of construction for each major portion of the work, including submittal review, testing, and installation.
- D. Area Separations: Provide a separate time bar to identify each major construction area for each major portion of the work. Indicate where each element in an area must be sequenced or integrated with other activities.
- E. Cost Correlation: At the head of the schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of Work performed as of the dates used for preparation of payment requests.
1. Refer to Division 01 Section "Applications for Payment" for cost reporting and payment procedures.
- F. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the project meeting room and temporary field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- G. Schedule Updating: Revise the schedule after each meeting, event, or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.
- 1.6 SUBMITTAL SCHEDULE
- A. After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule.
1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.
 2. Prepare the schedule in chronological order. Provide the following information:
 - a. Scheduled date for the first submittal.
 - b. Related Section number.
 - c. Submittal category (Shop Drawings, Product Data, or Samples).
 - d. Name of the subcontractor.
 - e. Description of the part of the Work covered.
 - f. Scheduled date for resubmittal.
 - g. Scheduled date for the Architect's final release or approval.

- B. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.
 - 1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the work and are no longer involved in construction activities.
- C. Schedule Updating: Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.7 SHOP DRAWINGS

- A. Submit newly prepared information drawn accurately to 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 a Shop Drawing.
- 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 by sheet and detail number.
 - 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
 - 7. Final Submittal: Submit 3 blue- or black-line prints; submit 5 prints where required for maintenance manuals. The Architect will retain 2 prints and return the remainder.
 - 8. Final Submittal: Submit quantity of documents needed by contractor plus one (1) for record documents and the Architect will retain 2 prints and return the remainder.
 - a. One of the prints returned shall be marked up and maintained as a "Record Document."
 - 9. Do not use Shop Drawings without an appropriate final stamp indicating action taken.
 - 10. Provide Shop Drawings in PDF or other electronic format.

1.8 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.
 - 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products that are not required, mark copies to indicate the applicable information. Include the following information:
 - a. Manufacturer's printed recommendations.
 - b. Compliance with 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 quantity of documents needed by contractor plus one (1) for record documents and the Architect will retain two (2) prints and return the remainder.
 - a. One of the prints returned shall be marked up and maintained as a "Record Document".

4. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until a copy of Product Data is in the Installer's possession.
 - b. Do not permit use of unmarked copies of Product Data in connection with construction.

1.9 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 or display Samples in the manner to facilitate review of qualities indicated. Prepare Samples to match the Architect's sample. Include the following:
 - a. Specification Section number and reference.
 - b. Generic description of the Sample.
 - c. Sample source.
 - d. Product name or name of the manufacturer.
 - e. Compliance with recognized standards.
 - f. Availability and delivery time.
 2. Submit Samples for review of size, kind, color, pattern, and texture. Submit Samples for a final check of these characteristics with other elements and 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 characteristic is inherent in the material or product represented, submit at least 3 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.
 - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
 - d. Samples not incorporated into the work, or otherwise designated as the Owner's property, are the property of the Contractor and shall be removed from the site prior to Substantial Completion.
 3. Maintain sets of Samples, as returned, at the Project Site, for quality comparisons throughout the course of construction.
 - a. Unless noncompliance with Contract Document provisions is observed, the submittal may serve as the final submittal.
 - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the work. Show distribution on transmittal forms.
 1. Field samples are full-size examples erected on-site to illustrate finishes, coatings, or finish materials and to establish the project standard.
 - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.10 QUALITY ASSURANCE SUBMITTALS

- A. Submit quality-control submittals, including design data, certifications, manufacturer's instructions, manufacturer's field reports, and other quality-control submittals as required under other Sections of the Specifications.
- B. Certifications: Where other Sections of the Specifications require certification that a product, material, or installation complies with specified requirements, submit a notarized certification from the manufacturer certifying compliance with specified requirements.
 - 1. Signature: Certification shall be signed by an officer of the manufacturer or other individual authorized to sign documents on behalf of the company.
- C. Inspection and Test Reports: Requirements for submittal of inspection and test reports from independent testing agencies are specified in Division 01 Section "Quality Control."

1.11 ARCHITECT'S ACTION

- A. Except for submittals for the record or information, where action and return is required, the Architect will review each submittal, mark to indicate action taken, and return promptly.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, action stamp. The Architect will mark the stamp appropriately to indicate the action taken, as follows:
 - 1. Final Unrestricted Release: When the Architect marks a submittal "Reviewed," the work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.
 - 2. Final-But-Restricted Release: When the Architect marks a submittal "Furnish as Corrected," 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 payment depends on that compliance.
 - 3. Returned for Resubmittal: When the Architect marks a submittal "Revise and Resubmit," do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.
 - 4. Rejection of Submittal: When the Architect marks a submittal, "Rejected", do not proceed with work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Prepare new submittal and submit to the Architect for review.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

01 41 15 – BASIC REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 APPLICABLE CODES, RULES, STANDARDS, REGULATIONS, AND LAWS

- A. Comply with all applicable codes, standards, regulations and laws.
- B. The following is a list of major codes that may govern the project. It is not to be considered all-inclusive of codes and regulations that may apply and current revisions and editions must be confirmed.
 - 1. Currently adopted codes of the Tennessee Department of Commerce and Insurance, State Fire Marshal's Office. Refer to the Codes Enforcement section of the Office's web site for further information which may include, but is not limited to the following.
 - a. building codes
 - b. fuel gas codes
 - c. mechanical codes
 - d. plumbing codes
 - e. property maintenance codes
 - f. fire codes
 - g. energy conservation codes
 - h. existing building codes
 - i. fire protection and life safety codes
 - 2. Current rules of the Tennessee Department of Commerce and Insurance, Division of Fire Prevention. Refer to the Division's web site for further information which may include, but is not limited to the following.
 - a. electrical installation rules
 - b. equitable restroom rules
 - c. construction plans and specifications review rules
 - 3. Current rules of the Tennessee Department of Labor and Workforce Development, Board of Boiler Rules. Refer to the Board's web site for further information.
 - 4. Current rules of the Tennessee Department of Labor and Workforce Development, Elevator & Amusement Device Safety Board. Refer to the Board's web site for further information.
 - 5. The Tennessee Public Building Accessibility Act, Tennessee Code Annotated (TCA) § 68-120-204 with comments as follows. Reference the web site of the Tennessee Department of Commerce and Insurance, Division of Fire Protection.
 - a. ADA Title II, State and local government facilities must follow the requirements of the 2010 standards, including both the Title II regulations at 28 CFR 35.151 and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR 35.151 prevail. The compliance date is March 15,

01 41 15 – BASIC REGULATORY REQUIREMENTS

2012, for all newly constructed or altered State and local government facilities permitted after this date.

- b. ADA Title III, Public accommodations and commercial facilities must follow the requirements of the 2010 standards, including both the Title III regulations at 28 CFR part 36, subpart D: and the 2004 ADAAG at 36 CFR part 1191, appendices B and D. In the few places where requirements between the two differ, the requirements of 28 CFR part 36, subpart D prevail. The compliance date is March 15, 2012, for all newly constructed or altered facilities permitted after this date.
 - c. Reference:
U.S. Department of Justice
Civil Rights Division,
Disability Rights Section-NYA
950 Pennsylvania Ave, NW
Washington, DC 20530
(202) 514-4609
6. The Tennessee Water Quality Act of 1977, TCA § 69-3-101. For further information refer to the web site of the Tennessee Department of Environment and Conservation, Division of Water Resources.
7. ASHRAE Standards:
- a. 62.1-2013, Ventilation for Acceptable Indoor Air Quality
 - b. 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings. A COMCHECK compliance certificate for envelope, interior lighting, exterior lighting, and mechanical must be submitted with the designers seal affixed to it.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 42 10

REFERENCE STANDARDS AND DEFINITIONS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other

1.2 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 to 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 user locate the reference. Location is not limited.
- 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 to 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, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is 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, or 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 successfully completed 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 authorities having jurisdiction.
 - 2. Trades: Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespersons of the corresponding generic name.

- 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.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Division format and CSI/CSC's "MasterFormat" numbering system.
- B. Specification Content: These Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words shall be interpreted as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.
 - 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Section 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," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of the date of the Contract Documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to the Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the Project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source and make them available on request.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards-producing organization, authorities having jurisdiction, or other entity applicable to the context of the text provision. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.

- F. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. The following abbreviations and acronyms, as referenced in the Contract Documents, mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

AA	Aluminum Association 900 19th St., NW, Suite 300 Washington, DC 20006 www.aluminum.org	(202) 862-5100
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 104 Schaumburg, IL 60173-4268 www.aamanet.org	(847) 303-5664
ABMA	American Boiler Manufacturers Association 950 North Glebe Rd., Suite 160 Arlington, VA 22203-1824 www.abma.com	(703) 522-7350
ACI	American Concrete Institute P.O. Box 9094 Farmington Hills, MI 48333-9094 www.aci-int.org	(248) 848-3700
AFPA	American Forest and Paper Association (Formerly: National Forest Products Association) 1111 19th St., NW, Suite 800 Washington, DC 20036	(800) 878-8878 (202) 463-2700
AGA	American Gas Association 1515 Wilson Blvd. Arlington, VA 22209 www.aga.com	(703) 841-8400
AHA	American Hardboard Association 1210 W. Northwest Hwy Palatine, IL 60067-1897	(847) 934-8800
AI	Asphalt Institute Research Park Dr. P.O. Box 14052 Lexington, KY 40512-4052 www.asphaltinstitute.org	(606) 288-4960
AIA	The American Institute of Architects 1735 New York Ave., NW Washington, DC 20006-5292 www.aia.org	(202) 626-7300
AISC	American Institute of Steel Construction One East Wacker Dr., Suite 3100 Chicago, IL 60601-2001	(800) 644-2400 (312) 670-2400

AISI	American Iron and Steel Institute 1101 17th St., NW Washington, DC 20036-4700 www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction 7012 S. Revere Pkwy, Suite 140 Englewood, CO 80112 www.aitc-glulam.org	(303) 792-9559
ALCA	Associated Landscape Contractors of America 12200 Sunrise Valley Dr., Suite 150 Reston, VA 20191 www.alca.org	(703) 620-6363
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875	(301) 972-1700
ANLA	American Nursery and Landscape Association (Formerly: American Association of Nurserymen) 1250 Eye St., NW, Suite 500 Washington, DC 20005	(202) 789-2900
ANSI	American National Standards Institute 11 West 42nd St., 13th Floor New York, NY 10036-8002 www.ansi.org	(212) 642-4900
APA	APA-The Engineered Wood Association (Formerly: American Plywood Association) P.O. Box 11700 Tacoma, WA 98411-0700 www.apawood.org	(206) 565-6600
APA	Architectural Precast Association P.O. Box 08669 Fort Myers, FL 33908-0669	(941) 454-6989
ARI	Air-Conditioning and Refrigeration Institute 4301 Fairfax Dr., Suite 425 Arlington, VA 22203 www.ari.org	(703) 524-8800
ARMA	Asphalt Roofing Manufacturers Association Center Park 4041 Powder Mill Rd., Suite 404 Calverton, MD 20705	(301) 231-9050
ASCE	American Society of Civil Engineers-World Headquarters 1801 Alexander Bell Dr. Reston, VA 20191-4400 www.asce.org	(800) 548-2723 (703) 295-6000

ASHRAE	American Society of Heating, Refrigerating and Air- Conditioning Engineers 1791 Tullie Circle, NE Atlanta, GA 30329-2305 www.ashrae.org	(800) 527-4723 (404) 636-8400
ASLA	American Society of Landscape Architects 4401 Connecticut Ave., NW, 5th Floor Washington, DC 20008-2369 www.asla.org	(202) 686-2752
ASME	American Society of Mechanical Engineers 345 East 47th St. New York, NY 10017-2392 www.asme.org	(800) 434-2763 (212) 705-7722
ASPA	American Sod Producers Association (See TPI)	
ASPE	American Society of Plumbing Engineers 3617 Thousand Oaks Blvd., Suite 210 Westlake Village, CA 91362-3649	(805) 495-7120
ASQC	American Society for Quality Control 611 East Wisconsin, Ave. Milwaukee, WI 53201-3005 www.asqc.org	(800) 248-1946 (414) 272-8575
ASSE	American Society of Sanitary Engineering 28901 Clemens Rd. Westlake, OH 44145 www.asse-plumbing.org	(216) 835-3040
ASTM	American Society for Testing and Materials 100 Barr Harbor Dr. West Conshohocken, PA 19428-2959 www.astm.org	(610) 832-9500
AWI	Architectural Woodwork Institute 1952 Isaac Newton Sq. Reston, VA 20190 www.awinet.org	(703) 733-0600
AWPA	American Wood Preservers' Association 3246 Fall Creek Hwy, Suite 1900 Granbury, TX 76049-7979	(817) 326-6300
AWS	American Welding Society 550 NW LeJeune Rd. Miami, FL 33126 www.amweld.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association 6666 W. Quincy Ave. Denver, CO 80235 www.awwa.org	(800) 926-7337 (303) 794-7711

BHMA	Builders Hardware Manufacturers Association 355 Lexington Ave., 17th Floor New York, NY 10017-6603	(212) 661-4261
BIA	Brick Institute of America 11490 Commerce Park Dr. Reston, VA 22091-1525 www.bia.org	(703) 620-0010
CDA	Copper Development Association, Inc. 260 Madison Ave., 16th Floor New York, NY 10016-2401 www.copper.org	(800) 232-3282 (212) 251-7200
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Rd., Suite 419 Chattanooga, TN 37421	(423) 892-0137
CLFMI	Chain Link Fence Manufacturers Institute 9891 Broken Land Pkwy, Suite 300 Columbia, MD 21046	(301) 596-2584
CPPA	Corrugated Polyethylene Pipe Association 432 N. Superior St. Toledo, OH 43604	(800) 510-2772 (419) 241-2221
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Rd. Schaumburg, IL 60173-4758 www.crsi.org	(847) 517-1200
CTI	Ceramic Tile Institute of America 12061 West Jefferson Blvd. Culver City, CA 90230-6219	(310) 574-7800
DHI	Door and Hardware Institute (Formerly: National Builders Hardware Association) 14170 Newbrook Dr. Chantilly, VA 20151-2223 www.dhi.org	(703) 222-2010
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Pkwy East, Suite O Birmingham, AL 35244	(205) 988-9870
DLPA	Decorative Laminate Products Association (Dissolved in 1995 - Now part of KCMA.)	
EIMA	EIFS Industry Members Association 402 N. Fourth St., Suite 102 Yakima, WA 98901-2470 www.eifsfacts.com	(800) 294-3462 (509) 457-3500

EJMA	Expansion Joint Manufacturers Association 25 N. Broadway Tarrytown, NY 10591-3201	(914) 332-0040
FCICA	Floor Covering Installation Contractors Association (Formerly: Floor Covering Installation Board) P.O. Box 948 Dalton, GA 30722-0948	(706) 226-5488
FGMA	Flat Glass Marketing Association (See GANA)	
FM	Factory Mutual System 1151 Boston-Providence Tnpk. P.O. Box 9102 Norwood, MA 02062-9102 www.factorymutual.com	(781) 762-4300
GA	Gypsum Association 810 First St., NE, Suite 510 Washington, DC 20002 www.usg.com	(202) 289-5440
GANA	Glass Association of North America (Formerly: Flat Glass Marketing Association) 3310 SW Harrison St. Topeka, KS 66611-2279 www.glasswebsite.com/gana	(913) 266-7013
GRI	Geosynthetic Research Institute 33rd and Lancaster Walk Rush Building, West Wing Philadelphia, PA 19104 www.gri-server.coe.drexel.edu	(215) 895-2343
HEI	Heat Exchange Institute c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/hei	(216) 241-7333
HMA	Hardwood Manufacturers Association (Formerly: Southern Hardwood Lumber Manufacturers Association) 400 Penn Center Blvd., Suite 530 Pittsburgh, PA 15235-5605 www.hardwood.org	(412) 829-0770
HPVA	Hardwood Plywood and Veneer Association 1825 Michael Farraday Dr. P.O. Box 2789 Reston, VA 22195-0789 www.hpva.org	(703) 435-2900
ICEA	Insulated Cable Engineers Association, Inc. P.O. Box 440 South Yarmouth, MA 02664	(508) 394-4424

IEEE	Institute of Electrical and Electronics Engineers 345 E. 47th St. New York, NY 10017-2394 www.ieee.org	(800) 678-4333 (212) 705-7900
IESNA	Illuminating Engineering Society of North America 120 Wall St., 17th Floor New York, NY 10005-4001 www.iesna.org	(212) 248-5000
IIDA	International Interior Design Association 341 Merchandise Mart Chicago, IL 60654-1104	(312) 467-1950
ISS	Iron and Steel Society 410 Commonwealth Dr. Warrendale, PA 15086-7512 www.issource.org	(412) 776-1535
LGSi	Light Gage Structural Institute c/o Loseke Technologies, Inc. P.O. Box 560746 The Colony, TX 75056	(972) 625-4560
LMA	Laminating Materials Association (Formerly: American Laminators Association) 116 Lawrence St. Hillsdale, NJ 07642-2730 www.lma.org	(201) 664-2700
LPI	Lightning Protection Institute 3335 N. Arlington Heights Rd., Suite E Arlington Heights, IL 60004-7700	(800) 488-6864 (847) 577-7200
MBMA	Metal Building Manufacturer's Association c/o Thomas Associates, Inc. 1300 Sumner Ave. Cleveland, OH 44115-2851 www.taol.com/mbma	(216) 241-7333
MCAA	Mechanical Contractors Association of America 1385 Piccard Dr. Rockville, MD 20850-4329	(301) 869-5800
MFMA	Maple Flooring Manufacturers Association 60 Revere Dr., Suite 500 Northbrook, IL 60062 www.maplefloor.com	(847) 480-9138
MFMA	Metal Framing Manufacturers Association (Formerly: Wood and Synthetic Flooring Institute) 401 N. Michigan Ave. Chicago, IL 60611	(312) 644-6610

MHI	Material Handling Institute (A Division of the Material Handling Industry) 8720 Red Oak Blvd., Suite 201 Charlotte, NC 28217-3992 www.mhi.org	(800) 345-1815 (704) 522-8644
MIA	Marble Institute of America 30 Eden Alley, Suite 301 Columbus, OH 43215 www.marble-institute.com	(614) 228-6194
MIA	Masonry Institute of America 2550 Beverly Blvd. Los Angeles, CA 90057 www.masonryinstitute.org	(213) 388-0472
ML/SFA	Metal Lath/Steel Framing Association (A Division of the NAAMM) 8 South Michigan Ave., Suite 1000 Chicago, IL 60603	(312) 456-5590
MRCA	Midwest Roofing Contractors Association 4840 W. 15th St., Suite 1000 Lawrence, KS 66049	(800) 879-4448 (913) 843-4888
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry 127 Park St., NE Vienna, VA 22180-4602	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufac- turers 8 South Michigan Ave., Suite 1000 Chicago, IL 60603 www.gss.net/naamm	(312) 456-5590
NAMI	National Accreditation & Management Institute, Inc. P.O. Box 366 207 S. Washington St. Berkeley Springs, WV 25411	(304) 258-5100
NAPA	National Asphalt Pavement Association NAPA Building 5100 Forbes Blvd. Lanham, MD 20706-4413	(301) 731-4748
NCAC	National Council of Acoustical Consultants P.O. Box 359 66 Morris Ave., Suite 1A Springfield, NJ 07081	(201) 564-5859
NCMA	National Concrete Masonry Association 2302 Horse Pen Rd. Herndon, VA 20171-3499 www.ncma.org	(703) 713-1900

NCSPA	National Corrugated Steel Pipe Association 1255 23rd St., NW, Suite 850 Washington, DC 20037 www.ncspa.org	(202) 452-1700
NEBB	Natural Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877-4121	(301) 977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814-5372	(301) 657-3110
NEI	National Elevator Industry 185 Bridge Plaza North, Suite 310 Fort Lee, NJ 07024	(201) 944-3211
NELMA	Northeastern Lumber Manufacturers Association 272 Tuttle Rd. P.O. Box 87A Cumberland Center, ME 04021	(207) 829-6901
NEMA	National Electrical Manufacturers Association 1300 N 17th St., Suite 1847 Rosslyn, VA 22209 www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association P.O. Box 687 106 Stone St. Morrison, CO 80465-1526 www.electricnet.com/neta	(303) 697-8441
NHLA	National Hardwood Lumber Association P.O. Box 34518 Memphis, TN 38184-0518 www.natlhardwood.org	(901) 377-1818
NIA	National Insulation Association (Formerly: National Insulation and Abatement Contractors Association) 99 Canal Center Plaza, Suite 222 Alexandria, VA 22314 www.insulation.org	(703) 683-6422
NLGA	National Lumber Grades Authority #406-First Capital Pl., 960 Quayside Dr. New Westminster, BC V3M 6G2	(604) 524-2393
NOFMA	National Oak Flooring Manufacturers Association P.O. Box 3009 Memphis, TN 38173-0009	(901) 526-5016
NPA	National Particleboard Association 18928 Premiere Ct. Gaithersburg, MD 20879-1569 www.pbmdf.com	(301) 670-0604

NPCA	National Paint and Coatings Association 1500 Rhode Island Ave., NW Washington, DC 20005-5597 www.paint.org	(202) 462-6272
NRCA	National Roofing Contractors Association O'Hare International Center 10255 W. Higgins Rd., Suite 600 Rosemont, IL 60018-5607 www.roofonline.org	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association 900 Spring St. Silver Spring, MD 20910 www.nrmca.org	(301) 587-1400
NSA	National Stone Association 1415 Elliot Pl., NW Washington, DC 20007 www.aggregates.org	(202) 342-1100
NSF	NSF International (Formerly: National Sanitation Foundation) P.O. Box 130140 Ann Arbor, MI 48113-0140 www.nsf.org	(313) 769-8010
NSSEA	National School Supply and Equipment Association 8300 Colesville Rd., Suite 250 Silver Spring, MD 20910	(800) 395-5550 (301) 495-0240
NTMA	National Terrazzo and Mosaic Association 3166 Des Plaines Ave., Suite 121 Des Plaines, IL 60018 www.ntma.com	(800) 323-9736 (847) 635-7744
NWWDA	National Wood Window and Door Association (Formerly: National Woodwork Manufacturers Association) 1400 E. Touhy Ave., G-54 Des Plaines, IL 60018 www.nwwda.org	(800) 223-2301 (847) 299-5200
PCA	Portland Cement Association 5420 Old Orchard Rd. Skokie, IL 60077-1083 www.portcement.org	(847) 966-6200
PCI	Precast/Prestressed Concrete Institute 175 W. Jackson Blvd. Chicago, IL 60604 www.pci.org	(312) 786-0300

PDCA	Painting and Decorating Contractors of America 3913 Old Lee Hwy, Suite 33-B Fairfax, VA 22030 www.pdca.com	(800) 332-7322 (703)359-0826
PDI	Plumbing and Drainage Institute 45 Bristol Dr., Suite 101 South Easton, MA 02375	(800) 589-8956 (508) 230-3516
PPFA	Plastic Pipe and Fittings Association 800 Roosevelt Rd., Building C, Suite 20 Glen Ellyn, IL 60137-5833	(630) 858-6540
PPI	Plastic Pipe Institute (The Society of the Plastics Industry, Inc.) 1801 K St., NW, Suite 600L Washington, DC 20006 www.plasticpipe.org	(202) 974-5306
RCSC	Research Council on Structural Connections Sargent & Lundy 55 E. Monroe St. Chicago, IL 60603	(312) 269-2424
RFCI	Resilient Floor Covering Institute 966 Hungerford Dr., Suite 12-B Rockville, MD 20850-1714	(301) 340-8580
RMA	Rubber Manufacturers Association 1400 K St., NW, Suite 900 Washington, DC 20005 www.rma.org	(800) 220-7620 (202) 682-4800
SDI	Steel Deck Institute P.O. Box 25 Fox River Grove, IL 60021 www.sdi.org	(847) 462-1930
SDI	Steel Door Institute 30200 Detroit Rd. Cleveland, OH 44145-1967	(216) 889-0010
SIGMA	Sealed Insulating Glass Manufacturers Association 401 N. Michigan Ave. Chicago, IL 60611-4267	(312) 644-6610
SJI	Steel Joist Institute 3127 10th Ave., North Ext. Myrtle Beach, SC 29577-6760	(803) 626-1995
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association, Inc. 4201 Lafayette Center Dr. P.O. Box 221230 Chantilly, VA 20151-1209 www.smacna.org	(703) 803-2980

SPI	Society of the Plastics Industry, Inc. Spray Polyurethane Division 1801 K St., NW, Suite 600K Washington, DC 20006 www.socplas.org	(800) 951-2001 (202)974-5200
SPRI	SPRI (Formerly: Single Ply Roofing Institute) 175 Highland Ave. Needham Heights, MA 02194-3034	(617) 444-0242
SSINA	Specialty Steel Industry of North America c/o Collier, Shannon Rill & Scott 3050 K St., NW, Suite 400 Washington, DC 20007 www.ssina.com	(800) 982-0355 (202)342-8630
SSPC	Steel Structures Painting Council 40 24th St., 6th Floor Pittsburgh, PA 15222-4643	(412) 281-2331
SWRI	Sealant, Waterproofing and Restoration Institute 2841 Main Kansas City, MO 64108	(816) 472-7974
TCA	Tile Council of America 100 Clemson Research Blvd. Anderson, SC 29625	(864) 646-8453
TPI	Truss Plate Institute (Formerly: American Sod Producers Association) 583 D'Onofrio Dr., Suite 200 Madison, WI 53719	(608) 833-5900
TPI	Turfgrass Producers International (Formerly: American Sod Producers Association) 1855-A Hicks Rd. Rolling Meadows, IL 60008	(800) 405-8873 (847) 705-9898
UL	Underwriters Laboratories Inc. 333 Pfingsten Rd. Northbrook, IL 60062 www.ul.com	(800) 704-4050 (847) 272-8800
WA	Wallcoverings Association 401 N. Michigan Ave. Chicago, IL 60611-4267	(312) 644-6610
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281-3145	(503) 639-0651
WCMA	Window Covering Manufacturers Association (Formerly: American Window Covering Manufacturers Association) 355 Lexington Ave., 17th Floor New York, NY 10017-6603	(212) 661-4261

CS	Commercial Standard (U.S. Department of Commerce) Government Printing Office Washington, DC 20402 For Commercial standards, contact: Ms. Brenda Umberger CS & PS Specialist c/o NIST Gaithersburg, MD 20899	(202) 512-1800 (301) 975-4036
DOC	Department of Commerce 14th St. and Constitution Ave., NW Washington, DC 20230	(202) 482-2000
DOT	Department of Transportation 400 Seventh St., SW Washington, DC 20590	(202) 366-4000
EPA	Environmental Protection Agency 401 M St., SW Washington, DC 20460	(202) 260-2090
FAA	Federal Aviation Administration (U.S. Department of Transportation) 800 Independence Ave., SW Washington, DC 20591	(202) 366-4000
FCC	Federal Communications Commission 1919 M St., NW Washington, DC 20554	(202) 418-0126
FDA	Food and Drug Administration 5600 Fishers Lane Rockville, MD 20857	(301) 443-1544
FHA	Federal Housing Administration (U.S. Department of Housing and Urban Development) 451 Seventh St., SW Washington, DC 20410	(202) 401-0388
FS	Federal Specification Unit (Available from GSA) 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407	(202) 619-8925
GSA	General Services Administration F St. and 18th St., NW Washington, DC 20405	(202) 708-5082
MIL	Military Standardization Documents (U.S. Department of Defense) Defense Printing Service 700 Robbins Ave., Building 4D Philadelphia, PA 19111	(215) 697-2179

NIST	National Institute of Standards and Technology (U.S. Department of Commerce) Building 101, #A1134, Rte. I-270 and Quince Orchard Rd. Gaithersburg, MD 20899	(301) 975-2000
OSHA	Occupational Safety and Health Administration (U.S. Department of Labor) 200 Constitution Ave., NW Washington, DC 20210	(202) 219-8148
PS	Product Standard of NBS (U.S. Department of Commerce) Government Printing Office Washington, DC 20402 For Product standards, contact: Ms. Brenda Umberger CS & PS Specialist c/o NIST Gaithersburg, MD 20899	(202) 512-1800 (301) 975-4036
RUS	Rural Utilities Service (Formerly: Rural Electrification Administration) (U.S. Department of Agriculture) 14th St. and Independence Ave., SW Washington, DC 20250	(202) 720-9560
TRB	Transportation Research Board, National Research Council 2101 Constitution Ave., NW Washington, DC 20418	(202) 334-2934
USDA	U.S. Department of Agriculture 14th St. and Independence Ave., SW Washington, DC 20250	(202) 720-8732
USPS	U.S. Postal Service 475 L'Enfant Plaza, SW Washington, DC 20260-0010	(202) 268-2000

1.5 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the work.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for quality-control services.
- B. Quality-control services include inspections, tests, and related actions, including reports performed by Contractor, by independent agencies, and by governing authorities. They do not include contract enforcement activities performed by Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve 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. Requirements in those Sections may also cover production of standard products.
 - 2. Specified inspections, tests, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Division 01 Section "Cutting and Patching" specifies requirements for repair and restoration of construction disturbed by inspection and testing activities.
- C. Division 01 Section "Submittals" specifies requirements for development of a schedule of required tests and inspections.

1.3 RESPONSIBILITIES

- A. Owner Responsibilities: Owner will provide soils, concrete, and structural testing. The contractor is responsible for coordination of services.
- B. Contractor Responsibilities: Unless otherwise indicated as the responsibility of another identified entity, Contractor shall provide inspections, tests, and other quality-control services specified elsewhere in the Contract Documents and required by authorities having jurisdiction. Costs for these services are included in the Contract Sum.
 - 1. Where individual Sections specifically indicate that certain inspections, tests, and other quality-control services are the Contractor's responsibility, the Contractor shall employ and pay a qualified independent testing agency to perform quality-control services. Costs for these services are included in the Contract Sum.

- C. Retesting: The Contractor is responsible for retesting where results of inspections, tests, or other quality-control services prove unsatisfactory and indicate noncompliance with Contract Document requirements, regardless of whether the original test was Contractor's responsibility.
 - 1. The cost of retesting construction, revised or replaced by the Contractor, is the Contractor's responsibility where required tests performed on original construction indicated noncompliance with Contract Document requirements.
 - D. Associated Services: 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, the following:
 - 1. Provide access to the work.
 - 2. Furnish incidental labor and facilities necessary to facilitate inspections and tests.
 - 3. Take adequate quantities of representative samples of materials that require testing or assist the agency in taking samples.
 - 4. Provide facilities for storage and curing of test samples.
 - 5. Deliver samples to testing laboratories.
 - 6. Provide the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 - 7. Provide security and protection of samples and test equipment at the Project Site.
 - E. Duties of the Testing Agency: The independent agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual Sections shall cooperate with the Architect and the Contractor in performance of the agency's duties. The testing agency shall provide qualified personnel to perform required inspections and tests.
 - 1. The agency shall notify the Architect and the Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. The agency is not authorized to release, revoke, alter, or enlarge requirements of the Contract Documents or approve or accept any portion of the work.
 - 3. The agency shall not perform any duties of the Contractor.
 - 4. The agency shall send copies of concrete test reports to the structural engineer, contractor, and Owner, as well as the Architect. Copies of the concrete test reports should be faxed to the structural engineer. Structural engineers should review concrete test reports since they, in most cases, furnish the specifications.
 - F. Coordination: Coordinate the sequence of activities to accommodate required services with a minimum of delay. Coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
- 1.4 The Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities.
- 1.5 SUBMITTALS
- A. Unless the Contractor is responsible for this service, the independent testing agency shall submit a certified written report, in duplicate, of each inspection, test, or similar service to the Architect. If the Contractor is responsible for the service, submit a certified written report, in duplicate, of each inspection, test, or similar service through the Contractor.
 - 1. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
 - 2. Report Data: Written reports of each inspection, test, or similar service include, but are not limited to, the following:
 - a. Date of issue.
 - b. Project title and number.
 - c. Name, address, and telephone number of testing agency.
 - d. Dates and locations of samples and tests or inspections.
 - e. Names of individuals making the inspection or test.
 - f. Designation of the work and test method.

- g. Identification of product and Specification Section.
- h. Complete inspection or test data.
- i. Test results and an interpretation of test results.
- j. Ambient conditions at the time of sample taking and testing.
- k. Comments or professional opinion on whether inspected or tested work complies with Contract Document requirements.
- l. Name and signature of laboratory inspector.
- m. Recommendations on retesting.

1.6 QUALITY ASSURANCE

- A. Qualifications for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, that are prequalified as complying with the American Council of Independent Laboratories' "Recommended Requirements for Independent Laboratory Qualification" and that specialize in the types of inspections and tests to be performed.
 - 1. Each independent inspection and testing agency engaged on the project shall be authorized by authorities having jurisdiction to operate in the state where the project is located.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample taking and similar services, repair damaged construction and restore substrates and finishes. Comply with Contract Document requirements for Division 01 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities, and protect repaired construction.
- C. Repair and protection is Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing, or similar services.

END OF SECTION

01 45 29 – TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.01 TESTING REQUIRED BY SECTIONS 1704 AND 1705 OF THE INTERNATIONAL BUILDING CODE

For the types of work listed under Sections 1704 and 1705 of the International Building Code, the Owner and Designer shall make arrangements for the employment and payment of services of approved agencies to perform inspections and tests.

1.02 TESTING OTHER THAN THAT REQUIRED BY SECTIONS 1704 AND 1705 OF THE INTERNATIONAL BUILDING CODE

- A. For the types of work not listed under Sections 1704 and 1705 of the International Building Code the Contractor shall employ and pay for the services of an independent testing laboratory, approved by the Designer, to perform specified services and testing. Employment of laboratory does not relieve Contractor's obligations to perform the Work.
- B. Coordinate and pay for inspections and testing required by law, ordinance, rules, regulations, orders, or approvals of public authorities as required by the Contract Documents. Furnish copies of products test reports as required.
- C. Furnish incidental labor and facilities to facilitate inspections and tests and for storage and curing of test samples.
- D. Notify the lab sufficiently before operations to allow for laboratory personnel assignment and tests scheduling.
- E. Make arrangements with lab and pay for additional samples and tests required for Contractor's convenience.
- F. Contractor employed testing laboratory qualifications.
 - 1. Meet basic requirements of ASTM E329-18 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.
 - 2. Be authorized to operate in the State of Tennessee.
- G. Contractor employed testing laboratory duties and limitations of authority:
 - 1. Perform specified inspections, sampling, materials testing and methods of construction testing and promptly submit an electronic copy of the written report of each test and inspection to the Designer.
 - 2. Laboratory is not authorized to release, revoke, alter or enlarge on requirements of the Contract Documents, approve or accept portions of the Work, or perform duties of the Contractor.

END OF SECTION

01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

Provide structurally sound and neat temporary facilities and controls as necessary for the Work. Remove promptly as each is no longer required.

1.02 TEMPORARY SHEDS

Provide watertight and secure storage sheds as necessary to hold materials to be protected while stored on the site.

1.03 TEMPORARY TOILET FACILITIES

Provide adequate temporary toilet and hand washing facilities for the use of all workers, conforming to all applicable laws, ordinances and regulations. Maintain these facilities in sanitary condition and remove upon completion of work.

1.04 TEMPORARY ENCLOSURES

- A. Provide temporary weather tight enclosures or coverings for exterior openings in the building when required to permit the use of temporary heat or to protect the finished work from damage by the elements, and when necessary for security.
- B. Provide temporary dust-tight partitions of plywood construction between the interior of new and existing buildings when work has progressed to the point where a new building is to be connected to an existing building, and in other locations as required by renovation work.

1.05 PROTECTION AND USE OF SITE

- A. Maintain any existing site fencing. Provide and maintain all other fencing, planking, bridges, bracing, shoring, sheet piling, lights, barricades, warning signs and guards as necessary for the protection of persons, streets, sidewalks, landscaping, bridges, piers, buildings and property, both on and off the site, from construction related damage.
- B. The Contractor shall confine site operations to areas designated for its use on the Drawings. The Contractor shall not interfere with the operations of surrounding buildings and shall not unreasonably clutter the site with materials or equipment.
- C. Should any damage occur, Contractor shall restore such to its original condition in a manner acceptable to the Designer.
- D. Take adequate precautions against fire. Keep flammable material at an absolute minimum, ensure that such material is properly handled and stored. Except as otherwise provided herein, do not permit fires to be built or open salamanders to be used in any part of the work.
- E. The Contractor shall be responsible for maintaining site access and paying all highway fees.
- F. The Contractor shall be responsible for repair of any damage resulting from the performance of the Work to lawns, pavement, sidewalks, curbs, streets, public utilities, and other public property. Repairs shall restore to the conditions existing prior to performance of the Work.

1.06 WATER AND SNOW CONTROL

- A. Keep the site and the project free of accumulation of water and supply, maintain

01 50 00 – TEMPORARY FACILITIES AND CONTROLS

and operate all necessary pumping and bailing equipment.

- B. Remove snow and ice as necessary for the protection and prosecution of the work, and protect the work against weather damage.

1.07 TEMPORARY HEATING

- A. Provide heat, fuel and services as necessary to protect all work and materials against injury from dampness and cold until final acceptance of all work and material in the contract. The Contractor shall provide heat as follows:
 - 1. At all times during the placing, setting and curing of concrete, provide sufficient heat to ensure the heating of the space involved to not less than 50 degrees F unless otherwise approved.
 - 2. For a period of ten days and until final acceptance of the Work or until full occupancy, provide sufficient heat to maintain a temperature of not less than 60 degrees F.
- B. Provide temporary heat by approved heating apparatus that will not endanger or damage work in place. Do not use unvented open flame heaters to heat or dry out freshly-placed concrete or plaster.
- C. In remodeled areas where the existing heating system remains intact and functioning, replace all disposable filters, clean all permanent filters and clean any duct systems from accumulation of dust and dirt.

1.08 MAINTENANCE OF TRAFFIC AND CIRCULATION

Maintain circulation of traffic, both pedestrian and vehicular, and access to all parts of the site by fire-fighting apparatus during construction.

1.09 VERMIN CONTROL

During construction, the Contractor shall keep the building and the area of the construction free of food scraps and similar organic matter that would attract vermin, and it shall take measures necessary to prevent infestation of the building. If, at the time of final inspection or within six months after occupancy, the building is found to be infested by rodents or other vermin, the Contractor shall bear the expense of extermination.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 ENVIRONMENTAL, HAZARDOUS PRODUCTS, MATERIALS, OR WASTES

- A. Do not incorporate in the Work hazardous materials or products as currently defined in the Resource Conservation and Recovery Act of 1976 (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), or Environmental Protection Agency (EPA) regulations, rules, or requirements, as amended, and/or State and local regulations, rules, or requirements that are equivalent or more stringent than the Federal regulations, rules, or requirements unless the Contract Documents give no other option than to provide a material or product that contains a hazardous material, component, constituent, waste, or leachate. In studying the Contract Documents and carrying out the Work, report at once to the Designer the discovery of a product or material that contains or is suspected to contain hazardous materials, components, constituents, waste, or leachate.
- B. Do not incorporate in the Work a product or material that contains concentrations of a constituent, component, or material above the threshold levels which would require adherence to hazardous waste disposal regulations as currently defined, or could cause a release or threat of release of a hazardous substance at a level that would require a remedial response or removal action as currently defined by RCRA, CERCLA, or the EPA.
- C. Select materials and products meeting specified requirements that comply with EPA requirements as regards hazardous materials content. In making requests for substitutions, determine that materials and products proposed for substitution comply with RCRA, CERCLA, and EPA requirements, and supply chemical constituent information and/or Material Safety Data Sheets (MSDS) with the substitution request.

1.02 TRANSPORTATION AND HANDLING

- A. Materials, products and equipment shall be properly containerized, packaged, boxed and protected to prevent damage during transportation and handling.
- B. More detailed requirements for transportation and handling are specified under the technical sections.

1.03 STORAGE AND PROTECTION

- A. Provide suitable temporary weather tight storage facilities as may be required for materials that will be damaged by storage in the open.
- B. On-site storage space is limited to the site. Acquisition of any additional off-site space is the responsibility of the Contractor.
- C. Allocate the available storage areas and coordinate their use by trades. Maintain a current list showing all items and where they are stored.
- D. Store and protect materials delivered to the site from damage. Do not use damaged material in the work.

1.04 INSTALLATION REQUIREMENTS

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the respective manufacturers, unless otherwise specified.

01 60 00 – PRODUCT REQUIREMENTS

1.05 IDENTIFYING MARKINGS

Nameplates and other identifying markings shall not be affixed on exposed surfaces of manufactured items installed in finished spaces.

1.06 PRODUCT APPROVAL STANDARDS

A. Definitions:

1. The term “product” shall include material, equipment, assembly methods, manufacturer, brand, trade name or other description.
2. References to approved equal, approved substitution, or similar terms mean that Designer approval is required.

B. Proof of Compliance: Where the specifications require conformance with Federal specification, ASTM designation, ANSI specification or other association standard, the Contractor shall, where requested or specified, submit supporting test data to substantiate compliance.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01 65 05

MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the project.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Division 01 Section "Reference Standards and Definitions" specifies the applicability of industry standards to products specified.
- C. Division 01 Section "Submittals" specifies requirements for submittal of the Contractor's Construction Schedule and the Submittal Schedule.
- D. Division 01 Section "Substitutions" specifies administrative procedures for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS

- A. 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 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 the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature that is current as of the date of the Contract Documents.
 - 2. "Materials" are products 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 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.
 - 1. When specified products are available only from sources that do not, or cannot, produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect to determine the most important product qualities before proceeding. Qualities may include attributes, such as visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources producing products that possess these qualities, to the fullest extent possible.
- B. Compatibility of Options: When the Contractor is given the option of selecting between 2 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.

1. Each prime contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other prime or separate contractors.
 2. If a dispute arises between prime contractors over concurrently selectable, but incompatible products, the Architect will determine which products shall be retained and which are incompatible and must be replaced.
- C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturers or producer's nameplates or trademarks on exposed surfaces of products that will be exposed to view in occupied spaces or on the exterior.
1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service-connected or power-operated equipment. Locate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information and other essential operating data:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
- 1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING
- A. Deliver, store, and handle products according to the 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 assure 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 an undamaged condition 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.

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, new at the time of installation.
1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and 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: The Contract Documents and governing regulations govern product selection. Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where Specifications name only a single product or manufacturer, provide the product indicated. No substitutions will be permitted.
 2. Semiproprietary Specification Requirements: Where Specifications name 2 or more products or manufacturers, provide 1 of the products indicated. No substitutions will be permitted.
 - a. Where Specifications specify products or manufacturers 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. Nonproprietary Specifications: When Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 4. 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.
 5. 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.
 - a. Manufacturer's recommendations may be contained in published product literature or by the manufacturer's certification of performance.
 6. Compliance with Standards, Codes, and Regulations: Where Specifications only require compliance with an imposed code, standard, or regulation, select a product that complies with the standards, codes, or regulations specified.
 7. 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 complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category.
 8. 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.
 9. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division 1 for allowances that control product selection and for procedures required for processing such selections.

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

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

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

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 01 Specification Sections, apply to this Section.
- B. Division 01 Section "Coordination" for procedures for coordinating cutting and patching with other construction activities.
- C. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
 - 1. Requirements of this Section apply to mechanical and electrical installations. Refer to Division 23 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

1.3 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
 - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:
 - a. Foundation construction.
 - b. Bearing and retaining walls.
 - c. Structural concrete.
 - d. Structural steel.
 - e. Lintels.
 - f. Timber and primary wood framing.
 - g. Structural decking.
 - h. Stair systems.
 - i. Miscellaneous structural metals.
 - j. Exterior curtain-wall construction.
 - k. Equipment supports.
 - l. Piping, ductwork, vessels, and equipment.
 - m. Structural systems of special construction in Division 13 Sections.
- B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
 - 1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
 - a. Primary operational systems and equipment.
 - b. Air or smoke barriers.
 - c. Water, moisture, or vapor barriers.
 - d. Membranes and flashings.
 - e. Fire protection systems.
 - f. Noise and vibration control elements and systems.
 - g. Control systems.
 - h. Communication systems.
 - i. Conveying systems.

- j. Electrical wiring systems.
 - k. Operating systems of special construction in Division 13 Sections.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.
- 1. If possible retain the original Installer or fabricator to cut and patch the exposed Work listed below. If it is impossible to engage the original Installer or fabricator, engage another recognized experienced and specialized firm.
 - a. Processed concrete finishes.
 - b. Ornamental metal.
 - c. Matched-veneer woodwork.
 - d. Firestopping.
 - e. Exterior finish system
 - f. Window wall system.
 - g. Acoustical ceilings.
 - h. Finished wood flooring.
 - i. Carpeting.
 - j. Wall covering.
 - k. HVAC enclosures, cabinets, or covers.

1.4 WARRANTY

- A. Existing Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required or existing.

PART 2 PRODUCTS

2.1 MATERIALS, GENERAL

- A. Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible if identical materials are unavailable or cannot be used. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 EXECUTION

3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
 - 1. Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the project that might be exposed during cutting and patching operations.

- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Avoid cutting existing pipe, conduit, or ductwork serving the building but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
 - 1. In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
 - 4. Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
 - 5. Where services are required to be removed, relocated, or abandoned, by-pass utility services, such as pipe or conduit, before cutting. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
 - 1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
 - 2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Where removing walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.
 - 4. Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION

01 77 70 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 PRE-CLOSEOUT SUBMITTALS

- A. Submit required tabulations when Work reaches seventy-five percent completion; however, regardless of percent completion, submit not later than 30 days prior to the scheduled date on which Substantial Completion is required.
- B. Submit tabulations of the following.
 - 1. Equipment and systems for which the specifications require demonstrations or training, indicating relevant specification sections, scheduled time and place for demonstration and training sessions, and intended audience. Adjust schedule if instructed by Designer to do so.
 - 2. Equipment and systems for which operating and maintenance data are required in the Operating and Maintenance Data Binders and related documents are required in the Project Data Binders.
 - 3. Spare parts and extra materials required, indicating the relevant specification sections, and the appropriate party to whom the items are to be delivered.

1.02 REQUEST FOR CLOSEOUT INSPECTION

- A. Substantial Completion: When Contractor considers Work substantially complete, Contractor shall submit the following to Designer.
 - 1. Written assertion that Work is Substantially Complete
 - 2. A list of items to be completed or corrected and dates scheduled for completion or correction of each item
 - 3. Certification that orientation and training for facility maintenance personnel is complete or written assertion that such orientation and training will be certified prior to inspection
 - 4. Written assertion that Operating & Maintenance Data Binders are complete and available or will be prior to inspection
 - 5. When a Use and Occupancy Permit applies, a copy of the final approval(s), or written assertion that they will be complete and available prior to inspection
 - 6. A draft of the application for payment corresponding to the Substantial Completion, with written assertion that an application for payment will be ready and submitted at the inspection
 - 7. When there is Commissioning, written assertion that Commissioning requirements have been completed or will be prior to inspection
 - 8. When there is a storm water permit, written statement of the status of final stabilization required under the Storm Water Pollution Prevention Plan (SWPPP) for the TDEC Construction General Permit (CGP) Notice of Termination (NOT).
- B. Final Inspection: When Contractor considers Work complete, Contractor shall submit the following to Designer.
 - 1. Certification that a qualified person authorized by Contractor has reviewed the Contract Documents and inspected the Work
 - 2. Written assertion that the Work is complete and in accordance with Contract Documents and ready for Final Inspection

01 77 70 – CLOSEOUT PROCEDURES

3. Written assertion that additional materials necessary to augment the Operating & Maintenance Data Binders with instructions for adding these to the Binders, or full replacement Binders, are complete and available or will be prior to inspection
 4. Written assertion that Project Data Binders and Construction Record Documents are complete and available or will be prior to inspection
 5. An application for final payment
- C. Upon receipt of an appropriate request for inspection, Designer will schedule an inspection meeting with Contractor, and Owner's representatives to determine the status of completion.

1.03 RESULTS OF CLOSEOUT INSPECTIONS

- A. Should the Designer determine that Work is not complete to the degree asserted by Contractor, Designer will promptly notify Contractor in writing stating the deficiencies. Contractor shall take immediate steps to remedy deficiencies and make a request for Re-Inspection.
- B. Substantial Completion: Designer will prepare a Certificate of Substantial Completion accompanied by a list of items to be completed or corrected, and will submit Certificate to Contractor and to Owner for signature with an accounting of Liquidated Damages due, when Designer verifies the following.
1. Work is Substantially Complete based on an inspection conducted pursuant to an appropriate request for Closeout inspection
 2. Orientation and training for facility maintenance personnel is complete
 3. Operating & Maintenance Data Binders are complete and have been delivered to the Owner
- C. Final Inspection: Designer will certify that the Work is Complete, and will initiate Final Adjustments, when Designer verifies the following.
1. Work is complete in accordance with Contract Documents based on an inspection conducted pursuant to an appropriate request for Closeout inspection
 2. Orientation and training for facility maintenance personnel is complete
 3. Additional materials necessary to augment the Operating & Maintenance Data Binders with instructions for adding these to the Binders, or full replacement Binders, are complete and have been delivered to the Owner
 4. Project Data Binders and Construction Record Documents are complete and have been delivered to the Designer.

1.04 RE-INSPECTION FEES:

If the Work fails a Closeout inspection, and a subsequent inspection is requested and conducted based on Contractor assertion of the same stage of completion, Owner will compensate Designer for performing such re-inspection as additional services, and deduct the amount of such compensation from the Contract Sum by appropriate modification.

1.05 FINAL ADJUSTMENTS

- A. When Designer has certified that the Work is complete, Designer will determine whether modification is needed to reflect appropriate adjustments to Contract Sum

01 77 70 – CLOSEOUT PROCEDURES

which were not previously effected. If such modification is needed, Designer shall assist the Owner in its preparation and deliver it to Contractor, who in the case of a change order, shall sign and return it to Designer.

- B. When Designer has certified that the Work and needed modifications to the Contract are complete, and if necessary, Designer will instruct Contractor to submit a revised final application for payment.

1.06 ONE-YEAR CORRECTIVE INSPECTION

- A. An inspection will be scheduled and conducted at project site prior to one year from date Substantial Completion was achieved, but as close to the end of that year as is reasonably possible.
- B. The inspection will be attended by at least one representative each of Owner, Designer, and Contractor.
- C. The inspection will confirm non-conforming items previously identified for correction by the Owner, and whether corrections have been completed or are still outstanding, and is intended to be an opportunity for Contractor to become aware of any outstanding corrections needed.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 78 01 – CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 DATA BINDERS

- A. Provide two complete sets on paper in three ring binders and a complete set in PDF format. Identify project and type of data on face and saddle.
- B. Provide information required by Contract Documents, including:
 - 1. Cover sheet giving complete project title and number, Contractor's name, address, phone number, superintendent's name, and related information.
 - 2. Table of Contents identifying material in Binder, and identifying missing materials to be added later or certifying completeness of Binder.
- C. Operating & Maintenance Data Binders
 - 1. Provide Product Data. Include: manufacturer; model number; names, addresses, & telephone numbers of suppliers, installers, & servicers; related information for repair, renovation, or additions.
 - 2. Provide Operating and Maintenance Data, including: instructions and schedules for proper operation, maintenance, servicing, and lubrication with manufacturer's parts list, illustrations, assembly drawings, maintenance diagrams, and list of recommended lubricants and cleaning agents; as-installed control diagrams and coordination drawings with color coded piping and wiring diagrams; valve tag charts with numbers, locations, and functions; panel board circuit directories; and, list of materials and parts furnished for Owner. Review brochures and manufacturer's standard printed information for data pertaining to models other than those actually provided, and mark to clearly omit inapplicable information and identify units actually installed.
 - 3. If Commissioning applies, provide Commissioning functional performance test certifications and data. If separate binders of this information have not been submitted already, provide a third copy in a separate binder.
 - 4. If a SWPPP applies, provide a section into which the Designer can add the Storm Water Operation & Maintenance Plan.
- D. Project Data Binders
 - 1. On the form exhibited as Section 01 78 88, provide required information for general contractor and all subcontractors and major material suppliers.
 - 2. Provide a copy of the Certificate of Substantial Completion.
 - 3. Provide a copy of the State Fire Marshal's Certificate of Occupancy, and other Use and Occupancy Permits, Certificate(s) of Inspection, or letter(s) of acceptance from governing authorities as apply.
 - 4. Provide guarantees, warranties, bonds, certifications, maintenance agreements, service contracts, and related documents, including beginning date, duration, information about instances which might affect validity, and proper procedure in case of failure.
 - 5. If a SWPPP applies, provide the twice-weekly inspection reports and site audit reports.

01 78 01 – CLOSEOUT SUBMITTALS

1.02 CONSTRUCTION RECORD DOCUMENTS

Keep the record copy of Contract Documents required by the Conditions in good condition and in the course of the Work, legibly mark these to record actual conditions of Work, including: location, depth, and identification of new and existing underground items, utilities, valves, tap points, equipment, service access, test points, and related features; field changes in dimensions and detail; changes by addenda or Modification; and, description and details of features for maintenance, service, replacement, or expansion of the Work.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 78 25 – DATA BINDER RECEIPT

PART 1 - GENERAL

1.01 CONTRACTOR PREPARATION AND USE OF THIS FORM

A. Use this form or a reasonable facsimile to verify delivery of Data Binders. Fill in the identifying information following this paragraph, then use the prepared form as a receipt, for signature by the person to whom Data Binders are delivered. Provide a copy of the receipt with the Application for Payment.

1. For the Application for Payment commensurate with Substantial Completion, provide a copy indicating delivery of Operating and Maintenance Data Binders.
2. For the Application for Payment commensurate with Final Completion, provide a copy indicating delivery of Project Data Binders.

B. Identifying Information:

1. For the Work:

Project Name: _____

Institution: _____

Location: _____

SBC No.: _____

2. For the Data Binder(s), mark only one of the boxes below:

☐	Only Operating & Maintenance Data Binder (due at substantial completion inspection)
☐	Only Project Data Binder (due at final inspection)
☐	Both Data Binders

1.02 RECIPIENT SIGNATURE

A. By signature below, recipient acknowledges receipt of the Data Binder identified above, but does not certify the completeness or correctness of the Data Binder.

Recipient Signature:

Recipient's name and title or
affiliation with Owner or Designer

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

01 78 88 – REPORT OF SUBCONTRACTORS AND SUPPLIERS

PART 1 - GENERAL

1.01 REQUIREMENTS

Submit required reports of subcontractors and suppliers on forms similar to the example herein or on forms with equivalent content and detail.

1.02 EXAMPLE REPORT

REPORT OF SUBCONTRACTORS AND SUPPLIERS			
Project:		SBC No.	Report Date:
General Contractor Name, Address, Phone, and Principal Contact:			General Contractor Diversity-Owned? If "Yes", provide classification and certifying agency. ___ Yes ___ No
Work of Subcontractor or Major Material Supplied and Dollar Value	Firm Name and Address	Principal Contact and Phone Number	Diversity-Owned Business? If "Yes", provide classification and certifying agency. ___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No
			___ Yes ___ No

Continue report as required on additional pages. Page ___ of ___.

END OF SECTION

SECTION 02 41 19
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Demolition and removal of selected portions of building or structure.
- B. Demolition and removal of selected site elements.
- C. Salvage of existing items to be reused or recycled.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 011100 "Summary of Work" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.

1.3 DEFINITIONS

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

1.4 MATERIALS OWNERSHIP

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

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference:
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Engineering Survey: Submit engineering survey of condition of building.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's and other tenants' on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of elevator and stairs.
 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- D. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces that might be misconstrued as damage caused by demolition operations. Comply with Section 013200 "Construction Progress Documentation." Submit before Work begins.
- E. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

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

1.8 QUALITY ASSURANCE

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

1.9 FIELD CONDITIONS

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

- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 COORDINATION

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

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
 - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.
- D. Steel Tendons: Locate tensioned steel tendons and include recommendations for de-tensioning.
- E. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- F. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. Arrange to shut off utilities with utility companies.
 - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain fire watch during and for at least 2 hours after flame-cutting operations.

6. Maintain adequate ventilation when using cutting torches.
 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 10. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
- 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS
- A. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."
- 3.6 DISPOSAL OF DEMOLISHED MATERIALS
- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.7 CLEANING

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

END OF SECTION

SECTION 08 83 00

MIRRORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Glass mirrors.

1.2 REFERENCES

- A. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2004.
- B. GANA (TIPS) - Mirrors Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors; National Association of Mirror Manufacturers; 2004 (<http://www.mirrorlink.org/members/technical.htm>).

1.3 SUBMITTALS

- A. See Division 01 - Administrative Requirements, for submittal procedures.
- B. Product Data on Mirror Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
- C. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA Glazing Manual for glazing installation methods.
- B. Fabricate, store, transport, receive, install, and clean mirrors in accordance with recommendations of GANA (TIPS) "Mirrors Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Mirror Glass - General: Select materials and/or provide supports as required to limit mirrored glass deflection to 1/200 or flexure limit of glass with full recovery of glazing materials, whichever is less.
- B. Mirror Glass: Clear float type with copper and silver coating, organic overcoating, arrised edges, 6 mm thick minimum.
 - 1. Sizes noted on Drawings.

2.2 GLAZING ACCESSORIES

- A. Mirror Attachment Accessories: Stainless steel clips.

PART 3 EXECUTION

3.1 INSTALLATION - GENERAL

- A. Do not begin installation until substrates have been properly prepared. If the substrate preparation is not satisfactory, it is the responsibility of the installer to notify the general contractor of unsatisfactory preparation. The substrate is to be rectified and acceptable prior to proceeding with installation.
- B. Install mirrors in accordance with GANA & ADA recommendations and requirements.
- C. Set mirrors plumb and level, free of optical distortion.
- D. Set mirrors with edge clearance free of surrounding construction including countertops or backsplashes.
- E. Frameless Mirrors: Set mirrors with clips. Anchor rigidly to wall construction.

3.2 PROTECTION AND CLEANING

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste.
- B. Cleaning: GC to utilize a soft lint-free cotton cloth shall be used to apply the non-abrasive liquid household cleaner.
- C. Slightly scratched surfaces shall be restored by applying a carnauba wax and polishing with a soft cloth.
- D. Protect installed products until completion of project.
- E. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 09 29 00

GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section Includes:
- B. Interior gypsum board.
- C. Texture finishes.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 093013 "Ceramic Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Gypsum wallboard.
 - 2. Gypsum board, Type X.
 - 3. Gypsum ceiling board.
 - 4. Skim-coated gypsum board.
 - 5. Water-resistant gypsum backing board.
 - 6. Acoustical sealant.
 - 7. Textured finishes.
- B. Samples: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.
 - 2. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.
- C. Samples for Initial Selection: For each type of trim accessory and textured finish indicated.
- D. Samples for Verification: For the following products:
 - 1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.
 - 2. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E90 and classified according to ASTM E413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C1396/C1396M.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. CertainTeed Gypsum.
 - d. Continental Building Products, LLC.
 - e. Georgia-Pacific Gypsum LLC.
 - f. National Gypsum Company.
 - g. PABCO Gypsum.
 - h. USG Corporation.
 - 2. Thickness: 1/2 inch (12.7 mm).
 - 3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
- B. Gypsum Board, Type X: ASTM C1396/C1396M.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. CertainTeed Gypsum.
 - d. Continental Building Products, LLC.
 - e. Georgia-Pacific Gypsum LLC.
 - f. National Gypsum Company.
 - g. PABCO Gypsum.
 - h. USG Corporation.
 - 2. Thickness: 5/8 inch (15.9 mm).
 - 3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

- C. Gypsum Ceiling Board: ASTM C1396/C1396M.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. CertainTeed Gypsum.
 - d. Continental Building Products, LLC.
 - e. Georgia-Pacific Gypsum LLC.
 - f. National Gypsum Company.
 - g. PABCO Gypsum.
 - h. USG Corporation.
 - 2. Thickness: 1/2 inch (12.7 mm).
 - 3. Long Edges: Tapered.

- D. Mold-Resistant Gypsum Board: ASTM C1396/C1396M. With moisture- and mold-resistant core and paper surfaces.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. CertainTeed Gypsum.
 - d. Continental Building Products, LLC.
 - e. Georgia-Pacific Gypsum LLC.
 - f. National Gypsum Company.
 - g. PABCO Gypsum.
 - h. USG Corporation.
 - 2. Core: 5/8 inch (15.9 mm), Type X.
 - 3. Long Edges: Tapered.
 - 4. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

- E. Skim-Coated Gypsum Board: ASTM C1396/C1396M. Manufactured with a factory-applied skim coat.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Continental Building Products, LLC.
 - 2. Core: 5/8 inch (15.9 mm), Type X.
 - 3. Long Edges: Tapered.

2.4 TILE BACKING PANELS

- A. Water-Resistant Gypsum Backing Board: ASTM C1396/C1396M, with manufacturer's standard edges.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Gypsum.
 - b. CertainTeed Corporation.
 - c. CertainTeed Gypsum.
 - d. Continental Building Products, LLC.
 - e. Georgia-Pacific Gypsum LLC.
 - f. PABCO Gypsum.
 - g. USG Corporation.
 - 2. Core: 5/8 inch (15.9 mm), Type X

2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet

2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.
 - h. Base-of-Wall Galvanized Moisture Barrier Trim: Galvanized-steel sheet, 2 inches (50 mm) high.
 - 1) Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a) VersaDry, LLC.
 - i. Base-of-Wall PVC Moisture Barrier Trim: Extruded PVC, [1/2 inch (12.7 mm)] [1-3/4 inch (44 mm)] [3-1/2 inch (89 mm)] high.
 - 1) Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a) Waterguard.
- B. Exterior Trim: ASTM C1047.
 1. Material: Hot-dip galvanized-steel sheet, plastic, or rolled zinc
 2. Shapes:
 - a. Cornerbead.
 - b. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - c. Expansion (Control) Joint: One-piece, rolled zinc with V-shaped slot and removable strip covering slot opening.
- C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Flannery, Inc.
 - b. Fry Reglet Corporation.
 - c. Gordon, Inc.
 - d. Pittcon Industries.
 - e. Tamlyn.
 2. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B221 (ASTM B221M), Alloy 6063-T5.
 3. Finish: Class II anodic finishes and factory-painted, baked-enamel finishes.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper.
 2. Exterior Gypsum Soffit Board: Paper.
 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 4. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. Prefilling: At open joints beveled panel edges, and damaged surface areas, use setting-type taping compound.
 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 4. Finish Coat: For third coat, use drying-type, all-purpose compound.

5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound high-build interior coating product designed for application by airless sprayer.
- D. Joint Compound for Exterior Applications:
 1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
 2. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.
 - E. Joint Compound for Tile Backing Panels:
 1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.
 2. Cementitious Backer Units: As recommended by backer unit manufacturer.
 3. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.
- 2.7 AUXILIARY MATERIALS
- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
 - B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
 - C. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
 - D. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- 2.8 TEXTURE FINISHES
- A. Primer: As recommended by textured finish manufacturer.
 - B. Polystyrene Aggregate Ceiling Finish: Water-based, job-mixed, polystyrene aggregate finish with flame-spread and smoke-developed indexes of not more than 25 when tested according to ASTM E84.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Georgia-Pacific Gypsum LLC.
 - b. National Gypsum Company.
 - c. USG Corporation.
 2. Texture: Fine
 - C. Aggregate Finish: Water-based, job-mixed, aggregated, drying-type texture finish for spray application.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed Corporation.
 - b. Georgia-Pacific Gypsum LLC.
 - c. National Gypsum Company.
 - d. USG Corporation.
 2. Texture: Light spatter

- D. Non-Aggregate Finish: Premixed, vinyl texture finish for spray application.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed Corporation.
 - b. National Gypsum Company.
 - c. USG Corporation.
 - 2. Texture: Spatter
- E. Acoustical Finish: Water-based, chemical-setting or drying-type, job-mixed texture finish for spray application.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. International Cellulose Corp.
 - b. Monoglass Incorporated.
 - c. USG Corporation.
 - 2. Application Thickness: 1/2 inch (12.7 mm).
 - 3. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
 - 4. NRC: 0.55 according to ASTM C423.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.

- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- K. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: As indicated on Drawings
 - 2. Type X: Where required for fire-resistance-rated assembly
 - 3. Ceiling Type: Ceiling surfaces.
 - 4. Mold-Resistant Type: As indicated on Drawings
 - 5. Skim-Coated Type: As indicated on Drawings
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
 - 3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 - 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
3. On Z-shaped furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
4. Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners.

- D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

3.4 INSTALLATION OF TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Backing Panels: Comply with manufacturer's written installation instructions and install at locations indicated to receive tile. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.
- B. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.
- C. Water-Resistant Backing Board: Install where indicated with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.
- D. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLATION OF TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints according to ASTM C840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners.
 2. Bullnose Bead: Use at outside corners
 3. LC-Bead: Use at exposed panel edges.
 4. L-Bead: Use where indicated.
 5. U-Bead: Use at exposed panel edges.
 6. Curved-Edge Cornerbead: Use at curved openings.
- D. Exterior Trim: Install in the following locations:
 1. Cornerbead: Use at outside corners.
 2. LC-Bead: Use at exposed panel edges.

- E. Aluminum Trim: Install in locations indicated on Drawings.

3.6 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 2: Panels that are substrate for tile
 - 3. Level 3: Where indicated on Drawings.
 - 4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
- E. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.
- F. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.
- G. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 INSTALLATION OF TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture matching approved mockup and] free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written instructions.

3.8 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 09 30 13

CERAMIC TILING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Pressed floor tile.
- B. Glazed wall tile.
- C. Stone thresholds.
- D. Tile backing panels.
- E. Crack isolation membrane.
- F. Metal edge strips.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Related Requirements:
 - 1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
 - 2. Section 092900 "Gypsum Board" for cementitious backer units, glass-mat, water-resistant backer board.

1.3 DEFINITIONS

- A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in its "Specifications for Installation of Ceramic Tile."
- C. Face Size: Actual tile size, excluding spacer lugs.
- D. Module Size: Actual tile size plus joint width indicated.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site
 - 1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.
 - C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.
 - D. Samples for Verification:
 - 1. Full-size units of each type and composition of tile and for each color and finish required provide full sheets of each color blend.
 - 2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least [12 inches (300 mm) square] [24 inches (610 mm) but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
 - 3. Full-size units of each type of trim and accessory for each color and finish required.
 - 4. Stone thresholds in 6-inch (150-mm) lengths.
 - 5. Metal edge strips in 6-inch (150-mm) lengths.
- 1.6 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
 - B. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.
 - C. Product Certificates: For each type of product.
 - D. Product Test Reports: For tile-setting and -grouting products[and certified porcelain tile].
- 1.7 MAINTENANCE MATERIAL SUBMITTALS
- A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.
 - 2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.
- 1.8 QUALITY ASSURANCE
- A. Installer Qualifications:
 - 1. Installer is a member of the Tile Contractors' Association of America.
 - 2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
 - B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockup of each type of floor tile installation.
 - 2. Build mockup of each type of wall tile installation.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- 1.9 DELIVERY, STORAGE, AND HANDLING
- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained, and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.

1.10 FIELD CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations for Tile: Obtain tile of each type and color or finish single source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.
 - 1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.
 - 2. Obtain crack isolation membrane, except for sheet products, from manufacturer of setting and grouting materials.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:
 - 1. Stone thresholds.
 - 2. Waterproof membrane.
 - 3. Crack isolation membrane.
 - 4. Cementitious backer units.
 - 5. Metal edge strips.

2.2 PRODUCTS, 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 TCNA installation methods specified in tile installation schedules, and other requirements specified.
- C. 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.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

2.3 TILE PRODUCTS

A. Ceramic Tile Type CT-1: Factory-mounted porcelain floor tile.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Atlas Concorde (Basis of Design).
2. Composition: Porcelain
3. Color: Storm
4. Certification: Porcelain tile certified by the Porcelain Tile Certification Agency.
5. Module Size: 12 by 24 inch
6. Thickness: per manuf.
7. Face: Pattern of design indicated, with cushion edges.
8. Surface: Slip resistant.
9. Dynamic Coefficient of Friction: Not less than 0.42.
10. Tile Color and Pattern: Match Architect's sample
11. Grout Color: As selected by Architect from manufacturer's full range.
12. If trim units do not match adjoining flat tile, copy and re-edit "Trim Units" Subparagraph below separately for trim units, deleting option.
13. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
 - a. Base Cove: Cove, module size 1 by 1 inch (25.4 by 25.4 mm)
 - b. Base Cap for Portland Cement Mortar Installations: Bead (bullnose), module size 1 by 1 inch (25.4 by 25.4 mm)
 - c. Base Cap for Thinset Mortar Installations: Surface bullnose, module size 2 by 2 inches (50.8 by 50.8 mm)
 - d. Wainscot Cap for Portland Cement Mortar Installations: Bead (bullnose), module size 1 by 1 inch (25.4 by 25.4 mm)
 - e. Wainscot Cap for Thinset Mortar Installations: Surface bullnose, module size 2 by 2 inches (50.8 by 50.8 mm).
 - f. Wainscot Cap for Flush Conditions: Regular flat tile for conditions where tile wainscot is shown flush with wall surface above it, same size as adjoining flat tile.
 - g. External Corners for Portland Cement Mortar Installations: Bead (bullnose), module size 2 by 1 inch (50.8 by 25.4 mm).
 - h. External Corners for Thinset Mortar Installations: Surface bullnose, module size 2 by 2 inches.
 - i. Internal Corners: Cove, module size 2 by 1 inch (50.8 by 25.4 mm).
 - j. Internal Corners: Field-buttet square corners. For coved base and cap, use angle pieces designed to fit with stretcher shapes.
 - k. Tapered Transition Tile: Shape designed to effect transition between thickness of tile floor and adjoining floor finishes of different thickness, tapered to provide reduction in thickness from 1/2 to 1/4 inch (12.7 to 6.4 mm) across nominal 4-inch (100-mm) dimension.

B. Ceramic Tile Type CT-2: Glazed wall tile.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Atlas Concorde – Basis of Design
2. Module Size: 12 by 24 inches
3. Color: Pebble
4. Face Size Variation: Rectified.
5. Thickness: Per manufacturer
6. Face: Pattern of design indicated, with manufacturer's standard edges.
7. Finish: Matte, clear glaze.
8. Tile Color and Pattern: As selected by Architect from manufacturer's full range
9. Grout Color: As selected by Architect from manufacturer's full range.
10. Mounting: Factory, back mounted.

11. Mounting: PregROUTED sheets of tiles are factory assembled and grouted with manufacturer's standard white silicone rubber.
12. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
 - a. Base for Thinset Mortar Installations: Straight, module size 12 by 24 inches
 - b. Wainscot Cap for Flush Conditions: Regular flat tile for conditions where tile wainscot is shown flush with wall surface above it, same size as adjoining flat tile.
 - c. External Corners for Portland Cement Mortar Installations: Bullnose shape with radius of at least 3/4 inch (19 mm) unless otherwise indicated.
 - d. External Corners for Thinset Mortar Installations: Surface bullnose, same size as adjoining flat tile.
 - e. Internal Corners: Field-butt square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.

2.4 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
 1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch (1.5 mm) above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch (12.7 mm) or less above adjacent floor surface.
- B. Marble Thresholds: ASTM C503/C503M, with a minimum abrasion resistance of [10] [12] according to ASTM C1353 or ASTM C241/C241M and with honed finish.
 1. Description: Uniform, fine- to medium-grained white stone with gray veining.
 2. Description: Match Architect's sample.

2.5 TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A118.9 or ASTM C1325, Type A, in maximum lengths available to minimize end-to-end butt joints.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - a. C-Cure.
 - b. Custom Building Products.
 - c. FinPan, Inc.
 - d. Georgia-Pacific Gypsum LLC.
 - e. USG Corporation.
 2. Thickness: As indicated.
- B. Fiber-Cement Backer Board: ASTM C1288, in maximum lengths available to minimize end-to-end butt joints.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed Corporation.
 - b. James Hardie Building Products, Inc.
 2. Thickness: indicated.

2.6 CRACK ISOLATION MEMBRANE

- A. General: Manufacturer's standard product selected from the following, that complies with ANSI A118.12 for high performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

- B. Corrugated Polyethylene: Corrugated polyethylene with dovetail-shaped corrugations and with anchoring webbing on the underside; 3/16-inch (4-mm) nominal thickness.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Schluter Systems L.P.
- C. Crack Isolation Membrane and Tile-Setting Adhesive: One-part, fluid-applied product intended for use as both a crack isolation membrane and tile-setting adhesive in a two-step process.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Boiardi Products Corporation; a QEP company.
 - b. Bostik, Inc.

2.7 SETTING MATERIALS

- A. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.
 - 1. Cleavage Membrane: Asphalt felt, ASTM D226/D226M, Type I (No. 15); or polyethylene sheeting, ASTM D4397, 4.0 mils (0.1 mm) thick.
 - 2. Reinforcing Wire Fabric: Galvanized, welded-wire fabric, 2 by 2 inches (50.8 by 50.8 mm) by 0.062-inch (1.57-mm) diameter; comply with ASTM A185/A185M and ASTM A82/A82M, except for minimum wire size.
 - 3. Expanded Metal Lath: Diamond-mesh lath complying with ASTM C847.
 - a. Base Metal and Finish for Interior Applications: Uncoated or zinc-coated (galvanized) steel sheet, with uncoated steel sheet painted after fabrication into lath.
 - b. Base Metal and Finish for Exterior Applications: Zinc-coated (galvanized) steel sheet.
 - c. Configuration over Studs and Furring: Flat.
 - d. Configuration over Solid Surfaces: Self-furring.
 - e. Weight: [2.5 lb/sq. yd. (1.4 kg/sq. m)] [3.4 lb/sq. yd. (1.8 kg/sq. m)].
 - 4. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed.
- B. Standard Dry-Set Mortar (Thinset): ANSI A118.1.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Boiardi Products Corporation; a QEP company.
 - b. Bonsal American, an Oldcastle company.
 - c. Bostik, Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. H.B. Fuller Construction Products Inc. / TEC.
 - g. Jamo Inc.
 - h. LATICRETE SUPERCAP, LLC.
 - i. MAPEI Corporation.
 - j. Siena Products; Omega.
 - k. Southern Grouts & Mortars, Inc.
 - l. Summitville Tiles, Inc.
 - 2. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.1.
- C. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.
- D. High-Performance Tile Grout: ANSI A118.7.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. ARDEX Americas.
 - b. Boiardi Products Corporation; a QEP company.
 - c. Bonsal American, an Oldcastle company.
 - d. Bostik, Inc.
 - e. C-Cure.
 - f. Custom Building Products.
 - g. H.B. Fuller Construction Products Inc. / TEC.
 - h. Jamo Inc.
 - i. LATICRETE SUPERCAP, LLC.
 - j. MAPEI Corporation.
 - k. Southern Grouts & Mortars, Inc.
 - l. Summitville Tiles, Inc.
- 2. Polymer Type: Ethylene vinyl acetate or acrylic additive, in dry, redispersible form, prepackaged with other dry ingredients.
 - 3. Polymer Type: [Acrylic resin] [or] [styrene-butadiene rubber] in liquid-latex form for addition to prepackaged dry-grout mix.

E. Grout for PregROUTED Tile Sheets: Same product used in factory to pregrout tile sheets.

2.8 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D4397, 4.0 mils (0.1 mm) thick.
- C. Metal Edge Strips: Angle or L-shaped, height to match tile and setting-bed thickness, metallic or combination of metal and PVC or neoprene base, designed specifically for flooring applications; stainless-steel, ASTM A666, 300 Series exposed-edge material.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Blanke Corporation.
 - b. Ceramic Tool Company, Inc.
 - c. Schluter Systems L.P.
- D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
- E. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bonsal American, an Oldcastle company.
 - b. Custom Building Products.
 - c. Jamo Inc.
 - d. Southern Grouts & Mortars, Inc.
 - e. Summitville Tiles, Inc.

2.9 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.

- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
 - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
 - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- B. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot (1:50) toward drains.
- C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION OF CERAMIC TILE

- A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:
 - a. Exterior tile floors.
 - b. Tile floors in wet areas.
 - c. Tile swimming pool decks.
 - d. Tile floors in laundries.
 - e. Tile floors consisting of tiles 8 by 8 inches (200 by 200 mm) or larger.

- f. Tile floors consisting of rib-backed tiles.
- B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
 - C. 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, fixtures, and other penetrations so plates, collars, or covers overlap tile.
 - D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
 - E. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.
 - F. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
 - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
 - 2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
 - 3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
 - G. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:
 - 1. Ceramic Mosaic Tile: [1/16 inch (1.6 mm)] [1/8 inch (3.2 mm)].
 - 2. Glazed Wall Tile: [1/16 inch (1.6 mm)] [1/8 inch (3.2 mm)].
 - 3. Porcelain Tile: [1/4 inch (6.4 mm)] [3/8 inch (9.5 mm)].
 - H. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
 - I. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
 - 1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
 - J. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.
 - 1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in improved modified dry-set mortar (thinset).
 - 2. Do not extend crack isolation membrane under thresholds set in standard dry-set mortar. Fill joints between such thresholds and adjoining tile set on isolation membrane with elastomeric sealant.
 - K. Metal Edge Strips: Install where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with top of tile
 - L. Floor Sealer: Apply floor sealer to grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as floor sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 INSTALLATION OF TILE BACKING PANEL

- A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.5 INSTALLATION OF WATERPROOF MEMBRANE

- A. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.
- B. Allow waterproof membrane to cure and verify by testing that it is watertight before installing tile or setting materials over it.

3.6 INSTALLATION OF CRACK ISOLATION MEMBRANE

- A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.
- B. Allow crack isolation membrane to cure before installing tile or setting materials over it.

3.7 ADJUSTING AND CLEANING

- A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove grout residue from tile as soon as possible.
 - 2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.8 PROTECTION

- A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Concrete Masonry Units (CMUs).
 - 2. Gypsum board.
 - 3. Plaster.
 - 4. Concrete.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.

- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run,] that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 2 gals. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Product Manufacturers
 - 1. Sherwin Williams
 - 2. Porter
 - 3. Benjamin Moore
 - 4. Farrell Calhoun
 - 5. PPG Architectural Finishes
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include but are not limited to products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
 - 2. Masonry (Clay and CMUs): 12 percent.
 - 3. Gypsum Board: 12 percent.
 - 4. Plaster: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Plaster Substrates: Verify that plaster is fully cured.
- E. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.
- F. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- G. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 - 1. Paint the following work where exposed in equipment rooms:
 - a. Equipment
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.

- g. Tanks that do not have factory-applied final finishes.
- h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
- 2. Paint the following work where exposed in occupied spaces:
 - a. Equipment
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Other items as directed by Architect.
- 3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. CMU Substrates:
 - 1. Latex System
 - a. Block Filler: Block filler primer, latex, interior/exterior
 - 1) B42W00150 – PI HD Block Filler By Sherwin Williams
 - b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss/eggshell
 - 1) A82W00351 – A100 EX Sa by Sherwin Williams
- B. Gypsum Board and Plaster Substrates:
 - 1. Latex over Latex Sealer System
 - a. Prime Coat: Primer sealer, latex, interior
 - b. Prime Coat: Latex, interior, matching topcoat.
 - c. Intermediate Coat: Latex, interior, matching topcoat.
 - d. Topcoat: Latex, interior,
 - 2. Latex over Alkyd Primer System (for Plaster Only)
 - a. Prime Coat: Primer sealer, alkyd, interior

- b. Intermediate Coat: Latex, interior, matching topcoat.
 - c. Topcoat: Latex, interior, flat
 - d. Topcoat: Latex, interior
- 3. Gypsum Board:
 - a. Basis of Design – Sherwin Williams
 - 1) Magnum Level Coat
 - 2) Prime Coat: B28W12600 - Promar 200 Latex Primer
 - 3) Topcoat: B20W12651 – Zero VOC ProMar 200 Latex Eggshell
- C. Concrete
 - 1. Concrete – 50.160004 – Etching solution
 - 2. 2nd Coat – 50.1000204 – Clear Shield WBCLRSLR WLK

END OF SECTION

SECTION 10 21 13.19

PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Section 102800 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.
- B. Shop Drawings: For toilet compartments.
 - 1. Include plans, elevations, sections, details, and attachment details.
 - 2. Show locations of cutouts for compartment-mounted toilet accessories.
 - 3. Show locations of centerlines of toilet fixtures.
 - 4. Show locations of floor drains.
 - 5. Show mounted items to overhead support or bracing locations.
- C. Samples for Initial Selection: For each type of toilet compartment material indicated.
 - 1. Include Samples of hardware and accessories involving material and color selection.
- D. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:
 - 1. Each type of material, color, and finish required for toilet compartments, prepared on 6-inch- (152-mm-) square Samples of same thickness and material indicated for Work.
 - 2. Each type of hardware and accessory.
- E. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of toilet compartment.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Regulatory Requirements: Comply with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Accurate Partitions Corp.; ASI Group.
 - 2. AJW Architectural Products.
 - 3. All American Metal Corp.
 - 4. American Sanitary Partition Corporation.
 - 5. Ampco Products, LLC.
 - 6. Bradley Corporation.
 - 7. Columbia Lockers; Partition Systems International of South Carolina.
 - 8. General Partitions Mfg. Corp.
 - 9. Global Partitions; ASI Group.
 - 10. Hadrian Manufacturing Inc.
 - 11. Knickerbocker Partition Corporation.
 - 12. Marlite.
 - 13. Metpar Corp.
 - 14. Scranton Products.
 - 15. Weis-Robart Partitions, Inc.
- B. Toilet-Enclosure Style: Overhead braced, Floor anchored.
- C. Entrance-Screen Style: Overhead braced, Floor anchored.
- D. Urinal-Screen Style: Wall hung.
- E. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, no-sightline system, and with homogenous color and pattern throughout thickness of material.
 - 1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
 - 2. Heat-Sink Strip: Manufacturer's standard continuous, stainless-steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
 - 3. Color and Pattern: One color and pattern in each room as selected by Architect from manufacturer's full range.
- F. Pilaster Sleeves (Caps): Manufacturer's standard design; stainless steel.
 - 1. Polymer Color and Pattern: Matching pilaster as selected by Architect from manufacturer's full range.
- G. Brackets (Fittings):
 - 1. Stirrup Type: Ear or U-brackets, stainless steel.
 - 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
 - a. Polymer Color and Pattern: as selected by Architect from manufacturer's full range.

- H. Overhead Cross Bracing for Ceiling-Hung Units: As recommended by manufacturer and fabricated from solid polymer.

2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
 1. Material: Stainless steel.
 2. Hinges: Manufacturer's standard paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, integral hinge for solid-plastic doors allowing emergency access by lifting door.
 3. Latch and Keeper: Manufacturer's standard recessed latch unit designed for emergency access and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.
 4. Coat Hook: Manufacturer's standard combination hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories.
 5. Door Bumper: Manufacturer's standard rubber-tipped bumper at out-swinging doors and entrance-screen doors.
 6. Door Pull: Manufacturer's standard unit at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible.
- B. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.
 1. Hinges: Manufacturer's minimum 0.062-inch- (1.59-mm-) thick stainless-steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees allowing emergency access by lifting door. Mount with through-bolts.
 2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
 3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
 4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors and entrance-screen doors. Mount with through-bolts.
 5. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.
- C. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.
- D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

- A. Aluminum Castings: ASTM B 26/B 26M.
- B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M).
- C. Brass Castings: ASTM B 584.
- D. Brass Extrusions: ASTM B 455.

- E. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- F. Stainless-Steel Castings: ASTM A 743/A 743M.
- G. Zamac: ASTM B 86, commercial zinc-alloy die castings.

2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.
- B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- C. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- D. Ceiling-Hung Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for connection to structural support above finished ceiling. Provide assemblies that support pilasters from structure without transmitting load to finished ceiling. Provide sleeves (caps) at tops of pilasters to conceal anchorage.
- E. Floor-and-Ceiling-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.
- F. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of posts. Provide shoes and sleeves (caps) at posts to conceal anchorage.
- G. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
 - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
 - 1. Maximum Clearances:
 - a. Pilasters and Panels: 1/2 inch (13 mm).

- b. Panels and Walls: 1 inch (25 mm).
 - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
 - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
 - 3. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.
 - a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
 - b. Align brackets at pilasters with brackets at walls.
 - B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches (44 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels and adjust so tops of doors are parallel with overhead brace when doors are in closed position.
 - C. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches (51 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust so tops of doors are level with tops of pilasters when doors are in closed position.
 - D. Ceiling-Hung Units: Secure pilasters to supporting structure and level, plumb, and tighten. Hang doors and adjust so bottoms of doors are level with bottoms of pilasters when doors are in closed position.
 - E. Floor-and-Ceiling-Anchored Units: Secure pilasters to supporting construction and level, plumb, and tighten. Hang doors and adjust so doors are level and aligned with panels when doors are in closed position.
 - F. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.
- 3.3 ADJUSTING
- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and doors in entrance screens to return doors to fully closed position.

END OF SECTION

SECTION 10 28 00

TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Bathroom accessories.
- B. Custodial accessories.

1.2 RELATED SECTIONS

- A. Section 088300 "Mirrors" for frameless mirrors.
- B. Section 093013 "Ceramic Tiling" for ceramic toilet and bath accessories.
- C. Section 10 28 00.19 "Plastic Toilet Compartments" for accessories designed for installation in detention facilities.

1.3 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
 - 3. Include electrical characteristics.
- B. Shop Drawings: For each exposed product and for each finish specified..
 - 1. Provide shop drawings for the items listed.
 - 2. Ensure shop drawings indicate mounting heights, clearances, templates and mounting details.
- C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.
 - 1. Identify locations using room designations indicated.
 - 2. Identify accessories using designations indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Sample Warranty: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For accessories to include in maintenance manuals.

1.7 WARRANTY

- A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, visible silver spoilage defects.
 - 2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED MATERIALS

- A. Owner-Furnished Materials: Soap dispensers, toilet tissue & toilet cover dispensers and paper towel dispensers.

2.2 PERFORMANCE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Structural Performance: Design accessories and fasteners to comply with the following requirements:
 - 1. Grab Bars: Installed units are able to resist 250 lbf (1112 N) concentrated load applied in any direction and at any point.

2.3 BATHROOM ACCESSORIES

- A. Source Limitations: Obtain Bathroom accessories from single source from single manufacturer.
- B. Waste Receptacle
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. ASI Group.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Bradley Corporation.
 - e. Brey-Krause Manufacturing Co.
 - f. GAMCO Specialty Accessories; a division of Bobrick.
 - g. Tubular Specialties Manufacturing, Inc.
 - 2. Mounting: Open top, Surface mounted
 - 3. Minimum Capacity: 16.5 gallons
 - 4. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin)
 - 5. Liner: Reusable vinyl liner
 - 6. Lockset: Tumbler type for waste receptacle.
- C. Grab Bar:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. Aluids; Krome USA Inc.
 - c. ASI Group.
 - d. Bobrick Washroom Equipment, Inc.
 - e. Bradley Corporation.
 - f. Brey-Krause Manufacturing Co.
 - g. GAMCO Specialty Accessories; a division of Bobrick.
 - h. Oatey.
 - i. Seachrome Corporation.

- j. Tubular Specialties Manufacturing, Inc.
 - 2. Mounting: Flanges with concealed fasteners.
 - 3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area].
 - 4. Outside Diameter: 1-1/2 inches (38 mm).
 - 5. Configuration and Length: As indicated on Drawings
- D. Sanitary-Napkin and Tampon Vendor
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. ASI Group.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Bradley Corporation.
 - e. GAMCO Specialty Accessories; a division of Bobrick.
 - f. Tubular Specialties Manufacturing, Inc.
 - 2. Mounting: Surface mounted.
 - 3. Capacity: 18 napkins
 - 4. Operation: No coin (free)
 - 5. Exposed Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
 - 6. Lockset: Tumbler type with separate lock and key for coin box.
- E. Sanitary-Napkin Disposal Unit
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. Aluids; Krome USA Inc.
 - c. ASI Group.
 - d. Bobrick Washroom Equipment, Inc.
 - e. Bradley Corporation.
 - f. Brey-Krause Manufacturing Co.
 - g. GAMCO Specialty Accessories; a division of Bobrick.
 - h. Seachrome Corporation.
 - i. Tubular Specialties Manufacturing, Inc.
 - 2. Mounting: Surface mounted.
 - 3. Door or Cover: Self-closing, disposal-opening cove
 - 4. Receptacle: Removable.
 - 5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- F. Purse Shelf >:
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. ASI Group.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Bradley Corporation.
 - e. Brey-Krause Manufacturing Co.
 - f. GAMCO Specialty Accessories; a division of Bobrick.
 - g. Tubular Specialties Manufacturing, Inc.
 - 2. Description: Hinged unit with spring-loaded shelf that automatically returns to vertical position
 - 3. Nominal Size: 15 inches (381 mm) long by 5-1/2 inches (140 mm) wide.
 - 4. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- G. Hook
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.

- b. Aluids; Krome USA Inc.
- c. ASI Group.
- d. Bobrick Washroom Equipment, Inc.
- e. Bradley Corporation.
- f. Brey-Krause Manufacturing Co.
- g. GAMCO Specialty Accessories; a division of Bobrick.
- h. Seachrome Corporation.
- i. Tubular Specialties Manufacturing, Inc.
- 2. Description: Combination door bumper and coat hook
- 3. Mounting: Concealed.
- 4. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).

H. Fixed Height Adult Changing Station

- 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Foundations Worldwide, Inc.
- 2. Description: Horizontal unit that opens by folding down from stored position and with adjustable strap.
 - a. Engineered to support minimum of 400-lb (181-kg) static load when opened.
- 3. Mounting: Surface mounted, with unit projecting not more than 4 inches (102 mm) from wall when closed.
- 4. Operation: By pneumatic shock-absorbing mechanism.
- 5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin), with replaceable insulated polystyrene tray liner and rounded plastic corners.
- 6. Liner Dispenser: Provide built-in dispenser for disposable sanitary liners.

2.4 CUSTODIAL ACCESSORIES

A. Source Limitations: Obtain [custodial accessories] [each type of custodial accessory] from single source from single manufacturer.

B. Custodial Utility Shelf

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. Aluids; Krome USA Inc.
 - c. ASI Group.
 - d. Bobrick Washroom Equipment, Inc.
 - e. Bradley Corporation.
 - f. Brey-Krause Manufacturing Co.
 - g. GAMCO Specialty Accessories; a division of Bobrick.
 - h. Tubular Specialties Manufacturing, Inc.
- 2. Description: With exposed edges turned down not less than 1/2 inch (13 mm) and supported by two triangular brackets welded to shelf underside.
- 3. Size: 36 inches (406 mm) long by 12 inches (152 mm) deep
- 4. Material and Finish: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel, ASTM A480/A480M No. 4 finish (satin).

C. Custodial Mop and Broom Holder

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AJW Architectural Products.
 - b. ASI Group.
 - c. Bobrick Washroom Equipment, Inc.
 - d. Bradley Corporation.
 - e. Brey-Krause Manufacturing Co.
 - f. GAMCO Specialty Accessories; a division of Bobrick.
 - g. Tubular Specialties Manufacturing, Inc.
- 2. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.

3. Length: 36 inches (914 mm)
4. Hooks: Four
5. Mop/Broom Holders: Three, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
 - a. Shelf: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel.
 - b. Rod: Approximately 1/4-inch- (6-mm-) diameter stainless steel.

2.5 MATERIALS

- A. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.031-inch- (0.8-mm-) minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B19, flat products; ASTM B16/B16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B30, castings.
- C. Steel Sheet: ASTM A1008/A1008M, Designation CS (cold rolled, commercial steel), 0.036-inch- (0.9-mm-) minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A653/A653M, with G60 (Z180) hot-dip zinc coating.
- E. Galvanized-Steel Mounting Devices: ASTM A153/A153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.
- G. Chrome Plating: ASTM B456, Service Condition Number SC 2 (moderate service).
- H. Mirrors: ASTM C1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.6 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories in accordance with manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 1. Remove temporary labels and protective coatings.
- B. Grab Bars: Install to comply with specified structural-performance requirements.
- C. Shower Seats: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

- B. Clean and polish exposed surfaces in accordance with manufacturer's written instructions.

END OF SECTION

SECTION 22 00 10

BASIC PLUMBING MATERIALS AND METHODS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes the following:
 - 1. Piping materials and installation instructions common to post piping systems.
 - 2. Transition fittings.
 - 3. Dielectric fittings.
 - 4. Mechanical sleeve seals.
 - 5. Sleeves.
 - 6. Escutcheons.
 - 7. Grout.
 - 8. Demolition.
 - 9. Painting and finishing.
 - 10. Supports and anchorages.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.
- F. The following are industry abbreviations for plastic materials:
 - 1. ABS: Acrylonitrile-butadiene-styrene plastic.
 - 2. CPVC: Chlorinated polyvinyl chloride plastic.
 - 3. PE: Polyethylene plastic.
 - 4. PVC: Polyvinyl chloride plastic.
- G. The following are industry abbreviations for rubber materials:
 - 1. EPDM: Ethylene-propylene-diene terpolymer rubber.
 - 2. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Transition fittings.
 - 2. Dielectric fittings.
 - 3. Mechanical sleeve seals.
 - 4. Escutcheons.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.
- B. Store plastic pipes protected from direct sunlight. Support to prevent sagging and bending.

1.6 COORDINATION

- A. Arrange for pipe spaces, chases, slots, and openings in building structure during progress of construction, to allow for installation.
- B. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- C. Coordinate requirements for access panels and doors for items requiring access that are concealed behind finished surfaces. Access panels and doors are specified in Division 08.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where subparagraph titles below introduce lists, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

2.2 PIPE, TUBE, AND FITTINGS

- A. Refer to individual Division 22 piping Sections for pipe, tube, and fitting materials and joining methods.
- B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.3 JOINING MATERIALS

- A. Refer to individual Division 22 piping Sections for special joining materials not listed below.
- B. Pipe-Flange Gasket Materials: Suitable for chemical and thermal conditions of piping system contents.
 - 1. ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.
 - a. Full-Face Type: For flat-face, Class 125, cast-iron and cast-bronze flanges
 - b. Narrow-Face Type: For raised-face, Class 250, cast-iron and steel flanges
 - 2. AWWA C110, rubber, flat face, 1/8 inch (3.2 mm) thick, unless otherwise indicated; and full-face or ring type, unless otherwise indicated.
- C. Flange Bolts and Nuts: ASME B18.2.1, carbon steel, unless otherwise indicated.

- D. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.
- E. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- F. Brazing Filler Metals: AWS A5.8, BCuP Series, copper-phosphorus alloys for general-duty brazing, unless otherwise indicated; and AWS A5.8, BAg1, silver alloy for refrigerant piping, unless otherwise indicated.
- G. Welding Filler Metals: Comply with AWS D10.12 for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.
- H. Solvent Cements for Joining Plastic Piping:
 - 1. CPVC Piping: ASTM F 493.
 - 2. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656

2.4 TRANSITION FITTINGS

- A. AWWA Transition Couplings: Same size as, and with pressure rating at least equal to and with ends compatible with, piping to be joined.
 - 1. Manufacturers:
 - a. Dresser Industries, Inc.; DMD Div.
 - b. JCM Industries.
 - 2. Underground Piping NPS 2 (DN 50) and Larger: AWWA C219, metal sleeve-type coupling.
 - 3. Aboveground Pressure Piping: Pipe fitting.
- B. Plastic-to-Metal Transition Fittings: CPVC and PVC one-piece fitting with manufacturer's Schedule 80 equivalent dimensions; one end with threaded brass insert, and one solvent-cement-joint end.
 - 1. Manufacturers:
 - a. Eslon Thermoplastics.
- C. Plastic-to-Metal Transition Unions: MSS SP-107, CPVC and PVC four-part union. Include brass end, solvent-cement-joint end, rubber O-ring, and union nut.
 - 1. Manufacturers:
 - a. NIBCO, Inc.
 - b. NIBCO, Inc.; Chemtrol Div.
- D. Flexible Transition Couplings for Underground Nonpressure Drainage Piping: ASTM C 1173 with elastomeric sleeve, ends same size as piping to be joined, and corrosion-resistant metal band on each end.
 - 1. Manufacturers:
 - a. Fernco, Inc.
 - b. Mission Rubber Company.
 - c. Plastic Oddities, Inc.

2.5 DIELECTRIC FITTINGS

- A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.
- B. Insulating Material: Suitable for system fluid, pressure, and temperature.
- C. Dielectric Unions: Factory-fabricated, union assembly, rated for minimum 250-psig (1725-kPa) working pressure at 180 deg F (82 deg C).
 - 1. Manufacturers:
 - a. Epco Sales, Inc.

- b. Hart Industries, International, Inc.
 - c. Watts Industries, Inc.; Water Products Div.
 - d. Zurn Industries, Inc.; Wilkins Div.
- D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig (1035 kPa) minimum working pressure as required to suit system pressures.
 - 1. Manufacturers:
 - a. Epco Sales, Inc.
 - b. Watts Industries, Inc.; Water Products Div.
- E. Dielectric-Flange Kits: Companion-flange assembly for field assembly. Include flanges, full-face- or ring-type neoprene or phenolic gasket, phenolic or polyethylene bolt sleeves, phenolic washers, and steel backing washers.
 - 1. Manufacturers:
 - a. Advance Products & Systems, Inc.
 - b. Pipeline Seal and Insulator, Inc.
 - 2. Separate companion flanges and steel bolts and nuts shall be rated for minimum 150 psig (1035 kPa) minimum working pressure where required to suit system pressures.
- F. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and rated for minimum 300-psig (2070-kPa) working pressure at 225 deg F (107 deg C).
 - 1. Manufacturers:
 - a. Precision Plumbing Products, Inc.
 - b. Sioux Chief Manufacturing Co., Inc.
 - c. Victaulic Co. of America.

2.6 SLEEVES

- A. Galvanized-Steel Sheet: 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint.
- B. Steel Pipe: ASTM A53, Type E, Grade B, Schedule 40, galvanized, plain ends.
- C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
 - 1. Underdeck Clamp: Clamping ring with set screws.

2.7 ESCUTCHEONS

- A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.
- B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.
- C. One-Piece, Cast-Brass Type: With set screw.
 - 1. Finish: Polished chrome-plated.
- D. Split-Casting, Cast-Brass Type: With concealed hinge and set screw.
 - 1. Finish: Polished chrome-plated.

2.8 GROUT

- A. Description: ASTM C 1107, Grade B, nonshrink and nonmetallic, dry hydraulic-cement grout.
 - 1. Characteristics: Post-hardening, volume-adjusting, nonstaining, noncorrosive, nongaseous, and recommended for interior and exterior applications.
 - 2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength Packaging: Premixed and factory packaged.

PART 3 EXECUTION

3.1 DEMOLITION

- A. Refer to Division 01 Sections for general demolition requirements and procedures
- B. Disconnect, demolish, and remove systems, equipment, and components indicated to be removed.
 - 1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - 2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - 3. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - 4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - 5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
- C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.2 PIPING SYSTEMS – COMMON REQUIREMENTS

- A. The installing contractor shall examine the pipe and fittings for defects or cracks. There shall be no defects of the pipe or fittings. Any damaged pipe or fittings shall be rejected.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved by the Engineer.
- C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping to permit valve servicing.
- G. Install piping at required slopes.
- H. Install piping free of sags and bends.
- I. Install fittings for changes in direction and branch connections, unless specified otherwise.
- J. Install piping to allow application of insulation.

- K. Select system components with pressure rating equal to or greater than system operating pressure.
- L. Pipe Protection: Provide protection against abrasion where copper tubing is in contact with other building members by wrapping with an approved tape or pipe insulation.
- M. Install escutcheons for penetrations of walls, ceilings, and floors according to the following:
 - 1. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep-pattern type.
 - 2. Chrome-Plated Piping: One-piece, cast-brass type with polished chrome-plated finish.
 - 3. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One-piece, cast-brass type with polished chrome-plated finish.
 - 4. Bare Piping at Ceiling Penetrations in Finished Spaces: Split-casting, cast-brass type with polished chrome-plated finish.
- N. Sleeves are not required for core-drilled holes.
- O. Install sleeves for pipes passing through concrete and masonry walls and concrete floor and roof slabs.
 - 1. Cut sleeves to length for mounting flush with both surfaces.
 - a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches (50 mm) above finished floor level. Extend cast-iron sleeve fittings below floor slab as required to secure clamping ring if ring is specified
 - 2. Install sleeves in new walls and slabs as new walls and slabs are constructed. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation. Use the following sleeve materials:
 - a. Cast Iron Pipe Sleeves: For pipes smaller than NPS 6 (DN 150).
 - b. Steel Sheet Sleeves: For pipes NPS 6 (DN 150) and larger.
 - c. Stack Sleeve Fittings: For pipes penetrating floors with membrane waterproofing. Secure flashing between clamping flanges. Install section of cast-iron soil pipe to extend sleeve to 2 inches (50 mm) above finished floor level. Refer to Division 7 Section for flashing.
 - (1) Seal space outside of sleeve fittings with grout.
 - 3. Except for underground wall penetrations, seal annular space between sleeve and pipe or pipe insulation, using joint sealants appropriate for size, depth, and location of joint. Refer to Division 7 for materials and installation.
- P. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Refer to Division 7 for materials.
- Q. Verify final equipment locations for roughing-in.
- R. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

3.3 PIPING JOINT CONSTRUCTION

- A. Join pipe and fittings according to the following requirements and Division 22 Sections specifying piping systems.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.

- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.
- F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- G. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- H. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- I. Plastic Piping Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 - 1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
 - 2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
 - 3. PVC Pressure Piping: Join schedule number ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
 - 4. PVC Nonpressure Piping: Join according to ASTM D 2855.
- J. Plastic Pressure Piping Gasketed Joints: Join according to ASTM D 3139.
- K. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D 3212.

3.4 PIPING CONNECTIONS

- A. Make connections according to the following, unless otherwise indicated:
 - 1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
 - 2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.
 - 3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.
 - 4. Wet Piping Systems: Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.5 PAINTING

- A. Painting of systems, equipment, and components is specified in Division 9.
- B. Damage and Touchup: Repair marred and damaged factory-painted finishes with materials and procedures to match original factory finish.

3.6 GROUTING

- A. Mix and install grout for mechanical equipment base bearing surfaces, pump and other equipment base plates, and anchors.
- B. Clean surfaces that will come into contact with grout.
- C. Provide forms as required for placement of grout.

- D. Avoid air entrapment during placement of grout.
- E. Place grout, completely filling equipment bases.
- F. Place grout on concrete bases and provide smooth bearing surface for equipment.
- G. Place grout around anchors.
- H. Cure placed grout.

END OF SECTION

SECTION 22 13 16

SANITARY WASTE AND VENT PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes the following for soil, waste, and vent piping inside the building:
 - 1. Pipe, tube, and fittings.
 - 2. Special pipe fittings.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. ABS: Acrylonitrile-butadiene-styrene plastic.
- B. EPDM: Ethylene-propylene-diene terpolymer rubber.
- C. LLDPE: Linear, low-density polyethylene plastic.
- D. NBR: Acrylonitrile-butadiene rubber.
- E. PE: Polyethylene plastic.
- F. PVC: Polyvinyl chloride plastic.
- G. TPE: Thermoplastic elastomer.

1.4 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure, unless otherwise indicated:
 - 1. Soil, Waste, and Vent Piping: 10-foot head of water (30 kPa).

1.5 SUBMITTALS

- A. Product Data: For pipe, tube, fittings, and couplings.
- B. Field quality-control inspection and test reports.

1.6 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- B. Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-dwv" for plastic drain, waste, and vent piping; "NSF-drain" for plastic drain piping; "NSF-tubular" for plastic continuous waste piping; and "NSF-sewer" for plastic sewer piping.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 PIPING MATERIALS

- A. Refer to Part 3 "Piping Applications" Article for applications of pipe, tube, fitting, and joining materials.

2.3 HUB-AND SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS

- A. Pipe and Fittings: ASTM A 74, Service class.
- B. Gaskets: ASTM C 564, rubber.

2.4 PVC PIPE AND FITTINGS

- A. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
 - 1. PVC Socket Fittings: ASTM D 2665, socket type, made to ASTM D 3311, drain, waste, and vent patterns.

2.5 SPECIAL PIPE FITTINGS

- A. Flexible, Nonpressure Pipe Couplings: Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition pattern. Include shear ring, ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.
 - 1. Manufacturers: Coordinate first subparagraph and list below with Part 2
 - a. Fernco, Inc.
 - b. Mission Rubber Co.
 - c. Plastic Oddities, Inc.
 - 2. Sleeve Materials:
 - a. For Cast-Iron Soil Pipes: ASTM C 564, rubber.
 - b. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
 - c. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

PART 3 EXECUTION

3.1 EXCAVATION

- A. Refer to Division 2 for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

- A. Underground, soil, waste, and vent piping shall be any of the following:
 - 1. Service class, cast-iron soil piping; gaskets; and gasketed joints.
 - 2. Solid wall PVC pipe, PVC socket fittings, and solvent-cemented joints.

3.3 PIPING INSTALLATION

- A. Basic piping installation requirements are specified in Division 22 Section "Basic Plumbing Materials and Methods".

- B. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
- C. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.
- D. Install piping true to grades and alignment, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.
- E. Install soil and waste drainage and vent piping at the slopes required by Code.
- F. Sleeves are not required for cast-iron soil piping passing through concrete slabs-on-grade if slab is without membrane waterproofing.
- G. Install PVC soil and waste drainage and vent piping according to ASTM D 2665.
- H. Install underground PVC soil and waste drainage piping according to ASTM D 2321.
- I. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

3.4 JOINT CONSTRUCTION

- A. Basic piping joint construction requirements are specified in Division 22 Section "Basic Plumbing Material and Methods".
- B. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.
- C. PVC Nonpressure Piping Joints: Join piping according to ASTM D 2665.

3.5 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect drainage and vent piping to the following:
 1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
 2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
 3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.

3.6 FIELD QUALITY CONTROL

- A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
 1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
 2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.

- B. Reinspection: If authorities having jurisdiction find that piping will not pass test or inspection, make required corrections and arrange for reinspection.
- C. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
- D. Test sanitary drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:
 - 1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
 - 2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that was covered or concealed before it was tested.
 - 3. Roughing-in Plumbing Test Procedure: Test drainage and vent piping, except outside leaders, on completion of roughing-in. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water (30 kPa). From 15 minutes before inspection starts to completion of inspection, water level must not drop. Inspect joints for leaks.
 - 4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg (250 Pa). Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
 - 5. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
 - 6. Prepare reports for tests and required corrective action.

3.7 CLEANING

- A. Clean interior of piping. Remove dirt and debris as work progresses.
- B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- C. Place plugs in ends of uncompleted piping at end of day and when work stops.

END OF SECTION

SECTION 22 42 00

PLUMBING FIXTURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes plumbing fixtures and related components.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Division 22 Section "Plumbing Specialties" for backflow preventers and specialty fixtures not in this Section.

1.3 DEFINITIONS

- A. Accessible Fixture: Plumbing fixture that can be approached, entered, and used by people with disabilities.
- B. Fitting: Device that controls flow of water into or out of plumbing fixture. Fittings specified in this Section include supplies and stops, faucets and spouts, shower heads and tub spouts, drains and tailpieces, and traps and waste pipes. Piping and general-duty valves are included where indicated.

1.4 SUBMITTALS

- A. Product Data: Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports and indicate materials and finishes, dimensions, construction details, and flow-control rates for each type of fixture indicated.
- B. Maintenance Data: For plumbing fixtures to include in maintenance manuals specified in Division 01.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category through one source from a single manufacturer.
 - 1. Exception: If fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.
- B. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act"; about plumbing fixtures for people with disabilities.
- C. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.
- D. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.
- E. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.

- F. Comply with the following applicable standards and other requirements specified for plumbing fixtures:
 - 1. Hand Sinks: NSF 2 construction.
 - 2. Vitreous-China Fixtures: ASME A112.19.2M.
 - 3. Water-Closet, Flush Valve, Tank Trim: ASME A112.19.5.
 - 4. Water-Closet, Flushometer Trim: ASSE 1037.
- G. Comply with the following applicable standards and other requirements specified for lavatory and sink faucets:
 - 1. Faucets: ASME A112.18.1M.
 - 2. Integral, Atmospheric Vacuum Breakers: ASSE 1001.
 - 3. NSF Materials: NSF 61.
 - 4. Pipe Threads: ASME B1.20.1.
 - 5. Supply and Drain Fittings: ASME A112.18.1M
- H. Comply with the following applicable standards and other requirements specified for miscellaneous fittings:
 - 1. Brass and Copper Supplies: ASME A112.18.1M.
 - 2. Manual-Operation Flushometers: ASSE 1037.
 - 3. Tubular Brass Drainage Fittings and Piping: ASME A112.18.1M.
- I. Comply with the following applicable standards and other requirements specified for miscellaneous components:
 - 1. Grab Bars: ASTM F 446.
 - 2. Plastic Toilet Seats: ANSI Z124.5.
 - 3. Supply and Drain Protective Shielding Guards: ICC A117.1.

1.6 COORDINATION

- A. Coordinate existing rough-in and final plumbing fixture locations, and verify that fixtures can be installed to comply with original design and referenced standards.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. For fixture descriptions in other Part 2 articles where the subparagraph titles "Manufacturers" introduce a list of manufacturers and their products or manufacturers only, the following requirements apply for product selection:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified in other Part 2 articles.

2.2 ACCEPTABLE MANUFACTURERS - VITREOUS CHINA AND ENAMELED CAST IRON FIXTURES

- A. Kohler Company.
- B. American Standard.
- C. Zurn.
- D. Vitreous china and enameled cast iron fixtures shall be "white" unless specifically specified otherwise.

2.3 ACCEPTABLE MANUFACTURERS - FIXTURE TRIM FAUCETS

- A. Chicago Faucet Company.

- B. T. and S. Brass and Bronze Works, Inc.
- C. Kohler.
- D. Sloan.
- E. Zurn.
- F. Fixture trim faucets shall be polished chrome plated unless specifically specified otherwise

2.4 ACCEPTABLE MANUFACTURERS - FIXTURE TRIM (BELOW FLOOD RIM)

- A. Engineered Brass Company.
- B. McGuire Manufacturing Company, Inc.
- C. Chicago Faucet Company.
- D. T. and S. Brass and Bronze Works, Inc.
- E. Zurn.
- F. Brasscraft.
- G. Fixture trim shall be polished chrome plated unless specifically specified otherwise.

2.5 ACCEPTABLE MANUFACTURERS - PROTECTIVE COVERINGS

- A. Truebro- "LAV GUARD".
- B. Plumberex - "Pro-2000".

2.6 ACCEPTABLE MANUFACTURERS - FLUSH VALVES

- A. Sloan Valve Company.
- B. Zurn Industries, Inc.
- C. Flush valves shall be polished chrome plated unless specifically specified otherwise.

2.7 ACCEPTABLE MANUFACTURERS - WATER CLOSET SEATS

- A. Kohler Company.
- B. Bemis Manufacturing Company.
- C. Beneke/Sanderson Plumbing Products, Inc.
- D. Olsonite Corporation.
- E. Centoco.
- F. Church.
- G. Water closet seats shall be white unless specifically specified otherwise.

2.8 ACCEPTABLE MANUFACTURERS - MIXING VALVES (THERMOSTATIC)

- A. Symmons Industries, Inc.
- B. Leonard Valve Company.
- C. Powers
- D. Watts Regulator
- E. Lawler.
- F. Thermostatic mixing valves shall be polished chrome plated unless specifically specified otherwise.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine existing roughing-in for water soil and for waste piping systems and supports to verify actual locations and sizes of piping connections and that locations and types of supports match those indicated, before plumbing fixture installation. Use manufacturer's roughing-in data if roughing-in data are not indicated.
- B. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FIXTURE INSTALLATION

- A. Assemble fixtures, trim, fittings, and other components according to manufacturers' written instructions.
- B. For wall-hanging fixtures, install supports affixed to building substrate including bolting to floor.
 - 1. Use carrier supports with waste fitting and seal for back-outlet fixtures.
 - 2. Use carrier supports without waste fitting for fixtures with tubular waste piping.
 - 3. Use concealed carrier supports with rectangular steel uprights.
- C. Install back-outlet, wall-hanging fixtures onto waste fitting seals and attach to supports.
- D. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.
- E. Install wall-hanging fixtures with tubular waste piping attached to supports.
- F. Install floor-mounting, back-outlet water closets attached to building floor substrate and wall bracket and onto waste fitting seals.
- G. Install fixtures level and plumb according to manufacturers' written instructions and roughing-in drawings.
- H. Install water-supply piping with stop on each supply to each fixture to be connected to water distribution piping. Attach supplies to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation.
 - 1. Exception: Use ball, valve if stops are not specified with fixture. Refer to Division 22 Section "Plumbing Valves" for general-duty valves

- I. Install trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.
- J. Install tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.
- K. Install flushometer valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.
- L. Install toilet seats on water closets.
- M. Install faucet, flow-control fittings with specified flow rates and patterns in faucet sprouts if faucets are not available with required rates and patterns. Include adapters if required.
- N. Install traps on fixture outlets.
 - 1. Exception: Omit trap on fixtures with integral traps.
 - 2. Exception: Omit trap on indirect wastes, unless otherwise indicated.
- O. Install escutcheons at piping wall and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings. Refer to Division 22 Section "Basic Plumbing Materials and Methods" for escutcheons.
- P. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. Refer to Division 07 for sealant and installation requirements.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect water supplies from water distribution piping to fixtures.
- C. Connect drain piping from fixtures to drainage piping.
- D. Supply and Waste Connections to Plumbing Fixtures: Connect fixtures with water supplies, stops, risers, traps, and waste piping. Use size fittings required to match fixtures. Connect to plumbing piping.
- E. Supply and Waste Connections to Fixtures and Equipment Specified in Other Sections: Connect fixtures and equipment with water supplies, stops, risers, traps, and waste piping specified. Use size fittings required to match fixtures and equipment. Connect to plumbing piping.

3.4 FIELD QUALITY CONTROL

- A. Verify that installed fixtures are categories and types specified for locations where installed.
- B. Check that fixtures are complete with trim, faucets, fittings, and other specified components.
- C. Inspect installed fixtures for damage. Replace damaged fixtures and components.
- D. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

3.5 ADJUSTING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.
- B. Adjust water pressure at faucets and flushometer valves to produce proper flow and stream.
- C. Replace washers and seals of leaking and dripping faucets and stops.

3.6 CLEANING

- A. Clean fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. Do the following:
 - 1. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts.
 - 2. Remove sediment and debris from drains.

3.7 PROTECTION

- A. Provide protective covering for installed fixtures and fittings.
- B. Do not allow use of fixtures for temporary facilities unless approved in writing by Owner

END OF SECTION

SECTION 23 0548.23

SEISMIC AND WIND RESTRAINT FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The work under this section is subject to the requirements of the Contract Documents, including General and Supplementary Conditions and Division 01 General Requirements.
- B. Specifications throughout all Divisions are directly applicable to this Section, and this Section is directly applicable to them. In the event that this section conflicts with the requirements of other Sections, the more stringent criteria shall apply.

1.2 DESCRIPTION

- A. This section includes requirements for seismic and wind restraint of nonstructural components in Risk Category I, II, III and IV structures, including, but not limited to:
 - 1. Mechanical Components: heating, ventilating, and air-conditioning systems; hot/chilled water systems; boiler equipment and components; tanks and vessels, etc.
- B. Work in this section includes the design by a professional engineer who is legally qualified to practice in the jurisdiction where the Project is located and who is experienced in providing engineering services of the kind indicated within this Section. Calculations, equipment and product certifications shall be submitted for review by the registered design professional.

1.3 DEFINITIONS

- A. Active Equipment: Equipment with dynamic moving or rotating parts or parts that are energized.
- B. Attachments / Anchorage: Means by which nonstructural components or supports for nonstructural components are secured or connected to the seismic-force resisting system of the structure. Such attachments may include anchor bolts, welded connections, mechanical fasteners or other approved attachment devices. Friction attachments do not constitute positive attachments.
- C. Bracing: Struts, braces, cables, anchors or other structural elements providing restraint for nonstructural components to prevent excessive movement.
- D. Certificate of Compliance: A certificate, supplied by the component manufacturer, stating that materials and products meet specified standards and project specific requirements.
- E. Component Importance Factor (I_p): Factor applied to a component that defines the criticality of that component. This factor can be 1.0 or 1.5 in accordance with ASCE 7, Section 13.1.3.
- F. Consequential Damage: Failure of an essential component caused by the failure of a separate essential or non-essential component due to the functional and physical interrelationship of the components, their supports, and their effect on each other.
- G. Designated Seismic System: Those nonstructural components that require design in accordance with Chapter 13 of ASCE 7, for which the Component Importance Factor (I_p) is 1.5 in accordance with Section 13.1.3 of ASCE 7.
- H. Special Seismic Certification: A certificate of compliance, supplied by the manufacturer of Active Designated Seismic Systems, which certifies that the equipment will remain operable during the design seismic event. Components with hazardous contents shall be certified as maintaining containment following the design seismic event.

- I. Structure: The load-bearing building elements designed by the Structural Engineer of Record. Non-load bearing partition walls, unreinforced slabs or other building elements that do not provide direct load transfer to the load-bearing building elements shall not be defined as part of the Structure and cannot be used for attachment of seismic restraints.
 - J. Supports: Those members, assemblies of members, or manufactured elements, including braces, frames, legs, snubbers, curbs, rails, hangers, saddles or struts, and associated fasteners that transmit loads between non-structural components and their attachments to the structure.
- 1.4 REGULATORY REQUIREMENTS
- A. Comply with the 2018 International Building Code (IBC) and applicable local adopted amendments, and the 2016 Edition of ASCE 7.
- 1.5 DESIGN PERFORMANCE CRITERIA
- A. Provide seismic restraint of components to withstand seismic forces and displacements without displacing or overturning. Design of seismic restraint shall be performed in accordance with the 2021 International Building Code and ASCE 7, as follows.
 - 1. Seismic forces shall be determined in accordance with Chapter 13 of ASCE 7. The seismic design parameters shall be as noted in the project Structural drawing. The assigned Component Importance Factors (Ip) for each component shall be as noted on the project drawings and/or specifications.
 - 2. For components installed on the exterior of the building, wind forces shall be determined in accordance with Chapter 29 of ASCE 7, except that the uplift forces per Equation 29.5-3 shall be considered regardless of the building height. Reference the Structural drawings for wind design criteria.
 - 3. In addition to seismic and wind loads, consideration shall be given to other loads, including but not limited to dead, live, snow, etc., as applicable. All restraint design shall be based on the "worst case" combination of the applicable loads as prescribed by the referenced code and standards.
 - 4. Consideration shall also be given to thermal stresses and expansion. Where thermal expansion applies, seismic restraint design shall be in accordance with the requirements of ASME B31.1 in addition to ASCE 7.
- 1.6 SUBMITTALS
- A. Submit under the provisions of Division 1. Submittals shall include Product Data, Shop Drawings and the required Certificates of Compliance as described below.
 - B. Shop drawings shall be prepared and sealed by a professional engineer licensed in the state of the project, with a minimum of 5 years of experience in the design of seismic and wind restraint.
 - C. Seismic Restraint: submit the following, at a minimum, as applicable.
 - 1. Catalog cut or data sheets on specific restraints detailing compliance with the project drawings and specifications.
 - 2. Detailed schedules of components, showing seismic restraints by referencing numbered descriptive drawings.
 - 3. Description, layout and location of items to be restrained with anchorage or brace points noted and dimensioned.
 - 4. Details of anchorage or bracing at large scale with all members, parts brackets shown, together with all connections, fasteners, bolts, welds etc. clearly identified and specified.
 - 5. Numerical value of design seismic restraint loads or controlling loads if different than load combinations with seismic, with all supporting calculations.
 - 6. Detailed installation instructions for seismic restraints.
 - 7. Acceptable attachment methods of seismic restraints to structural members.
 - 8. Fabrication details for equipment bases including dimensions, structural member sizes and support point locations.
 - 9. Details for housekeeping pads for base-mounted equipment, including reinforcing and doweling requirements to the building structure.

10. Documentation verifying seismic prequalification for anchors in concrete per ACI 318 Appendix D.
11. Additional information as required to substantiate adequate design and installation of seismic restraints.
12. Manufacturer's Seismic Certificate of Compliance: Each manufacturer of a Designated Seismic System (with a Component Importance Factor, $I_p = 1.5$) shall submit a ***Certificate of Compliance*** for review and acceptance by the design professional in responsible charge and the authority having jurisdiction, prior to installation. Certification shall indicate containment of hazardous materials after a design event. For components in Risk Category IV structures, certification shall indicate continued operation of the component after a design event.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All materials and devices shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.
- B. Refer to the "Selection Guide" table in Section 4 to correlate the specification references listed below with the appropriate components.

2.2 MANUFACTURERS

- A. Seismic restraints shall be from the following manufacturers, or approved equals. Unless otherwise noted, the seismic restraint systems listed in the following sections are as manufactured by The VMC Group.
 1. CalDyn
 2. Cooper B-Line
 3. Hilti
 4. Gripple
 5. Imperial Metals
 6. Kinetics Noise Control
 7. Mason Industries
 8. The VMC Group

2.3 EQUIPMENT BASES

- A. Specification B-1 (Integral Structural Steel Base): A welded integral structural steel fan and motor base with NEMA standard motor slide rails and holes drilled to receive the fan and motor slide rail, except that motor slide rails shall not be used when the motor mounts are integral to the fan. The steel members shall be adequately sized to prevent distortion and misalignment of the drive, and specifically, shall be sized to limit deflection of the beam on the drive side to 0.05" due to starting torque. Snubbers to prevent excessive motion on starting or stopping shall be furnished if required; however, the snubbers shall not be engaged under steady running conditions. Bases shall be VMC Group Type SFB.
- B. Specification B-2 (Wide Flange Structural Steel Base): A welded WF (main member) structural steel base for increasing rigidity of equipment mounted thereon or for unitizing belt driven fans. Fan bases shall have holes drilled to match fan and located to provide required center distance between fan and supplied NEMA standard motor slide rails. The steel members shall have minimum depth of 1/12 of the longest span, but not less than 6" deep. Junior beams and junior channels shall not be used. Cross members shall be provided where necessary to support the equipment or to prevent twisting of the main members. Where height restrictions prevent the use of members having a depth of 1/12 of the longest span, beams of less depth may be used provided they have equal rigidity. Bases shall be VMC Group Type WFB.

- C. Specification B-3 (Non-Isolated Curbs): Non isolated seismically rated rooftop curb system that is flashed into roofing membrane. Air and watertight curb shall have a neoprene sponge seal at the top and be rigid enough to provide continuous perimeter support for rooftop unit. Curb must provide means to positively anchored to concrete deck, or bolted or welded directly to structural steel to withstand seismic loading. Curb shall provide a means by which contractor supplied insulation may be installed for thermal insulation and acoustic attenuation. Curbs shall accommodate roof pitch shown on drawings. **Curb shall use minimum 18 gage galvanized steel and shall be designed with crossbracing required to withstand the greater of calculated seismic forces and /or wind loading per local building code.** Design must be certified by registered professional engineer. Seismic curbs shall be VMC Group Type P-6000 (Series) or Imperial Metals Type WLRC.
- D. Specification B-4 (Non-Isolated Rails): Non isolated seismically rated rooftop rail system that provides equipment support in one roof flashed assembly with all features as described for Non-Isolated Curbs. Rails shall be VMC Group Type R-7000 or Imperial Metals Type WLRR.

2.4 SEISMIC RESTRAINTS

- A. Specification S-1 (Seismic Snubbers): A restraint assembly for floor mounted equipment consisting of welded steel interlocking assemblies welded or bolted securely to the equipment or the equipment bases and to the supporting structure. Restraint assembly surfaces which engage under seismic motion shall be lined with a minimum 1/4" thick resilient elastomeric pad to protect equipment. Restraints shall be field adjustable and be positioned for 1/4" clearance as required to prevent interference during normal operation. Restraint assembly shall have minimum rating of 2 times the catalog rating at 1 G, as certified by independent laboratory test. Restraint shall be VMC Group Type SR.
- B. Specification S-2 (Seismic Cable Restraints): A restraint assembly for suspended equipment, piping or ductwork consisting of high strength galvanized steel aircraft cable. Cable must have Underwriters Laboratories listed certified break strength, and shall be color-coded for easy field verification. Secure cable to structure and braced component through bracket or stake eye specifically designed to exceed cable restraint rated capacity. Cable must be manufactured to meet or exceed minimum materials and standard requirements per AISI Manual for structural applications of steel cables and ASTM A630. Break strengths must be per ASTM E-8 procedures. Safety factor of 1.5 may be used when pre-stretched cable is used with end connections designed to meet the cable break strength. Otherwise safety factor 3.76 must be used. Cables shall be sized for the applied seismic loads. Cables shall be installed to prevent excessive seismic motion and so arranged that they do not engage during normal operation. Restraint shall be VMC Group Type LRC.
- C. Specification S-3 (Rigid Brace Restraints): A restraint assembly for suspended equipment, piping or ductwork consisting of steel angles or channels. Rigid braces and connecting elements shall be sized for the applied seismic loads. Connecting elements shall be steel assemblies that swivel to the final installation angle and utilize two anchor bolts to provide proper attachment. Restraint shall be VMC Group Type SAB.

2.5 FLEXIBLE PIPE CONNECTIONS

- A. Specification F-1 (Water Service Flexible Connection):
 1. For flanged connections – A double sphere arch rubber expansion joint constructed of molded reinforced neoprene with integral steel floating flanges, and designed to be suitable for pressures up to 225 PSI (4 to 1 safety factor) and temperatures up to 225 degrees F. Connectors shall have minimum movement capabilities of 1.77" compression, 1.18" lateral and 1.18" extension. Connectors shall provide a minimum 35 degree angular movement up to 6", minimum 30 degree up to 12" and minimum 20 degree up to 24". Spring loaded control units shall be furnished to limit movement to within allowables. Flex connector shall be VMC Group Type 2600.

2. For threaded type – A double spherical rubber hose connector, minimum 8" long, constructed of molded neoprene, nylon cord reinforced, with female pipe unions each end. Connectors shall have a minimum movement capability of 7/8" compression, 7/8" lateral, 1/4" extension and 20 degree angular through 1-1/4", 13 degree through 2", and 9 degree through 3". Connectors shall be suitable for a maximum working pressure (4 to 1 safety factor) of 150 psi and 225 degree F. Connectors shall have cable control units to limit extension to 1/4". Flex connector shall be VMC Group Type 2655.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. All areas that will receive components requiring seismic restraint shall be thoroughly examined for deficiencies that will affect the installation or performance of the installed devices. Such deficiencies shall be corrected prior to the installation.

3.2 INSTALLATION, GENERAL

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. All installation shall be in accordance with the requirements set forth in the project drawings and specifications, as well as the manufacturer's published instructions and all approved submittal data.
- C. Do not anchor components to gypsum wallboard, plaster or other wall or ceiling finish that has not been engineered to resist imposed loads.

3.3 SEISMIC RELATIVE DISPLACEMENTS

- A. Provide joints with sufficient flexibility capable of accommodating seismic relative displacements as follows.
 1. Vertical ductwork, piping, etc. that pass between floors of the building,
 2. Components that pass through a building seismic or expansion joint,
 3. Rigidly supported components that connect to other components.

3.4 POST-INSTALLED ANCHORS:

- A. Install all anchors in accordance with the manufacturer's written instructions for seismic applications.
- B. Post-installed anchors in concrete shall be seismically prequalified for use in cracked concrete based on seismic testing in accordance with ACI 355.2 for mechanical anchors or ACI 355.4 for adhesive anchors.

3.5 HOUSEKEEPING PADS

- A. Housekeeping pads shall be designed by the seismic restraint vendor with adequate reinforcing and doweling to the building structure, so as to withstand calculated seismic or wind forces. Frictional resistance due to the effects of gravity shall be neglected.
- B. The size & thickness of the housekeeping pad shall be determined to ensure adequate edge distances & embedment depths in order to obtain the desired equipment anchor capacities.
 1. If cast-in-place anchors are used, the housekeeping pads shall be sized to accommodate the ACI requirements for bolt coverage and embedment.
 2. If post-installed anchors are used, the minimum edge distances, embedment depths and concrete/masonry member thicknesses specified by the anchor manufacturer shall be maintained.

3.6 MECHANICAL COMPONENTS

- A. Floor and base-mounted components, and associated system seismic controls for connections.
 - 1. Design equipment anchorage to resist seismic design force in any direction.
 - 2. Design seismic controls for equipment to include base requirements.
 - 3. Provide flexible connections between equipment and interconnected piping to account for seismic relative displacements.
 - 4. Where concrete floor thickness is less than required for expansion anchor installation per ICC-ESR, install through bolt in lieu of expansion anchor. Where timber/wood floor or other substrate is inadequate for installation of lag bolts, screws or other mechanical fasteners, furnish and install supplemental framing or blocking to transfer loads to structural elements.
 - 5. Housekeeping pads shall be coordinated with the seismic restraint vendor based on the equipment anchorage specified in the seismic design.
 - B. Suspended mechanical equipment
 - 1. Design support and bracing to resist seismic design force in any direction.
 - 2. Provide flexible connections between equipment and interconnected piping to account for seismic relative displacements.
 - 3. Brace equipment hung from spring mounts using cable or other bracing that will not transmit vibration to the structure.
 - C. Wall-mounted mechanical equipment
 - 1. Design attachments to resist seismic design force in any direction.
 - 2. Install backing plates or blocking as required to deliver load to primary wall framing members. Do not anchor to gypsum wallboard, plaster or other wall finish that has not been engineered to resist imposed loads.
 - D. Piping
 - 1. Provide supports, braces and anchors to resist gravity and seismic design forces.
 - 2. Design piping and piping risers to accommodate interstory drift. Provide flexible connections wherever relative differential movements could damage pipe in an earthquake.
 - 3. Brace every run (5' or more in length) with two transverse and one longitudinal bracing locations. For pipes and connections constructed of ductile materials (copper, ductile iron, steel or aluminum and brazed, welded or screwed connections) provide transverse bracing at not more than 40 feet on center and longitudinal bracing at spacing not more than 80 feet on center. For pipes and their connections constructed of nonductile materials (cast iron, no-hub pipe and plastic or non-UL listed grooved coupling pipe), provide transverse bracing at not more than 20 feet on center and longitudinal bracing at spacing not more than 40 feet on center.
 - 4. Provide lateral restraint for risers at not more than 30 feet on center or as required for horizontal runs, whichever is less.
 - 5. Where piping is explicitly exempt from seismic bracing requirements,
 - a. Install piping such that swinging of the pipes will not cause damaging impact with adjacent components. This will be considered satisfied if there is horizontal clear distance of at least $\frac{2}{3}$ the hanger length between subject components.
 - b. Provide flexible connections between piping and connected equipment, including in-line devices such as VAV boxes and reheat coils.
 - E. Ductwork
 - 1. Provide supports, braces and anchors to resist gravity and seismic design forces.
 - 2. Design ducts and duct risers to accommodate interstory drift. Provide flexible connections wherever relative differential movement could damage duct in an earthquake
 - 3. Provide independent support and bracing for all in-line devices weighing more than 75 pounds.
- 3.7 QUALITY CONTROL
- A. Do not install seismic restraints until submittals have been reviewed and approved by the registered design professional in responsible charge.
 - B. Verify that multiple systems installed in the same vicinity can be installed without conflict.

- C. Verify tolerances between installed items to confirm that unbraced components will not come into contact with restrained equipment or structural members during an earthquake. When contact is possible, provide seismic restraint or provide justification to the satisfaction of the registered design professional in responsible charge of the project that contact will not cause unacceptable damage to the components in contact, their supports, finishes or other elements that are contacted.
- D. Coordinate with the Structural Engineer of Record for confirming that the structure is capable of supporting the loads imposed by nonstructural components.
- E. No work shall be concealed by the Contractor prior to the required inspections being performed and all discrepancies resolved. The Contractor shall be responsible for all repairs required to uncover uninspected or unapproved work.
- F. Where Special Inspections are required per Sections 1704 and 1705 of the International Building Code, the owner shall engage a qualified agency to perform the required inspections for components listed in the project-specific Statement of Special Inspections.
- G. The seismic vendor responsible for supplying the restraint devices and parts shall provide periodic on-site observations and provide a signed letter confirming that the seismic restraints are installed in general accordance with the approved submittals.

PART 4 - EQUIPMENT SEISMIC RESTRAINT SCHEDULE

MECHANICAL EQUIPMENT

EQUIPMENT TAG	I _p (Note 6)	SEISMIC REST. SPEC. (NOTE 1)
AIR HANDLING UNITS (SUSP)	1.0	SPEC S-2
VAV (NON-FAN) TERM. < 20 LB	1.0	NONE
VAV (NON-FAN) TERM. ≥ 20 LB	1.0	SPEC S-2
INLINE FANS	1.0	SPEC S-2
CEILING DIFFUSERS ≥ 20 LB	1.0	(2) 12 GA WIRES TO STRUCTURE, NOTE 3
UNIT HEATERS (SUSP)	1.0	SPEC S-2
CABINET HEATERS (SUSP)	1.0	SPEC S-2
DUCT	1.0	SPEC S-2

NOTES

- Seismic restraint to be provided only where required in the project drawings.
- Anchor bolts for non-isolated equipment shall be sized by the seismic engineer. If required, Spec. S-1 snubbers or Spec. S-2 cable kits shall be provided.
- Diffusers weighing less than 20 lbs must be mechanically attached to ceiling grid, but require no additional restraint.
- Anchors and guides to be designed to accommodate thermal expansion and seismic loads.
- Roof curbs provided by others must be certified by a professional engineer for the required seismic loads.
- All components in a Risk Category IV building are assigned a Component Importance Factor I_p equal to 1.5.

END OF SECTION

SECTION 26 01 00

GENERAL PROVISIONS, ELECTRICAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Basic Electrical requirements specifically applicable to Division 26 Sections, in addition to Division 01 - General Requirements.
- B. General and procedural requirements for work specified under Sections of Division 26 shall be as required herein.

1.2 RELATED SECTIONS

- A. DIVISION 09 - FINISHES.
- B. DIVISION 26 - ELECTRICAL.
- C. Section 26 05 00 - BASIC MATERIALS AND METHODS, ELECTRICAL.

1.3 CONTRACTOR'S RESPONSIBILITY

- A. Contractor agrees to assume responsibility for liability, workmanship, and quality of materials concerning work sublet to others. Before contract is sublet, submit in writing the names of proposed subcontractor and obtain written approval therefor.
- B. Work shall be installed under the constant supervision of a qualified superintendent and by skilled and qualified electricians.
- C. Materials shall be new and unused.

1.4 CODES AND FEES

- A. Install all work in accordance with the applicable provisions of the local codes, the National Electrical Code, and the National Electrical Safety Code.
- B. Electrical materials shall have Underwriters' approval where applicable, and shall be so labeled where UL labeling is customary.
- C. Electrical equipment shall conform to applicable NEMA Standards whether specified hereinafter or not, and to other applicable Standards which may be specified hereinafter.
- D. The Contractor shall be responsible for obtaining local permits, payment of fees and notification for inspection by code authorities consistent with the schedule of work.

1.5 ACCURACY OF DATA AND DRAWINGS

- A. Drawings and Data: Electrical drawings are generally diagrammatic, and where not dimensioned or detailed, indicate approximate locations and general arrangements of electrical work. All electrical work offsets, rises, and fittings are not necessarily shown; however, provide these as required by the conditions involved.
- B. Building and structure dimensions: TAKE THESE FROM ARCHITECTURAL AND STRUCTURAL DRAWINGS: AND FROM ACTUAL MEASUREMENTS MADE BY ELECTRICAL SECTION OF EACH EXISTING BUILDING AND EACH EXISTING STRUCTURE INVOLVED.

- C. The intent and requirement of the above is to obtain a coordinated electrical system and all of the above shall be done by Electrical Section as part of the contract, at no extra cost to the Owner.

1.6 EQUIPMENT LISTS, SHOP DRAWINGS, SAMPLES AND SUBMITTALS

- A. Submit under provisions of Section 01 33 00 and General Conditions.
- B. Submit to the Architect for approval, within 30 days after receipt of Notice to Proceed with the work, a complete list of materials, equipment and accessories proposed for use, including complete descriptions and specifications of any proposed substitutions, manufacturer's shop drawings, and roughing-in work. Submit five (5) copies of all items for approval and furnish additional copies if required for installation purposes.
- C. Submission material and all shop drawings shall be marked with the respective mark number or identification of the equipment shown on the drawings or specified. The shop drawings shall list all ratings, capacities, accessories, and other pertinent data to show that the proposed item is as called for and as specified.

1.7 QUALITY CONTROL

- A. Comply with Section GENERAL CONDITIONS. In addition, shall be the manufacturer's latest standard or current model for which replacement parts are readily available.
- B. Qualifications: Where qualifications are specified in individual specification section, provide required data with Subcontractor list.
- C. Provide complete coordination study to Owner and Engineer.

1.8 GUARANTEE

- A. Comply with Section GENERAL CONDITIONS.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 EQUIPMENT INSTALLATION

- A. Install in accordance with applicable manufacturer's drawings and recommendations.
- B. Identification of circuits and equipment: Identification designations shall correspond to those indicated on electrical drawings and as specified in corresponding articles describing the equipment.

3.2 TEMPORARY LIGHTS AND POWER

- A. Provide temporary lights and power. Lights shall be one pigtail socket and 150W lamp for each 500 sf building space, minimum one per room. Power outlets shall be provided as coordinated with construction. Temporary electricity charges shall be paid by the Contractor.
- B. Remove all temporary lights and conductions prior to calling for final inspection.

3.3 PROTECTION AND CLEANING

- A. Work shall be protected at all times. Conduit openings shall be closed with caps or plugs until permanent connections are made. Fixtures and equipment shall be covered, if necessary, to

protect against dirt, water, chemical or mechanical damage or defacement. The installation of fixtures liable to damage shall be coordinated with installing UL fire protective barriers and ceiling systems. Clean all fixture glassware and reflectors and clean and polish all other surfaces that are not painted so that they present a new and acceptable appearance.

- B. Electrical equipment rooms shall be cleaned up prior to energizing equipment and shall not be used for storage or other purposes after power is applied to the electrical equipments.

3.4 OPERATING INSTRUCTIONS

- A. Furnish the services of a competent man (or men) to instruct the Owner's personnel in the proper operation and maintenance of all equipment, for a period of not less than two working days.
- B. Furnish and deliver to the Owner three sets of operating instructions for all equipment installed under this contract, including shop drawings, piping diagrams, wiring diagrams, maintenance recommendations and information concerning replacement parts.

3.5 TEST, INSPECTIONS, ADJUSTMENTS, AND CLEANUP

- A. Furnish suitable testing equipment, give the Engineer and all applicable authorities ample advance notice of all proposed tests and readiness of work for inspections, and conduct each test in their presence, as approved. Do not conceal electrical work until all necessary inspections have been made and all required tests have been approved by the Owner's Representative and all applicable authorities.
- B. Put entire system in operation, test all equipment, remedy all defects, and make all necessary adjustments. Demonstrate that the entire system functions satisfactorily, as specified, as indicated, and as approved.

END OF SECTION

SECTION 26 05 00

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Raceways.
- B. Building wire and connectors.
- C. Supporting devices for electrical components.
- D. Electrical identification.
- E. Cutting and patching for electrical construction.
- F. Touchup painting.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. FMC: Flexible metal conduit.
- C. AWG: American Wire Gage.

1.4 SUBMITTALS

- A. Product Data: For electricity-metering equipment and basic electrical materials as described in this section.
- B. Shop Drawings: Dimensioned plans and sections or elevation layouts of electricity-metering and distribution equipment.
- C. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

1.6 COORDINATION

- A. Junction boxes must be accessible in the finished project. Provide gypsum access panels as required.

PART 2 PRODUCTS

2.1 RACEWAYS

- A. EMT: ANSI C80.3, zinc-coated steel, with set-screw or compression fittings.
- B. FMC: Zinc-coated steel.
- C. Raceway Fittings: Specifically designed for the raceway type with which used.

2.2 CONDUCTORS, 600 VOLTS AND LESS

- A. Conductors, No. 10 AWG and Smaller: Solid or stranded copper.
- B. Conductors, Larger Than No. 10 AWG: Stranded copper.
- C. Insulation: Thermoplastic, rated at 75 deg C minimum. Type THHN and THHN/THWN as required for conditions related to Heat (H) and Moisture(W).
- D. Wire Connectors and Splices: Units of size, ampacity rating, material, type, and class suitable for service indicated. Branch circuit wire minimum size is #12 AWG.

2.3 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.
- B. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16-inch diameter slotted holes at a maximum of 2 inches o.c., in webs.
 - 1. Channel Thickness: Selected to suit structural loading, minimum 12 gauge.
 - 2. Fittings and Accessories: Products of the same manufacturer as channel supports.
- C. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- D. Cable Supports for Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug for nonarmored electrical cables in riser conduits. Plugs have number and size of conductor gripping holes as required to suit individual risers. Body constructed of malleable-iron casting with hot-dip galvanized finish.
- E. Expansion Anchors: Carbon-steel wedge or sleeve type.
- F. Toggle Bolts: All-steel springhead type.

2.4 ELECTRICAL IDENTIFICATION

- A. Identification Devices: A single type of identification product for each application category. Use colors prescribed by ANSI A13.1, NFPA 70, and these Specifications.
- B. Raceway and Cable Labels: Comply with ANSI A13.1, Table 3, for minimum size of letters for legend and minimum length of color field for each raceway and cable size.
 - 1. Type: Pretensioned, wraparound plastic sleeves. Flexible, preprinted, color-coded, acrylic band sized to suit the diameter of the item it identifies.
 - 2. Type: Preprinted, flexible, self-adhesive, vinyl. Legend is overlaminated with a clear, weather- and chemical-resistant coating.
 - 3. Color: Black letters on orange background.
 - 4. Legend: Indicates voltage.

- C. Colored Adhesive Marking Tape for Raceways, Wires, and Cables: Self-adhesive vinyl tape, not less than 1 inch wide by 3 mils thick. T&B WDT Series or approved equal.
- D. Tape Markers for Wire: Vinyl or vinyl-cloth, self-adhesive, wraparound type with preprinted numbers and letters.
- E. Color-Coding Cable Ties: Type 6/6 nylon, self-locking type. Colors to suit coding scheme.

2.5 TOUCHUP PAINT

- A. For Equipment: Equipment manufacturer's paint selected to match installed equipment finish.
- B. Galvanized Surfaces: Zinc-rich paint recommended by item manufacturer.

2.6 PULL BOXES AND JUNCTION BOXES

- A. General: Pull boxes and junction boxes shall be of the types and minimum sizes indicated, or as required for the conditions involved where types and sizes are not indicated. Before installation, check proposed locations of boxes with the architectural, structural, and mechanical drawings, and locate each box so that it will be accessible in the finished project.

PART 3 EXECUTION

3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.
- B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Right of Way: Give to raceways and piping systems installed at a required slope.

3.2 RACEWAY APPLICATION

- A. Use the following raceways for indoor installations:
 1. Exposed: EMT.
 2. Concealed: EMT.
 3. Connection to Vibrating Equipment: FMC; except in wet or damp locations, use LFMC.

3.3 RACEWAY AND CABLE INSTALLATION

- A. Conceal raceways, unless otherwise indicated, within finished walls, ceilings, and floors.
- B. Install raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Locate horizontal raceway runs above water and steam piping.
- C. Use temporary raceway caps to prevent foreign matter from entering.
- D. Make conduit bends and offsets so ID is not reduced. Keep legs of bends in the same plane and straight legs of offsets parallel, unless otherwise indicated.

- E. Install pull wires in empty raceways. Use No. 14 AWG zinc-coated steel or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of the pull wire.
- F. Prior to pulling wire, keep all open ends of conduit plugged, and swab out all trapped conduits in which moisture has collected.
- G. Each branch circuit conduit run shall include a green bonding conductor sized based on the largest circuit in the run but no smaller than #12 AWG.

3.4 WIRING METHODS FOR POWER, LIGHTING, AND CONTROL CIRCUITS

- A. Branch Circuits: Type THHN/THWN insulated conductors in raceway.
- B. No. 8 and larger, stranded; No. 10 and smaller, solid.
- C. Wiring shall be run in raceway, unless otherwise indicated.
- D. Conductor Joints and Splices: Make these with suitable solderless connectors, in the various boxes, gutters, and similar locations, but not in any conduit. Leave enough wire slack to permit at least one splice or joint to be remade in case of fault.
 - 1. Branch circuit, control, and special system wire joints: use Ideal, Buchanan, 3M, or similar tool-applied to twist-on type connectors.
 - 2. All other wire joints: use IlSCO tin plated aluminum type pressure connectors, or suitable brass, bronze, or copper pressure type connectors.
 - 3. Insulate all joints and splices with suitable insulating sleeves or caps integral with the connectors or separate therefrom, or with vinyl plastic insulating tape.
- E. MC Cable is not acceptable.

3.5 WIRING INSTALLATION

- A. Connect outlet and component connections to wiring systems and to ground. Tighten electrical connectors and terminals, according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A.

3.6 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Dry Locations: Steel materials.
- B. Selection of Supports: Comply with manufacturer's written instructions.
- C. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200-lb design load.

3.7 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by a 25 percent minimum in the future.

- E. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps.
- F. Install 1/4-inch diameter or larger threaded steel hanger rods, unless otherwise indicated.
- G. Spring-steel fasteners specifically designed for supporting single conduits or tubing MAY NOT be used instead of malleable-iron hangers raceways serving lighting and receptacle branch circuits above suspended ceilings or for fastening raceways to slotted channel and angle supports.
- H. Arrange supports in vertical runs so the weight of raceways and enclosed conductors is carried entirely by raceway supports, with no weight load on raceway terminals.
- I. Simultaneously install vertical conductor supports with conductors.

3.8 IDENTIFICATION MATERIALS AND DEVICES

- A. Install at locations for most convenient viewing without interference with operation and maintenance of equipment.
- B. Coordinate names, abbreviations, colors, and other designations used for electrical identification with corresponding designations indicated in the Contract Documents or required by codes and standards. Use consistent designations throughout Project.
- C. Self-Adhesive Identification Products: Clean surfaces before applying.
- D. Tag and label circuits designated to be extended in the future. Identify source and circuit numbers in each cabinet, pull and junction box, and outlet box. Color-coding may be used for voltage and phase identification.
- E. Color-code 208/120-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Black.
 - 2. Phase B: Red.
 - 3. Phase C: Blue.
- F. Color-code 480/277-V system secondary service, feeder, and branch-circuit conductors throughout the secondary electrical system as follows:
 - 1. Phase A: Yellow.
 - 2. Phase B: Brown.
 - 3. Phase C: Orange.

3.9 FIRESTOPPING

- A. Apply firestopping to cable and raceway penetrations of fire-rated wall assemblies to achieve fire-resistance rating of the assembly.

3.10 GROUNDING

- A. Ground electrical equipment and conductors as required by NEC and other applicable electrical codes.
 - 1. All metallic cable sheaths, cable shields, metal conduit shall be made electrically secure to form a continuous system and shall be grounded.
 - 2. All conduits shall have code sized green equipment grounding conductors with diameter based on the largest circuit in each conduit.

3.11 DEMOLITION

- A. Protect existing electrical equipment and installations indicated to remain. If damaged or disturbed in the course of the Work, remove damaged portions and install new products of equal capacity, quality, and functionality.
- B. Accessible Work: Remove exposed electrical equipment and installations, indicated to be demolished, in their entirety.
- C. Remove demolished material from Project site.
- D. Remove, store, clean, reinstall, reconnect, and make operational components indicated for relocation.

3.12 CUTTING AND PATCHING

- A. Cut, channel, chase, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.
- B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.13 FIELD QUALITY CONTROL

- A. Inspect installed components for damage and faulty work, including the following:
 - 1. Raceways.
 - 2. Building wire and connectors.
 - 3. Supporting devices for electrical components.
 - 4. Electrical identification.
 - 5. Electrical demolition.
 - 6. Cutting and patching for electrical construction.
 - 7. Touchup painting.

3.14 REFINISHING AND TOUCHUP PAINTING

- A. Refinish and touch up paint.
 - 1. Clean damaged and disturbed areas and apply primer, intermediate, and finish coats to suit the degree of damage at each location.
 - 2. Follow paint manufacturer's written instructions for surface preparation and for timing and application of successive coats.
 - 3. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

3.15 CLEANING AND PROTECTION

- A. On completion of installation, including outlets, fittings, and devices, inspect exposed finish. Remove burrs, water, dirt, paint spots, and construction debris.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

END OF SECTION