PROJECT MANUAL

BID-SJR-09-2025

ST. JOHNS RIVER STATE COLLEGE

RENOVATION OF OFFICES WITH ADDITION - GYMNASIUM PALATKA CAMPUS

ARCHITECT'S PROJECT NO.: 015ZA08

CRG ARCHITECTS / PALATKA, INC.
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RENOVATION OF OFFICES WITH ADDITION
GYMNASIUM
PALATKA CAMPUS

for

ST. JOHNS RIVER STATE COLLEGE
5001 ST. JOHNS AVENUE, PALATKA, FL 32177

BID-SJR-09-2025
ARCHITECT'S PROJECT NUMBER: 015ZA08

ARCHITECTS
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The General Contractor shall be required to compare this Table of Contents with the bound Project Manual for legibility, omission or inclusion of any part of any section listed herein. It shall be the General Contractor's responsibility to request, in writing, clarification from the office of the Architect. Clarifications shall be addressed by addenda to all who are registered with the Architect as having received Bidding documents. All clarifications shall be received seven (7) days prior to the date set for the receipt of Bids.

The General Contractor and Subcontractors shall review other sections of work applicable to their work and ascertain requirements in other section applicable to their work. Each shall be held responsible for coordination and inclusion of the work indicated as if it were in the particular subcontractor's section. All subcontractors, suppliers, etc. shall be responsible for knowing what information is given on all sheets of the plans and specifications concerning his particular work.

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1.1 INVITATION TO BIDDERS

A. Sealed bids will be received in the business office of the **AVP of Facilities, Planning and Capital Projects at St. Johns River State College, Palatka, Florida** for the provision of the following project for SJR State College, Palatka, Florida.

BID NO.: **BID-SJR-09-2025**

BID TITLE: **RENOVATION OF OFFICES WITH ADDITION, GYMNASIUM**
ST. JOHNS RIVER STATE COLLEGE
5001 ST. JOHNS AVENUE
PALATKA, FL 32177

1.2 BIDS

A. Bids will be received at St. Johns River State College, Business Office, Attn: Mrs. Terry Thomas, AVP of Facilities, Planning and Capital Projects, 5001 St. Johns Avenue, Palatka, Florida, until:

LOCAL TIME: **2:00 P.M.**
DAY OF WEEK: **Friday**
DATE: **January 9, 2026**

Bids received by the deadline for submission will be publicly opened, read aloud, and recorded at **2:30 P.M.** on **January 9, 2026,** at **St. Johns River State College, Administration Building, Room A-152, 5001 St. Johns Avenue, Palatka, Florida 32177.**

B. A **Mandatory Pre-Bid Meeting** will be held on **December 8, 2025,** at **11:00 A.M.** at **St. Johns River State College, Administration Building, Room A0152, Valhalla Hall, 5001 St. Johns Avenue, Palatka, FL 32065.** Primary bidders or their representatives are **required** to attend in order to be eligible to bid. Attendance will be taken. Subcontractors are welcomed but attendance at the conference is only mandatory for primary bidders. Tour of the worksite will immediately follow the meeting.

C. **This project is open to Invited, Prequalified Bidders only**. Only those bids from invited, pre-qualified contractors who attend the mandatory pre-bid meeting, and received by the submission deadline will be considered.

1.3 BIDDING DOCUMENTS

A. An overview of bidding documents/plans will be presented at the mandatory pre-bid meeting on December 8, 2025.

B. Bidding documents may be examined by appointment at:

CRG ARCHITECTS/PALATKA, INC.
216A St. Johns Ave
Palatka, FL 32177
TEL: (386) 325-0213
Email: joe.crgarchitects@comcast.net

C. Distribution:
Prime bidders, who will be submitting a bid to the owner, are required to register with the Owner and CRG ARCHITECTS/PALATKA, INC. their intention to bid and as a plan holder. Any addenda will be sent automatically (electronically) to the known plan holders. Partial sets of drawings and/or specifications are not advised and neither the architect nor owner will be responsible for partial information given to subcontractors by the general contractors. Electronic drawings and specifications will not be distributed.

F. All questions concerning the project shall be submitted, in writing, to the Engineer:

CRG ARCHITECTS/PALATKA, INC.
216A St. Johns Ave
Palatka, FL 32177
TEL: (386) 325-0213

This office is the only point where information will be disseminated. All questions must be received by 5:00 p.m. on Monday, January 5, 2026. A final addendum will be issued Wednesday, January 7, 2026. Send all questions to Joe Kuehmeier at joe.crgarchitects@comcast.net

1.4 BONDS

A. The successful contractor is required to furnish Performance and Payment Bonds described in the Bidding Documents.
B. Bid guarantee in the form of a Bid Bond executed by the bidder and a qualified surety or a certified or cashier's check on any national or state bank in the amount of five percent (5%) of the total proposal, including alternates, made payable to St. Johns River State College, must accompany the bidder's proposal. After opening bids, and in the event contract is awarded to the bidder, the bidder will, within ten (10) days after receiving same, execute contract and furnish the required Performance and Payment bonds, failing which the security shall become the property of St. Johns River State College as liquidated damages.

1.5 PREPARATION AND SUBMISSION OF PROPOSAL

A. All bids must be made on Proposal Forms, included herein, properly executed and placed in an envelope, sealed, and marked on the outside:

BID-SJR-09-2025
St. Johns River State College
Renovation of offices with addition, gymnasium, Palatka campus
Palatka Campus

Deliver or mail to: **St. Johns River State College**
Business Office, ATTN: Terry Thomas
5001 St. Johns Avenue
Palatka, Florida 32177

B. St. Johns River State College reserves the right to reject any or all bids, to waive any informalities in regards thereto, to waive any minor deviations in an otherwise valid bid

proposal, to rebid or not, to make the award in part or in whole, and to make the award which is in the best interest of the College. It is the intention of the College to award a contract to a single qualified bidder submitting the lowest total base bid and any bid alternate proposals contingent upon availability of funding. The College is not necessarily bound to accept the lowest bid if that bid is contrary to the best interest of the College.

C. No changes in the amounts of bids appearing on the outside of bids will be considered. Only the amounts shown inside the envelope will be considered. All changes, corrections and erasures must be initialed by the person signing the bid.

D. Furnish with your bid, satisfaction of your proper licensing.

END OF SECTION 00 11 16

SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS

A. BID DATE:
Sealed proposals will be received by St. Johns River State College at the date, time and place so stated in the "Invitation to Bid" Section 00 11 16 for all work herein. The bidder or his authorized representative is invited to be present at the bid opening.

B. PROJECT SITE LOCATION:
ST. JOHNS RIVER STATE COLLEGE
5001 ST. JOHNS AVENUE
PALATKA, FLORIDA

C. PROPOSALS:
All work on the project shall be included in the proposal for the General Construction. Proposals for bid items for this project shall be submitted *in duplicate* on the proposal form enclosed in this project manual. The proposal shall be sealed in an envelope and marked to indicate the project name, bid number and contractor's name. The envelope shall then be forwarded or delivered to Mrs. Terry Thomas, AVP of Facilities, Planning and Capital Projects, in the Administration Building at St. Johns River State College, Business Office, 5001 St. Johns Avenue, Palatka, Florida 32177.

1. The bidder shall fill in their proposal completely and correctly sign the proposal. Proposals that show any omissions, alterations of the proposal, additions not authorized by the St. Johns River State College, conditional bids, or irregularities of any kind, may be rejected.
2. Proposals shall be submitted in sufficient time for receipt by St. Johns River State College, prior to the scheduled hour for receipt of the proposals. Bids received after the scheduled bid date and time will not be considered. No changes will be permitted after bids have been submitted. All bidders shall be notified of the bid results by posting on the College's web page dedicated to this bid at https://www.sjrstate.edu/082025.
3. No proposals may be withdrawn, after the schedule closing time for bids, for a period of sixty (60) days.

D. COMPLETION:
Time of completion for this project is a condition of the contract and as such is not flexible. The time of completion is indicated in the specifications and no extension of time is anticipated. If the bidder cannot meet the construction schedule, the bidders should not submit a bid.

E. CONTRACTOR'S LICENSE:
All bidders shall be licensed as required by the State of Florida laws.

F. SITE INVESTIGATION:
Each bidder shall, before submitting their proposal, examine the site to determine the extent of the work involved and the conditions under which they must perform the work.

The submittal of a proposal will be construed as evidence that such examination has been made and no subsequent allowance will be made in this connection.

G PERMITS, FEES AND TAXES:
Cost of social security and other applicable state and federal government taxes and any sales taxes for which the bidder is liable shall be included in his proposal for the work. No local building permits are required for work on the campus. The successful contractor will

be required to obtain a permit from the College's permitting agent. The bidder should not include the cost of the permit in their proposal. The College will reimburse the successful bidder for the cost of the permit, upon submission to the Director of Capital Contract Management, a copy of the permit and the paid receipt for the permit.

H. PERFORMANCE AND PAYMENT BOND:
The successful bidder shall furnish a satisfactory performance and payment bond with a corporate surety authorized to do business in the State of Florida and acceptable to the College, within ten (10) days after notice of award. The bond shall be conditioned well and truly to perform the contract and pay all bills and invoices, for labor done and materials furnished in the performance of the work including guarantee period of one (1) year against faulty work and be on **AIA Document Form A312.**

1. All bonds must be executed under corporate seal of the surety and countersigned on the part of the surety by a qualified resident agent of the company or an attorney in fact with proof of power attached.
2. In case of default on the part of the contractor, actions for all expenses incidental to ascertaining and collecting losses under the bond including both architectural and legal services shall lie against bond.
3. Such bond shall be in the penal sum of 100% of the contract.
4. Premiums for the performance and payment bond shall be included in the bidder's proposal.

I. BID SECURITY:
Bid guarantee in the form of a Bid Bond executed by the bidder and a qualified surety or a certified or cashier's check on any national or state bank in the amount of five percent (5%) of the total proposal, including alternates, made payable to St. Johns River State College, must accompany the bidder's proposal. After opening bids, and in the event contract is awarded to the bidder, the bidder will, within ten (10) days after receiving same, execute contract and furnish the required Performance and Payment bonds, failing which the security shall become the property of St. Johns River State College as liquidated damages.

J. INTERPRETATION OF DRAWINGS AND SPECIFICATIONS:
Should a bidder find discrepancies or ambiguities in, or omissions, from the drawings and specifications, or should he be in doubt as to their meaning, the bidder shall at once notify the Architect for an interpretation in the form of an addendum. Addendum will be forwarded to all bidders and each bidder shall acknowledge the receipt of each addendum on his proposal in the spaces provided. Bidders should address all inquiries in written form for this project to:

CRG ARCHITECTS/PALATKA, INC.
216A St. Johns Ave
Palatka, FL 32177

This office is the only point where information will be disseminated. All questions must be received by 5:00 p.m. on Monday, January 5, 2026. A final addendum will be issued Wednesday, January 7, 2026. Send all questions to joe.crgarchitects@comcast.net.

K. STANDARD BASIS FOR BIDDING:

1. Equality: Where materials, etc., are referred to in the specifications as "equivalent to" or words of similar import, the Architect shall decide as to equality. In addition to data required under paragraph "Shop Drawings" and "Manufacturer's Description Data", the contractor shall furnish other detailed data as required by the Architect for comparison if the product is mentioned by name. All data shall be submitted at least ten (10) days prior to the scheduled bid opening date. No extra

will be allowed because of such substitution, if permitted, either for the article substituted or for revisions in other work affected by the substitution. If permitted, all plan holders will be notified by addendum.

2. Substitutions: Where a particular system, product or material is specified by one or more trade names without the "equivalent" qualification, it shall be considered as a standard basis for bidding and is most satisfactory for its particular purpose in the work. To ensure a uniform basis for bidding, the bidder shall base its proposal on the particular system, product or material named in the specifications.
3. Any proposal submitted that does not conform to the above requirements shall be considered as informal and unfair to other bidder's submitted proposals and will not be accepted.
4. No changes in the amount of bid appearing on the outside of the bid envelope will be considered. Only the amount shown inside the envelope will be considered. All changes, corrections and erasures must be initialled by the person signing the bid.
5. Subcontractors and Shop Fabricators:
   a. Bidders shall furnish with their bids the names and the class of work to be performed by fabricators when the amount to be paid each subcontractor exceeds 5% of the total price.
   b. The successful bidder shall employ the subcontractors listed in the bidder's proposal along with the class of work to be performed by each. This list shall not be modified in any way whatsoever without the written consent of the College in writing to ensure those subcontractors shall be utilized for the specified class of work.
   c. Modifications to the listed subcontractors may be granted by the College only in those instances where the bidder presents written evidence that use of the listed subcontractor would not be in the best interest of the College.

L. EQUIVALENTS:

1. In these specifications where one certain kind, type or brand of material manufacturer is named, it shall be regarded as the required minimum standard of quality. Substitutions lowering the performance, quality, method of assembly of installation, or in general, not in keeping with the details and specifications will not be permitted. It is understood that when a bid is submitted, the bidder is aware of the requirements, and that the materials within his bid are equal to or better on such items and that prior approval of substitutions has been obtained.
2. No time extensions will be permitted, to revise or redesign a product found not to comply, and that evidence of noncompliance shall automatically classify the bid as having been informal and rejected.
3. Since time is of the essence, the College cannot be expected to delay the award of bid, and their decisions shall be in strict accordance to the details and specifications, these items should be brought to the attention of the Architect of the project and of the College prior to submitting a bid proposal.

M. DISQUALIFICATION OF BIDDERS:

1. Only one proposal from an individual, firm, partnership, or corporation, under the same or different names will be considered.
2. Should there be any reasonable grounds for the College, believing that a collusion or combination exists between bidders, all proposals may be rejected and all such bidders or participants in such combination or collusion will not be considered in the future proposal for the same work.
3. No proposal or bid will be considered unless accompanied by a proposal guarantee or good faith deposit in the amount in the form specified in the Invitation to Bid.
4. Proposals that are incomplete or not signed by the bidder may be rejected.

5. Proposals that are submitted without the sub-bidders listing completed as required and indicated the specifications may be rejected.

N. RETURN OF PROPOSAL GUARANTEES:
Proposal guarantees by certified or cashier's check will be returned to the bidder immediately after the tabulation and analysis of the bids, except in the event that it pertains the three (3) lowest bidders; these will be returned within fifteen (15) days following award of the contract.

O. CONTRACT AWARD:
It is the intention of the College to award a contract to a single qualified bidder submitting the lowest proposal for the work in compliance with the bid specifications/plans, total base bid and any bid alternate proposals, contingent upon availability of funding. The College is not necessarily bound to accept the lowest bid if that bid is contrary to the best interest of the College. St. Johns River State College reserves the right to reject any or all bids, to waive any informalities in regards thereto, to waive any minor deviations in an otherwise valid bid proposal, to rebid or not, to make the award in part or in whole, and to make the award which is in the best interest of the College. The College reserves the right to negotiate with the low bidder on any changes which the Board considers necessary for its interest, including but not limited to direct purchase of materials.

P. EXECUTION OF CONTRACT:
1. Within the (10) days after Notice of Award, the successful bidder shall enter into a formal contract. The contractor will provide a guarantee period of one (1) year against faulty work and be on the form as provided by the College.
2. Failure to execute the contract as provided in these documents within ten (10) days from the date of the notification of award shall be just cause and the College may annul and void the award and declare forfeiture of the proposal guarantee or good faith deposit in liquidation of all damages sustained.
   a. Award may then be made to the next lowest responsible bidder, or the work may be re- advertised.
3. No award will be binding upon the College until the construction contract has been executed.
4. The construction contract shall be signed in triplicate by the College and the Contractor.

Q. BID PROTESTS
Bid protests shall be served on Randy Peterson, Vice President for Finance, and Terry Thomas, AVP of Facilities, Planning and Capital Projects, 5001 St. Johns Avenue, Palatka, Florida 32177, via certified mail. Bid protests may be preliminarily filed, if followed by a certified mail original, via facsimile transmittal to Randy Peterson and Terry Thomas at 386-312-4229. Bid protests must be accompanied by a cost deposit of five thousand dollars ($5,000.00) or one percent of the total contract price, whichever is greater. Failure to file a notice of protest, failure to file a formal written protest, or failure to post the bond or other security shall constitute a waiver of proceeding. The formal written protest shall state with particularity the facts and law upon which the protest is based.

Failure to file a notice of protest or failure to file a formal written protest within the time prescribed in section 120.57 Florida statues, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings. Furthermore, the unsuccessful protester shall be responsible to the College for all other and additional reasonable fees, expenses and costs, in the event the deposit which the College retains pursuant to this paragraph is insufficient to reimburse the College for all costs and fees incurred.

END OF SECTION 00 21 13

SECTION 00 22 13 – SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Supplemental Instructions to Bidders

All items in this section are incorporated into the contract terms and conditions.

Liquidated Damages

The Bidder agrees that liquidated damages in the amount of *Five Hundred Dollars ($500.00) per calendar day* for each day the work remains incomplete, shall be assessed against the Bidder if the work is not completed within the specified time limit. It shall be understood that liquidated damages are not a penalty but are intended to provide a means of recovery of actual damages suffered by the Owner as a result of delayed completion.

Contract Time

To Be Determined.

Definitions

The College, SJR State, or St. Johns River State College, refers to the District Board of Trustees of St. Johns River State College, Palatka, Florida. The College is a political subdivision of the State of Florida. Firm, vendor, contractor or bidder in this document refers to respondents to this invitation to bid.

Taxes

The College does not pay federal, excise, or state sales taxes.
The applicable tax-exemption number is: Florida Sales Tax: 85-8013170533C-4

Mandatory Pre-Bid Conference

Attendance at the Mandatory Pre-Bid Conference is a requirement for primary prequalified contractors in order to be eligible to bid on this project.

Bidding Costs

St. Johns River State College is not responsible for any cost incurred by bidders in their efforts in submitting this bid.

Bid Bond

Bid guarantee in the form of a Bid Bond executed by the bidders and a qualified surety, or a certified or cashier's check on national or state bank in the amount of five percent (5%) of the proposal, including alternates, made payable to St. Johns River State College, must accompany the proposal.

Open Competition

The College encourages free and open competition among Pre-Qualified Firms. Whenever possible, specifications, bid invitations, and conditions are designed to accomplish this objective, consistent with the necessity to satisfy the College's needs and the accomplishment of a sound economical operation. The Firm's signature on the Bid Checklist/Response Form guarantees that the Firm, its agents, officers, or employees have not been bribed or attempted to bribe or influence in any way an officer, employee or Agent of the College.

Minority & Women Owned Business Enterprises (M/WBE) Participation

M/WBE participation is encouraged.

Insurance Coverage

Contractor shall obtain, maintain, and pay for insurance in the categories listed in the insurance schedule. The insurance coverage in each category shall meet or exceed the minimum limits set forth in the insurance schedule. St. Johns River State college shall be included as additional named insured on each policy. The insurance shall cover the Firm's entire operations under Agreement with the College and shall be effective throughout the effective period of this Agreement. It is not the intent of this schedule to limit the types of insurance otherwise required by this Agreement or that the Firm may desire to obtain.

Minimum Insurance Requirement Schedule

Refer to 00 73 00 Supplementary Conditions for All Insurance Requirements.

Bid Award Process

The bid award shall be made to the lowest and best proposal, Base and Alternates within budget, which meets or exceeds the conditions of the bid specifications and the College reserves the right to award by individual item, groups of items, “All or None” or a combination thereof contingent upon budget availability. The College is not necessarily bound to accept the lowest bid if that bid is contrary to the best interests of the College. St. Johns River State College reserves the right to waive any minor deviations in otherwise valid bid proposal, to waive any informalities, to reject any or all bid proposals, and to accept the bid which will be in the best interest of SJR State. In addition, the College shall have the right to reject any bid not accompanied by data required by the bid specifications, or a proposal in any way incomplete or irregular. Conditional bids will not be accepted. Should the lowest Bidder exceed the proposal budget of the Owner, the Owner may negotiate with the Bidder in order to obtain a bid within budget, including but not limited to College direct purchase of materials.

Bid Rejection

The College shall have the right to reject any or all bids and in particular to reject a bid not accompanied by data required by the bid specifications or a proposal in any way incomplete or irregular. Conditional bids will not be accepted.

Bid Specification Interpretation

Interpretation of the wording of this document shall be the responsibility of the College and that interpretation shall be final.

Bid Response Materials

The materials submitted in response to this invitation to bid becomes the property of the College upon delivery to the AVP of Facilities, Planning and Capital Projects and may be appended to any formal document which would further define or expand the contractual relationship between the College and the successful bidder.

Errors and Omissions

The successful bidder is expected to comply with the true intent of these bid specifications taken as a whole and shall not avail itself of any errors or omissions to the detriment of the services. Should successful bidder suspect any error, omission or discrepancy in the bid documents or instructions, the successful bidder shall immediately notify the College, in writing, and the College shall issue written instructions to be followed. The successful bidder is responsible for the contents of its proposal and for satisfying the requirements set forth in the bid documents.

Bidder Responsibility

It is understood, and the bidder hereby agrees, that it shall be solely responsible for all services that it proposes, notwithstanding the detail present in the bid specifications.

Cone of Silence

SJR State employees, with the exception of AVP of Facilities, Planning and Capital Projects, and members of the District Board of Trustees are not to be contacted regarding this bid, either directly or indirectly, except as prescribed in section 120.57, Florida Statutes, to discuss the bid or selection process or in an attempt to further their interest in being selected for bid award. Violation of this cone of silence may result in disqualification of the firm seeking recertification.

Public Records

To the extent that CONTRACTOR meets the definition of “contractor” under Section 119.0701, Florida Statutes, in addition to other contract requirements provided by law, CONTRACTOR must comply with public records laws, including the following provisions of Section 119.0701, Florida Statutes: Keep and maintain public records required by COLLEGE to perform the service.

Upon request from COLLEGE’s custodian of public records, provide COLLEGE with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed

the cost provided in chapter 119, F.S., or as otherwise provided by law. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the CONTRACTOR does not transfer their records to COLLEGE.

Upon completion of the contract, transfer, at no cost, to COLLEGE all public records in possession of the CONTRACTOR or keep and maintain public records required by COLLEGE to perform the service. If the CONTRACTOR transfers all public records to COLLEGE upon completion of the contract, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the contract, the CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to COLLEGE, upon request from COLLEGE's custodian of public records, in a form that is compatible with the information technology systems of COLLEGE. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: Public Records, 5001 ST. JOHNS AVE, PALATKA, FL 32177, EMAIL: PublicRecords@sjrstate.edu

THE CONTRACTOR ACKNOWLEDGES THAT SJR STATE CANNOT AND WILL NOT PROVIDE LEGAL ADVICE OR BUSINESS ADVICE TO CONTRACTOR WITH RESPECT TO ITS OBLIGATIONS PURSUANT TO THIS SECTION RELATED TO PUBLIC RECORDS. THE CONTRACTOR FURTHER ACKNOWLEDGES THAT IT WILL NOT RELY ON SJR STATE OR ITS COUNSEL TO PROVIDE SUCH BUSINESS OR LEGAL ADVICE, AND THAT HE HAS BEEN ADVISED TO SEEK PROFESSIONAL ADVICE WITH REGARDS TO PUBLIC RECORDS MATTERS ADDRESSED BY THIS AGREEMENT. THE CONTRACTOR ACKNOWLEDGES THAT ITS FAILURE TO COMPLY WITH FLORIDA LAW AND THIS AGREEMENT WITH RESPECT TO PUBLIC RECORDS SHALL CONSTITUTE MATERIAL BREACH OF THIS AGREEMENT AND GROUNDS FOR TERMINATION.

Sovereign Immunity

St. Johns River State College is a political subdivision of the State of Florida. As such, the College is entitled to sovereign immunity except to the extent of the waiver set forth in 768.28 F.S., the College's performance under any resulting agreement and any amendments there to or attachments connected there with, shall at all times be subject to any and all state laws, state regulations and College District Board of Trustees which are applicable to the College's operations, commitments and/or activities in furtherance of any terms specified therein.

Severability

If any provisions of the agreement resulting from this bid are contrary to, prohibited by, or deemed invalid by applicable laws or regulations of any jurisdiction in which it is sought to be enforced, then said provisions shall be deemed inapplicable and omitted and shall not invalidate the remaining provisions of the agreement. In the event any provision of this agreement shall be held invalid or unenforceable by a court of competent jurisdiction, or by an administrative hearing officer in accordance with Chapter 120, Florida Statutes, such holding shall not invalidate or render unenforceable any other provision hereof.

Venue

The contract, when entered into and any disputes hereunder, shall be construed in accordance with the laws of the State of Florida and enforced in the courts of the State of Florida. College and Firm hereby agree that venue shall be in Putnam County, Florida.

Americans with Disabilities Act of 1990

If special accommodations are required in order to attend the Public Meeting to announce bids received, contact the AVP of Facilities, Planning and Capital Projects at 386-312-4110 or email TerryThomas@sjrstate.edu a minimum of three business days prior to the meeting.

Protests of Awards or Specifications

Failure to file a notice of protest or failure to file a formal written protest within the time prescribed in section

120.57 Florida statues, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings.

Independent Firm

Nothing herein is intended or shall be construed in any way creating or establishing the relation of co-partners between the parties or in any way making the Firm the agent or representative of the College for any purposes in any manner whatsoever. Firm is, and shall remain, an independent Firm with respect to all services performed.

Laws, Ordinances, Rules, Regulations, Permits, and Licenses

The Firm shall observe and obey all laws, ordinances, rules, regulation, and policies of the District Board of Trustees of St. Johns River State College and the federal and state governments which may be applicable to the Firm's operation at St. Johns River State College, and shall, at the sole cost to the Firm, obtain and maintain all permits and licenses necessary to comply with such requirements and standards.

Bid Response Authorization

The bid response shall be signed by a person legally authorized to bind the Firm.

Firm Warranty of Ability to Perform

Firm shall warrant by authorized signature on the bid response that there is no action suit, proceeding, inquiry, or investigation, at law or equity, before or by a court, governmental agency, public board or body, pending or, to the best of the Firm's knowledge, threatened, which would in any way prohibit, restrain, or enjoin the execution or delivery of the Firms obligations, diminish the Firm's obligations or diminish the Firm's financial ability to perform the terms of the proposed contract.

Contract

The successful bidder will enter into a contract with the College based on bid documents and the result of the bid award within the time prescribed for contract execution.

Assignment

Neither this agreement nor any duties or obligations under this agreement or resulting contract(s) shall be assigned by Firm without prior written consent of the College.

Indemnification

The firm shall indemnify and hold harmless the College, and any agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Firm or 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 obligations shall not be considered to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist.

Payment

When the Contractor receives payment from the Owner for labor, services, or materials furnished by subcontractors and suppliers hired by the Contractor for the project, the Contractor shall remit payment due to those subcontractors and suppliers, less the value of any items contested in accordance with the Contract, within 10 days after the Contractor's receipt of payment from the Owner. When the payment due the subcontractor is for final payment, including retainage, the subcontractor must include with the invoice for final payment a conditional release of lien and all appropriate warranties and closeout documentation. When the subcontractor receives payment from the Contractor for labor, services, or materials furnished by subcontractors and suppliers hired by the subcontractor, the subcontractor shall remit payment due to those subcontractors, less the value of any item contested in accordance with the contract, within ten (10) days after the subcontractor's receipt of payment.

INSTRUCTIONS FOR SUBMISSION OF BIDS

Sealed bids will be accepted in the office of the AVP of Facilities, Planning and Capital Projects, St. Johns River State College, Business Office, 5001 St. Johns Avenue, Palatka, FL 32177 until 2:00 PM EST on January 9, 2026. The bid submission must be sealed and clearly marked 'BID SJR-08-2025' on the outside of the package containing the bid response. Bids received after that time and date will be marked late and will not be considered. It is the sole responsibility of the bidder to ensure that the bid is delivered to the Office of the AVP of Facilities, Planning and Capital Projects in the Business Office of St. Johns River State College, 5001 St. Johns Avenue, Palatka, Florida prior to the deadline. Failure of a delivery service or US mail to deliver bid responses by the due date and time shall not constitute an extension to the deadline. Faxed, e-mailed, conditional, improperly identified submissions, bids delivered to the wrong location, and bids received after the deadline will not be considered.

Submit one original (marked as Original) and one copy (marked as Copy) of your bid response. The bid response must include a signed Bid Checklist/Response Form and each document indicated on this form. All documents should be bound or stapled to the Bid Checklist/Response Form. Failure to submit a bid on the required form shall be grounds for disqualification of the bid.

END OF SECTION 00 22 13

SECTION 00 22 18 – TRENCH SAFETY CERTIFICATION

Provide price for trench safety for trench excavations in excess of five (5) feet deep in accordance with the Trench Safety Act, Chapters 90-96, Laws of Florida and OSHA Standard 29 C.F.R. s. 1926.650, Subpart P. The Bidder by execution of this Bid Proposal certifies that he will comply fully with the above said Trench Safety Act and OSHA Safety and Health Standards.

The Contractor herein verifies that he is aware of the Trench Safety Act and has in his/her bid all costs related to the requirement of this Act.

_____

Certified by Contractor

SECTON 00 25 13 – MANDATORY PRE-BID MEETING AND SITE VISIT

PART 1 – GENERAL

1.1 SUMMARY

A. Prime Bidders (Invited, Pre-Qualified Contractors) must attend the **MANDATORY PRE-BID MEETING** described in the Invitation to Bid (Section 00 11 16).

B. Attendance is mandatory for Pre-Qualified Prime Bidders. Sub-contractors are invited and encouraged to attend the Mandatory Pre-Bid Conference, but attendance is only mandatory for prime bidders.

C. Agenda Outline: Prepared by Architect
1. Public Meeting Call to Order
2. Welcome and Opening Remarks
3. Attendance roster to be signed by all attendees
4. Introduction of Owner (SJR State) Project Team Attendees
5. Introduction of Architect/Engineer & Project Team and Attendees
6. Project Summary and Scope of Work
7. Availability of Documents
    a. Plan Rooms
    b. General Contractors
    c. Sub-Trade Plan Availability
    d. Set Purchases (full)
8. Instructions to Bidders and Review of Bid Process
9. Contractual Agreement
10. Proposal Submission Requirements & List(s) of Subcontractors
11. Products and Substitutions
12. Addenda Schedule
13. Contractor Question Period (answers will be included in an addendum)
14. Closing Statements
15. Public Meeting Adjournment
16. Site Visit

PART 2 – PRODUCTS (Not applicable)

PART 3 – EXECUTION

3.1 AGENDA

A. Copies of this agenda will be available to all parties in attendance.

END OF SECTION 00 25 13

SECTION 00 31 13 – PROJECT SCHEDULE

- Bid Documents/Plans Available to Pre-Qualified General Contractors
    - Date: December 8, 2025
- **Mandatory Pre-Bid Conference**
    - Date: December 8, 2025
    - Time: 11:00 A.M.
    - Location: Palatka Campus
        - St. Johns River State College, Administration Building, Room A0152 Valhalla Hall, 5001 St. Johns Avenue, Palatka, FL 32177
- **Deadline for Bid Submission**
    - Date: January 9, 2026
    - Time: 2:00 P.M.
    - Location: Palatka Campus
        - Sealed bids, bearing on the outside of the envelope the name of the contractor and '**BID-SJR-08-2025'**, must be received in the **St. Johns River State College, Business Office, Attention: Mrs. Terry Thomas, 5001 St. Johns Avenue, Palatka, FL 32177**
- **Public Meeting to Verbally Announce Bids Received (Bid Opening)**
    - Date: January 9, 2026
    - Time: 3:00 P.M.
    - Location: Palatka Campus
        - St. Johns River State College, **Room A-112**, Executive Conference Room, 5001 St. Johns Avenue, Palatka, FL 32177
- **Electronic Posting of Bid Results & Notice of Intent to Award**
    - Date: January 12, 2026, at https://www.sjrstate.edu/082025
- **Award of Bid by SJR STATE COLLEGE**
    - Date: January 21, 2026
    - Location: DBOT Meeting St. Augustine Campus
        - St. Johns River State College, 283 College Drive, Orange Park, FL 32065
- **Electronic Posting of Bid Award**
    - Date: January 22, 2026, at https://www.sjrstate.edu/082025
- **Notice to Proceed Issued:**
    - Upon receipt of Executed Contract, Bonds, Certificate of Insurance, & Permit
    - Pre-Construction Meeting
    - Date/Time/Location**: To Be Determined**

- **Pre-Construction Meeting**
    - Date: **To Be Determined**
    - Time: **To Be Determined**
    - Location: St. Johns River State College, 5001 St. Johns Avenue, Palatka, Florida 32177
- **Construction Start**
    - Upon Notice to Proceed Issued
- **Substantial Completion**
    - ____ Calendar Days from Notice to Proceed Date
- **Final Completion**
    - ___30__ Days after Substantial Completion

END OF SECTION 00 31 13

SECTION 00 31 26 – EXISTING HAZARDOUS MATERIAL INFORMATION

1.1 EXISTING HAZARDOUS MATERIAL INFORMATION

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.

END OF SECTION 00 31 26

St. Johns River State College
Renovation of Offices with Addition, Gymnasium, Palatka Campus
Phase: Bid Documents
Bid Number: BID-SJR-09-2025

SECTION 00 41 13 – BID FORM – STIPULATED SUM

Place an "x" on the lines below of the documents attached to this form.

_____ Copy of license to do business in the State of Florida

_____ Section 00 43 31 – Trench Safety Certification

_____ Section 00 43 32 – Non-Collusion Affidavit

_____ Section 00 43 36 – List of Subcontractors

_____ Section 00 61 00 – Bid Bond Form or Cashier's Check

_____ Section 00 92 00 – Public Entity Crimes Form

_____ Section 00 92 00 – Drug Free Workplace Form

_____ Section 00 92 00 – Conflict of Interest Disclosure Form

_____ Section 00 92 00 – Non-Discrimination in Employment Form

_____ Section 00 92 00 – Hold Harmless and Indemnification Agreement

The undersigned Bidder hereby declares that the only person or persons interested in this proposal as Principal is named herein mentioned has any interest in this proposal or in the contract to be entered into; that this proposal is made without any connection with any person, company, or party submitting a proposal; and that it is in all respects fair and in good faith, without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the places where the work is to be done; that he has satisfied himself relative to the work to be performed and agrees to and by them.

_____

NAME OF BIDDER

The Bidder proposes and agrees to provide all necessary materials, equipment, machinery, tools, apparatus, means of transportation, labor, and services necessary to complete the work for BID-SJR-08-2025 for St. Johns River State College.

Base Bid: _____ ($_____)

The Bidder proposes and agrees hereby to commence the Work with an adequate force and equipment within seven (7) consecutive days after being notified by the Owner to do so and shall carry on at a rate to secure Substantial completion as indicated in the Supplementary Instructions to Bidders.

The Bidder agrees that Liquidated Damages in the amount as indicated in the Supplementary Instructions to Bidders for each day the work remains incomplete, shall be assessed against him if the work is not completed within the above specified time limit.

Attached hereto is a Bid Bond in the sum of:

_____ Dollars ($_____)

made payable to the Owner.

The following Addenda were received:

Addendum _____, Dated _____ Addendum _____, Dated _____

Addendum _____, Dated _____ Addendum _____, Dated _____

Addendum _____, Dated _____ Addendum _____, Dated _____

Date: _____

Authorizing Signature: _____

All companies certify by their signature that they have read and understand the conditions and specifications of the bid and have included all required documents, and that they have the authority, capacity, and capability to perform according to the conditions and specifications of BID-SJR-08-2025.

Company Name: _____

Address: _____

City, State, Zip: _____

Telephone Number: _____

Authorized Signature: _____

Printed Name: _____

Title: _____

END OF SECTION 00 41 13

SECTION 00 43 36 – SUBCONTRACTORS LIST

DIVISION OF WORK	PROPOSED SUBCONTRACTOR	PRINCIPAL/OFFICER	CORP. ADDRESS	LICENSE NO.
DEMOLITION				
SITEWORK				
CONCRETE				
MASONRY				
STRUCTURAL STEEL				
CEMENT PLASTER				
GLAZING				
ROOFING				
FLOORING				
HVAC				
PLUMBING				
ELECTRICAL				
PAINTING				
DRYWALL				

SIGNED: _____

(BIDDER)

SECTION 00 45 19 – NON-COLLUSION AFFIDAVIT

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. St. Johns River State College Non-Collusion Affidavit is attached. This form must be copied, completed, notarized and submitted with the Contract Documents.

PART 2 – PRODUCTS *(Not Applicable)*

PART 3 – EXECUTION *(Not Applicable)*

END OF SECTION 00 45 19

St. Johns River State College
Renovation of Offices with Addition, Gymnasium, Palatka Campus
Phase: Bid Documents
Bid Number: BID-SJR-09-2025

NON-COLLUSION AFFIDAVIT

STATE OF _____

COUNTY OF _____

I state that I _____ of _____ ,
(Name and Title) (Name of Firm)

am authorized to make this affidavit on behalf of my firm and its owner, directors and officers. I am the person responsible in my firm for the price(s) and amount(s) of this Response, and the preparation of the Response. I state that:

1. The price(s) and amount(s) of this Response have been arrived at independently and without consultation, communication or agreement with any other Provider, potential provider, Proposal, or potential Proposal.

2. Neither the price(s) nor the amount(s) of this Response, and neither the approximate price(s) nor approximate amounts(s) of this Response, have been disclosed to any other firm or person who is a Provider, potential Provider, Proposal, or potential Proposal, and they will not be disclosed before Proposal opening.

3. No attempt has been made or will be made to induce any firm or persons to refrain from submitting a Response for this contract, or to submit a price(s) higher than the prices in this Response, or to submit any intentionally high or noncompetitive price(s) or other form of complementary Response.

4. The Response of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive Response.

5. _____ , its affiliates, subsidiaries, officers, director, and
(Name of Firm)
employees are not currently under investigation, by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal Law in any jurisdiction, involving conspiracy or collusion with respect to Proposal, on any public contract, except as follows:

I state that I and the named firm understand and acknowledge that the above representations are material and important, and will be relied on by the State of Florida for which this Response is submitted. I understand and my firm understands that any misstatement in this affidavit is, ad shall be treated as, fraudulent concealment from the State of Florida of the true facts relating to the submission of responses for this contract.

Dated this _____ day of _____, 20___.

Name of Organization: _____

Signed by: _____

Printed Name: _____

Being duly sworn deposes and says that the information herein is true and sufficiently complete so as not to

be misleading. Subscribed and sworn before me this _____ day of _____, 20___.

Notary Public: _____

My Commission Expires: _____

END OF SECTION 00 45 19

DRAFT

AIA® Document A101™ – 2017

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

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

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

« »« »
« »
« »
« »

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

« »« »
« »
« »
« »

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

« »
« »
« »

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

« »« »
« »
« »
« »

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

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

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TABLE OF ARTICLES

1 THE CONTRACT DOCUMENTS

2 THE WORK OF THIS CONTRACT

3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

4 CONTRACT SUM

5 PAYMENTS

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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

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

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

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

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

[« »] By the following date: « »

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

Portion of Work	Substantial Completion Date

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

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

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

Item	Price

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

Item	Price	Conditions for Acceptance

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

Item	Price

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

Item	Units and Limitations	Price per Unit ($0.00)

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

« »

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

« »

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ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

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

« »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the « » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the « » day of the « » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than « » (« ») days after the Architect receives the Application for Payment.
(Federal, state or local laws may require payment within a certain period of time.)

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

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

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

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

.1 That portion of the Contract Sum properly allocable to completed Work;

.2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and

.3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

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

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:
(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« »

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§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

« »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

« »

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

« »

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

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

§ 5.2 Final Payment

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

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

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

« »

§ 5.3 Interest

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

« » % « »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »
« »
« »
« »

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§ 6.2 Binding Dispute Resolution

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

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[« »] Other *(Specify)*

« »

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

ARTICLE 7 TERMINATION OR SUSPENSION

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

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

« »

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

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

« »
« »
« »
« »
« »
« »

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

« »
« »
« »
« »
« »
« »

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

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other party.

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§ 8.5 Insurance and Bonds

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

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

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

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

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

.4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013 incorporated into this Agreement.)

« »

.5 Drawings

Number	Title	Date

.6 Specifications

Section	Title	Date	Pages

.7 Addenda, if any:

Number	Date	Pages

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

.8 Other Exhibits:

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

[« »] AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

(Insert the date of the E204-2017 incorporated into this Agreement.)

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« »

[« »] The Sustainability Plan:

Title	Date	Pages

[« »] Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages

.9 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

« »

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

OWNER *(Signature)*	CONTRACTOR *(Signature)*
« »« »	« »« »
(Printed name and title)	*(Printed name and title)*

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DRAFT

AIA® Document A201™ – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

« »
« »

THE OWNER:
(Name, legal status and address)

« »« »
« »

THE ARCHITECT:
(Name, legal status and address)

« »« »
« »

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3 CONTRACTOR

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14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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.

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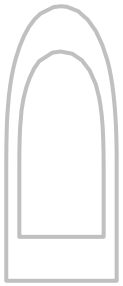

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

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

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

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

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

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

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or

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relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Evidence of the **Owner's** Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

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

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

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

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

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

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

§ 2.4 **Owner's** Right to Stop the Work

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

§ 2.5 **Owner's** Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as

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

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

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

§ 3.3 Supervision and Construction Procedures

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

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

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

§ 3.4 Labor and Materials

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

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

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

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§ 3.5 Warranty

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

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

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

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

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

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§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

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

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

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

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

§ 3.10 **Contractor's** Construction and Submittal Schedules

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

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

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

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and

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similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

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§ 3.18 Indemnification

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

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

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in

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number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

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

§ 5.4 Contingent Assignment of Subcontracts

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

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

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

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

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

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

§ 6.3 **Owner's** Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

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

.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;

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.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

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

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

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

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

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

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

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§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

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

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

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

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

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

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whom the Contractor intends to pay.

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

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

§ 9.4 Certificates for Payment

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

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

§ 9.5 Decisions to Withhold Certification

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

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

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.7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

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

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

§ 9.6 Progress Payments

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

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

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

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

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

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

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

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

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§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

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

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

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

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

§ 9.9 Partial Occupancy or Use

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

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

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not

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constitute acceptance of Work not complying with the requirements of the Contract Documents.

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§ 9.10 Final Completion and Final Payment

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

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

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

.1 employees on the Work and other persons who may be affected thereby;

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.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

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

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

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

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

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed

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by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 **Contractor's** Insurance and Bonds

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

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

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

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the

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procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 **Owner's** Insurance

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

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

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

§ 11.3 Waivers of Subrogation

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

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

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

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

§11.5 Adjustment and Settlement of Insured Loss

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

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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§ 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 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

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

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

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

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public

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§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first

authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect

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timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

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

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

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

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

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

§ 13.5 Interest

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

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or

.4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

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

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

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing

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timely notice of when and where tests and inspections are to be made so that the Architect may be present for such

portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract

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Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;

.3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

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

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

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

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

§ 14.3 Suspension by the Owner for Convenience

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

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

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

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

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

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

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work

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properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Time Limits on Claims

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

§ 15.1.3 Notice of Claims

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

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

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

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

§ 15.1.6 Claims for Additional Time

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

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

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.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

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

§ 15.2 Initial Decision

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

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

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

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

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

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

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

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

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

§ 15.3 Mediation

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

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

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

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

§ 15.4 Arbitration

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

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

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

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

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party

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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.

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SECTION 00 54 22 – UNIT PRICES SCHEDULES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

1.3 DEFINITIONS

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

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, protection from the elements, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

E. Unit prices shall be listed in Bid Proposal Form.

1.5 SCHEDULE OF UNIT PRICES

A. Unit Price “A”
1.

B. Unit Price “B”
1.

END OF SECTION 00 54 22

SECTION 00 61 00 – BID BOND FORM

BID BOND FORM

AIA Document A310, Bid Bond, February, 2010, is the form to be used.

AIA Document A310 may be purchased from the Florida Association of the American Institute of Architects, (AIA Florida), 104 East Jefferson Street, Tallahassee, Florida, telephone: 904-222-7590, fax: 904-224-8048, or may be examined at the Architect's office.

END OF SECTION 00 61 00

SECTION 00 62 00 – BONDS AND CERTIFICATES

PART 1 – GENERAL

1.1 PERFORMANCE BOND AND LABOR & MATERIAL PAYMENT BOND

A. AIA Document A312 Performance and Payment Bond, 2010 Edition is the form of to be used for this Work.

B. AIA Document A312 may be purchased from the Florida Association of the American Institute of Architects, (AIA Florida), 104 East Jefferson Street, Tallahassee, Florida, tel: 904-222-7590, fax: 904-224-8048, or may be examined at the Architect's office.

1.2 BONDS SPECIFIED ELSEWHERE

A. See ALL Divisions for other bonds, warranties, etc., that may be required.

1.3 CERTIFICATE OF INSURANCE

A. Contractor shall provide all relevant certificates of insurance.

END OF SECTION 00 62 00

SECTION 00 73 00 – SUPPLEMENTARY CONDITIONS OF THE CONTRACT

INTRODUCTORY PARAGRAPH

The following supplements, modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2007. Where a portion of the General Conditions is modified or deleted by these supplements, the unaltered portions of the General Conditions shall remain in effect.

ARTICLE 1 GENERAL PROVISIONS

1.1.3 THE WORK

Add the following sentence to the end of Paragraph 1.1.3

The term “furnish” includes purchase and delivery to Project Site. The term “install” includes receiving, unloading and storing at Project Site, installing in place, and placing in operation or finishing complete for intended use. The term “provide” includes furnishing and installing.

1.1.9 MISCELLANEOUS DEFINITIONS

1.1.9.1 The term “provide” as used in the Project Manual means to furnish and install, complete and ready for intended use.

1.1.9.2 The term “product” as used in the Project Manual includes materials, fabrications, systems and equipment.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add the following subparagraphs to Paragraph 1.2

1.2.4 Should the Drawings and Specifications conflict at any point, the work is to be done according to the Specifications insofar as the quality of materials and workmanship is concerned; but the Drawings shall govern insofar as the form or extent of the work is concerned. Should details and schedules shown on drawings conflict on any point, the schedules prevail. Large-scale details prevail over small-scale plans and elevations, and figure dimensions over scaled dimensions. AIA General Conditions, Addenda and Change Orders supersede the portions of the Documents.

1.2.5 The Drawings are intended to show the general arrangements, design and extent of the Work, and are partly diagrammatic; they are not intended to be called for rough-in measurements, or to serve as Shop Drawings. In general, the better quality or greater quantity of Work or materials shall be furnished unless otherwise indicated in Writing by the Architect.

1.2.6 Where a typical or representative detail is shown on the Drawings, this detail shall constitute the standard in workmanship and materials throughout corresponding parts of the Work; adaptation, however, shall be subject to the approval of the Architect.

1.6 TRANSMISSION OF DATA IN DIGITAL FORMAT

Add the following subparagraph 1.6.1 to Paragraph 1.6

1.6.1 Contractor’s Use of Instruments of Service in Electronic Form

.1 The Architect may, with the concurrence of the Owner, furnish to the Contractor versions of Instruments of Service in electronic form. The Contract Documents executed or identified in accordance with

Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulatable electronic operations involving computers.

.2 The Contractor shall not transfer or reuse Instruments of Service in electronic or machine readable form without prior written consent of the Architect.

ARTICLE 2 OWNER

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

Paragraph 2.2.2: At the end of this paragraph, add the following new text:

As it relates to sanitary sewer and water utility services, the Owner shall pay any applicable capital facilities fees or front footage fees, tap fees, water meters, or other required equipment items related to services provided by the utility entity.

Paragraph 2.2.5, delete the text in this paragraph and replace with the following text:

2.2.5 Upon award of the Contract, the Architect will furnish to the Contractor without charge, five (5) sets of Contract Drawings, Specifications and Addenda. The Contractor may obtain additional sets of the above from the Architect, at the cost of printing and handling.

ARTICLE 3 CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Add the following Clause after Subparagraph 3.2.1

3.2.1.1 Contractor shall ascertain the location of all existing utilities prior to beginning new and alteration work.

Verify locations of utility lines shown on Drawings; locate and mark each utility prior to start of construction. Any damage caused to any utility as a result of Work on this Project shall be promptly repaired or replaced at the sole expense of the Contractor and no additional money will be paid by the Owner.

Add the following Subparagraph 3.2.5 to paragraph 3.2

3.2.5 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for the Architect to evaluate and respond to the Contractor's requests for information, where such information was available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, or other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

Add the following Subparagraph 3.2.6

3.2.6 Claims for additional compensation or extensions of time because of the failure of the Contractor to field verify proposed and existing Work will not be allowed.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

Add the following after Subparagraph 3.3.1

.1 The Contractor shall review, verify, and be in agreement with any specified construction or installation procedure and installation prior to performing the Work, including manufacturers recommended and referenced standards, and shall report to the Architect at once if the specified procedure and instruction

(1) does not appear to follow reasonable construction practice, (2) may invalidate any specific warranty or general Contractor's warranty, or (3) may be objectionable to the Contractor for some reason.

3.3.1.2 In conjunction with reporting an objection, the Contractor shall propose, in writing, alternative procedures to which the Contractor will agree and warrant.

3.4 LABOR AND MATERIALS

Delete Subparagraph 3.4.2 and add the following:

3.4.2 After the Contract has been executed, the Owner and Architect will consider a formal request for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:

.1 represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified.
.2 represents that the Contractor will provide the same warranty for the substitutions that the Contractor would for that specified.
.3 certifies that the cost data presented is complete and includes all related costs under this Contract except the Architect's re-design costs, and waives all claims for additional costs related to the substitution which subsequently become apparent; and
.4 will coordinate installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects.

Add the following Subparagraph 3.4.4 to Paragraph 3.4

3.4.4 The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect to evaluate the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications made necessary by the Owner's acceptance of such substitutions.

Add the following to Subparagraph 3.4.3

Should the Architect or Owner find any person(s) employed on the project to be incompetent, unfit, or otherwise objectionable for his duties, the Contractor shall immediately cause the employee to be dismissed and said employee shall not be re-employed on this project without the written consent of the Architect and the Owner.

After Paragraph 3.4.4, add the following new paragraph 3.4.5:

3.4.5 The Owner will require of the Contractor that, to the fullest extent possible, preference in the employment of all skilled and unskilled labor, other than the Contractor's key personnel, be given to residents of Putnam, St. Johns and Clay counties when such labor is available and qualified to do the type of work required.

3.5 WARRANTY

After paragraph 3.5, add the following new Subparagraph 3.5.1:

3.5.1 Specific and special warranties specified are in addition to and not in lieu of the Contractor's general warranty.

3.6 TAXES

Add the following to Paragraph 3.6

3.6.1 Contractor shall pay unemployment and Social Security taxes and other taxes imposed by Local, City, State, or Federal government and certify to Owner that this has been done before final payment is made to Contractor.

3.6.2 SJR State reserves the right to implement a sales tax savings program by selecting certain items for Direct Purchase. See Article 16.6 of these Supplementary Conditions.

3.7 PERMITS, FEES AND NOTICES

Delete Subparagraph 3.7.1 and substitute the following:

3.7.1 The Owner shall secure and pay for the building permit and the Contractor shall secure and pay for all other permits, governmental fees, licenses, and inspections necessary for proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required when bids are received or negotiations concluded.

Add the following Clause 3.7.1.1 to Subparagraph 3.7.1

3.7.1.1 Contractor shall provide copies of Change Orders to the Building Official and DOE.

3.9 SUPERINTENDENT

Add the following Subparagraph 3.9.4 to Paragraph 3.9

3.9.4 The Contractor shall employ a superintendent or an assistant to the superintendent who will perform as coordinator for the mechanical and electrical work. The coordinator shall be knowledgeable in mechanical and electrical systems and capable of reading, interpreting and coordinating Drawings, Specifications, and Shop Drawings pertaining to such systems. The coordinator shall assist the Subcontractors in arranging space conditions to eliminate interference between the mechanical and electrical systems and other work, and shall supervise the preparation of coordination drawings documenting the spatial arrangements for such systems within restricted spaces. The coordinator shall assist in planning and expediting the proper sequence of delivery of mechanical and electrical equipment to the site.

3.12 SHOP DRAWINGS< PRODUCT DATA AND SAMPLES

Add the following Subparagraph 3.12.11 to Paragraph 3.12

3.12.11 The Architect's review of the Contractor's submittals will be limited to examination of an initial submittal and two (2) re-submittals. The Architect's review of additional submittals will be made only with the consent of the Owner after notification by the Architect. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for evaluation of such additional re-submittals.

3.13 USE OF SITE

Add the following Subparagraph 3.12.3 to Paragraph 3.13

3.13.2 The Contractor shall confine his equipment, storage of materials, and operations of his workmen to limits directed by the Architect. Materials shall not be brought onto the site until reasonably required for the progress of the Work. Storage space will be confined to a designated area of the site. When the site is not in a condition to receive a material shipment, the Contractor shall have materials properly stored elsewhere at no additional cost to the Owner. No payment for materials shall be made unless material is stored on site.

3.13.3 Material shall be arranged and maintained in an orderly manner with use of walks, drives, roads and entrances unencumbered. Store, place and handle material and equipment delivered to project site so as to preclude

inclusion of foreign substances or causing discoloration. Pile neatly and completely and barricade to protect public from injury. Protect material as required to prevent damage from ground or weather. Should it be necessary to move material at any time, or move sheds or storage platforms, Contractor shall move them as and when required at no additional cost to the Owner. The Owner assumes no responsibility for stored materials in building or on site. The Contractor shall assume full responsibility for damage due to storing of materials. Repairing of areas used for the placing of sheds, offices, and storage of materials shall be done by the Contractor.

3.14 CUTTING AND PATCHING

After paragraph and the following new paragraph 3.14.3:

3.14.3 Existing structures and facilities, including but not limited to buildings, utilities, topography, streets, curbs, sidewalks, landscape materials and other improvements that are damaged or removed due to Contractor's work, shall be patched, repaired, or replaced by the Contractor to the satisfaction of the Architect and authorities having jurisdiction. In the event that local authorities having jurisdiction require that such repairing and patching be done with their own labor and materials, the Contractor shall abide by such regulations and pay for such work.

ARTICLE 4 ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

Paragraph 4.2.3, at the end of this paragraph, add the following new text:

If on-site inspections and observations disclose defects and deficiencies, or work not being carried **out in accordance with the Contract Documents, the Architect shall request the Contractor to correct such deficiencies.** If the Contractor fails to take corrective action within a reasonable time, the Architect will notify the Owner in writing with a copy of such notice to the Contractor, calling the Owner's attention to the Contractor's failures to carry out the provisions of the Contract.

At the end of Paragraph 4.2.13, add the following new text to the end of the last sentence:

And, if and when approved by the Owner.

Add the following Clause after Subparagraph 4.2.4:

4.2.4.1 Any direct communication between the Owner and Contractor which may affect the administration or performance of the Contract shall be made or confirmed in writing, with copies to the Architect.

ARTICLE 5 SUBCONTRACTORS

5.2 THE AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

In the first sentence of Subparagraph 5.2.1 change the phrase "…as soon as practicable…" to read "…within 10 days…"

ARTICLE 6 CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

6.2.6 Claims, disputes and other matters in question between the Contractor and a separate contractor shall be subject to the provisions of Paragraph 4.3, provided the separate contractor has reciprocal obligations. If such separate contractor sues the Owner on account of damages alleged to have been sustained, the Owner shall have the option of defending such proceeding or of notifying the Contractor who shall defend such proceeding and shall pay all

costs in connection therewith; and if any judgment against the Owner arises therefrom, the Contractor shall pay or satisfy it, together with the Owner's reasonable costs, including attorney's fees and court costs.

Add the following Subparagraphs to Paragraph 6.2

6.2.7 Project meetings will be held at times designated by the Architect after conference with the Contractor. Contractor and designated Subcontractors must attend these meetings. If the principal of the firm does not attend meetings, the individual representing the firm must be a responsible representative of the company who can bind the company to a decision at the meeting.

ARTICLE 7 CHANGES IN THE WORK

7.1 GENERAL

Add the following to Paragraph 7.1.3

"The cost of all changes in the Work shall be substantiated by complete itemized statements showing quantities and unit prices for all material, labor (including all fringe benefits), equipment and other items of cost. Cost of labor (including applicable fringe benefits) and materials shall be actual costs to the Contractor. The Contractor shall submit receipts or other evidences, as the Architect may direct, showing his actual costs and his rights to the payment claims."

Add the following Paragraph 7.1.4 and Clauses to Paragraph 7.1

7.1.4 In the maximum percentage of profit and overhead which may be added to actual costs of changes in the Work shall be as follows:

.1 For Work done by his own organization, the Contractor may add ten percent (10%) of his actual costs.
.2 For Work done by Subcontractors, the respective Subcontractor may add ten percent (10%) of their costs and the Contractor may add ten percent (10%) of the above Subcontractor's total
.3 Overhead shall include the following: Supervision, wages or timekeepers, watchmen and clerks, hand tools, incidentals, general office expense, and all other expenses not included in "cost".
.4 Authorizations for changes in the Work shall be made in writing to the Architect and the Owner, and no claim for the revision of the Contract Sum shall be valid unless so authorized.

7.3 CONSTRUCTION CHANGE DIRECTIVES

Paragraph 7.3.7 Delete the first sentence and replace with the following new first sentence:

"If the Contractor does not respond promptly, i.e. within 14 calendar days, or disagrees with the method for adjustment in the Contract Sum, the method and adjustment shall be determined by the Architect 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 allowance for overhead and profit in accordance with the Contract Specifications. Should the response take longer than 14 calendar days, a written explanation of why more time is required must be submitted to the architect."

Paragraph 7.3.7, at the end of this paragraph add the following text

Cost shall not include any of the following:

.6 Salaries or other compensation of the Contractor's personnel at the Contractor's office unless direct additional expenses have been incurred exclusively because of the change;
.7 Expenses of the Contractor's offices, including the field office;
.8 Any part of the Contractor's capital expenses, including interest on the Contractor's capital;
.9 Costs due to the negligence of the Contractor, or any Subcontractor

.10 Overhead, general expense, and the cost of any item not specifically or reasonably inferable as included in the items described in 7.3.6.1 through 7.3.6.5

ARTICLE 8 TIME

Add the following Subparagraphs to Paragraph 8.2

8.2.4 The Contractor shall furnish sufficient forces, construction plant and equipment, and shall work such hours, including night shifts and overtime operations, as may be necessary to ensure prosecution of the work in accordance with the approved progress schedule. If the Contractor falls behind the progress schedule, he shall take such steps as may be necessary or as may be directed by the Architect to improve his progress by increasing the number of shifts, overtime operations, days of work, and the amount of construction plant, as may be required, at no additional cost to the Owner.

8.2.5 Failure of the Contractor to comply with the requirements under this provision shall be grounds for determination that the Contractor is not prosecuting the work with such diligence as will ensure completion within the time specified and such failure constitutes a substantial violation of the conditions of the Agreement.

8.2.6 Upon such determination, the Owner may terminate the Contractor's right to proceed with the work, or any separate part thereof, in accordance with Paragraph 14.2.

8.2.7 Failure to complete the project within the time fixed in the Agreement will result in substantial injury to the Owner, and damages arising from such failure cannot be calculated with any degree of certainty; therefore, if the project is not substantially completed within the time fixed in the Agreement, or within such further time, if any, as shall be allowed for substantial completion, the Contractor shall pay to the Owner liquidated damages for such delay for each and every calendar day elapsing between the date fixed for substantial completion and the date such substantial completion shall have been fully accomplished in accordance with the following:

SCHEDULE OF LIQUIDATED DAMAGES:

Five Hundred Dollars ($500.00) per calendar day.

8.2.8 Provision for assessment of liquidated damages for delay in no manner affect the Owner's right to terminate the Contract as provided in Article 14 of the General Conditions or elsewhere in the Contract Documents. The Owner's exercise of the right to terminate shall not release the Contractor from his obligation to pay said liquidated damages in the amounts set out in the Agreement.

8.2.9 The Owner may deduct from the balance retained by the Owner under the provisions of Paragraph 9.4.3 any liquidated damages which may have occurred of such portion thereof as the said balance will cover.

ARTICLE 9 PAYMENTS AND COMPLETION

Add the following after Subparagraph 9.1.1

9.1.2 In conformance with the requirements of Section 725.06, Florida Statutes, the specific considerations for the Contractor's promises are:

9.1.2.1 One dollar ($1.00) in hand paid by the Owner, the Architect and the Architect's employees to the Contractor, receipt whereof is hereby acknowledged and adequacy of which the Contractor accepts as completely fulfilling the obligations of the Owner, the Architect and the Architect's employees under the requirements of Section 725.06, Florida Statutes, and;

9.1.1.2 The entry of the Owner and the Contractor into the construction contract because, but not for the Contractor's promises as contained in the Contract Documents, the Owner would not have entered into the construction contract with the Contractor.

9.3 APPLICATION FOR PAYMENT

Add the following Clause to Subparagraph 9.3.1:

9.3.1.3 The Owner allows for a reduction in retainage to two and a half percent (2.5%) once the project reaches 50% complete. This reduction in retainage is subject to the project conditions as determined by the Architect and if the reduction is warranted.

In Subparagraph 9.3.3, change the first sentence to read:

“The Contractor warrants that title to all work and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the construction or upon receipt of payment by the Contractor.”

In the second sentence of Subparagraph 9.3.3, delete the words, “to the best of the Contractor’s knowledge and belief.”

9.4 CERTIFICATES FOR PAYMENT

Add the following to Subparagraph 9.4

9.4.3 Five percent (5%) of each payment will be retained until the Contract, including Change Orders, is substantially complete. Payments of the amounts retained will be due ten (10) days after final acceptance by the Owner and issuance of certificates by the State as described in Paragraph 9.10.1

9.6 PROGRESS PAYMENTS

In the first line of Subparagraph 9.6.3, change the words “The Architect will, upon request…” to read, “The Architect may, on request and at his discretion…”

9.8 SUBSTANTIAL COMPLETION

Add the following Clause 9.8.3.1 to Subparagraph 9.8.3

9.8.3.1 Except with the consent of the Owner, the Architect will perform no more than two (2) inspections to determine whether the Work, or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for any additional inspections

9.8.5 Delete the second sentence and substitute the following:

“Upon such acceptance and consent of surety, if any, the Owner shall make payment sufficient to increase the total payments to ninety-five percent (95%) of the Contract Sum, less such amounts as the Architect shall determine for incomplete work and unsettled claims.”

9.10 FINAL COMPLETION AND FINAL PAYMENT

Add the following Clauses to Subparagraph 9.10.1:

.2 Except with the consent of the Owner, the Architect will perform no more than two (2) inspections to determine whether the Work, or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner shall be entitled to deduct from the Contract Sum amounts paid to the Architect for any additional inspections.

Add the following Subparagraph to Paragraph 9.10

9.10.6 Final payment shall be made to the Contractor as provided by the Agreement between the Owner and Contractor. Application for final payment shall be in the same form as application for progress payments as described in Paragraph 9.3.1 and shall be accompanied by the following additional items:

.1 Completed and notarized waivers and releases of lien in a form acceptable to the Architect and Owner (refer to attached Waiver of Lien Certificate).

.2 Certificates of Inspection and Occupancy as required by law

.3 Such other data and substantiating information as may be required elsewhere in these Contract Documents including, but not limited to, all required guarantees, warranties, operating and maintenance manuals, As-Built drawings, or as may be required by the Owner or Architect and as described in DIVISION 1, SECTION 1770, CLOSEOUT PROCEDURE

ARTICLE 10 PROTECTION OF TREES AND PROPERTY

Add the following after Article 10.5:

10.6 FLORIDA TRENCH SAFETY ACT

10.6.1 The Occupational Safety and Health Administration excavation safety standards, 29CFR 1926.650 Subpart B trench safety standards are in effect during the period of construction of the Project. In compliance with current State of Florida statutes, the Contractor or subcontractor performing trench excavation work on the Project shall comply with the applicable trench safety standards

ARTICLE 11 INSURANCE AND BONDS

Article 11 of the AIA General Conditions as written is deleted in its entirety and is superseded as follows:

11.1 Definitions:

11.1.1 Contractor: As used in this Article 11, is the Contractor and any and all of his Subcontractors, employees, agents and representatives

11.2 Builder's Risk Insurance: Contractor shall purchase, maintain, and pay for the costs of Builder's Risk Insurance (fire, extended coverage, vandalism, theft, and malicious mischief) on all construction materials and the buildings or structures in the course of construction. Said Builder's Risk insurance shall insure to the benefit of Owner and Owner's interests. Contractor shall be responsible for the loss of, or damage to, any and all of the Contractor's personal property; such as tools, equipment, mobile office, etc.

11.2.1 Extended Coverage: The usual form currently available and covering perils of windstorm, hail, explosive, riot and civil commotion, damage from aircraft and vehicles and smoke damage

11.3 Liability Insurance: The Contractor will purchase and maintain during the entire time of this Agreement comprehensive general liability and comprehensive automobile liability insurance as shall protect him for property damages which may arise from operations under this Agreement whether such operations be by himself or by anyone directly or indirectly employed by him, and the amounts of such insurance shall be the minimum limits as follows:

11.3.1 Comprehensive General Liability including Personal Injury, Products Completed, Operations Coverage, Independent Contractor's Protective, and Contractual Liability

Bodily Injury and Property Damage:

$1,000,000	Each Occurrence
$5,000	Medical Payments (Any one person)
$1,000,000	Personal and Adv. Injury
$2,000,000	General Aggregate
$2,000,000	Products – Comp/OP Aggregate

General Aggregate Limit applies per Product; Products – Comp/OP Aggregate applies per Project; Waiver of Subrogation in favor of Owner

Products and Completed Operations to be maintained for one (1) year after final payment

Property Damage Liability Insurance will provide X, C and U coverage when such contracts are affected. Owner shall be named as additional insured on all liability insurance.

11.3.2 Comprehensive Automobile Liability:

Combined Single Limit Each Accident	$1,000,000 -or-
Bodily Injury per Person	$1,000,000
Bodily Injury per Accident	$2,000,000
Property Damage per Accident	$1,000,000

Owner shall be named additional insured; Waiver of Subrogation in favor of Owner

11.3 Worker's Compensation Insurance: Contractor shall take out and maintain, during the life of this Agreement, Worker's Compensation Insurance in compliance with Chapter 440, Florida Statutes, for all of his employees connected with the work of this project and further, the Contractor shall require his Subcontractors similarly to provide Worker's Compensation Insurance. In case any class of employee engaged in hazardous work under this Contract at the site of the project is not protected under the Worker's Compensation Statute, the Contractor shall provide adequate insurance satisfactory to the Owner for the protection of his employees not otherwise protected

Required Limits:

1. Worker's Compensation – Statutory Benefits
2. Employer's Liability

$1,000,000 each employee	Bodily Injury by Accident
$1,000,000 each employee	Bodily Injury by Disease
$1,000,000 policy limit	Bodily Injury by Disease

Waiver of Subrogation in favor of Owner

11.4 Anything in the Contract Documents to the contrary notwithstanding and in addition to the insurance required to be maintained by the Contractor as hereinabove set forth, Contractor agrees to indemnify, hold harmless and defend Owner and Architect against any and all claims, loss, damage to or destruction of property including, without limitation, property and employees of Owner, occurring wholly or in part, as the result of work done or omitted to be done by, or contracted to be done but not done by, Contractor or his Subcontractors or the employees or agents or invites either arising from injury to or death of persons or damage to or destruction of

property due or claimed to be due, in whole or in part, to any negligence or fault of Owner or its employees, agents, or invites, except claims, loss, damage, costs or expense resulting from risks as are hereinabove required to be insured by Owner.

11.5 Contractor shall submit to Owner before commencement of work, evidence of the above required insurance, which shall contain certification by the insurance companies that such insurance shall not be cancelled or materially changes until at least ten (10) days prior to written notification being given to the Owner. The Form of Certificate shall be the standard “Accord” form, Certificate of Insurance. The Contractor shall furnish the Owner copies of any endorsements that are subsequently issued amending coverage or limits

11.6 Anything in Paragraphs 4.18.1, 4.18.2, and 4.18.3 of the General Conditions to the contrary of the indemnification obligations hereby set forth shall not be applicable as between the Owner and Contractor, and any and all references to Owner therein deleted

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

Delete Paragraph 12.2.2 in its entirety and add the following:

12.2.2 If, after the approval of final payments and prior to expiration of one (1) year thereafter, or such longer period of time as may be prescribed by law or the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, it shall be repaired by the Contractor. In case of an emergency, brought about by defective work of the Contractor, the Owner may proceed immediately to make the necessary and charge the cost of same to the Contractor without giving any notice to the Contractor.

ARTICLE 13 MISCELLANEOUS PROVISIONS

13.6 INTEREST

Delete Paragraph 13.6.1

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

14.2 TERMINATION BY THE OWNER

Delete Paragraph 14.2.1 in its entirety and add the following:

14.2.1 If the Contractor is adjudged a bankrupt, or makes a general assignment for the benefit for the benefit of creditors, or if a receiver is appointed on account of the Contractor’s insolvency, or if the Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or fails to make prompt payment to Subcontractors for materials or labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or if the Contractor:

1. Fails to correct, replace and/or re-execute faulty or defective work and/or materials furnished under this Agreement; or
2. Fails to complete or diligently proceed with the Work required by this Agreement, within the time constraints of the construction schedule maintained by the Architect; or
3. Fails to correct or repair any damage to Work caused by him or his failure to protect his Work or the Work of others; or
4. Fails to provide safe and sufficient facilities, orderly premises and the cleanup of the Work required under this Agreement; or
5. Is unable to proceed with the Work because of any action by one or more employees of the Trade Contractor or by a person or labor organization supporting or attempting to represent any employees of the Trade Contractor; or otherwise is guilty of a substantial violation of the provision of the Contract Documents, and

fails within 72 hours after receipt of written notice to commence and continue correction of such default, neglect or violation with diligence and promptness, the Owner, upon certification by the Architect that sufficient cause exists to justify such action, may without prejudice to any other remedy the Owner may have, terminate the employment of the Contractor and take possession of the site and all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and may finish the Work by whatever methods the Owner deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

ARTICLE 15 CLAIMS AND DISPUTES

Add the following to Paragraph 15.1.4

Unless otherwise provided in the Contract Documents, cost shall be limited to the following: cost of material at the trade discount cost, including sales tax and cost of delivery; cost of labor, including Social Security, unemployment insurance, and fringe benefits required by agreement or custom; Worker's Compensation Insurance, bond premium not to exceed one percent (1%); rental value of equipment and machinery at trade discount cost plus sales tax and the additional cost of supervision directly attributable to the change only if the change (or total time extension of all changes) results in an extension of the contract time for more than thirty (30) days. The bond premium of all credit amounts shall be added to the total credit allowed the Owner. No bond cost shall be allowed for a Subcontractor's bond cost.

Add the following Clauses to Subparagraph 15.1.5

15.1.5.3 Claims for an increase in Contract Time shall set forth in detail the circumstances that form the basis for the claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the Work, and the number of days increase in the Contract Time claimed as a consequence of each cause to delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the claim.

15.1.5.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent delays due to the fault of the Contractor.

ARTICLE 16 – ADDITIONAL CONDITIONS (ADDED ARTICLE)

16.1 MINIMUM WAGE (NOT REQUIRED)

16.2 APPRENTICES AND TRAINEES

16.2.1 The Contractor shall conform to all requirements of Section 466.101 of the Florida Statutes with respect to apprentice and trainee employment

16.3 EQUAL OPPORTUNITY

16.3.1 The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, or age. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated fairly during employment without regard to their race, religion, color, sex, national origin, or age. Such action shall include, but not be limited to the following:

16.3.2 Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination in accordance with local, state and federal guidelines.

16.4 PREFERENCE TO HOME INDUSTRIES

16.4.1 The Contractor agrees that, pursuant to Section §255.04, Florida Statutes, preferences will be given in the purchase of material and in the letting of contracts for the construction of this project to the residents of the State whenever such material can be purchased or services can be employed at no greater expense than that which could be obtained if such purchase was made or contact let to a person or firm doing business beyond the limits of the State, provided that quality of materials, qualifications, character, responsibility and fitness be equal.

16.5 CODE REQUIREMENTS

16.5.1 All work under this Contract shall be completed with the Florida Building Code, 2014 Edition, and any/all subsequent addenda, as well as all local, County, State, and Federal laws, codes or requirements.

WAIVER OF LIEN AND CERTIFICATION

St. Johns River State College
Palatka, Florida

KNOW ALL MEN BY THESE PRESENTS, that _____

_____

For and in consideration of _____Dollars, and other good and valuable considerations, lawful money of the United States of America, to me in hand paid, the receipt whereof is hereby acknowledged, does hereby waive, release, remise and relinquish any and all right to claim any lien or liens for work done or material furnished, or any kind of class of lien whatsoever on the following described property:

DATED this _____ day of _____, 20____.

at _____.

BY:_____

TITLE:_____

Sworn to and Subscribed to me this _____ day of _____, 20_____.

_____

NOTARY PUBLIC
MY COMMISSION EXPIRES:

NOTARY SEAL

_____
(Date)

END OF SECTION 00 73 00

SECTION 00 91 13 – ADDENDA AND MODIFICATIONS

PART 1 – GENERAL

1.1 ADDENDA

A. Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which may modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

B. Addenda prepared prior to issuance of the Project Manual are included or referenced at the end of this document.

C. Addenda prepared after the issuance of the Project Manual should be added for reference at the end of this document.

D. All addenda shall be acknowledged by the Bidder on the Bid Form.

E. Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification sections apply to this section.

1.2 MODIFICATIONS

A. See General Conditions, Article 1 for the complete definition of modifications

B. Modifications, if inserted into the Project Manual, should be located at the end of this document.

PART 2 – PRODUCTS (*Not Applicable*)

PART 3 – EXECUTION (*Not Applicable*)

END OF SECTION 00 91 13

SECTION 01 10 00 – SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Owner-furnished products.
4. Access to site.
5. Work restrictions.
6. Specification and drawing conventions.
7. Miscellaneous provisions.

1.3 PROJECT INFORMATION

A. Project Identification: St. Johns River State College, Site Improvements Project

1. Project Location: Palatka Campus, Palatka, Florida.

B. Owner: St. Johns River State College, 5001 St. Johns Avenue, Palatka, Florida 32177.

1. Owner's Representative:
   a. Mrs. Terry Thomas
   b. AVP of Facilities, Planning and Capital Projects
   c. St. Johns River State College
   d. 5001 St. Johns Avenue, Palatka, Florida 32177
   e. (386) 312-4110 (Office)
   f. TerryThomas@sjrstate.edu

2. For Facilities:
   a. Tom Reynolds
   b. Director of Facilities Operations
   c. St. Johns River State College
   d. 283 College Dr., Orange Park, Florida 32065
   e. 904-276-6763/Fax 904-276-6769
   f. TomReynolds@sjrstate.edu

C. Architect: CRG ARCHITECTS/PALATKA, INC., 216A St. Johns Ave, Palatka, FL 32177

1.4 REQUIREMENTS

A. The Owner/Contractor Contract shall take precedence over requirements indicated within the specifications.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:
This project is necessary to correct deficiencies in our existing campus infrastructure but with the long view approach of upgrading capacity to allow for future growth and expansion of campus assets. The systems which will benefit from this upgrade approach include potable water supply, fire sprinkler supply, electrical service, gas service, sewer system, and surface water management. The scope of The Project also includes site construction, specifically: improvement and expansion of an existing campus access road, the construction of a new parking lot, the construction of new campus walkways, and the addition of new site lighting and signage.

B. Type of Contract:

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

C. In the event of conflicts between the Construction Managers Contract with the Owner and requirements as stipulated in Division 01 Requirements the Construction Manager/Owner Contract shall govern.

1.6 CONTRACTOR RESPONSIBILITIES

A. Designate submittals and delivery date for each product.

B. Review shop drawings, product data, samples, and other submittals. Submit to Engineer with notification due to non-conformance with Contract Documents. Shop drawings that are not reviewed by the Contractor shall be returned.

C. Receive and unload products at site

D. Inspect deliveries, record shortages, and damaged or defective items and inform the Engineer.

E. Coordination of Work

1. The General Contractor and Subcontractors shall review other sections of work applicable to their work and ascertain requirements in other sections applicable to their work. Each shall be held responsible for coordination and inclusion of the work indicated as it were in the particular subcontractor's section. The Engineer shall be advised of any discrepancies or conflicts at the earliest moment.
2. All subcontractors, suppliers, etc., shall be responsible for knowing what information is given on all sheets of the plans and specifications concerning his particular work.
3. Paragraphs 1 and 2 shall be included in the Contractor-Subcontractor agreement.

F. Effect of Addenda, Amendments, Bulletins, Deletions, Omissions and Change Orders

1. No special implication, interpretation, in construction, connotation, denotation, import, or meaning shall be assigned to any provision of the Contract Documents because of changes created by the issuance of any (1) addendum, (2) amendment, (3) bulletin, (4) notice of other than the precise meaning that the contract documents would have had if the

provision thus created had read originally as it reads subsequently to the (1) addendum, (2) amendment, (3) bulletin, (4) notice of deletion, (5) notice of omission, or (6) change order by which it was created.

G. Contract Forms and Requirements

1. Forms, requirements and documents included under Division 1 of this Project Manual together with the Table of Contents are a part of the Contract Documents.
2. Drawing sheets as identified on Index to Drawings are a part of the Contract Document
3. Documents, affidavits, and printed forms included in the Contract Documents are required by the Owner.
4. The requirement of Division 1 applies to all Divisions and Sections of the Project Manual as if reproduced therein.

1.7 DOCUMENT PRIORITIES

A. Anything shown on the drawings and not mentioned in the specifications or mentioned in the specifications and not shown on the drawings shall have the same effect as if shown or mentioned respectively in both.

B. Detail drawings take precedence over general drawings. Any work shown on one drawing shall be construed to be shown in all drawings and the Contractor will coordinate the work and the drawings.

C. If any portion of the Contract Documents shall be in conflict with any other portion, the various documents comprising the Contract Documents shall govern in the following order of precedence:

1. The Owner-Contractor Agreement
2. Modifications
3. Addenda
4. Supplementary Conditions
5. General Conditions
6. Specifications
7. Drawings
8. Between schedules and information given on drawings, the schedules shall govern.
9. Between figures given on drawings and the scaled measurements, the figures shall govern.
10. Between large-scale drawings and small-scale drawings, the larger scale shall govern.

D. Any such conflict or inconsistency between or in the drawings shall be submitted to the Design Consultant whose decision thereon shall be final and conclusive.

1.8 LEFT BLANK

1.9 OWNER-FURNISHED CONTRACTOR INSTALLED PRODUCTS

A. Owner will furnish products indicated to be installed by the Contractor. The Work includes receiving, unloading, handling, storing, protecting, and installing Owner-furnished products.

B. The owner will furnish the products indicated. The Work includes providing support systems to receive Owner's equipment and making plumbing, mechanical, and electrical connections.

1. Owner will arrange for and deliver Shop Drawings, Product Data, and Samples to Contractor.

2. Owner will arrange and pay for delivery of Owner-furnished items according to Contractor's Construction Schedule.
3. After delivery, Owner will inspect delivered items for damage. Contractor shall be present for and assist in Owner's inspection.
4. If Owner-furnished items are damaged, defective, or missing, Owner will arrange for replacement.
5. Owner will furnish Contractor the earliest possible delivery date for Owner-furnished products. Using Owner-furnished earliest possible delivery dates, Contractor shall designate delivery dates of Owner-furnished items in Contractor's Construction Schedule.
6. Contractor is responsible for receiving, unloading, and handling Owner-furnished items at Project site.
7. Contractor is responsible for protecting Owner-furnished items from damage during storage and handling, including damage from exposure to the elements.
8. If Owner-furnished items are damaged as a result of Contractor's operations, Contractor shall repair or replace them.
9. Contractor shall install and otherwise incorporate Owner-furnished items into the Work.
10. A schedule of owner furnished items is included on the drawings.

C. Owner-Furnished Products:

1. Items indicated on the drawings.

1.10 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on drawings by the Contract limits and as indicated by requirements of this section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
1. Driveways, Walkways and Entrances: Keep driveways parking areas and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

D. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.11 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

B. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

C. On-Site Work Hours: Work shall be carried out as described below:

1. On-Site Work Hours: Work shall be generally performed within the normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, except otherwise indicated.
2. Weekend Hours: Upon approval by the owner work times same as weekdays. There will

be no additional costs to the Owner for necessary, scheduled sequence-required Contractor work performed after hours or weekend hours.

3. Early Morning Hours and Late Night Hours: Upon approval by the Owner. There will be no additional costs to the Owner for necessary, scheduled sequence-required Contractor work performed after hours.
4. Hours for Utility Shutdowns: Coordinate with Owner.

D. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify and obtain written permission from the Engineer not less than 72 hours in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Owner's written permission.

E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

F. Employee Screening: Comply with requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

1.12 SPECIFICATION AND DRAWING CONVENTIONS

A. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

B. Drawing Coordination: Requirements for materials and products identified on drawings are described in detail in the Specifications. One or more of the following are used on drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 10 00

SECTION 01 23 00 – ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this section. Specification sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. _____

END OF SECTION 01 23 00

SECTION 01 25 00 – SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, or regulatory changes.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use facsimile of form provided in Project Manual.
2. Include complete information as required in the Substitution Form. Incomplete information will result in automatic rejection of the substitution request.
3. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
    b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
    c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
    d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    e. Samples, where applicable or requested.

f. Certificates and qualification data, where applicable or requested.
g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
h. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
i. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
j. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
k. Cost information, including a proposal of change for a credit to the owner, if any, in the Contract Sum.
l. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
m. Submittals not requested will not be recognized or processed.

4. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven (7) days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) days of receipt of request, or seven (7) days of receipt of additional information or documentation, whichever is later.
   a. Forms of Acceptance: Substitution Request Form.
   b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

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

1.6 PROCEDURES

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

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Contractor shall submit any REQUESTS FOR SUBSTITUTION, in writing to the architect/engineer of record prior to Addendum cutoff date and before bidding on any project.

B. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
   a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
   b. Substitution request is fully documented and properly submitted.
   c. Requested substitution will not adversely affect Contractor's construction schedule.
   d. Requested substitution has received necessary approvals of authorities having jurisdiction.
   e. Requested substitution is compatible with other portions of the Work.
   f. Requested substitution has been coordinated with other portions of the Work.
   g. Requested substitution provides specified warranty.
   h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

C. Substitutions for Convenience: Not allowed.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 25 00

SUBSTITUTION REQUEST FORM

Contractor

Name

Specification Section

Date

Originally Specified Item, Manufacturer, and Model Number

Project Name

Proposed Substitution Item, Manufacturer, and Model Number

Project Number

1. Reason for requested change: _____
2. Does the product substitution effect any other trades: _____
3. The Contractor certifies the following:
   a. The attached data consist of a description of the product including material, specifications, fabrication shop drawings, performance characteristics, and applicable test report.
   b. The function, appearance, and quality of the proposed substitution will be equal or better than the originally specified item.
   c. A written comparison of the proposed substitution requested item and the specified item will be provided.
   d. The substitution will not require changes to the building design documents and will not adversely affect other trades, the project schedule, and specified warranties.
   e. Servicing and maintenance of the substitution will not differ from the originally specified item.
   f. No cost to the Owner will be associated with the substitution.
   g. Contractor/CM shall assume responsibility for delay or claims arising from review and evaluation of requested product substitution.
   h. Approval of proposed substitution shall have no effect on coordination and installation of work in accord with contract documents.
4. Substitution approval is an acceptance of only the manufacturer and product for general conformance with the design concept reflected in the Contract Documents. The A/E has made no attempt to verify specific performance data, or to check the details of the proposed substitution as to special features, capacities, physical dimensions or code and/or regulatory compliance, all of which remain the responsibility of the person/entity submitting the proposed substitution.
5. Contractor/CM Signature: _____

Review:

☐ Approved

☐ Approved as Noted

☐ Rejected

☐ Request Received Late and Rejected

Reviewer: _____

Date: _____

END OF SECTION 01 25 00.1

SECTION 01 26 00 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.3 ARCHITECTURAL SUPPLEMENTAL INSTRUCTIONS

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

B. In the event a change in Contract Sum or Contract Time is required by the Contractor, he shall so inform the Architect in writing within one (1) week of receipt of Supplemental Instruction or Clarification. A subsequent Proposal Request and Change Order will be issued prior to the Contractor proceeding with the work, unless a specific cost and/or time change has been agreed to and authorization to proceed is included in the Supplemental Instruction, or is subsequently issued.

C. Architect will sign and date the Supplemental Instruction or Clarification as authorization for the Contractor to proceed with changes.

D. Contractor will sign and date the Supplemental Instruction to indicate agreement with the terms therein and return to the Architect.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
2. Within twenty (20) days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

3. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
5. Include costs of labor and supervision directly attributable to the change.
6. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time. Request for addition time must show that the critical path and project completion schedule are impacted by the change.
7. Proposal Requests are not valid until Architect and Owner approve in writing. Upon approval the Proposal Request will be incorporated into a Contingency Adjustment Authorization.
8. Quotation Form: Use AIA G709.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time. Request for addition time must show that the critical path and project completion schedule are impacted by the change.
6. Comply with requirements in specification section "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Requests are not valid until Architect and Owner approve in writing. Upon approval the Proposal Request will be incorporated into a Contingency Adjustment Authorization.
8. Proposal Request Form: Use AIA G709.

1.5 ADMINISTRATIVE CHANGE ORDERS

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

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714 – “Construction Change Directive” instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.7 CHANGE ORDER PROCEDURES

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

B. Change Order will constitute authorization to proceed with additions and deletions as defined by Proposal Request.

C. Change Order will provide an accounting of the adjustment in the Contract Sum and/or Contract Time.

D. Content of Change Order will be based on either:

1. Architect's Proposal Request and Contractor's responsive Proposal as mutually agreed between Owner and Contractor.
2. Contractor's Proposal for a change as recommended by Architect.
3. Owner authorized Construction Change Directive as mutually agreed between Owner and Contractor and recommended by Architect.
4. Executed Architect's Supplemental Instructions.

E. Owner will sign and date the Change Order as authorization for the Contractor to proceed with the changes.

F. Contractor will sign and date the Change Order to indicate agreement with the terms therein

1.8 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of work, and to record the adjusted Contract Sum. Submit along with Applications for Payment.

B. Periodically revise the Construction Schedule to reflect each change in Contract Time:

1. Revise schedules to show changes for other items of work affected by the changes.
2. Submit revised Schedule to Architect and Owner; submit revised schedules to subcontractors of other work affected by the changes.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 EXECUTION OF CONSTRUCTION CHANGE DIRECTIVES AND PROPOSAL REQUESTS

A. Contractor shall, upon receipt of either document, proceed in a timely fashion to execute the documents and incorporate required items into the project when so indicated. Execute documents within two (2) weeks.

B. Contractor shall inform all affected trades immediately upon receipt of above mentioned documents and receive written indication of either no change in Contract Price, or a fully itemized breakdown of costs to be incurred. Price breakdowns shall be documented as indicated.

END OF SECTION 01 26 00

SECTION 01 29 00 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1. Schedule of values
2. Applications of payment

1.3 DEFINITIONS

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

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

B. Cost-loaded Critical Path Method Schedule may serve to satisfy requirements for the schedule of values.

C. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
1. Application for Payment forms with continuation sheets.
2. Submittal schedule.
3. Items required to be indicated as separate activities in Contractor's construction schedule.

D. Submit the schedule of values to Architect at earliest possible date, but no later than ten days after the Notice to Proceed.

E. Format and Content

1. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one-line item for each Specification Section.
   a. Identification: Include the following Project identification on the schedule of values:
      1) Project name and location.

2) Name of Architect.
3) Architect's project number.
4) Contractor's name and address.
5) Date of submittal.

b. Arrange schedule of values consistent with format of AIA Document G703 or Contractor's form as approved by the Architect.

c. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
1) Related Specification Section or Division.
2) Description of the Work.
3) Change Orders (numbers) that affect value.
4) Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
i. Labor.
ii. Materials.
iii. Equipment.

d. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents.
1) Provide multiple line items as a basis for acceptance of the Schedule of Values for principal subcontract amounts in excess of five percent of the Contract Sum.
2) Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

e. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

f. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
1) Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

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

1.5 APPLICATION FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Submit Application for Payment to Architect by the 25th day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
5. When Architect finds Application properly completed and correct, he will transmit Certificate for Payment to Owner. Incorrect or incomplete Certificates will not be reviewed until they have been corrected and resubmitted by the Contractor.

F. When Architect finds Application properly completed and correct, he will transmit Certificate for Payment to Owner. Incorrect or incomplete Certificates will not be reviewed until they have been corrected and resubmitted by the Contractor.

G. Transmittal: Submit five (5) signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

H. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
4. Waiver Forms: Submit executed waivers of lien on forms, acceptable to Owner.

I. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Products list (preliminary if not final).
5. Submittal schedule (preliminary if not final).
6. List of Contractor's staff assignments.
7. List of Contractor's principal consultants.

8. Copies of building permits.
9. Report of preconstruction conference.
10. Certificates of insurance and insurance policies.
11. Performance and payment bonds.
12. Data needed to acquire Owner's insurance.
13. Sustainable design action plans.
    a. Recycle collection and processing plan
    b. Materials Disposal Plan
    c. Materials tracking system
14. Schedule of unit prices.

J. Sustainability

1. Sustainable design submittal for project materials cost data shall be submitted by the third payment requisition submittal.

K. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

L. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final liquidated damages settlement statement.
10. Four (4) signed and notarized original copies and noted as Final Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
11. Final schedule of values.
12. Power of attorney from Surety for release of final payment, signed and sealed and dated same as Consent of Surety.
13. Certificate of Contract Completion:
14. Page one completed by the Construction Manager, submit original plus three copies
15. Page two completed by the Architect, submit original plus three copies
16. Construction Manager’s certification letter for the Guarantee of Construction for one year from substantial completion.

17. Copy of the approval and verification of transmittal by the Construction Manager to the Architect of manuals, shop drawings, as-builts (one set of sepias and two sets prints), brochures, warranties and list of subcontractors with telephone numbers and addresses.
18. Verification that the owner's personnel have been trained in the operation of their new equipment (HVAC, controls, fire alarm, etc.) with list of attendees at each training section.
19. Fully executed warranties in the name of the owner.
20. Architect's Certificate of Specification of Asbestos Containing Materials.
21. Construction Manager's Certificate of Asbestos Use.
22. Copy of Certificate of Occupancy.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 29 00

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. Requests for Information (RFIs).
4. Project meetings.

1.3 DEFINITIONS

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

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at the Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in temporary field office. Keep a list current at all times.

1.5 PROJECT USE SITE PLAN

A. The Contractor shall prepare a proposed project use of the site plan.

B. Contractor shall confine operations at the site to areas within the areas indicated and as approved on the use of the site plan, and as permitted by law, ordinances, and permits. Site shall not be unreasonably encumbered with materials, products, or construction equipment.

C. The Contractor in reviewing his use of the site shall include access to proposed building for construction purposed, storage of materials and products, parking, where possible, for employees, temporary facilities including offices, storage, and workshop sheds or portable trailers, and unloading space.

D. Where a temporary fence is to be provided, the Contractor shall show any additional area needed in the Contractor's use of the site beyond that which may be indicated in the Drawings. Where additional fencing is required, such fencing shall be included at no additional cost to the Owner.

1.6 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

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

1.7 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
    a. Use applicable drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe the relationship of various systems and components.
    b. Coordinate the addition of trade-specific information to the coordination drawings by multiple contractors in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
    c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
    d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
    e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
    f. Indicate required installation sequences.
    g. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate sub-framing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.

6. Mechanical and Plumbing Work: Show the following:
   a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
   b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
   c. Fire-rated enclosures around ductwork.
7. Electrical Work: Show the following:
   a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
   b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
   c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
   d. Location of pull boxes and junction boxes, dimensioned from column center lines.
8. Fire-Protection System: Show the following:
   a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
9. Review: Architect will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If the Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make changes as directed and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in specification section "Submittal Procedures."

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Preparation Format: Same digital data software program, version, and operating system as original Drawings.
2. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.
3. Architect will furnish Contractor one set of digital data files of drawings for use in preparing coordination digital data files.
   a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to drawings.
   b. Contractor shall execute a waiver agreement in the form acceptable to Owner and Architect.

1.8 REQUESTS FOR INFORMATION (RFIs)

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.

3. Date.
4. Name of Contractor.
5. Name of Architect.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716 or Contractor’s form if acceptable and approved by the Architect.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven (7) working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:
    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.
2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time, or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.

E. RFI Tracking Log:

1. Prepare, maintain, and submit a tracking log of RFIs organized by a tracking number. Submit log with not less than the following:
    a. Project name.
    b. Name and address of Contractor.
    c. Name and address of Architect.
    d. Provide sequential tracking numbers including RFIs that were returned without action or withdrawn.
    e. RFI description.

f. Date the RFI was submitted.
g. Date Architect's response was received.
h. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
i. Provide identification of related Proposal Requests, Contractor Initiated Proposals and Construction Change Directives as appropriate.

1.9 TRACKING LOGS - COs, CCDs, PRs and ASIs

A. Prepare, maintain, and submit individual tracking logs for Change Orders (COs), Construction Change Directives (CCDs), Proposal Requests (PRs) and Architects Supplemental Instructions ASIs), organized by a tracking number. Submit log with not less than the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. Provide sequential tracking numbers.
5. Item description.
6. Date the item was submitted for review.
7. Date Architect's response was received.
8. Date the item was revised if applicable.
9. The tracking number shall remain part of the log even if the item was deemed to be denied or un-needed.
10. Provide documentation of the links and progressions of related CDs, CCDs, PRs and ASIs as appropriate.
11. The PR log shall list all items which may become a CD at a later date but have not yet been approved.
12. The CCA log shall also contain contingency logs for the Owner’s and Contractor’s which include initial amounts, approved revisions and remaining balances in each contingency.
13. Update the logs and distribute the response to affected parties.

1.10 PROJECT MEETINGS

A. General: Contractor shall schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of the date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Contractor is responsible for conducting meetings and will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three (3) days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 10 days after Notice to proceed.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Commissioning Authority, Contractor, Architect, and their consultants; Contractor and its superintendent; major subcontractors;

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

3. Agenda: Discuss items of significance that could affect progress, including the following:
   a. Tentative construction schedule.
   b. Critical work sequencing and long-lead items.
   c. Designation of key personnel and their duties.
   d. Lines of communications.
   e. Procedures for processing field decisions and Change Orders.
   f. Procedures for RFIs.
   g. Procedures for Architectural Supplemental Instruction.
   h. Procedures for testing and inspecting.
   i. Procedures for processing Applications for Payment.
   j. Distribution of the Contract Documents.
   k. Submittal procedures.
   l. Preparation of record documents.
   m. Use of the premises and existing building.
   n. Work restrictions.
   o. Working hours.
   p. Responsibility for temporary facilities and controls.
   q. Procedures for moisture and mold control.
   r. Procedures for disruptions and shutdowns.
   s. Construction waste management and recycling.
   t. Parking availability.
   u. Office, work, and storage areas.
   v. Equipment deliveries and priorities.
   w. First aid.
   x. Security.
   y. Progress cleaning.
   z. Sustainable design requirements
4. Minutes: Contractor is responsible for conducting meetings and will record and distribute meeting minutes.

C. Sustainable Design Coordination Conference: Schedule and conduct a sustainable design coordination conference before starting construction, at a time convenient to Owner, Contractor and Architect.

1. Attendees: Authorized representatives of Owner, Commissioning Authority, Contractor Architect, and their consultants; Contractor and its superintendent and sustainable design coordinator; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect meeting sustainable design requirements, including the following:
   a. Sustainable design Project checklist.
   b. General requirements for sustainable design-related procurement and documentation.
   c. Project closeout requirements and sustainable design certification procedures.
   d. Role of sustainable design coordinator.
   e. Construction waste management.
   f. Construction operations and sustainable design requirements and restrictions.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

D. Preinstallation Conferences: Conduct and schedule a preinstallation conference at Project site prior to thirty (30) days before each type of construction activity indicated.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect, Contractor, and Owner's Commissioning Authority of scheduled meeting dates.
2. List of Required Preinstallation Meetings: See specification section 01 33 00.1 Submittal Register.
3. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
    a. Contract Documents
        1) Drawing Revisions.
        2) Related RFIs.
        3) Related Change Orders.
        4) Value Engineering.
        5) Options.
    b. General Conditions
        1) Submittals.
        2) Manufacturer's written instructions.
        3) Testing and inspecting requirements.
        4) Coordination with other work.
        5) Weather limitations.
        6) Deliveries.
        7) Time schedules.
        8) Required performance results.
        9) Compatibility requirements.
        10) Regulations of authorities having jurisdiction.
    c. Products
        1) Primary items indicated in specifications.
        2) Accessory items listing in specifications.
    d. Execution
        1) Protection of adjacent work.
        2) Protection of construction and personnel.
        3) Possible conflicts.
        4) Temporary facilities and controls.
        5) Space and access limitations.
        6) Review of mockups
        7) Installation procedures.
        8) Acceptability of substrates.
        9) Installation of primary items indicated in specifications.
        10) Installation of accessory items listing in specifications.
4. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
5. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
6. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to the performance of the Work and reconvene the conference at the earliest feasible date.

E. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 60 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Commissioning Authority, Contractor, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
    a. Preparation of record documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Submittal of written warranties.
    d. Requirements for preparing operations and maintenance data.
    e. Requirements for delivery of material samples, attic stock, and spare parts.
    f. Requirements for demonstration and training.
    g. Preparation of Contractor's punch list.
    h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    i. Submittal procedures.
    j. Coordination of separate contracts.
    k. Installation of Owner's furniture, fixtures, and equipment.
    l. Responsibility for removing temporary facilities and controls.
    m. Requirements for completing sustainable design documentation.
4. Minutes: Contractor is responsible for conducting meetings and will record and distribute meeting minutes.

F. Progress Meetings: Conduct progress meetings at regular intervals. Progress meetings shall be scheduled on a day and time as coordinated with the Architect and Owner.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Contractor and Architect, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
        1) Review schedule for next period.
    b. Review present and future needs of each entity present, including the following:
        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.
        4) Status of sustainable design documentation.
        5) Deliveries.
        6) Off-site fabrication.

7) Access.
8) Site utilization.
9) Temporary facilities and controls.
10) Progress cleaning.
11) Quality and work standards.
12) Status of correction of deficient items.
13) Field observations.
14) Status of RFIs.
15) Status of proposal requests.
16) Pending changes.
17) Status of Change Orders.
18) Pending claims and disputes.
19) Documentation of information for payment requests.
20) Tracking logs.

c. Schedule Updating: Revise Construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 31 00

SECTION 01 32 00 – CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

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

1. Preliminary Construction Schedule.
2. Contractor's Construction Schedule.
3. Submittals Schedule.
4. Daily construction reports.
5. Bi-Weekly Construction reports.
6. Field condition reports.
7. Special reports.

1.3 DEFINITIONS

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

1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
2. Predecessor activity is an activity that must be completed before a given activity can be started.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path: The longest continuous chain of activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time belongs to Owner.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the following activity.

3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

G. Major Area: A story of construction, a separate building, or a similar significant construction element.

H. Milestone: A key or critical point in time for reference or measurement.

I. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

1.4 SUBMITTALS

A. Qualification Data: For firms and persons specified in "Quality Assurance" Article and in-house scheduling personnel to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Submittals Schedule: Submit three (3) copies of schedule. Arrange the following information in a tabular format:

1. Scheduled date for first submittal.
2. Submittal number.
3. Resubmittal number
4. Specification Section number and title.
5. Submittal category (action or informational).
6. Name of subcontractor.
7. Description of the Work covered.
8. Scheduled date for Architect's final release or approval.

C. Preliminary Construction Schedule: Submit three (3) printed copies; one a single sheet of reproducible media, and two prints.

D. Preliminary Network Diagram: Submit three (3) printed copies; one a single sheet of reproducible media, and two prints; large enough to show entire network for entire construction period.

E. Contractor's Construction Schedule: Submit three (3) printed copies of initial schedule, one a reproducible print and two blue- or black-line prints, large enough to show entire schedule for entire construction period.

F. CPM Reports: Concurrent with CPM schedule, submit three (3) printed copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.

2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
3. Total Float Report: List of all activities sorted in ascending order of total float.
4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.

G. Daily Construction Reports: Submit two (2) copies at weekly intervals.

H. Field Condition Reports: Submit two (2) copies at time of discovery of differing conditions.

I. Special Reports: Submit two (2) copies at time of unusual event.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting.

1.6 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than twenty (20) days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
3. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
4. Startup and Testing Time: Include not less than five (5) days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.

1. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
2. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
3. Work Restrictions: Show the effect of the following items on the schedule:
   a. Partial occupancy before Substantial Completion.
   b. Use of premises restrictions.
   c. Environmental control.
4. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
   a. Subcontract awards.
   b. Submittals.
   c. Purchases.
   d. Mockups.
   e. Fabrication.
   f. Sample testing.
   g. Deliveries.
   h. Installation.
   i. Tests and inspections.
   j. Adjusting.
   k. Curing.
   l. Startup and placement into final use and operation.

5. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
   a. Structural completion.
   b. Permanent space enclosure.
   c. Completion of mechanical installation.
   d. Completion of electrical installation.
   e. Substantial Completion.
   f. Final Completion.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, interim milestones indicated below, Substantial Completion, and Final Completion.

1. Pre-construction Conference.

F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.

1. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.

G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven (7) days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first sixty (60) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Preliminary Network Diagram: Submit diagram within ten (10) days of date established for Notice of Award. Outline significant construction activities for the first sixty (60) days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's Construction Schedule using a CPM network analysis diagram.

1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than thirty (30) days after date established for the Notice of Award.
2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
4. Use "one workday" as the unit of time.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
   a. Preparation and processing of submittals.
   b. Purchase of materials.
   c. Delivery.
   d. Fabrication.
   e. Installation.
   f. Tests and inspections.
   g. Startup and placement into final use and operation.
2. Processing: Process data to produce output data or a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
3. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
   a. Sub-networks on separate sheets are permissible for activities clearly off the critical path.

E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:

1. Contractor or subcontractor and the Work or activity.
2. Description of activity.
3. Principal events of activity.
4. Immediate preceding and succeeding activities.
5. Early and late start dates.
6. Early and late finish dates.
7. Activity duration in workdays.
8. Total float or slack time.
9. Average size of workforce.
10. Dollar value of activity (coordinated with the Schedule of Values).

F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:

1. Identification of activities that have changed.
2. Changes in early and late start dates.
3. Changes in early and late finish dates.
4. Changes in activity durations in workdays.
5. Changes in the critical path.
6. Changes in total float or slack time.
7. Changes in the Contract Time.

2.5 REPORTS

A. Material Location Reports: At bi-monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.6 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

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

C. Safety - Provide reports of safety meetings being conducted on a monthly basis.

D. Incidents & Injuries – Provide any safety violations, incidents, or injuries that occur on the projects site immediately following such event.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one (1) day before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules 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 performance of construction activities.

END OF SECTION 01 32 00

SECTION 01 32 33 – PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction documentation.
2. Periodic construction documentation.
3. Final completion construction documentation.
4. Aerial videos.

1.3 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each documentation. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

1.4 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three (3) years.

1.5 USAGE RIGHTS

A. Obtain and transfer copyright usage rights from photographer to Owner for unlimited reproduction of photographic documentation.

PART 2 - PRODUCTS

2.1 PHOTOGRAPHIC MEDIA

A. Video Recordings: Submit video recording of existing conditions prior to commencement of construction.

1. Digital Video Camera: Minimum sensor resolution of 8 megapixels.

2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of each image, accompanied by key plan file.
3. Submit video recordings in digital video disc format acceptable to Architect.
4. Identification: With each submittal, provide the following information:
   a. Name of Project.
   b. Name and contact information for photographer.
   c. Name of Architect.
   d. Name of Contractor.
   e. Date video recording was recorded.

2.2 AERIAL MEDIA

A. Aerial Video Recordings: Submit aerial video recording of the project with each payment requisition.

1. Digital Video Camera: Minimum sensor resolution of 8 megapixels.
2. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of each image, accompanied by key plan file.
3. Submit video recordings in digital video disc format acceptable to Architect.
4. Identification: With each submittal, provide the following information:
   a. Name of Project.
   b. Name and contact information for photographer.
   c. Name of Architect.
   d. Name of Contractor.
   e. Date video recording was recorded.

PART 3 - EXECUTION

3.1 CONSTRUCTION VIDEO RECORDINGS

A. Confirm date and time at beginning and end of recording.

B. Begin each video recording with name of Project, Contractor’s name, videographer’s name, and project location.

C. Preconstruction Video Recording: Before starting construction, record video recording of Project site, surrounding properties and existing building conditions from different vantage points, as directed by Architect. Minimum recording time shall be 10 minutes.

1. Flag construction limits before recording construction video recordings.
2. Show existing conditions before starting the Work.
3. Show existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing or excavation support and protection systems.

3.2 AERIAL VIDEO

A. Periodic Construction Aerial Video Recordings: Record video recording monthly with the cutoff date associated with each application for payment. Select vantage points to show status of construction and progress since last video recordings were recorded. Minimum recording time shall be 10 minutes(s).

END OF SECTION 01 32 33

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

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

B. Partial submittals without prior approval or incomplete submittals will be returned without review.

1. Prior approval from the Architect shall be obtained for partial submittals prepared for a specific product submittal.

C. Submittals will be deemed complete if all items required in the submittal sections of the subject specification section have been assembled into a single submittal package.

D. Submittals will not be accepted for review until the Schedule of Submittals, per article 1.4 has been submitted to the Architect.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include all submittals during the first 60 days of construction and include all critical path related submittals that occur beyond 60 days. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit the final schedule with all submittals including known and anticipated submittals concurrently with the first complete submittal of Contractor's construction schedule.
    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals concurrently with each construction schedule update.
4. Format: Arrange the following information in a tabular format:
    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled date of fabrication.
    h. Scheduled dates for purchasing.
    i. Scheduled dates for installation.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use in preparing submittals.

1. Architect will furnish requested digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.
    a. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    b. Digital Drawing Software Program: The Contract Drawings are available in Revit 2018.
    c. Construction Manager shall execute a data licensing agreement in the form of AIA Document C106, Digital Data Licensing Agreement.
    d. The following digital data files will by furnished for each appropriate discipline:
        1) Floor plans.
        2) Reflected ceiling plans.
2. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:
    a. File Submittal Format: Submit or post coordination drawing files using Portable Data File (PDF) format.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow ten (10) days for Architectural initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow ten (10) days for Architectural review of each resubmittal.
4. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

D. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Construction Manager's review and approval markings and action taken by Architect.
3. Include the following information for processing and recording action taken:
    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Construction Manager.
    e. Name of subcontractor.
    f. Name of supplier.
    g. Name of manufacturer.
    h. Submittal number or other unique identifier, including revision identifier.
        1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A). Submittal number shall follow Construction Manager’s standard system.
    i. Number and title of appropriate Specification Section.
    j. Drawing number and detail references, as appropriate.
    k. Submit two (2) copies for reference only.

4. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Construction Manager.
    a. Transmittal Form for Paper Submittals: Use form approved by the Architect.
    b. Transmittal Form for Paper Submittals: Provide locations on form for the following information:
        1) Project name.
        2) Date.
        3) Destination (To:).
        4) Source (From:).
        5) Name and address of Architect.
        6) Name of Construction Manager.
        7) Name of firm or entity that prepared submittal.
        8) Names of subcontractor, manufacturer, and supplier.
        9) Category and type of submittal.
        10) Submittal purpose and description.
        11) Specification Section number and title.
        12) Specification number.
        13) Drawing number and detail references, as appropriate.
        14) Indication of full or partial submittal.
        15) Transmittal number, numbered consecutively by Specification Section.
        16) Submittal and transmittal distribution record.
        17) Remarks.
        18) Signature of transmitter.

E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
    a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A). File name shall follow contractor’s standard system.
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of firm or entity that prepared submittal.
    g. Names of subcontractor, manufacturer, and supplier.
    h. Category and type of submittal.
    i. Submittal purpose and description.
    j. Specification Section number and title.
    k. Specification number.
    l. Drawing number and detail references, as appropriate.
    m. Location(s) where product is to be installed, as appropriate.

n. Related physical samples submitted directly.
o. Indication of full or partial submittal.
p. Transmittal number, numbered consecutively by Specification Section.
q. Submittal and transmittal distribution record.
r. Other necessary identification.
s. Remarks.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Options: Identify options requiring selection by the Architect.

H. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision and resubmittal number.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

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

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

Submit electronic submittals via email as PDF electronic files.
Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

1. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
   f. Application of testing agency labels and seals.
   g. Notation of coordination requirements.
   h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in a PDF electronic file format.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
2. PDF electronic file: Submit format to be 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
3. Submit Shop Drawings in a PDF electronic file format.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
   e. Specification paragraph number and generic name of each item.
3. For projects with electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. Disposition: Maintain sets of approved Samples at Project site, available for quality- control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    a. Number of Samples: Submit two full sets of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return one submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    a. Number of Samples: Submit two sets of Samples. Architect will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:
    a. PDF electronic file.

F. Contractor's Construction Schedule: Comply with requirements specified in specification section "Construction Progress Documentation."

G. Application for Payment and Schedule of Values: Comply with requirements specified in specification section "Payment Procedures."

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in specification section "Quality Requirements."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in specification section "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in specification section "Operation and Maintenance Data."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
2. Date of evaluation.
3. Time period when report is in effect.
4. Product and manufacturers' names.
5. Description of product.
6. Test procedures and results.
7. Limitations of use.

T. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.

U. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed

before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.

V. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

W. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three (3) paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

C. Project Closeout and Maintenance Material Submittals: See requirements in specification section "Closeout Procedures."

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in specification section "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, specification section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

A. Action Submittals: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:

1. No Exceptions.
2. Exceptions.
3. Resubmit.
4. Partial Resubmittal.
5. Other

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 01 33 00

9AIA Document C106™ - 2013

Digital Data Licensing Agreement

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

BETWEEN the Party transmitting Digital Data ("Transmitting Party"):
(Name, address and contact information, including electronic addresses)

and the Party receiving the Digital Data ("Receiving Party"):
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

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

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

The Transmitting Party and Receiving Party agree as follows.

TABLE OF ARTICLES

1 GENERAL PROVISIONS

2 TRANSMISSION OF DIGITAL DATA

3 LICENSE CONDITIONS

4 LICENSING FEE OR OTHER COMPENSATION

5 DIGITAL DATA

ARTICLE 1 GENERAL PROVISIONS

§ **1.1** The purpose of this Agreement is to grant a license from the Transmitting Party to the Receiving Party for the Receiving Party's use of Digital Data on the Project, and to set forth the license terms.

§ 1.2 This Agreement is the entire and integrated agreement between the parties. Except as specifically set forth herein, this Agreement does not create any other contractual relationship between the parties.

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User Notes: (947145300)

§ **1.3** For purposes of this Agreement, the term Digital Data is defined to include only those items identified in Article 5 below.

§ **1.3.1** Confidential Digital Data is defined as Digital Data containing confidential or business proprietary information that the Transmitting Party designates and clearly marks as "confidential."

ARTICLE 2 TRANSMISSION OF DIGITAL DATA

§ **2.1** The Transmitting Party grants to the Receiving Party a nonexclusive limited license to use the Digital Data identified in Article 5 solely and exclusively to perform services for, or construction of, the Project in accordance with the terms and conditions set forth in this Agreement.

§ **2.2** The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party is the copyright owner of the Digital Data, or otherwise has permission to transmit the Digital Data to the Receiving Party for its use on the Project in accordance with the terms and conditions of this Agreement.

§ **2.3** The Transmitting Party retains its rights in the Digital Data. By transmitting the Digital Data, the Transmitting Party does not grant to the Receiving Party an assignment of those rights; nor does the Transmitting Party convey to the Receiving Party any right in the software used to generate the Digital Data.

(Paragraph deleted)

§ **2.4** To the fullest extent permitted by law, the Receiving Party shall indemnify and defend the Transmitting Party from and against all claims arising from or related to the Receiving Party's licensed use, modification to, or unlicensed use of, the Digital Data.

§ **2.5** The Receiving Party agrees to keep Confidential Information strictly confidential and not to disclose it to any other person except to (I) its employees, (2) those who need to know the content of the Confidential Information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of Confidential Information.

ARTICLE 3 LICENSE CONDITIONS

The parties agree to the following conditions on the limited license granted in Section 2.1:
(State below rights or restrictions applicable to the Receiving Party's use of the Digital Data, requirements for data format, transmission method or other conditions on data to be transmitted.)

The Receiving Party (and its subcontractors) understands and agrees the Digital Data for this Project is periodically undergoing changes and revisions for various reasons throughout the duration of the Project, and is being provided merely for the Receiving Party's convenience. Therefore the Digital Data transmitted represents a "snapshot" of the Project at an arbitrary point in time that does not necessarily correspond with what has already been formally issued by the Transmitting Party in hard copy format. Furthermore, the Receiving Party recognizes and agrees that it cannot solely rely on the Digital Data to be the most up-to-date or the official copy and must refer to formally issued documentation when utilizing the Digital Data to better ensure accurate use.

The Receiving Party (and its subcontractors) understands and agrees the Transmitting Party (and its consultants) will not accept shop drawings that are simply reproductions of the Digital Data, as it is the responsibility of the Receiving Party (and its subcontractors) to generate their own shop drawings to ensure their understanding of their scope of work to the level of detail required of their trade.

The Receiving Party (and its subcontractors) understands and agrees to reproduce and distribute the digital data for project specific use only. The Receiving Party (and its subcontractors) hereby agrees to hold the Transmitting Party (and its consultants) harmless in its use of the Digital Data. Construction Manager is responsible for communicating these terms to all contractors and subcontractors receiving Digital Data for the entire project scope and time.

ARTICLE 4 LICENSING FEE OR OTHER COMPENSATION

The Receiving Party agrees to pay the Transmitting Party the following fee or other compensation for the Receiving Party's use of the Digital Data:

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User Notes: (947145300)

(State the fee, in dollars, or other method by which the Receiving Party will compensate the Transmitting Party for the Receiving Party's use of the Digital Data.)

$0.00 for the initial transmission of PDF, CAD or REVIT files; $500.00 for each subsequently requested transmission of PDF, CAD or REVIT files (payable in advance).

This Agreement is entered into as of the day and year first written above and will terminate upon Substantial Completion of the Project, as that term is defined in AJA Document A201nL2007, General Conditions of the Contract for Construction, unless otherwise agreed by the parties and set forth below.
(Indicate when this Agreement will terminate, if other than the date of Substantial Completion.)

TRANSMITTING PARTY *(Signature)*

(Printed name and title)

RECEIVING PARTY *(Signature)*

(Printed name and title)

(Table deleted)(Paragraphs deleted)

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User Notes: (947145300)

SECTION 01 35 16 – ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes special procedures for alteration work.

1.3 DEFINITIONS

A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.

B. Consolidate: To strengthen loose or deteriorated materials in place.

C. Design Reference Sample: A sample that represents the Architect's pre-bid selection of work to be matched; it may be existing work or work specially produced for the Project.

D. 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.

E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.

F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

K. Retain: To keep existing items that are not to be removed or dismantled.

L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.4 COORDINATION

A. Alteration Work Sub-schedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.

1. Schedule construction operations in sequence required to obtain best Work results.
2. Coordinate sequence of alteration work activities to accommodate the following:
   a. Other known work in progress.
   b. Tests and inspections.
3. Detail sequence of alteration work, with start and end dates.
4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
5. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

B. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns and adjacent to restricted areas. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Access to restricted areas may not be obstructed. Plan and execute the Work accordingly.

1.5 PROJECT MEETINGS FOR ALTERATION WORK

A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site.

1. Attendees: In addition to representatives of Owner, Contractor and Architect, testing service representative shall be represented at the meeting.
2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:
   a. Alteration Work Sub-schedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Fire-prevention plan.
   c. Governing regulations.
   d. Areas where existing construction is to remain and the required protection.
   e. Hauling routes.
   f. Sequence of alteration work operations.
   g. Storage, protection, and accounting for salvaged and specially fabricated items.
   h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
   i. Qualifications of personnel assigned to alteration work and assigned duties.
   j. Requirements for extent and quality of work, tolerances, and required clearances.
   k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.

3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at bi-weekly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner, Contractor and Architect, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to alteration work.
2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.
    a. Alteration Work Sub-schedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
    b. Schedule Updating: Revise Contractor's Alteration Work Sub-schedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
    c. Review present and future needs of each entity present, including review items listed in the "Preliminary Conference for Alteration Work" Paragraph in this article and the following:
        1) Interface requirements of alteration work with other Project Work.
        2) Status of submittals for alteration work.
        3) Access to alteration work locations.
        4) Effectiveness of fire-prevention plan.
        5) Quality and work standards of alteration work.
        6) Change Orders for alteration work.
3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.6 INFORMATIONAL SUBMITTALS

A. Alteration Work Sub-schedule:

1. Submit alteration work sub-schedule within thirty (30) days of date established for commencement of alteration work.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

C. Alteration Work Program: Submit thirty (30) days before work begins.

D. Fire-Prevention Plan: Submit thirty (30) days before work begins.

1.7 QUALITY ASSURANCE

A. Specialist Qualifications: An experienced firm regularly engaged in specialty work similar in nature, materials, design, and extent to alteration work as specified in each Section and that has completed a minimum of five (5) recent projects with a record of successful in-service performance that demonstrates the firm's qualifications to perform this work.

1. Field Supervisor Qualifications: Full-time supervisors experienced in specialty work similar in nature, material, design, and extent to that indicated for this Project. Supervisors shall be on-site when specialty work begins and during its progress. Supervisors shall not be changed during Project except for causes beyond the control of the specialist firm.
    a. Construct new mockups of required work whenever a supervisor is replaced.

B. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.

C. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.

1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

D. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

E. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.8 STORAGE AND HANDLING OF SALVAGED MATERIALS

A. Salvaged Materials:

1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
2. Pack or crate items after cleaning; cushion against damage during handling. Label 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.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.

2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label 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 unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.

1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
2. Secure stored materials to protect from theft.
3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F (3 deg C) or more above the dew point.

E. Storage Space:

1. Owner will arrange for limited on-site location(s) for free storage of salvaged material. This storage space does not include security for stored material.
2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

1.9 FIELD CONDITIONS

A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs and preconstruction videotapes.

1. Comply with requirements specified in Specification Section "Photographic Documentation."

B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

C. Owner's Removals: Before beginning alteration work, verify in correspondence with Owner that the following items have been removed:

1. See drawings.

D. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.

1. Use only proven protection methods, appropriate to each area and surface being protected.
2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated. Perform duties titled "Owner's Responsibility for Fire Protection."
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
    a. If combustible material cannot be removed, provide fire blankets to cover such materials.

B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:

1. Obtain Owner's approval for operations involving use of welding or other high-heat equipment. Use of open-flame equipment is not permitted. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
    a. Train each fire watch in the proper operation of fire-control equipment and alarms.
    b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
    c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
    d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
    e. Maintain fire-watch personnel at each area of Project site until two hours after conclusion of daily work.

C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.

1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

A. Have specialty work performed only by qualified specialists.

B. Ensure that supervisory personnel are present when work begins and during its progress.

C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings. Comply with requirements in specification section "Photographic Documentation."

D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.

E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.

1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 01 35 16

SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Commissioning Authority, Contractor or authorities having jurisdiction are not limited by provisions of this section.
4. Specific test and inspection requirements are not specified in this section.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.

C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

K. Mockups: Full size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on the project site, consisting of multiple products, assemblies and subassemblies.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.
2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within ten (10) days of Notice to Proceed, and not less than five (5) days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
3. Owner-performed tests and inspections indicated in the Contract Documents, including tests and inspections indicated to be performed by the Commissioning Authority.

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 QUALITY ASSURANCE

A. Provide where required by Specifications.

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

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

F. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

G. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

H. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

I. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven (7) working days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
   a. Allow seven (7) days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed unless otherwise indicated.

L. Integrated Exterior Mockups: Construct integrated exterior mockup in accordance with approved shop drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in specification section "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 41 00 – REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 CODE REQUIREMENTS

A. Perform all work on this Project in strict accordance with, but not limited to, applicable requirements and portions of the latest adopted editions of the currently adopted codes, revisions, amendments, supplements, and their references.

1. Florida Building Code:
   a. Florida Building Code
   b. Florida Building Code – Fuel Gas
   c. Florida Building Code – Mechanical
   d. Florida Building Code – Plumbing
   e. National Electrical Code – FBC Chapter 27
   f. FBC Referenced Codes and Standards – Chapter 35
2. Florida Fire Prevention Code, Ch. 69A-60, Florida Administrative Code, which includes:
   a. NFPA 1
   b. Referenced Mandatory Codes and Standards listed in 69A-60.005, FAC
   c. Referenced Mandatory Codes and Standards listed in NFPA 101
3. U.S. Access Board, Americans with Disabilities Act Architectural Guidelines, July 23, 2004, accessibility requirements for children
4. American Society of Civil Engineers – Minimum Design Loads for Buildings and Other Structures - ASCE 7
5. Florida Department of Education, State Requirements for Education Facilities (SREF)
6. State Fire Marshal's rule 69A-58 FAC

1.3 CODE STANDARDS

A. All work shall conform to applicable portions of the adopted, or the latest edition of the standards listed, which shall include, but is not limited to, the following:

1. Aluminum Association (AA)
2. American Concrete Institute (ACI)
3. American Institute of Steel Construction (AISC)
4. American National Standards Institute (ANSI)
5. American Society for Testing and Materials (ASTM)
6. American Society of Mechanical Engineers (ASME)
7. American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
8. American Welding Society (AWS)
9. Architectural Woodworking Institute (AWI)
10. Architectural Aluminum Manufacturer's Association (AAMA)

11. Commercial Standards (CS)
12. Federal Specifications and Standards (FSS)
13. National Occupations Safety and Health Administration (OSHA)
14. National Institute for Standards and Technology (NIST)
15. Architectural Sheet Metal Manual (SMACNA)
16. Underwriter's Laboratories (UL)
17. U.S. of America Standards Institute (ASI)
18. U.S. Department of Commerce Product Standards (USDCPS)

1.4 CODE DISCREPANCIES

A. In case of discrepancy between the codes, standards, and specifications listed, the most strict or most stringent requirement shall govern.

1.5 COMPLIANCE WITH CODES

A. A permit issued will be construed as permission to proceed with construction, and not as authority to violate, cancel, alter, or set aside any of the provisions of any Codes.

B. Nor shall issuance of a permit prevent the Owner from thereafter requiring a correction of errors in plans, construction, or violations of any Codes.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 41 00

SECTION 01 42 00 – REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 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 date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should 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, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.comwww.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
4. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
5. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
6. AF&PA - American Forest & Paper Association; www.afandpa.org.
7. AGA - American Gas Association; www.aga.org.
8. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
9. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
10. AI - Asphalt Institute; www.asphaltinstitute.org.
11. AIA - American Institute of Architects (The); www.aia.org.
12. AISC - American Institute of Steel Construction; www.aisc.org.
13. AISI - American Iron and Steel Institute; www.steel.org.
14. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
15. ANSI - American National Standards Institute; www.ansi.org.
16. APA - APA - The Engineered Wood Association; www.apawood.org.
17. APA - Architectural Precast Association; www.archprecast.org.
18. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
19. ARI - American Refrigeration Institute; (See AHRI).
20. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
21. ASCE - American Society of Civil Engineers; www.asce.org.
22. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
23. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
24. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
25. ASSE - American Society of Safety Engineers (The); www.asse.org.
26. ASTM - ASTM International; www.astm.org.

27. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
28. AWI - Architectural Woodwork Institute; www.awinet.org.
29. AWPA - American Wood Protection Association; www.awpa.com.
30. AWS - American Welding Society; www.aws.org.
31. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
32. BIA - Brick Industry Association (The); www.gobrick.com.
33. CEA - Consumer Electronics Association; www.ce.org.
34. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
35. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
36. CGA - Compressed Gas Association; www.cganet.com.
37. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
38. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
39. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
40. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
41. CPA - Composite Panel Association; www.pbmdf.com.
42. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
43. CRRC - Cool Roof Rating Council; www.coolroofs.org.
44. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
45. CSI - Construction Specifications Institute (The); www.csinet.org.
46. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
47. CWC - Composite Wood Council; (See CPA).
48. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
49. DHI - Door and Hardware Institute; www.dhi.org.
50. ECA - Electronic Components Association; (See ECIA).
51. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
52. EIMA - EIFS Industry Members Association; www.eima.com.
53. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
54. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
55. FM Approvals - FM Approvals LLC; www.fmglobal.com.
56. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
57. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
58. FSA - Fluid Sealing Association; www.fluidsealing.com.
59. FSC - Forest Stewardship Council U.S.; www.fscus.org.
60. GA - Gypsum Association; www.gypsum.org.
61. GANA - Glass Association of North America; www.glasswebsite.com.
62. GS - Green Seal; www.greenseal.org.
63. HI - Hydraulic Institute; www.pumps.org.
64. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
65. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
66. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
67. IAS - International Accreditation Service; www.iasonline.org.
68. IAS - International Approval Services; (See CSA).
69. ICBO - International Conference of Building Officials; (See ICC).
70. ICC - International Code Council; www.iccsafe.org.
71. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
72. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
73. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
74. IEC - International Electrotechnical Commission; www.iec.ch.
75. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
76. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
77. IESNA - Illuminating Engineering Society of North America; (See IES).

78. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
79. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
80. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
81. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
82. ISO - International Organization for Standardization; www.iso.org.
83. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
84. ITU - International Telecommunication Union; www.itu.int/home.
85. LMA - Laminating Materials Association; (See CPA).
86. LPI - Lightning Protection Institute; www.lightning.org.
87. MBMA - Metal Building Manufacturers Association; www.mbma.com.
88. MCA - Metal Construction Association; www.metalconstruction.org.
89. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
90. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
91. MHIA - Material Handling Industry of America; www.mhia.org.
92. MIA - Marble Institute of America; www.marble-institute.com.
93. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
94. MPI - Master Painters Institute; www.paintinfo.com.
95. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
96. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
97. NADCA - National Air Duct Cleaners Association; www.nadca.com.
98. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
99. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
100. NCMA - National Concrete Masonry Association; www.ncma.org.
101. NECA - National Electrical Contractors Association; www.necanet.org.
102. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
103. NEMA - National Electrical Manufacturers Association; www.nema.org.
104. NETA - InterNational Electrical Testing Association; www.netaworld.org.
105. NFHS - National Federation of State High School Associations; www.nfhs.org.
106. NFPA - National Fire Protection Association; www.nfpa.org.
107. NFPA - NFPA International; (See NFPA).
108. NFRC - National Fenestration Rating Council; www.nfrc.org.
109. NHLA - National Hardwood Lumber Association; .www.nhla.com.
110. NLGA - National Lumber Grades Authority; www.nlga.org.
111. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
112. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
113. NRCA - National Roofing Contractors Association; www.nrca.net.
114. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
115. NSF - NSF International; www.nsf.org.
116. NSPE - National Society of Professional Engineers; www.nspe.org.
117. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
118. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
119. NWFA - National Wood Flooring Association; www.nwfa.org.
120. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
121. PDI - Plumbing & Drainage Institute; www.pdionline.org.
122. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
123. RFCI - Resilient Floor Covering Institute; www.rfci.com.
124. SAE - SAE International; www.sae.org.
125. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
126. SDI - Steel Deck Institute; www.sdi.org.

127. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
128. SIA - Security Industry Association; www.siaonline.org.
129. SJI - Steel Joist Institute; www.steeljoist.org.
130. SMA - Screen Manufacturers Association; www.smainfo.org.
131. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
132. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
133. SPIB - Southern Pine Inspection Bureau; www.spib.org.
134. SPRI - Single Ply Roofing Industry; www.spri.org.
135. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
136. SSINA - Specialty Steel Industry of North America; www.ssina.com.
137. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
138. STI - Steel Tank Institute; www.steeltank.com.
139. SWI - Steel Window Institute; www.steelwindows.com.
140. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
141. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
142. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
143. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
144. TMS - The Masonry Society; www.masonrysociety.org.
145. TPI - Truss Plate Institute; www.tpinst.org.
146. TRI - Tile Roofing Institute; www.tileroofing.org.
147. UL - Underwriters Laboratories Inc.; www.ul.com.
148. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
149. USGBC - U.S. Green Building Council; www.usgbc.org.
150. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
151. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
152. WDMA - Window & Door Manufacturers Association; www.wdma.com.
153. WI - Woodwork Institute; www.wicnet.org.
154. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
2. ICC - International Code Council; www.iccsafe.org.
3. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
4. FBC – Florida Building Code

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.

5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. GSA - General Services Administration; www.gsa.gov.
8. OSHA - Occupational Safety & Health Administration; www.osha.gov.
9. SD - Department of State; www.state.gov.
10. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
11. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
12. USDJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
13. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 42 00

SECTION 01 45 00 – TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SECTION INCLUDES

A. Provide labor, materials, services, and equipment necessary to furnish and install work as indicated and as specified herein, which includes, but is not limited to:

1. Selection and payment.
2. Quality Assurance.
3. Laboratory reports.
4. Limits on testing laboratory authority.
5. Testing.
6. Preconstruction Testing.

1.3 REFERENCES

A. ANSI/ASTM D3740 – Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
B. ANSI/ASTM E329 – Recommended Practice for Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction.

1.4 SELECTION AND PAYMENT

A. Contractor will employ and pay for services of an independent testing laboratory to perform specified inspection and testing.

B. Employment of testing laboratory shall in no way relieve Contractor of obligation to perform work in accordance with requirements of Contract Documents.

C. Retest Responsibility: Where results of required inspection, test, or similar service are unsatisfactory (do not indicated compliance of related work with requirements of Contract Documents), retests are responsibility of the Contractor. Retesting of work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original work.

1. Arrange with laboratory and pay for additional samples and tests required by Contractor beyond specified requirements and pay compensation for Architect's additional services made necessary by failed tests and inspections.

1.5 ACTION SUBMITTALS

A. Schedule of Tests and Inspections: Prepare and submit in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

B. Testing service will submit two (2) copies of test reports directly to the Architect from the testing service, with one copy to the Contractor.

1.6 QUALITY ASSURANCE

A. Laboratory, authorized to operate in State of Florida.

B. Laboratory maintains a full-time registered Engineer on staff to review services.

C. Testing Equipment, calibrated at reasonable intervals with devices of accuracy traceable to either National Bureau of Standards (NBS) Standards or accepted values of natural physical constants.

D. Laboratory: Conform to applicable requirements of ASTM C1077 and ASTM E329. Meet "Recommended Requirements for Independent Laboratory Qualifications", published by American Council of Independent Laboratories.

E. Personnel: Minimum of two (2) years experience performing testing that meets requirements of these Specifications. Agent of laboratory performing field sampling and field testing of concrete shall be certified by the American Concrete Institute (ACI) as a Concrete Field Testing Technician Grade 1, by an equivalent recognized national authority for an equivalent level of competence, or shall be a licensed Professional Engineer.

1.7 LABORATORY REPORTS

A. Testing service is required to immediately notify Architect of discrepancies observed in the Work performed and to be performed in accordance to the Contract Documents.

B. After each inspection and test, submit 2-copies of laboratory report to Owner, Architect, and Contractor.

C. Provide where required by Specification Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.

7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

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

1.8 LIMITS ON TESTING LABORATORY AUTHORITY

A. Laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
B. Laboratory may not approve or accept any portion of the Work.
C. Laboratory may not assume any duties of Contractor.
D. Laboratory has no authority to stop the Work.

1.9 TESTING

A. Contractor Responsibilities:

1. Notify testing agencies at least twenty-four (24) hours in advance of time when Work that requires testing or inspecting will be performed.
2. Deliver to laboratory at designated location, adequate samples of materials used, which require testing, along with proposed mix designs.
3. Cooperate with laboratory personnel and provide access to the Work and to manufacturer's facilities.
4. Provide incidental labor and facilities to provide access to Work to be tested, to obtain, and handle samples at the site or at source of products to be tested, to facilitate tests and inspections, storage and curing of test samples.
5. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
6. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
7. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
8. Employ and pay for the services of Testing Laboratory to perform additional inspections, sampling and testing required:
    a. For the Contractor's convenience.
    b. When initial tests indicate work does not comply with Contract Documents.
    c. Make arrangements with Laboratory and pay for additional samples and tests required for Contractor's convenience.
9. Do not place or install any material which does not meet specified requirements. Do not place or install any material over or on a substrate that has not met test requirements.

B. Testing Agency Responsibilities: Cooperate with Architect Commissioning Authority and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect, Commissioning Authority and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Cooperate with Architect, Engineer and Contractor; provide qualified personnel after due notice.
3. Perform specified inspections, sampling and testing of materials and methods of construction.
   a. Comply with specified standards.
   b. Ascertain compliance of materials with requirements of Contract Documents.
   c. Utilize properly calibrated equipment, calibrated within past twelve (12) months by devices of accuracy conforming to National Bureau of Standards or within accepted values of natural physical constants.
4. Perform additional test(s) as required by Architect or Owner.
5. Submittals: Submit qualifications of technicians, inspectors, engineers and the organization to perform services for this Project. Include copies of certificates and license numbers to confirm compliance.
6. Keep time and cost separate for additional testing and inspection as outlined herein. Notify the Architect of additional testing and inspection required.
7. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
8. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
9. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
10. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
11. Do not perform any duties of Contractor.
12. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
    a. Schedule times for tests, inspections, obtaining samples, and similar activities.
    b. Testing requirements indicated in specific specification sections shall take precedence over testing requirements indicate in this section which relate to the same specific specification section.
13. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents as a component of Contractor's quality-control plan. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
    a. Distribution: Distribute schedule to Owner, Architect, Commissioning Authority, Contractor testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.10 PRECONSTRUCTION TESTING

A. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor responsibilities include the following:
   a. Provide test specimens representative of proposed products and construction.
   b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
   c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.

d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
f. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect and Commissioning Authority, through Contractor.

1.11 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency or special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:

B. Special Tests and Inspections: Conducted by a qualified testing agency or special inspector as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.
7. Special Testing or Inspections required:
   a. Test No. 1
   b. Inspection No. 1.

1.12 SOIL COMPACTION TESTING

A. The Contractor for the work of specification section – Earth Moving, shall coordinate with soil testing and inspection service for quality control testing during earthwork operations and shall follow testing required in the Earthwork section and if none is indicated provide the following:

1. Field density test reports.
2. One optimum moisture-maximum density curve for each type of soil encountered or utilized.
3. The Contractor shall cooperate and coordinate with Soils Engineer to be on the site for observation and testing during times when the following operations are being performed.
   a. Proofrolling
   b. Compaction of areas of subgrades and fill. During compaction operations, the Soils Engineer shall also carefully monitor existing foundations to detect possible foundation movements. If movement is detected, Work shall be stopped and the Architect immediately notified.
4. Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon.

a. Testing service will secure representative samples of the existing soils or fill material and determine the Standard Density and required moisture content to be maintained by the Moisture-Density Relation Test ASTM D-1557.
b. Perform field density tests in accordance with ASTM D-1556 (sand cone method) or by approved nuclear density testing method, as applicable.
c. Perform Limerock Bearing Ratio (LBR) tests in accordance with applicable FDOT Standards for Testing, Latest Edition, and FDOT FM 5-517.

B. Quality Control Testing During Construction: Testing service must inspect and approve subgrades and fill layers before further construction work is performed thereon. Tests of subgrades and fill layers will be taken as follows:

1. Footing Subgrade: For each strata of soil on which footings will be placed, conduct at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata, when acceptable to Architect, except that a minimum of one test shall be performed for each 15,000 square feet of building area.
2. Building Slab Subgrade: Make at least one field density test of subgrade for every 2,000 square feet of building slab, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 2,000 square feet of overlaying building slab area, but in no case less than 3 tests.
3. Foundation and Retaining Wall Backfill: Take at least 2 field density tests, at locations and elevations as directed.
4. Paved Areas: Make at least one field density test of the subgrade for every 2,000 square feet, or portion thereof, of paved area, but in no case less than 3 tests shall be made for each day's final compaction operations. On each compacted fill layer, make at least one field density test for every 2,000 square feet, or portion thereof, of overlaying paved area, but in no case less than 3 tests shall be made for each day's final compaction operations. When stabilized subgrade is indicated on the Drawings, make at least one Limerock Bearing Ratio test of the subgrade for every 2,000 square feet, or portion thereof, but in no case less than 3 test shall be made for each day's final stabilizing operations.
5. Stabilized Shoulders: Make at least one field density test for every 200 lineal feet, or portion thereof, of stabilized shoulders staggered every 100 feet on either side of the roadway, but in no case less than 3 tests shall be made for each day's final compaction operations. Make at least one Limerock Bearing Ratio test for every 200 lineal feet, or portion thereof, of stabilized shoulders staggered every 100 feet on either side of the roadway, but in no case less than 3 tests shall be made for each day's final stabilizing operations.
6. Potable Water, Sanitary Sewer and Storm Drain Pipe Trench Backfill: Make at least one field density test on each 12" layer (lift) of trench backfill from the top of the pipe to the bottom of the subgrade or finished ground, as appropriate.
    a. As a minimum, provide at least one test for each 12" layer, for every 200 lineal feet or portion thereof of pipe trench.
    b. In addition, provide at least one test for each 12" layer, for every section of sanitary/storm pipe trench between structures.
    c. In addition, provide at least one test for each 12" layer, for every pipe trench crossing an existing or proposed road perpendicular to the centerline of the road.

C. If, in the opinion of the Architect, based on reports of testing service and inspection, subgrade or fills which have been placed are below specified density, additional compaction work and testing shall be provided by the Contractor for the Section of Work involved at no additional expense, until subgrades or fills meet or exceed specified density.

1.13 ASPHALTIC CONCRETE PAVEMENT TESTING

A. The Contractor for the work of specification section – “Concrete Paving” shall coordinate with a separate testing laboratory to perform field quality control and shall follow testing required in the Asphaltic Concrete section and if none is indicated provide the following.

B. Test uncompacted asphalt concrete mix and report the following:

1. Sampling: AASHTO T168 (ASTM D979) and F.D.O.T. Specifications.
2. Asphalt Cement Content: AASHTO T164 (ASTM D2172) and F.D.O.T. Specifications.
3. Perform at least one initial test for paving, unless otherwise specified or directed.

C. Test in-place, compacted pavement for density and thickness, as specified. Perform one test for each 2,000 square feet but not less than one test per day, unless otherwise specified or directed.

D. The Contractor shall pay for and perform additional Work and testing as may be required if any of the previous tests indicate insufficient values or if directed by the Architect. Continue Work and testing until specified values have been attained.

E. Asphalt concrete material not complying with specified requirements will not be acceptable. The Contractor shall repair or remove and replace defective paving as directed by the Architect, at no additional cost to the Owner.

F. Record the locations where samples are taken to correlate with subsequent testing.

1.14 CONCRETE TESTING

A. The Contractor for the Work of specification section – “Cast In Place Concrete,” shall coordinate with a separate testing laboratory to perform field quality control testing during concrete work under Division 3 and shall follow testing required in the Cast-In-Place Concrete section and if none is indicated provide the following:

B. Quality Control Testing During Construction: Perform sampling and testing for field quality control during the placement of concrete, as follows:

1. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.
2. Slump: ASTM C143, one test for each concrete load at point of discharge, and one for each set of compressive strength test specimens.
3. Air Content: ASTM C23l, pressure method; one for every other concrete load at point of discharge or when the indication of change requires.
4. Compression Test Specimens: ASTM C31, one set of 6 standard cylinders for each compressive strength test, unless otherwise directed.
   a. Cast and store 3 cylinders for laboratory cured test specimens and 3 field-cured test specimens as specified in ASTM C31.
5. Concrete Temperature: Test hourly when air temperature is 40 degrees F. and below and when 80 degrees F. and above; and each time a set of compressive test specimens is made.
6. Compressive Strength Tests: ASTM C39, one set for each 50 cu.yds. or fraction thereof, of each mix design placed in a day or for each 5,000 sq.ft. of surface area placed; 2 specimens (one field cured and one lab cured) tested at 7 days, 2 specimens (one field cured and one lab cured) tested at 28 days, and 2 specimens (one field cured and one lab cured) retained in reserve for later testing if required.

a. When the frequency of testing will provide less than 5 strength tests for a given mix design, conduct testing strength tests for a given mix design, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.
b. When the strength of field cured cylinders is less than 85 percent of companion laboratory cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

C. Report test results in writing to the Architect, Engineer, Contractor, and ready-mix supplier on the same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of Contractor, name of concrete supplier and truck number, name of concrete testing service, concrete type and class, location of concrete batch in the structure, design compressive strength at 28 days, concrete mix proportions and materials, type and amount of fibrous reinforcement, compressive breaking strength, and type of break for both 7 day tests and 28 day tests.

D. Additional Tests: The testing service will make additional tests of in-place concrete, as directed by the Architect, when test results indicate the specified concrete strengths and other characteristics have not been attained in the structure. The testing service shall conduct tests to determine the strength and other characteristics of the in-place concrete by compression tests on cored cylinders complying with ASTM C42 or by load testing specified in ACI 318 or other acceptable nondestructive testing methods, as directed. The Contractor shall pay for such tests conducted and any other additional testing as may be required, when unacceptable concrete is verified.

E. Evaluation of Quality Control Tests: Do not use concrete delivered to the final point of placement which has slump or total air content outside the specified values.

1. Compressive strength tests for laboratory-cured cylinders will be considered satisfactory if the averages of all sets of three consecutive compressive strength tests results equal or exceed the 28-day design compressive strength of the type or class of concrete; and no individual strength test falls below the required compressive strength by more than 500 psi.
2. Strength tests of specimens cured under field conditions may be required by the Architect to check the adequacy of curing and protecting of the concrete placed. Specimens shall be molded by the field quality control laboratory at the same time and from the same samples as the laboratory cured specimens.
    a. Provide improved means and procedures for protecting concrete when the 28-day compressive strength of field cured cylinders is less than 85 percent of companion laboratory cured cylinders.
    b. When laboratory cured cylinder strengths are appreciably higher than the minimum required compressive strength, field cured cylinder strengths need not exceed the minimum required compressive strength by more than 500 psi even though the 85 percent criterion is not met.
    c. If individual tests of laboratory cured specimen produce strengths more than 500 psi below the required minimum compressive strength or if tests of field cured cylinders indicates deficiencies in protection and curing, provide additional measures to assure that the load-bearing capacity of the structure is not jeopardized. If the likelihood of low-strength concrete is confirmed and computations indicate the load-bearing capacity may have been significantly reduced, tests of cores drilled from the area in question may be required.
3. If the compressive strength tests fail to meet the minimum requirements specified, the concrete represented by such tests will be considered deficient in strength.

F. Deficient concrete shall be removed and replaced by the Contractor without additional cost to the Owner.

1.15 CONCRETE MATERIALS AND MIX DESIGN

A. Concrete Materials and Mix Design: The Contractor shall provide the following in conformance with the requirements of specification section “Cast In Place Concrete” and shall follow testing required in the Cast In Place Concrete section and if none is indicated provide the following:

1. Ready-mixed concrete shall be mixed and delivered in accordance with ASTM C94.
2. Product Data: Submit 2 copies of manufacturer's specifications with application and installation instructions for proprietary materials and items, including admixtures, bonding agents, waterstops, joint systems, chemical floor hardeners, and dry shake finish materials.
3. Laboratory Test Reports: Submit 2 copies of laboratory test reports for concrete materials and mix design tests. The Architect's review will be for general information only. Production of concrete to comply with specified requirements is the Contractor's responsibility.
4. Mix Design: Submit 6 copies of concrete mix designs for each type of mix required by the Concrete Schedule indicating the amount of each ingredient (by weight) in one cubic yard of concrete, the calculated water/cement ratio, and the slump.

B. Tests for Concrete Materials

1. For normal weight concrete, test aggregates by the methods of sampling and testing of ASTM C33.
2. For lightweight concrete, test aggregates by the methods of sampling and testing of ASTM C330.
3. For Portland cement, sample the cement and determine the properties by the methods of test of ASTM C33.
4. Submit written reports for each material sampled and tested, prior to the start of Work. Provide the project identification name and number, date of report, name of Contractor, name of concrete testing service, source of concrete aggregates, material manufacturer and brand name for manufactured materials, values specified in the referenced specification for each material, and test results. Indicate whether or not material is acceptable for intended use.

C. Submit signed statement from ready-mix plant that concrete furnished for the Project will exactly conform to the approved design mixes.

1.16 WELDING QUALITY CONTROL

A. Welding operators shall be qualified under the provisions of the AWS Structural Welding Code, on test pieces in positions and with clearances equivalent to those actually to be encountered in construction and shall follow testing required in the applicable section and if none is indicated provide the following;

B. Welds requiring inspection shall be so indicated in the drawings.

1. Welds indicted as requiring visual inspection shall be visually inspected by an independent inspector, acceptable to the Architect, prequalified to make the weld being inspected. Welders and inspectors shall be prequalified by the American Welding Society Qualification Test.

C. The Contractor performing the welding requiring inspection shall coordinate with an independent testing service, acceptable to the Architect to perform weld testing.

D. Submit written reports for each weld tested. Provide project identification and number, date of report, name of Welding Contractor, name of testing service, location of weld, type of weld, and test results. Indicate whether or not weld is acceptable for intended use.

E. If by inspection welds fail to meet minimum acceptable criteria, the welds shall be cut out and replaced.

F. Welders shall make only those types of welds for which they are specifically certified.

1.17 BOLTED STRUCTURAL CONNECTIONS QUALITY CONTROL

A. The Contractor for the work in specification section – “Structural Steel Framing” shall coordinate with a separate testing laboratory, to perform field quality control inspection of slip-critical and snug-tight bolted connections and shall follow testing required in the applicable section and if none is indicated provide the following;

B. Inspection of slip-critical connections shall be visual. The inspector shall be present at the beginning of steel erection to insure that the erector is conforming to the Contract Documents and AISC Specifications. The inspector shall verify that the erector is marking the bolts and nuts prior to the turn-of-nut procedure. Ten percent of all slip-critical bolted connections shall be observed as they are installed. Any connections which, in the opinion of the inspector, do not meet the tightening requirements of the Contract Documents shall be corrected by the erector.

1. Inspection of snug-tight connections shall be made by use of a spud wrench. Ten percent of all snug-tight bolted connections selected randomly over the entire limits of the building structure shall be tested to verify tightness. If more than 20 percent of the bolts tested do not meet the General Requirements of the Contract Documents, the erector shall be required to retighten all snug-tight bolted connections on the Project.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: Upon completion of inspection, testing, sample-taking, and similar services performed on Work, repair damaged Work and restore substrates and finishes to eliminate deficiencies including defects in visual qualities of exposed finishes. Except as otherwise indicated, comply with requirements of Contract Documents. Protect Work exposed by or for service activities and protect repaired Work. Repair and protection is Contractor's responsibility, regardless of assignment of responsibility for inspection, testing, or similar service.

END OF SECTION 01 45 00

SECTION 01 50 00 – TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for all temporary utility facilities and services shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

B. Water Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.

2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

1.5 QUALITY ASSURANCE

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

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

1.6 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top rails.

B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

1. Screening: Provide UV protected 2 ply windscreen in green color at chain link fencing.

C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.

D. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches.

E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, Contractor, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- square tack and marker boards.
3. Drinking water and private toilet.
4. Coffee machine and supplies.
5. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
6. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.

C. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

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

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction and marked for intended location and application.

3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in specification section "Closeout Procedures."

C. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

D. Air-Filtration Units: Primary and secondary HEPA-filter-equipped portable units with four-stage filtration. Provide single switch for emergency shutoff. Configure to run continuously.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Specification Section "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

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

B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. Provide connections and extensions of services as required for construction operations. At Substantial Completion, restore these facilities to condition existing before initial use and provide test as required by Building Official.

1. Provide meter, Owner to pay service charges.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

D. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

E. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.
    a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.
    b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.
2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

G. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

H. Electric Power Service: Connect to Owner's existing electric power service as directed by the owner. Provide connections and extensions of services as required for construction operations. Maintain equipment in a condition acceptable to Owner.

1. No meter, Owner to pay service charges.

I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

J. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install one telephone line(s) for each field office.

1. At each telephone, post a list of important telephone numbers.
    a. Police and fire departments.
    b. Ambulance service.
    c. Contractor's home office.
    d. Contractor's emergency after-hours telephone number.
    e. Architect's office.
    f. Engineers' offices.
    g. Owner's office.
    h. Principal subcontractors' field and home offices.

2. Provide superintendent with cellular telephone or portable two-way radio for use when away from field office.

K. Electronic Communication Service: Provide a desktop computer in the primary field office adequate for use by Architect and Owner to access Project electronic documents and maintain electronic communications. Equip computer with not less than the following:

1. Processor: Intel Pentium D or Intel CoreDuo, 3.0 GHz processing speed.
2. Memory: 4 gigabyte.
3. Disk Storage: 300 gigabyte hard-disk drive and combination DVD-RW/CD-RW drive.
4. Display: 22-inch LCD monitor with 256-Mb dedicated video RAM.
5. Full-size keyboard and mouse.
6. Network Connectivity: 10/100BaseT Ethernet.
7. Operating System: Microsoft Windows XP Professional or Microsoft Windows Vista Business.
8. Productivity Software:
   a. Microsoft Office Professional, XP or higher, including Word, Excel, and Outlook.
   b. Adobe Reader 7.0 or higher.
   c. WinZip 7.0 or higher.
9. Printer: "All-in-one" unit equipped with printer server, combining color printing, photocopying, scanning, and faxing, or separate units for each of these three functions.
10. Internet Security: Integrated software, providing software firewall, virus, spyware, phishing, and spam protection in a combined application.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas on Drawings.

1. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

C. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to specification section "Earth Moving."

D. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Maintain access for fire-fighting equipment and access to fire hydrants.

E. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

F. Any grounds within the designated construction zone, staging area, administrative area, etc. will be maintained by the CM in a neat and reasonable appearance, including the removal of all debris, management of stored materials, mowing of grass, control of erosion, etc.

G. Drainage: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.

H. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
3. Provide temporary, directional signs for construction personnel and visitors.
4. Maintain and touchup signs so they are legible at all times.

I. Waste Disposal Facilities: Comply with requirements specified in specification section "Construction Waste Management and Disposal."

J. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in specification section "Execution."

K. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to requirements of 2003 EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant- protection zones.

2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

G. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.

I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

J. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

K. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

L. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by from fumes and noise.

1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.

2. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.
    a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches between doors. Maintain water-dampened foot mats in vestibule.
3. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
4. Insulate partitions to control noise transmission to occupied areas.
5. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
6. Protect air-handling equipment.
7. Provide walk-off mats at each entrance through temporary partition.

M. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.5 MOISTURE AND MOLD CONTROL

A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.6 OPERATION, TERMINATION, AND REMOVAL

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

B. Maintenance: Maintain facilities in good operating condition until removal.

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

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Specification Section "Closeout Procedures."

END OF SECTION 01 50 00

SECTION 01 50 10 – PROJECT CONSTRUCTION SIGN

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. This Section includes the following:

1. Requirements for Project Construction Sign.

B. General Requirements: Comply with the following:

1. Schedule for Sign: Erect Project sign at the beginning of construction and it shall remain in-place until Certificate of Occupancy has been issued.

2. Location of Project Sign: Unless otherwise directed by Owner, Project sign shall be erected at a location that is visible to the public, which typically is adjacent to the entrance drive of the Project site, and approved by the Architect.
   a. Bottom face of the Project sign shall be a minimum of 4 ft. above grade.
3. Other Site Signs: Unless required by local, state, or Federal Code or safety standards, no other signs will be permitted at the Project site.

1.3 ACTION SUBMITTALS

A. Signage Information: Architect will provide information for the Project sign electronically.

1. Architect will review with the designated Owner's Representative that the indicated information is correct.
2. Sign fabricator shall be responsible for ensuring that the correct information is indicated on the Project sign.

1.4 QUALITY ASSURANCE

A. Code Requirement: Project sign shall comply with all applicable Codes, including wind load recommendations and requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Construct Project sign of the following:

1. Plywood Sign Faces: 2, 4 ft. x 8 ft. x 3/4 inch thick, exterior grade plywood.
   a. Plywood faces shall be constructed into a “V” format on a 90- degree angle.
   b. Design to be provided by the Architect and Owner approved.
2. Posts: Not less than 2 posts per 4 ft. x 8 ft. sign face.
   a. Size of Posts: As required per Florida Building Code wind load requirements.
   b. Material: Posts may be fabricated of exterior grade, treated lumber or galvanized steel.
3. Fasteners: Use fasteners that are zinc-coated to inhibit rust.
   a. Number of Fasteners: As required by structural requirements.

2.2 FABRICATION

A. Project sign shall be fabricated off-site and match the example and brought to the Project site ready for erection in location as directed by Architect.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 50 10

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

1.3 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

Include data to indicate compliance with the requirements specified in "Comparable Products" Article.

1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within fifteen (15) work days of receipt of request, or seven calendar days of receipt of additional information or documentation, whichever is later.
   Form of Approval: As specified in specification section "Submittal Procedures."
   a. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in specification section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Contractor is responsible for providing products and construction methods compatible with products and construction methods of applicable subcontractors.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.

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

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

1. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.

1. See other Sections for specific content requirements and particular requirements for submitting special warranties.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

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

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
   Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
   a. Non-restricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.

   Manufacturers:
   Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
   b. Non-restricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
4. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Specification Section "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 60 00

SECTION 01 73 00 – EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

Construction layout.
1. Field engineering and surveying.
2. Installation of the Work.
3. Coordination of Owner-installed products. Starting and adjusting.
4. Protection of installed construction.
5. Correction of the Work.

1.3 DEFINITIONS

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

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

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Certified Surveys: Submit two (2) copies signed by land surveyor.

D. Final Property Survey: Submit ten (10) copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

1. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

B. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

Description of the Work.

1. List of detrimental conditions, including substrates.
2. List of unacceptable installation tolerances.
3. Recommended corrections.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in specification section "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.

1. Establish limits on use of Project site.
2. Establish dimensions within tolerances indicated. Do not scale drawings to obtain required dimensions.
3. Inform installers of lines and levels to which they must comply.
4. Check the location, level and plumb, of every major element as the Work progresses.
5. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.

1. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

1. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
2. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

C. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

D. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.

1. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

Make vertical work plumb and make horizontal work level.

1. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
3. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and

I. type required for load conditions.

Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.

1. Allow for building movement, including thermal expansion and contraction.
2. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

J. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

K. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in specification section "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in specification section "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

SECTION 01 73 10 – CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1.3 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

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

1.4 INFORMATIONAL SUBMITTALS

A. Cutting and Patching Plan: Submit plan describing procedures at least 10 work days prior to the time cutting and patching will be performed. Include the following information:

Extent: Describe reason for and extent of each occurrence of cutting and patching.

1. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
2. Products: List products to be used for patching and firms or entities that will perform patching work.
3. Dates: Indicate when cutting and patching will be performed.
4. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.
   Include description of provisions for temporary services and systems during interruption of permanent services and systems.

1.5 QUALITY ASSURANCE.

A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

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

   Primary operational systems and equipment.

   a. Fire separation assemblies.
   b. Air or smoke barriers.
   c. Fire-suppression systems.
   d. Mechanical systems piping and ducts.
   e. Control systems.
   f. Communication systems.
   g. Fire-detection and -alarm systems.
   h. Conveying systems.
   i. Electrical wiring systems.
   j. Operating systems of special construction.

Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

Water, moisture, or vapor barriers.

k. Membranes and flashings.
l. Exterior curtain-wall construction.
m. Sprayed fire-resistive material.
n. Equipment supports.
o. Piping, ductwork, vessels, and equipment.
p. Noise- and vibration-control elements and systems.
q. Firestopping

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

Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.6 WARRANTY

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

B. Extend a one-year labor and materials warranty against defects in failure of patch work due to material defects or workmanship.

PART 2 - PRODUCTS

2.1 MATERIALS

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

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

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.

1. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.

1. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

Description of the Work.

1. List of detrimental conditions, including substrates.
2. List of unacceptable installation tolerances.
3. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

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 Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid or minimize interruption of services to occupied areas. Schedule any such interruptions of service with Owner.

3.3 EXECUTION

A. Comply with requirements in specification section “Selective Demolition.”

B. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in specification section "Project Management and Coordination."

C. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

E. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

F. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on drawings.

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

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

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

I. Temporary Support: Provide temporary support of work to be cut.

J. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

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

1. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
2. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
3. Excavating and Backfilling: Comply with requirements in applicable sections where required by cutting and patching operations.
4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
5. Proceed with patching after construction operations requiring cutting are complete.

K. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

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

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

   Clean piping, conduit, and similar features before applying paint or other finishing materials.

   a. Restore damaged pipe covering to its original condition.

Floors and Walls: Where walls or partitions that are removed extend one finished area into another, appearance.

Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

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

2. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

L. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

Patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color.

END OF SECTION 01 73 10

SECTION 01 73 20 – INDOOR AIR QUALITY (IAQ) MANAGEMENT PLAN

1. GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes general requirements and procedures for achieving acceptable indoor air quality for the interior areas of this Project during construction, and preventing contamination of ductwork, HVAC equipment, and other building materials to avoid IAQ problems for workers and for occupants in the future after occupancy. Work includes requirements on the use of permanent building mechanical systems prior to Owner's acceptance.

B. Comply with requirements for Construction Indoor Air Quality Management, During Construction and as specified in specification section "Green Building Initiative Requirements" and in this section.

C. Contractor shall prepare and submit an Indoor Air Quality (IAQ) Management Plan.

1.3 ACTION SUBMITTALS

A. IAQ Construction Management Plan: Submit 3 Copies of the plan within 30 days of the date established for commencement of the Work. Update and resubmit plan as required during construction process to reflect Project conditions.

B. Meeting Minutes: Submit minutes from the Contractor meetings related to the execution and verification of the IAQ Construction Management Plan.

C. Date Stamped Record Photographs: Provide at a minimum of 3 stages of construction to document adherence with the IAQ requirements. A minimum of 45 photographs, 15 photographs taken at three different stages of construction when IAQ Construction Management Plan procedures are active. Provide 3 photographs of each of the five SMACNA IAQ requirements at each stage of construction. Provide identification of the 5 SMACNA requirements for each photo to document consistent adherence to requirements of Construction Indoor Air Quality Management, During Construction.

D. Product Data: Submit cut sheets of filtration media proposed for use.

1.4 QUALITY ASSURANCE

A. Contractor's Construction IAQ Management Plan shall meet or exceed the 5 recommended design approaches of SMACNA's "IAQ Guidelines for Occupied Buildings Under Construction

2nd Edition 2007, ANSI/SMACNA 008-2008, (Chapter 3), and shall embody the principals and practices set forth in this Section.

B. IAQ Management Conference: Conduct conference at Project site to comply with the requirements in Division 1 Section “Project Management and Coordination.”

1. Review methods and procedures related to IAQ management during construction.
2. Review IAQ management requirements with each trade.

C. Comply with the requirements Construction Indoor Air Quality Management, During Construction and Contractor’s Construction IAQ Management Plan during construction.

1.5 IAQ CONSTRUCTION MANAGEMENT PLAN

A. Contractor IAQ Construction Management Plan shall include procedures to prevent indoor air quality problems resulting from the construction process in order to help sustain the comfort and well being of construction workers and future building occupants.

B. Contractor’s detailed plan shall be based on the particular characteristics of the Project.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 HVAC PROTECTION (SMACNA Approach number 1)

A. Store HVAC equipment including but not limited to items such as ducting, registers, air handler components, fans, and motors in a clean, dry location, protected from dust and other contaminants, and covered with plastic until installed.

B. Seal all HVAC inlets and outlets.

C. Use of the HVAC system shall be avoided during construction, until drywall construction and activities that produce dust or particulate pollution have been completed. Temporary ventilation may be installed to remove contaminants. All HVAC components including but is not limited to outside air inlets, grills, diffusers, supply ducts, return ducts, ceiling plenums, VAV (variable air volume) plenum intakes, and window ventilator or air conditioning units shall be sealed during construction.

D. Seal HVAC components during installation. Ducts runs that require several days to install, sections shall be sealed off as they are completed. Seals shall be removed prior to continuing the duct run. Other components of the HVAC system shall be subject to the same requirements to protect from contamination.

E. Provide frequent inspection and maintenance of HVAC component protection. Replace as necessary. If inspections by the Architect, Engineer, Owner, or Commissioning Agent reveal that the ductwork has been contaminated due to inadequate protection, the ductwork shall be cleaned professionally prior to activation the HVAC system or occupancy, using procedures

established in ACR 2005 published by the National Air Duct Cleaners Association. HVAC components have been damaged or contaminated shall be cleaned or replaced as necessary.

F. Use temporary filtration media. If HCAC system is to be used while construction work is being done, temporary media filtration media shall be installed on all air intakes. Such filtration shall have a minimum filtration efficiency (Minimum Efficiency Reporting Value-MERV per ASHRAE 52.2) of 8. For air intakes into other parts of the building that are very sensitive, such as computer rooms, filtration media with a MERV rating of 13 or higher is required.

G. Inspect filters weekly replace as needed for proper filtration and air flow.

H. Avoid contamination of air entry into enclosed parts of the building. When outdoor construction activities generate dust, combustion emissions, or other contaminates, operable windows and outside air supplies to enclosed portions of the building will be closed or sealed.

I. Do not use fan, mechanical, or electrical rooms to store construction or waste materials. Keep these rooms clean and neat.

J. Ceiling tiles shall not be installed until after drywall and painting is complete to avoid contamination of ceiling tiles that will form the return air plenum.

3.2 SOURCE CONTROL (SMACNA Approach number 2)

A. The use of moisture-damaged materials shall not be allowed. Any porous materials that have become wet shall be dried thoroughly within 48 hours and before installation. Any materials damaged, showing visible mold, or that are wet for over 48 hours shall be removed from the site appropriately.

B. Contractor to ensure that the construction process will not result in moisture intrusion. In the event of rain or groundwater intrusions notify the Owner’s representative.

C. Avoid tracking pollutants into the work areas.

1. At the start of framing and mechanical system installation access to the building shall be controlled to minimize the tracking of contaminants.
2. Material deliveries and construction waste removal shall be routed by the most direct route to and from the building exterior.
3. Provide rough track off grates or matting at the entryway to remove moisture and contaminants from pedestrian traffic.
4. Prevent the ingress of rodents and pests.
5. Food and drinks other than water shall not be allowed in the building.
6. Trash containers will be primarily located outside of the building. Any interior trash containers will be emptied twice a week at a minimum.
7. Use procedures to insure that there is no smoking in the building, storage areas of absorptive materials, or within 25 ft of air intakes or building openings.

D. Limit construction traffic and monitor idling vehicles and equipment in the vicinity of air intakes when the HVAC systems are activated. Restrict vehicles to a loading area, well removed from air intakes. Prevent emissions from being drawn into the building.

E. Use electric or natural gas alternatives to for gasoline and diesel equipment when possible.

F. All personnel lifts used inside the building will be electrically operated to prevent emissions inside the building.

G. Cycle vehicles and equipment off when not being used.

H. Avoid the use of materials and products with high VOC and particulate levels. Inside the building use products and installation methods with low VOCs such as paints and coatings, adhesives and sealants, and cleaners.

I. The project's specifications guidelines call for the use of low-VOC materials. Daily inspections will be made by the Contractor's project manager and/or superintendent to ensure the products being used in the field are the specified and approved products.

J. Keep containers of wet products closed when not in use. Cover and seal materials which can release odor or dust.

K. Containers of fuel, volatile liquids, and materials with high VOC content shall be tightly sealed and stored outside of the building.

L. Protect absorbent materials from moisture during delivery to and storage at the job site. Store materials in a dry and clean environment.

3.3 PATHWAY INTERUPTION (SMACNA Approach number 3)

A. Use dust curtains or temporary enclosures to prevent dust from migrating to other areas when applicable. During construction, isolate areas of work to prevent contamination of clean or occupied areas.

B. Keep pollutant sources as far away as possible from absorptive materials, ductwork, and areas occupied by workers.

C. Isolate work areas and or create pressure differentials to prevent the migration of contaminants.

D. Use portable fan systems to exhaust contaminated air directly to the outside of the building, and discharge the air to prevent recirculation.

3.4 HOUSE KEEPING (SMACNA Approach number 4)

A. Keep HVAV components, not limited to coils, air filters, dampers, fans, and ductwork, clean during installation, and clean them as required prior to performing the testing, adjusting and balancing of the systems.

B. Construction shall minimize the production and accumulation of dust and other contaminants. Use integral dust collection systems on drywall sanders, cut saws, and routers. Confine dust-generation activities to areas where cleaning can be carried out easily and where contaminants will not be tracked or contaminate other areas.

C. Wetting agents or sweeping compounds shall be used to keep dust from becoming airborne.

D. Wet cloths, damp mops, and vacuum cleaners with high efficiency particulate (HEPA) filters shall be used to clean. Cleaning frequency shall be increased when dust accumulation is noted.

E. All spills and excess applications of solvent-containing products shall be cleaned using approved methods immediately. Water spills shall be cleaned-up promptly.

F. Avoid accumulation of water inside the building and promptly remove any water that may occur. Protect porous materials such as insulation, ceiling tiles and drywall from water or moisture.

G. Construction areas shall be kept dry. Promptly repair any leaks or penetrations that allow water to enter the building. Use dehumidification as necessary for prompt drying of wet surfaces and materials.

H. Clean rough track off grates or matting at the entryway as necessary, at a minimum weekly to reduce dirt and particulates from entering the building, when building is enclosed.

I. Cleaning Agents: Use Cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces. Use cleaning products that meet Green Seal GS-37, or if GS-37 is not applicable use products that comply with the California Code of Regulations maximum allowable VOC levels.

3.5 SQUENCING AND SCHEDULING (SMACNA Approach number 5)

A. Schedule the installation of porous materials after enclosure of the building. Porous materials shall not be installed until the building envelope is fully weather tight.

B. Install porous or absorbent materials such as ceiling tiles, after odorous activities including drywall installation, painting, and floor finishing is completed.

C. Do not allow contaminants from an area under construction to enter the HVAC systems or to migrate to completed areas of construction.

D. Install new MERV 8 filters prior to the FF&E move-in and occupancy.

E. Install furnishing after interior finishes have applied and fully cured.

F. Provide adequate ventilation during curing period. To aid in curing of interior finishes and other products used during construction and to remove pollutants after drywall installation is complete provide adequate ventilation with 100% outside air, and proper filtration for any HVAC components activated. During humid periods or when high moisture materials are present, supplementary dehumidification may be required.

G. All sanding of the concrete floors, floor preparation, and the poured-in-place terrazzo will be scheduled before the HVAC system startup.

H. All drywall sanding and painting will be scheduled before the HVAC system startup.

I. Move-in of all FF&E will occur after all construction activities have been substantially completed and the HVAC has been tested and balanced.

3.6 MONITORING AND IMPLEMENTATION OF IAQ PLAN

A. Contractor to designate an on-site responsible staff member for instructing personnel and overseeing the Construction IAQ Management Plan.

B. Implementation and distribution of the Construction IAQ Management Plan as approved by Commissioning Agent.

C. Provide weekly Contractor site co-ordination meetings with subcontractors. Review appropriate components of the IAQ Construction Management Plan as a regular action item. Document the implementation of the Plan in the meeting minutes and update the IAQ Construction Management Plan as required.

D. Subcontractors and their employees shall be provided instruction and Training in the Indoor Air Quality (IAQ) Management Plan.

E. Recording format: Use SMACNA IAQ Guidelines Appendix C (Planning Checklist) and Appendix D (Inspection Checklist) as a guide.

F. Project-specific posters and signage will be posted in the jobsite office trailer, at all building entrances, and at several locations inside the building.

END OF SECTION 01 73 20

SECTION 01 74 13 – GENERAL CLEANING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section Includes:

1. Provide labor, material, services and equipment necessary to furnish and install work as indicated and as specified herein, which includes, but is not limited to:
   a. Progress cleaning.
   b. Final cleaning.

1.3 DISPOSAL REQUIREMENTS

A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.

C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 – EXECUTION

3.1 GENERAL

A. Execute daily cleaning to keep the work, the site, and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.

B. Provide on-site containers for the collection of waste materials, debris, and rubbish. Construction Manager must utilize services of local waste collection agencies or companies.

C. Remove waste materials, debris and rubbish from the site periodically, and dispose of at legal disposal areas away from the site. Pay all fees for disposal.

3.2 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
   a. Use containers intended for holding waste materials of type to be stored.

B. Site: Maintain Project site free of waste materials and debris. Maintain turf inside the Project Site at no more than 5”.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Do not use installed work to clean tools, paint brushes/ rollers, buckets or other construction equipment. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

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

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

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in specification section "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. 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.

3.3 DUST CONTROL

A. Perform work operations and cleaning in a manner to prevent excessive dust generation.

B. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.

C. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

D. Install filter media in all newly installed supply and return ducts.

3.4 FINAL CLEANING

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

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition. Polish glossy surfaces to a clear shine.
    f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    g. Sweep concrete floors broom clean in unoccupied spaces.
    h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
    i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
    j. Remove labels that are not permanent.
    k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.

m. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
n. Clean ducts, blowers, and coils if units display contamination with particulate matter on inspection. Units shall not be operated without filters during construction.
    1) Clean HVAC system in compliance with NADCA Standard 1992-01. Provide written report on completion of cleaning.
    2) Clean permanent filters and replace disposable filters if units were operated during construction.
    3) Clean surfaces and blades of grilles, diffusers, registers, lenses, louvers, etc.
o. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
p. Enclosed spaces, such as above ceilings and voids in wall assemblies, are to be free from debris.
q. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds. Clean roof area and adjacent surfaces of any dirt or debris from construction activities.
r. Parking areas are to be cleaned of any grease or oil stains.
s. Leave Project clean and ready for occupancy.

B. Prior to final completion, or Owner occupancy, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify that the entire work is clean. Inspect areas adjacent to the work area for any windblown debris and clean as necessary.

END OF SECTION 01 74 13

SECTION 01 74 19 – CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.
4. Disposing of nonhazardous construction waste.

1.3 DEFINITIONS

A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

G. LEED: Leadership in Energy and Environmental Design Rating System as established by U.S. Green Building Council.

1.4 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use

of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 20 days of date established for Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons.
5. Quantity of waste recycled, both estimated and actual in tons.
6. Total quantity of waste recovered (salvaged plus recycled) in tons.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

E. Landfill Disposal Records: Indicate receipt and acceptance of waste by landfills licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Green Globe Submittal: Green Globe letter template, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met. Refer to Schedule at the end of this section.

1.7 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: The Waste Management coordination shall be a full-time member of the Contractor’s on-site field team. The Waste Management Coordinator may have other on-site project responsibilities.

B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

C. Waste Management Conference: Conduct conference at Project site to comply with requirements in specification section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition, site-clearing, and construction waste generated by the Work for construction waste and for demolition waste. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator for construction waste and for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
3. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
4. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
3. Total cost of disposal (with no waste management).

4. Revenue from recycled materials.
5. Savings in hauling and tipping fees by donating materials.
6. Savings in hauling and tipping fees that are avoided.
7. Handling and transportation costs. Include cost of collection containers for each type of waste.
8. Net additional cost or net savings from waste management plan

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in specification section "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan. Coordinator shall be present at Project site full time for duration of Project.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with specification section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until installation.

4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

B. Salvaged Items for Sale Not permitted on Project site.

C. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
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.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall [accrue to Owner] [accrue to Contractor] [be shared equally by Owner and Contractor].

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
   a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.4 RECYCLING DEMOLITION WASTE

A. Asphalt Paving: Grind asphalt to maximum 1-1/2-inch size.

1. Crush asphaltic concrete paving and screen to comply with requirements in specification section "Earth Moving" for use as general fill.

B. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.

C. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

1. Pulverize concrete to maximum 1-1/2-inch size.
2. Crush concrete and screen to comply with requirements in specification section "Earth

D. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.

1. Pulverize masonry to maximum 1-inch size.
   a. Crush masonry and screen to comply with requirements in specification section "Earth Moving" for use as general fill.
   b. Crush masonry and screen to comply with requirements in specification section "Plants" for use as mineral mulch.
2. Clean and stack undamaged, whole masonry units on wood pallets.

E. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

F. Metals: Separate metals by type.

1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

G. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

H. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

I. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

J. Metal Suspension System: Separate metal members including trim, and other metals from acoustical panels and tile and sort with other metals.

K. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

1. Store clean, dry carpet and pad in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

L. Carpet Tile: Remove debris, trash, and adhesive.

1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by Carpet Reclamation Agency or carpet recycler.

M. Piping: Reduce piping to straight lengths and store by type and size. Separate supports, hangers, valves, sprinklers, and other components by type and size.

N. Conduit: Reduce conduit to straight lengths and store by type and size.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
   a. Comply with requirements in specification section "Plants" for use of clean sawdust as organic mulch.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.
   a. Comply with requirements in specification section "Plants" for use of clean ground gypsum board as inorganic soil amendment.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Burning: Burning of waste materials is permitted only at designated areas on Owner's property, provided required permits are obtained. Provide full-time monitoring for burning materials until fires are extinguished.

D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 75 00 – STARTING AND ADJUSTING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, and the Sections included under Division 1, General Requirements, are included as a part of this Section as though bound herein.

1.2 SECTION INCLUDES

A. Provide labor, materials, services, and equipment necessary to furnish and install work as indicated and as specified herein, which includes, but is not limited to:

1. Starting systems.
2. Demonstration and instructions.
3. Testing, adjusting, and balancing.

1.3 STARTING SYSTEMS

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

B. Notify Architect and Owner seven days prior to startup of each item.

C. Verify each piece of equipment or system for proper lubrication, drive rotation, belt tension, control sequence, or other conditions that may cause damage.

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

E. Verify wiring and support components for equipment are complete and tested.

F. Execute startup under supervision of responsible Contractors' personnel in accordance with manufacturers' instructions.

G. When specified in individual specification sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to startup, and to supervise placing equipment or system in operation.

H. Submit a written report, verifying the proper installation of the equipment or system and that it functions correctly.

1.4 TESTING, ADJUSTING, AND BALANCING

A. The Contractor will employ and pay for services of an independent firm to perform testing, adjusting and balancing.

B. The independent firm shall perform the services as specified.

C. The independent firm shall submit reports to the Architect indicating observations, results of tests and compliance or non-compliance with specified requirements and with the requirements of the contract documents.

D. The independent firm shall coordinate scheduling of Testing, Adjusting, and Balancing activities with the Contractor.

1. Testing, Adjusting and Balancing must be completed prior to scheduling equipment and system Functional Performance Testing.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 Contractor shall coordinate equipment and system start-up with the Architect.

END OF SECTION 01 75 00

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion Procedures.
2. Final Completion Procedures.
3. Operation and Maintenance Manuals and Warranties.
4. Final Cleaning.
5. Repair of the Work.

1.3 ACTION SUBMITTALS

A. Product Data: For cleaning agents.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 MAINTENANCE MATERIAL SUBMITTALS

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

1.5 SUBSTANTIAL COMPLETION PROCEDURES

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

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, final completion construction photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number where applicable.
    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
5. Submit test/adjust/balance records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of ten (10) days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
6. Advise Owner of changeover in heat and other utilities.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements, including touchup painting.
10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for final completion.

E. When Architect concurs that the work is substantially complete, he will:

1. Prepare a Certificate of Substantial Completion on AIA Form G704, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect.
2. Submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate.

1.6 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to specification section "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, by floor and room numbers.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:
    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Page number.
4. Submit list of incomplete items in the following format:
    a. PDF electronic file. Architect will return annotated file.
    b. Excel spread sheet.

1.8 SUBMITTAL OF PROJECT OPERATION AND MAINTENANCE MANUALS AND WARRANTIES

A. Time of Submittal: Submit written Operation and Maintenance Manuals and Warranties fifteen (15) days prior to Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

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

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. Final Cleaning: Comply with final cleaning requirements in specification section “General Cleaning.”

B. Pest Control: Comply with pest control requirements in specification section "Temporary Facilities and Controls." Prepare written report.

C. Construction Waste Disposal: Comply with waste disposal requirements in "Construction Waste Management and Disposal" specification section.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.

a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00

SECTION 01 78 23 – OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

Operation manuals for systems, subsystems, and equipment.
1. Product maintenance manuals.
2. Systems and equipment maintenance manuals.

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this section.

1. Submit two (2) copies of preliminary draft of proposed formats and outlines of contents for manuals at least 30 days before commencing demonstration and training.
2. Architect will comment on whether content of operations and maintenance submittals are acceptable.
3. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least fifteen (15) working days before commencing demonstration and training. Architect will return copy with comments.

Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within fifteen (15) working days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION MANUALS

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

System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
1. Performance and design criteria if Contractor has delegated design responsibility.
2. Operating standards.
3. Operating procedures.

B. Descriptions: Include the following:

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

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

2.2 PRODUCT MAINTENANCE MANUALS

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

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

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

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

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

Inspection procedures.
1. Types of cleaning agents to be used and methods of cleaning.

2. List of cleaning agents and methods of cleaning detrimental to product.
3. Schedule for routine cleaning and maintenance.
4. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

Include procedures to follow and required notifications for warranty claims.

2.3 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

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

C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

Standard maintenance instructions and bulletins.
1. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
2. Identification and nomenclature of parts and components.
3. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

Test and inspection instructions.
1. Troubleshooting guide.
2. Precautions against improper maintenance.
3. Disassembly; component removal, repair, and replacement; and reassembly instructions.
4. Aligning, adjusting, and checking instructions.
5. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
1. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

Do not use original project record documents as part of operation and maintenance manuals.

1. Comply with requirements of newly prepared record Drawings in specification section "Project Record Documents."

D. Comply with specification section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

SECTION 01 78 30 – WARRANTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Compile specified warranties and bonds.

B. Compile specified service and maintenance contracts.

C. Review submittals to verify compliance with Contract Documents.

D. Submit to Architect for review and transmittal to Owner.

1.3 GENERAL WARRANTY

A. The Contractor shall warrant the project against defects in materials or workmanship and agrees to repair or replace components that fail and repair or replace defective workmanship within a specified warranty period of one (1) year after substantial completion unless indicated differently in a specific specification section.

1.4 SUBMITTAL REQUIREMENTS

A. Assemble warranties, bonds and service and maintenance contracts, executed by each of respective manufacturers, suppliers and subcontractors in accordance with Division 1 requirements.

B. Number of original signed copies required: Three (3) each.

C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item:

1. Product or work item.
2. Firm, with name of principal, address and telephone number.
3. Scope.
4. Date of beginning of warranty, bond or service and maintenance contract. In no case shall the date begin prior to acceptance by Architect of that portion of the work.
5. Duration of warranty, bond or service maintenance contract.
6. Provide information for Owner's personnel:
    a. Proper procedure in case of failure.
    b. Instances which might affect the validity of warranty or bond.
    c. Construction Manager, name of responsible principal, address and telephone number.
    d. Manufacturer: Contact person and telephone number.

1.5 FORM OF SUBMITTALS

A. Prepare in duplicate packets.

B. Format:

1. Size: 8-1/2" x 11" punch sheets for standard 3-ring binder:

a. Fold larger sheets to fit into binders.

2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS." List:
   a. Title of Project.
   b. Location of Project.
   c. Name of Construction Manager.

C. Binders: Commercial quality, 3-ring, with durable and cleanable plastic covers, all of same color.

1.6 TIME OF SUBMITTALS

A. For equipment or component parts of equipment put into service during progress of construction:

1. Warranties shall start at the Date of Substantial Completion for each phase of work complete for the items related to that particular phase. The final warranties for the project will list the individual dates for the start date of each warranty per phase.

B. Submit documents as indicated with Closeout Documents.

C. For items of work where acceptance is delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) days after acceptance, listing date of acceptance as start of warranty period.

1.7 SUBMITTALS REQUIRED

A. Submit warranties, bonds, service and maintenance contracts as specified in respective Sections of Specifications.

B. Submit additional manufacturer's standard warranties where available at no additional cost, but not specifically indicated in respective Specification Sections.

END OF SECTION 01 78 30

SECTION 01 78 39 – PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

1.3 ACTION SUBMITTAL

A. At Substantial Completion, deliver Record Documents to Architect for review prior to sending to the Owner.

B. Accompany submittal with transmittal letter in duplicate, containing:

1. Date.
2. Project title and number.
3. Contractor's name and address.
4. Title and number of each Record Document.
5. Signature of Construction Manager or his authorized representative.

C. Should Architect/Engineer determine the Record Documents are not complete, Construction Manager shall rework Documents to properly record all contractual items. Record Documents shall then be resubmitted for additional review. The Construction Manager is solely responsible for recording all data on the Project Record Documents.

1.4 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

Number of Digital Copies: Submit copies of record Drawings as follows:
Initial Submittal: Submit record digital data files and one set(s) of plots.
Final Submittal: Submit record digital data files and three set(s) of record digital data file plots.

1. Number of Paper Copies: Submit copies of record Drawings as follows:
Initial Submittal: Submit one set(s) of prints.

Final Submittal: Submit three set(s) of prints.
a. Final Submittals: Submit PDF.

Record Specifications: Submit of Project's Specifications, including addenda and contract modifications.

B. Record Product Data: Submit of each submittal.

Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit of each submittal.

1.5 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Construction Manager's field office apart from documents used for construction.

1. Provide files and racks for storage of documents.

B. File documents and samples in accordance with CSI/CSC format.

C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by Architect. Review and verify monthly, prior to submittal of Construction Manager's Application for Payment.

1. Owner and Architect shall review record documents prior to approval of monthly Application for Payment.

E. Update documents to record changes as the work progresses. Completed portions of work should be recorded in a clear, legible and finished manner.

F. As a minimum, update documents prior to each Application for Payment. Architect shall review documents prior to approval of Application for Payment. Failure of the Construction Manager to maintain record documents as stated shall result in the non-approval of the Application for Payment, or at minimum, a reduction to the payment due.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether

individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:
   a. Dimensional changes to Drawings.
   b. Revisions to details shown on Drawings.
   c. Depths of foundations below first floor.
   d. Locations and depths of underground utilities.
   e. Revisions to routing of piping and conduits.
   f. Revisions to electrical circuitry.
   g. Actual equipment locations.
   h. Duct size and routing.
   i. Locations of concealed internal utilities.
   j. Changes made by Change Order or Construction Change Directive.
   k. Changes made following Architect's written orders.
   l. Details not on the original Contract Drawings.
3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as the original Contract Drawings.
2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to Architect for resolution.
4. Architect will furnish Contractor one set of digital data files of the Contract Drawings for use in recording information.
   a. See Specification Section "Submittal Procedures" for requirements related to use of Architect's digital data files.
   b. Architect will provide data file layer information. Record markups in separate layers.

C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

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

2. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
3. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Architect.
   e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
3. Note related Change Orders and record Drawings where applicable.

B. Format: Submit record Specifications as an annotated PDF electronic file.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as an annotated PDF electronic file.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's and Contractor reference during normal working hours.

END OF SECTION 01 78 39

SECTION 01 79 00 – DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The provisions of the General Conditions, Supplementary Conditions, Drawings, Specifications and the Sections included under Division 1, General Requirements and References are included as a part of this Section as though bound herein.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.

1.3 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training presentation.

1.4 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative, experienced in operation and maintenance procedures and training.

B. Pre-Instruction Conference: Conduct conference at Project site to comply with review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training presentation with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

PART 2 - PRODUCTS

2.1 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes a training presentation for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Presentation: Develop a learning objective and teaching outline for each presentation. Include a description of specific skills and knowledge that participant is expected to master. For each presentation, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
    a. System, subsystem, and equipment descriptions.
    b. Operating standards.
    c. Regulatory requirements.
    d. Equipment function.
    e. Operating characteristics.
    f. Limiting conditions.
2. Documentation: Review the following items in detail:
    a. Emergency manuals.
    b. Operations manuals.
    c. Maintenance manuals.
    d. Identification systems.
    e. Maintenance service agreements and similar continuing commitments.
3. Emergencies: Include the following, as applicable:
    a. Instructions on meaning of warnings, trouble indications, and error messages.
    b. Shutdown instructions for each type of emergency.
    c. Operating instructions for conditions outside of normal operating limits.
4. Operations: Include the following, as applicable:
    a. Startup procedures.
    b. Equipment or system break-in procedures.
    c. Routine and normal operating instructions.
    d. Regulation and control procedures.
    e. Control sequences.
    f. Safety procedures.
    g. Normal shutdown instructions.
    h. Operating procedures for system, subsystem, or equipment failure.
    i. Seasonal and weekend operating instructions.
    j. Required sequences for electric or electronic systems.
5. Adjustments: Include the following:
    a. Alignments.
    b. Checking adjustments.
    c. Noise and vibration adjustments.
    d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
    a. Diagnostic instructions.
    b. Test and inspection procedures.

7. Maintenance: Include the following:
   a. Inspection procedures.
   b. Types of cleaning agents to be used and methods of cleaning.
   c. List of cleaning agents and methods of cleaning detrimental to product.
   d. Procedures for routine cleaning
   e. Procedures for routine and preventative maintenance.
   f. Instruction on use of special tools.

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training material and assemble into a training manual.

B. Set up instructional equipment at instruction location.

C. Provide a list of attendees.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

1. Owner will furnish Contractor with names and positions of participants.

B. Scheduling: Provide instruction at mutually agreed on times. Schedule training with Owner, through Architect, with at least seven days' advance notice.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.3 DEMONSTRATION AND TRAINING VIDEOTAPES

A. General: Engage a qualified commercial photographer to record demonstration and training videotapes. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.

B. Videotape Format: Provide HD digital full color DVD and USB flash drive.

C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and training. Display continuous running time.

END OF SECTION 01 79 00

SECTION 01 81 13 – SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including Division 0 and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes general requirements and procedures for compliance with certain Green Globes' Green Building Initiative requirements needed for the Project.

1. The intent is to follow Green Globe Green Building Initiative requirements to obtain a compliant level of at least 350 points (One Globe), but actual certification will not be required. However online questionnaires shall be completed to substantiate compliance with the indicated requirements.
2. Other Green Building Initiative requirements needed to obtain minimum Green Building Initiative goals are dependent on material selections and may not be specifically identified as Green Building Initiative requirements. Compliance with requirements needed to obtain Green Building Initiative goals may be used as one criterion to evaluate substitution requests.
3. Additional Green Building Initiative requirements needed to obtain the indicated Green Building Initiative goal are dependent on the Architect's and Building Engineer's design and other aspects of the Project related to Commissioning and Construction.

B. Related Sections include the following:

1. Other specification Divisions and Sections for Green Building Initiative requirements specific to the Work of each of those Sections. These requirements may or may not include reference to Green Building Initiative.

1.3 DEFINITIONS

A. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles (800 km) from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.

B. Regionally Extracted, Harvested, or Recovered Materials: Materials that are extracted, harvested, or recovered and manufactured within a radius of 500 miles (800 km) from the Project site.

C. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).

1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.

2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.

1.4 ACTION SUBMITTALS

A. General: Submit additional Green Building Initiative submittal requirements included in other sections of the Specifications.

B. Green Building Initiative submittals are conjunctive to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated Green Building Initiative requirements.

C. Project Materials Cost Data: Provide statement indicating total cost for building materials used for Project. Include statement indicating total cost of mechanical and electrical components.

D. Green Building Initiative Action Plan: Provide preliminary submittals within 14 days of date established for the Notice to Proceed indicating how the following requirements will be met.

1. Construction Activity Pollution Prevention complying also with Division 1 Sections.
2. Measurement and Verification of Mechanical Systems and their performance.
3. Waste management plan complying with specification section "Construction Waste Management."
4. A list of proposed materials with recycled content.
   a. Indicate cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
5. A list of proposed regionally manufactured materials and or regionally extracted, harvested, or recovered materials.
   a. Identify each regionally manufactured material, its source, and cost.
   b. Identify each regionally extracted, harvested or recovered material, its source, and cost.
6. Construction indoor air quality management plan during construction and before occupancy.

E. Green Building Initiative Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with Green Building Initiative action plans for the following:

1. Waste reduction progress reports complying with specification section "Construction Waste Management."
2. Recycled content.
3. Regionally manufactured materials and or regionally extracted, harvested, or recovered materials.

F. Green Building Initiative Documentation Submittals:

1. Product Data for new HVAC equipment indicating Minimum Energy Performance and absence of CFC refrigerants.
2. Product Data for new HVAC equipment indicating absence of HCFC refrigerants, and for clean- agent fire-extinguishing systems indicating absence of HCFC and Halon.
3. Product Data and wiring diagrams for sensors and data collection system used to provide continuous metering of building energy and water consumption performance over time.
4. Compliance with specification section "Construction Waste Management."

5. Product Data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content. Include statement indicating costs for each product having recycled content.
6. Product Data indicating location of material manufacturer for regionally manufactured materials.
    a. Include statement indicating cost and distance from manufacturer to Project for each regionally manufactured material.
    b. Include statement indicating cost and distance from point of extraction, harvest, or recovery to Project for each raw material used in regionally manufactured materials.
7. Product Data and Shop Drawings for carbon dioxide monitoring system.
8. Indoor Air Quality Management Plan During Construction:
    a. Construction indoor air quality management plan.
    b. Product Data for temporary filtration media.
    c. Product Data for filtration media used during occupancy.
    d. Construction Documentation: Six photographs at three different occasions during construction along with a brief description of the SMACNA approach employed, documenting implementation of the IAQ (indoor air quality) management measures, such as protection of ducts and on-site stored or installed absorptive materials.
9. Product Data for adhesives and sealants used on the interior of the building indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).
10. Product Data for paints and coatings used on the interior of the building indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).
11. Product Data for carpet products indicating VOC content of each product used.
12. Product Data for composite wood and agrifiber products indicating that products contain no urea- formaldehyde resin.
    a. Include statement indicating adhesives and binders used for each product.

PART 2 - PRODUCTS

2.1 RECYCLED CONTENT OF MATERIALS

A. Provide building materials with recycled content such that post-consumer recycled content constitutes a minimum of five percent of the cost of materials used for the Project or such that post-consumer recycled content plus one-half of pre-consumer recycled content constitutes a minimum of 10 percent of the cost of materials used for the Project.

B. Provide building materials with recycled content such that post-consumer recycled content constitutes a minimum of 10 percent of the cost of materials used for the Project.

1. The cost of post-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
2. The cost of postconsumer recycled content plus one-half of pre-consumer recycled content of an item shall be determined by dividing the weight of post-consumer recycled content plus one-half of pre-consumer recycled content in the item by the total weight of the item and multiplying by the cost of the item.
3. Do not include mechanical and electrical components in the calculation.
4. Recycled content of materials shall be defined according to the Federal Trade Commission's "Guide for the Use of Environmental Marketing Claims," 16 CFR 260.7 (e).

2.2 REGIONAL MATERIALS

A. Provide 10 percent of building materials (by cost) that are regionally manufactured materials.

B. Of the regionally manufactured materials from above, provide at least 50 percent (by cost) that are regionally extracted, harvested, or recovered materials.

2.3 LOW-EMITTING MATERIALS

A. For interior applications use adhesives and sealants that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):

1. Wood Glues: 30 g/L.
2. Metal to Metal Adhesives: 30 g/L.
3. Adhesives for Porous Materials (Except Wood): 50 g/L.
4. Plastic Foam Adhesives: 50 g/L.
5. Carpet Adhesives: 50 g/L.
6. Cove Base Adhesives: 50 g/L.
7. Gypsum Board and Panel Adhesives: 50 g/L.
8. Rubber Floor Adhesives: 60 g/L.
9. Ceramic Tile Adhesives: 65 g/L.
10. Multipurpose Construction Adhesives: 70 g/L.
11. Fiberglass Adhesives: 80 g/L.
12. Contact Adhesive: 250 g/L.
13. CPVC Welding Compounds: 490 g/L.
14. PVC Welding Compounds: 510 g/L.
15. Adhesive Primer for Plastic: 650 g/L.
16. Sealants: 250 g/L.

B. For interior applications use paints and coatings that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24) and the following chemical restrictions:

1. Flat Paints and Coatings: VOC not more than 50 g/L.
2. Non-Flat Paints and Coatings: VOC not more than 150 g/L.
3. Anti-Corrosive Coatings: VOC not more than 250 g/L.
4. Varnishes and Sanding Sealers: VOC not more than 350 g/L.
5. Stains: VOC not more than 250 g/L.
6. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
7. Restricted Components: Paints and coatings shall not contain any of the following:
   a. Acrolein.
   b. Acrylonitrile.
   c. Antimony.
   d. Benzene.
   e. Butyl benzyl phthalate.
   f. Cadmium.
   g. Di (2-ethylhexyl) phthalate.
   h. Di-n-butyl phthalate.
   i. Di-n-octyl phthalate.
   j. 1,2-dichlorobenzene.
   k. Diethyl phthalate.

l. Dimethyl phthalate.
m. Ethylbenzene.
n. Formaldehyde.
o. Hexavalent chromium.
p. Isophorone.
q. Lead.
r. Mercury.
s. Methyl ethyl ketone.
t. Methyl isobutyl ketone.
u. Methylene chloride.
v. Naphthalene.
w. Toluene (methylbenzene).
x. 1,1,1-trichloroethane.
y. Vinyl chloride.

C. Do not use composite wood and agrifiber products that contain urea-formaldehyde resin.

PART 3 - EXECUTION

3.1 REFRIGERANT AND CLEAN-AGENT FIRE-EXTINGUISHING-AGENT REMOVAL

A. Remove HCFC-based refrigerants from existing HVAC and refrigeration equipment. Provide equipment to accommodate new refrigerant.

1. Refer to Division 23 Sections for additional requirements.

3.2 CONSTRUCTION WASTE MANAGEMENT

A. Comply with specification section "Construction Waste Management."

3.3 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

A. Comply with SMACNA IAQ Guideline for Occupied Buildings under Construction.

1. If Owner authorizes the use of permanent heating, cooling, and ventilating systems during construction period as specified in specification section "Temporary Facilities and Controls" install filter media having a MERV 8 according to ASHRAE 52.2 at each return- air inlet for the air-handling system used during construction.
2. Replace all air filters immediately prior to occupancy.

B. Indoor Air Quality Management Plan Prior to Occupancy:

1. Comply with SMACNA IAQ Guideline for Occupied Buildings under Construction.
   a. If the Owner authorizes the use of permanent heating, cooling, and ventilating systems during construction period as specified in specification section “Temporary Facilities and Controls”, install filter media having a MERV 8 according to ASHRAE 52.2 at each return air inlet for the air-handling system used during construction.

END OF SECTION 01 81 13

SECTION 00 92 00 – ADDITIONAL FORMS

St. Johns River State College
Renovation of Offices with Addition, Gymnasium, Palatka Campus
Phase: Bid Documents
Bid Number: BID-SJR-09-2025

CONFLICT OF INTEREST DISCLOSURE FORM

Name of Firm

Instruction to bidder:

The purpose of this disclosure statement is to give the College the information needed to identify potential conflicts of interest for evaluation committee members and other key personnel involved in the award of the bid.

All responders to this bid must disclose within their response the name of any officer, director, or agent who is also an employee of St. Johns River State College or member of the District Board of Trustees. **Complete Item 1 with requested information or enter 'none' on the first line.**

In addition, all responders to this bid must disclose the name of any SJR State employee or member of the District Board of Trustees of St. Johns River State College who owns, directly or indirectly, an interest of more than five percent (5%) in the responder's firm or any of its branches. **Complete Item 2 with requested information or enter 'none' on the first line.**

To be completed by bidder:

1. List below the bidder's officers, directors, employees or agents who are also employees or members of the District Board of Trustees of St. Johns River State College?

Name	**Position Held at SJR State**

2. List below the bidder's officers, directors, employees, or agents who owns, directly or indirectly, any interest of more than five percent (5%) in the responder's firm or any of its branches, who are also employees or members of the District Board of Trustees of St. Johns River State College?

Name	**Position Held at SJR State**

Signature: _____ **Date:** _____

Printed Name: _____

DRUG FREE WORKPLACE PROGRAM FORM

In order to have a drug-free workplace program, a business shall:

1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in Subsection (1).

4) In the statement specified in Subsection (1), notify the employees that, as a condition of working in the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after conviction.

5) Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6) Make good faith effort to continue to maintain a drug-free workplace through implementation of this section.

AS THE PERSON AUTHORIZED TO SIGN THIS STATEMENT, I CERTIFY THAT THIS FIRM,

_____

(Name of Company)

COMPLIES FULLY WITH THE ABOVE REQUIREMENTS

_____ _____

Authorized Signature Date

Hold Harmless and Indemnification Agreement

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This agreement is submitted with Bid and is submitted to St. Johns River State College.
2. This sworn statement is submitted by _____(entity name) whose business address is _____and (if applicable its Federal Employer Identification Number - FEIN) is _____.
3. My name is _____and my relationship to the entity named above is _____.

The indemnitor assumes an unqualified obligation to hold SJR State College harmless for all liability associated with the subject matter of the agreement, regardless of which party was actually at fault (even if the damage, injury, or claim is due to the sole negligence of SJR State College).

To the fullest extent permitted by law, Consultant, Contractor, lessee, or vendor will indemnify and hold SJR State College harmless from all claims arising from or in connection with (i) the conduct or management of the Premises or of any business therein, or any work or thing whatsoever done, or any condition created in or about the Premises during the Term; (ii) any act, omission, or negligence of consultant, Contractor, lessee, or vendor or any of consultant's, Contractor's, lessee's, or vendor's subtenants or licensees or the partners, directors, officers, agents, employees, invitees, or Contractors; (iii) any accident, injury, or damage whatsoever occurring in or at the Premises. Consultant, Contractor, lessee, or vendor hereby expressly indemnifies SJR State College for the consequences of any negligent act or omission of SJR State College and its Board of Trustees, officers, employees, agents, and volunteers, unless such act or omission constitutes gross negligence or intentional misconduct.

Signature: _____

Date: _____

State of _____County of _____
Personally appeared before me, the undersigned authority, _____who after being first duly sworn by me affixed his/her signature in the space provided above on this _____day of _____20___.

_____
Notary Public Signature

Notary Public Seal

NON-DISCRIMINATION IN EMPLOYMENT POLICY

(Section 301, Executive Order 10925, March 6, 1961, 26 FR 1977 as amended by Executive Order 11114, June 22, 1963, 28 FR 6485)

"During the performance of this contract the Contractor agrees as follows:

"(1) The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited, to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.

"(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor; state that all qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.

"(3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the said labor union or workers' representative of the Contractor's commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

"(4) The Contractor will comply with all provisions of Executive Order No. 10925 of March 6, 1961, as amended, and of the rules, regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

"(5) The Contractor will furnish all information and reports required by Executive Order No. 10925 of March 6, 1961, as amended, and by the rules, regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations and orders.

"(6) In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Governments contracts in accordance with procedures authorized in Executive Order No. 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

"(7) The Contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to section 303 of Executive Order No. 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provide, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or

vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States."

By: _____ By: _____
Legal Name of Bidder/Company Signatory's Name & Title

By: _____ Date: _____
Signature

SWORN STATEMENT UNDER SECTION 287.133(3)(a), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

(To be signed in the presence of a notary public or other officer authorized to administer oaths)

STATE OF _____

COUNTY OF _____

Before me, the undersigned authority, personally appeared _____, who, being by me first duly sworn, made the following statement:

1. The business address of _____(name of bidder or contractor) is _____

2. My relationship to _____ (name of bidder or contractor) is: _____
(state relationship such as sole proprietor, partner, president, vice president)

3. I understand that a public entity crime as defined in Section 287.133 of the Florida Statutes includes a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity in Florida or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or such an agency or political subdivision and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

4. I understand that "convicted" or "conviction" is defined by the statute to mean a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

5. I understand that "affiliate" is defined by the statute to mean (1) a predecessor or successor of a person or a corporation convicted of a public entity crime, or (20 an entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime, or (3) those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate, or (4) a person or corporation who knowingly entered into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months.

6. Neither the bidder or contractor nor any officer, director, executive, partner, shareholder, employee, member, or agent who is active in the management of the bidder or contractor nor any affiliate of the bidder or contractor has been convicted of a public entity crime subsequent to July 1, 1989.

(Draw a line through paragraph 6 if paragraph 7 below applies)

7. There has been a conviction of a public entity crime by the bidder or contractor, or an officer, director, executive, partner, shareholder, employee, member, or agent of the bidder or contractor who is active in the management of the bidder or contractor or an affiliate of the bidder or the contractor. A determination has been made pursuant to Section 287.133(3) by order of the Division of Administrative Hearings that it is not in the public interest for the name of the convicted person or affiliate to appear on the convicted vendor list. The name of the convicted person or affiliate is _____. A copy of the order of the Division of Administrative Hearings is attached to this statement.

(Draw a line through paragraph 7 if paragraph 6 above applies)

_____

Signature

Sworn to and subscribed before me in the state and county first mentioned above on this _____ day of _____, 20_____

_____

Notary Public:

My Commission Expires _____ (affix seal)

SECTION 02070

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SUMMARY

A. This section includes the following:
1. Demolition and removal of selected site and building elements.
2. Relocate existing shrubs and plants

B. Related Sections:
1. Division 2 Section "Site Clearing" for site clearing and removing above- and below-grade improvements.
2. Division 2 Section "Earthwork" for soil materials, excavating, backfilling, and site grading.

1.3 DEFINITIONS

A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.

B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean and protect against damage. Deliver items as directed by Owner to locations on Campus.

C. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. All site landscaping damaged during the construction phase shall be restored by the Contractor at the closeout of the job.

1.4 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

1.5 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections, for information only, unless otherwise indicated.

B. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.

C. Record drawings at Project Closeout according to Division 1 Section "Project Closeout"
1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 PROJECT CONDITIONS

A. Owner will occupy portions of the building immediately adjacent to selective demolition area. Conduct selective demolition so that Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations. Owner's building access will be limited as agreed between the Owner and the Contractor.

B. Storage or sale or removed items or materials on-site will not be permitted.

1.8 SCHEDULING

A. Arrange selective demolition schedule so as not to interfere with Owner's on-site operations. Coordinate with the owner for any events planned during the construction period.

PART 2 – PRODUCTS

2.1 REPAIR MATERIALS

A. Use repair materials identical to existing materials.
   1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   2. Use a material whose installed performance equals or surpasses that of existing materials.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. When unanticipated mechanical, electrical or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.

C. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Do not interrupt existing utilities serving occupied or operating facilities, except when authorized in writing by Owner and authorities having jurisdiction.
      a. Provide not less than 72 hours' notice to Owner if shutdown of service is required during changeover.

B. Utility Requirements: Locate, identify, disconnect and seal or cap off indicated utility services serving building to be selectively demolished.
   1. Arrange to shut off indicated utilities with utility companies.
   2. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.

C. Utility Requirements: Refer to Owner's facilities department for shutting off, disconnecting, removing and sealing or capping utility services. Do not start selective demolition work until utility disconnecting and sealing have been completed and verified in writing.

D. Conduct demolition operations with extreme care and planning to prevent injury to people and damage to adjacent buildings, landscaping, and facilities to remain. Ensure safe passage of people around selective demolition area. Maintain a chain link security fencing in place to provide a minimum of 50 feet of protected space around all demolition areas.
   1. Protect existing site improvements, appurtenances, and landscaping to remain.
   2. Protect walls, ceilings, floors and other existing finish work that are to remain and are exposed during selective demolition operations.

3.3 POLLUTION CONTROLS

A. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Clean adjacent surfaces and improvements of dust, dirt and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

C. Provide dust control for the affected portion of the Buildings included in this project.

3.4 SELECTIVE DEMOLITION

A. Demolish and remove existing construction only to the extent required by new construction as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:
   1. 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.
   2. 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.
   3. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.
   4. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

B. Break up and remove concrete slabs on grade, unless otherwise shown to remain.

3.5 PATCHING AND REPAIRS

A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.

B. Patching is specified in Division 1 Section "Cutting and Patching"

C. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow materials to accumulate on site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

A. Sweep the building, covered walkways, sidewalks and paved areas broom clean on completion of selective demolition operation.

B. Owner will change filters on air-handling equipment on completion of selective demolition operations.

END OF SECTION

SECTION 03010

CONCRETE, GENERAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION

A. All poured-in-place concrete work shown on the drawings is governed by this section. Concrete strength, not otherwise designated, shall be 3000 psi, as determined by the use of ASTM C31 and C39. All precast concrete shall be 3500 psi.

1.3 QUALITY ASSURANCE

A. Codes and Standards: Comply with the provisions of the latest editions of the following codes, specifications and standards, except as otherwise shown or specified. Where provisions of these codes and standards are in conflict with the building codes in force for this project, the building code shall govern.
   1. ACI 301 "Specifications for Structural Concrete for Buildings".
   2. ACI 318 "Building Code Requirements for Reinforced Concrete".
   3. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete".
   4. ACI 311 "Recommended Practice for Concrete Inspection".
   5. ACI 347 "Recommended Practice for Concrete Formwork".
   6. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice".

B. Workmanship: The Contractor is responsible for correction of concrete work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed by the Architect-Engineer. Should cylinders and cores indicate unacceptable concrete, load testing or removal and replacement of the concrete may be required at no cost to the Owner.

C. Concrete Testing Service:
   1. The Contractor shall employ, at his own expense, a testing laboratory experienced in design and testing of concrete materials and mixes to perform material evaluation tests, to design concrete mixes, and to perform strength tests associated with form removal. Testing agency shall meet the requirements of ASTM C1077 and ASTM E329.
   2. The Contractor shall employ at his own expense, an independent testing laboratory to perform the testing of the concrete during the process of the work. Allow free access to material stockpiles and facilities at all times. Tests, not specifically indicated to be done at the Owner's expense, including the retesting of rejected materials and installed work, shall be done at the Contractor's expense. The independent testing agency shall be qualified according to ASTM C1077 and ASTM E329.

D. Welding of reinforcing steel shall be limited to welders whose competency has been treated according to standards of Structural Welding Code of American Welding Society.

1.4 DEFINITIONS

A. Cementitious Materials: Portland Cement alone or in combination with one or more of the following: fly ash, other pozzolans, ground granulated blast-furnace slag and silica fume; subject to compliance with requirements.

1.5 SUBMITTALS

A. Shop Drawings-Concrete Reinforcement: Submit shop drawings for fabrication, bending and placement of concrete reinforcement. Comply with ACI Manual 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of reinforcement. Show location of construction joints planned.

B. Product Data: Submit manufacturer's product data, specifications with application and installation instructions for proprietary materials and items, including admixtures, bonding agents,

joint systems, curing compounds, water stops, chemical floor hardeners, and others as requested by the Architect/Engineer.

C. Test reports specified in Paragraphs PROPORTIONING AND DESIGN OF MIXES, FIELD QUALITY CONTROL, and EVALUATION OF QUALITY CONTROL TESTS.

PART 2-PRODUCTS

2.1 FORM MATERIALS

A. Forms for Exposed Finish Concrete:
1. Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

B. Use overlaid plywood complying with U.S. Product Standards PS-1 "A-C or B-B High Density Overlaid Concrete Form", Class I.

C. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood", Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

D. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2-edges and one side for tight fit.

E. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces to be cured with water or curing compound.

2.2 REINFORCING MATERIALS

A. Reinforcing Bar: ASTM A615, Grade 60, deformed.

B. Welded Wire Fabric: ASTM A185, welded steel wire fabric, plain, fabricated from as-drawn steel wire into flat sheets.

C. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI "Manual of Standard Practice", unless otherwise indicated. Wood, brick and other devices will not be acceptable.

D. Slab-On-Grade: Use supports or horizontal runners where wetted base material will not support chair legs.

E. Exposed-To-View Concrete Surfaces: Where legs of supports are in contact with forms, provide supports with legs which are hot-dip galvanized or plastic protected or stainless steel protected.

F. Fabricate steel reinforcing in accordance with CRSI's "Manual of Standard Practice".

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials of the same brand and source, throughout the project.
1. Portland Cement. ASTM C150, as follows:
a. Provide Type I cement, except as otherwise indicated.
b. Provide Type III cement for High-Early Strength concrete where shown or scheduled.
c. Use one brand of cement throughout the project, unless otherwise accepted by the Architect/Engineer.
2. Fly Ash: ASTM C618, Class F.
3. Ground, Granulated Blast-Furnace/Slag: ASTM C989, Grade 100 or 120.

a. All concrete other than foundation concrete shall be a blend of Portland Cement and a minimum of 40% blast-furnace slag.

B. Aggregates:
1. General: Maximum aggregate size shall not be larger than one-fifth of the narrowest dimension between sides of forms, one-third of the depth of slabs, nor three-fourths of the minimum clear spacing between individual reinforcing bars or bundles of bars. Provide aggregates from one source of supply to ensure uniformity in color, size and shape.
2. Normal Weight Aggregates: ASTM C33, and as herein specified. Local aggregates not complying with ASTM C33 but which have shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Architect/Engineer.
   a. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances.
   b. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam or foreign matter, as follows (maximum aggregate size 1-1/2"):
      1) Crushed stone, processed from natural rock or stone.
      2) Washed gravel, either natural or crushed. Use of pit or bank run gravel is not permitted.
      3) Pea Gravel Aggregate: Conform to ASTM C404, Size No.8.
      4) Lightweight Aggregates: ASTM C330.

C. Water. Clean, fresh, drinkable.

D. Admixtures: Provide admixtures produced by established reputable manufacturers and use in compliance with the manufacturer's printed directions. Do not use admixtures which have not been incorporated and tested in accepted mixes, unless otherwise authorized in writing by the Architect/Engineer.
1. Air-Entraining Admixture: ASTM C260.
2. Water-Reducing Admixture: ASTM C494, Type A, and containing not more than 0.1% chloride ions.
3. Set-Control Admixture. ASTM C494, as follows:
   a. Type D, Water-reducing and Retarding with not more than 0.1% chloride ions.
   b. Type E, Water-reducing and Accelerating with not more than 0.1% chloride ions.
4. Fly Ash: ASTM C618, Class F.
5. Calcium Chloride: Do not use calcium Chloride in concrete.

2.4 RELATED MATERIALS

A. Performed Expansion Joint Fillers: Fiber type conforming to ASTM D1751 or Cork, ASTM D1752, Type II

B. Joint Sealing Compound:
1. Horizontal surfaces (maximum 3% slope).
   a. Inside building - ASTM D1190 or ASTM D1850; outside building - ASTM D1190.

C. Chemical Hardener: Colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combined with a wetting agent, containing not less than 2 lbs. of fluosilicates per gal.

D. Curing Materials:
1. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yard complying with AASHTO M182, Class 3.
2. Moisture-Retaining Cover: One of the following, complying with ASTM C171.
   a. Waterproof paper.
   b. Polyethylene film.
   c. Polyethylene-coated burlap.
3. Membrane-Forming Curing Compound: ASTM C309, Type I.

E. Non-Shrink Grout: Conform to CRD-C621, factory pre-mixed grout; use non-metallic, "Masterflow 713" by Master Builders; "Sonogrout," by Sonnoborn-Contech, or equal.

F. Vapor Barrier: ASTM D4397 polyethylene sheeting, minimum 6 mil. thickness.

G. Epoxy Adhesive: ASTM C881, two component material suitable for use on dry or damp surfaces. Provide material "Type", "Grade", and "Class" to suit project requirements.

1. Products. Subject to compliance with requirements, provide one of the following:
   a. "Epoxtite"; A.C. Horn.
   b. "Edoco 2118 Epoxy Adhesive"; Edoco Technical Prod.
   c. "Sikadur 35, Hi-Med, LV"; Sika Chemical Corp.
   d. "Euco Epoxy 463 or 615"; Euclid Chemical Co.
   e. "Patch and Bond Epoxy"; The Burke Co.
   f. "Sure-Poxy"; Kaufman Products Inc.

2.5 PROPORTIONING AND DESIGN OF MIXES

A. General:
1. All concrete shall contain a minimum of 5-sacks of cement per cubic yard. Tremie concrete, where required; use minimum of 7-sacks of cement per cubic yard.
2. All concrete not specifically designated shall be proportioned for a strength of 3,000 lbs. per square inch at 28 days of age.

B. Slump Limits:

	Slump in Inches	
Type of Construction	Maximum	Minimum
Reinforced foundation walls and footings	5	3
Slabs and beams	5	3
Reinforced columns and pilasters	5	3
Masonry Grout	11	8

C. Proportion design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods, using materials to be employed on the project for each class of concrete required, complying with ACI 211.1 for normal weight concrete and ACI 211.2 for structural lightweight concrete.
1. Field Experience Method: When field experience method is used to select concrete proportions, establish procedures as specified in ACI 301 and ACI 318. When proportioning by field experience method furnish mix design and independent testing facility proof of standard deviation using materials, mix and production facility proposed.
2. Laboratory Trial Method: When laboratory trial batches are used to select concrete proportions, prepare test specimens in accordance with ASTM C192 and conduct strength test in accordance with ASTM C39, as specified in ACI 301.
   a. When proportioning by the trial batch method, furnish compressive strength developed at 7-days and 28-days, from not less than 2 test cylinders cast for each 7- and 28-day test, and for each design mix.
   b. Establish a curve showing relationship between water-cement ratio (or cement content) and compressive strength, with at least 3 points representing batches which produce strengths above and below that required. Use not less than 2 specimens tested at 28-days, or an earlier age when acceptable to the Architect/Engineer, to establish each point on the curve.

D. Submit Testing Service reports to the Architect/Engineer of each proposed mix for each type of concrete at least 15 days prior to start of work. Do not begin concrete production until mix data have been reviewed by the Architect/Engineer.

E. Admixtures:
1. Use air-entraining admixture in all concrete, unless otherwise indicated. Add air-entraining admixture at the manufacturer's prescribed rate to result in concrete at the point of placement having 4-1/2% entrained air with tolerance in either direction from this optimum of 1-½%.
2. Use amounts of admixtures as recommended by the manufacturer for climatic conditions prevailing at the time of placing. Adjust quantities and types of admixtures as required to maintain quality control.
3. Contractor may use fly ash as part of the cement content of the foundation concrete; fly ash shall be a maximum of 25 percent of the cement content (cement and fly ash). All other concrete shall have a cement content of a blend of Portland Cement and a maximum of 50 percent of the cement content of blast-furnace slag.

F. Adjustment to Concrete Mixes: Mix design adjustments may be requested by the Contractor when characteristics of material, job conditions, weather, test results, or other circumstances warrant; at no additional cost to the Owner and as accepted by the Architect-Engineer. Laboratory test data for revised mix designs and strength results must be submitted to and accepted by the Architect/Engineer before using in the work.

PART 3 - EXECUTION

3.1 FORMS

A. Design of formwork for structural stability and sufficiency is the Contractor's responsibility. Conform to ACI 301, within tolerance limits of ACI 117.

B. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by the concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

C. Construct forms complying with ACI 347, to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulkheads, anchorages, and inserts, and other features required in work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against the concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, and recesses to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for clean out, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set tightly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges 3/4 inches, unless otherwise noted, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Form Ties: Factory-fabricated, adjustable-length, removable or snap off metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.
   1. Unless otherwise shown, provide ties so portion remaining within concrete after removal is at least 1-1/2" inside concrete.
   2. Unless otherwise shown, provide form ties which will not leave holes larger than 1" diameter in concrete surface.

H. Provisions for Other Trades: Provide openings in concrete formwork to accommodate work of other trades. Determine size and location of openings, recesses and chases from trades providing such items. Accurately place and securely support items built into forms.

I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Retighten forms after concrete placement if required to eliminate mortar leaks.

3.2 PLACING REINFORCEMENT

A. Comply with the specified codes and standards, and Concrete Reinforcing Steel Institute's "Manual of Standard Practice", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least the minimum coverages for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces. Do not place reinforcing bars more than 2" beyond the last leg of continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

F. Splices: Provide standard reinforcing splices by lapping ends per ACI 318, 2005 Edition.

3.3 JOINTS

A. Construction Joints: Locate and install construction joints, which are not shown on the drawings, so as not to impair the strength and appearance of the structure, as acceptable to the Architect/Engineer.

B. Provide keyways at least 1-1/2" deep in all construction joints in walls, slabs and between walls and footings; accepted bulkheads designed for this purpose may be used for slabs.

C. Place construction joints perpendicular to the main reinforcement. Continue all reinforcement across construction joints unless shown or noted otherwise.

D. Controls Joints in Slabs-on-Ground: Construct control joints in slabs-on-ground to form panels of patterns as shown. Use inserts 1/4" wide by 1/5 to 1/4 of the slab depth, unless otherwise shown. Form control joints by inserting a pre-molded hardboard or fiberboard strip into the fresh concrete until the top surface of the strip is flush with the slab surface. After the concrete has cured, remove inserts and clean groove and loose debris. Fill with joint sealant material continuous. Sawn joints are not permitted.

3.4 INSTALLATION OF EMBEDDED ITEMS

A. General: Set and build into the work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions and directions provided by suppliers of the items to be attached.

B. Edge Forms and Screed Strips for Slabs: Set edge forms or bulkheads and intermediate screed strips for slabs to obtain the required elevations and contours in the finished slab surface. Provide and secure units sufficiently strong to support the types of screed strips by the use of strike-off templates or accepted compacting type screeds.

3.5 PREPARATION OF FORM SURFACES

A. Coat the contact surfaces of forms with a form-coating compound before reinforcement is placed.

B. Thin form-coating compounds only with thinning agent of type, and in amount, and under conditions of the form-coating compound manufacturer's directions. Do not allow excess form-coating material to accumulate in the forms or to come into contact with concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

C. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust- stained steel formwork is not acceptable.

3.6 CONCRETE MIXING

A. Ready-Mix Concrete: All concrete shall be ready-mix concrete. Comply with the requirements of ASTM C94, and herein specified.
   1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required. When the air temperature is between 85 degrees F and 90 degrees F, reduce the mixing and delivery time from 1-1/2 hours to 75 minutes, and when the air temperature is above 90 degrees F, reduced the mixing and delivery time to 60 minutes.
   2. No additional water shall be added to concrete without the approval of the Architect/Engineer. Should additional water be required to obtain a slump as specified in this section for the type of concrete, the Contractor shall perform slump tests in accordance with ASTM C143 to

determine the actual slump of the concrete in the mixer. The Contractor may then add water, but in no case shall the additional water exceed 3 percent of the mix-design water content, nor shall the slump of the mix exceed the maximum slump specified for the type concrete. Slump tests and the addition of water to the mixer shall be completed within 15 minutes if the arrival of the mixer at the site. Additional water shall not be added to the mix after the mixer has been on the site longer than 15 minutes.

3. A delivery ticket showing truck number, date, and time that mixing was started shall be given to the Contractor's superintendent at the job site before placing the concrete from the truck mixer. At the job site the Contractor's superintendent shall note on the delivery ticket the time of completion of the concrete placement from the truck and the general area of the structure in which the concrete was placed. A complete file of all delivery tickets shall be maintained and kept available at the job site until completion of the project.

3.7 CONCRETE PLACEMENT

A. General: Comply with ACI 304, and as herein specified.

B. Pre-placement Inspection: Before placing concrete, inspect and complete the formwork installation, reinforcing steel, and items to be embedded or cast-in. Thoroughly wet wood forms immediately before placing concrete where form coatings are not used. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

C. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness within the section. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation due to rehandling or flowing. Maintain reinforcing in the proper position during concrete placement operation.

D. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layers, place each layer while preceding layer is still plastic to avoid cold joints.

E. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand-spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with the recommended practices of ACI 309, to suit the type of concrete and project conditions.

1. Do not use vibrators to transport concrete inside of forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than the visible effectiveness of the machine. Place vibrators to rapidly penetrate the placed later of concrete and at least 6" into the preceding layer. At each insertion limit the duration of vibration to the time necessary to consolidate the concrete and complete embedment of reinforcement and other embedded items without causing segregation of the mix.

F. Placing Concrete Slabs: Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is completed.

G. Bring slab surfaces to the correct level with a straightedge and strikeoff. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows. Do not sprinkle water on the plastic surface. Do not disturb the slab surfaces prior to beginning finishing operations.

H. Do not place concrete in an inundated excavation.

I. Cold Weather Placing:

1. Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI306 and as herein specified. When air temperature has fallen to or is expected to fall below 40 degrees F, uniformly heat all water and aggregates before mixing as required to obtain a concrete mixture temperature of 50 degrees F and not more than 80 degrees F at point of placement.
2. Use water-reducing retarding admixture (Type D) when required by high temperatures, low humidity, or other adverse placing conditions.

J. Hot Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90°F at time of placement. Chilled mixing water or chopped ice may be used to lower temperature provided water equivalent of ice is to total amount of mixing water.

2. Fog-spray forms, steel reinforcing and sub-grade just before placing concrete. Keep sub-grade uniformly moist without standing water, soft spots or dry areas.

3.8 FINISH OF FORMED SURFACES

A. Rough Form Finish: For formed concrete surfaces not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4" in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or a covering material applied directly to concrete, such as waterproofing, damp-proofing, painting or other similar system. This is as-cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

3.9 FINISHING FLOORS AND SLABS

A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified.
1. After screening, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit operation of power-driven floats, or both. Consolidate surface with power-driven floats, or by hand- floating if area is small or inaccessible to power units. Check level surface plane to a tolerance not exceeding 1/4" in 10' when tested with a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, refloat surface to a uniform, smooth, granular texture.

B. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, paint or other thin film finish coating system.
1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand-troweling operation, free of trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in 10' when tested with a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

C. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply trowel finish as specified, then immediately follow with slightly scarifying surface by fine brooming.

D. Non-Slip Broom Finish: Apply non-slip broom finish to exterior concrete platforms, steps and ramps, and elsewhere as indicated.
1. Immediately after trowel finishing, slightly roughen concrete surface by brooming with fiber bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

E. Chemical-Hardener Finish: Apply chemical-hardener finish to interior concrete floors exposed to view and where indicated. Apply liquid chemical-hardener after complete curing and drying of the concrete surface. Dilute liquid hardener with water, and apply in 3-coats: first coat, 1/3-strength. Evenly apply each coat, and allow 24 hours for drying between coats.
1. Apply proprietary chemical hardeners, in accordance with manufacturer's printed instructions.
2. After final coat of chemical-hardener solution is applied and dried, remove surplus hardener by scrubbing and mopping with water.

3.10 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place, unless otherwise indicated. Mix, place and cure concrete, as specified to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

B. Equipment Bases and Foundations: Provide pre-engineered building column bases and foundations as shown on Drawings. Set anchor bolts for building columns at correct elevations, complying with diagrams and templates from manufacturer furnishing pre-engineered metal buildings.

3.11 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry or windy conditions cause moisture loss approaching 0.2 lb./sq. ft. x h (1kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding and bull floating or darbying concrete, but before float finishing.

C. Uniformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings and other surfaces.

D. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
   1. Moisture Curing: Keep surfaces continuously moist for not less than seven (7) days with the following materials:
      a. Water.
      b. Continuous water-fog spray.
      c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12" (300 mm) lap over adjacent absorptive covers
   2. Moisture-Retaining Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven (7) days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
      a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
      b. Cure concrete surfaces to receive floor coverings with either a moisture retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
   3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three (3) hours after initial application. Maintain continuity of coating and repair damage during curing period.
      a. Removal: after curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer, unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.
   4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three (3) hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.12 REMOVAL OF FORMS

A. Formwork not supporting weight of concrete, such as sides of floor slab and similar parts of the work, may be removed after cumulatively curing at not less than 50° F (10°C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection are maintained.

3.13 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
   1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.

2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4 inch (19 mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

C. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

D. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.14 JOINT FILLING

A. Prepare, clean and install joint filler according to manufacturer's written instructions.
1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds and sealers from joints; leave contact faces of joint clean and dry.

C. Install semi-rigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.15 QUALITY CONTROL TESTING DURING CONSTRUCTION

A. The Contractor shall employ a testing laboratory approved by Architect/Engineer to perform other tests and to submit test reports. Sampling and testing for quality control during placement of concrete shall include the following, as directed by Architect.

B. Sampling Fresh Concrete. ASTM C172, except modified for slump to comply with ASTM C94.
1. Slump. ASTM C143; one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.
2. Concrete Temperature ASTM C1064. Test hourly when air temperature is 40°F (4°C) and below, and when 80°F (27°C) and above; and each time a set of compression test specimens made.
3. Compression Test Specimen. ASTM C31; one set of 4-standard cylinders for each compressive strength, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
4. Compressive Strength Test. ASTM C39; one set for each 50 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 2,500 sq. ft. of surface area placed; 1-specimen tested at 7-days; 2-specimens tested at 28 days.
    a. When strength of field-cured cylinders is less than 85% of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
    b. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive strength test results equal or exceed specified compressive strength, and

no individual strength test result falls below specified compressive by more than 500 psi.

C. Test results will be reported in writing to Architect and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day tests.

D. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Architect/Engineer. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.

END OF SECTION

SECTION 04200

UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
   1. Concrete unit masonry
   2. Brick masonry

B. Related Sections: The following sections contain requirements that relate to this Section:
   1. Steel lintels in unit masonry are specified in Division 5 Section "Metal Fabrications".
   2. Hollow metal frames in unit masonry are specified in Division 8 Section "Hollow MetalDoors and Frames".

1.3 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops the following installed unit compressive strengths so that the assembly strength is (f'm) = 1500psi at 28 days.

B. For Concrete Unit Masonry - Required net area compressive strength of units:
   1. 1900 psif'm = 1500psi

C. For brick unit masonry: as follows on gross area:
   1. 6400 psi f'm = 2000 psi

1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of Contract and Division1 Specifications.

B. Material test reports from a qualified independent testing agency, employed and paid by Contractor or manufacturer, indicating and interpreting test results relative to compliance of the following proposed masonry materials with requirements indicated:
   1. Mortar complying with property requirements of ASTM C 270
   2. Grout mixes
   3. Masonry units

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: To qualify for acceptance, an independent testing agency must demonstrate to Architect's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM C 1093, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the work.

B. Single-Source Responsibility for Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.

C. Single-Source Responsibility for Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.

1.6 DELIVERY, STORAGE AND HANDLING

A. Store masonry units on elevated platforms, under cover, and in a dry location to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in an air-dried condition.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other characteristics can be maintained and contamination avoided.

D. Store masonry accessories including metal items to prevent corrosion and accumulation of dirt and oil.

1.7 PROJECT CONDITIONS

A. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Remove immediately any grout, mortar, and soil that comes in contact with such masonry.
1. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt on completed masonry.

C. Hot Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100° F.

PART 2 - PRODUCTS

2.1 CONCRETE MASONRY UNITS

A. General: Provide shapes indicated and as follows for each type of concrete masonry unit required.

B. Provide special shapes for lintels, corners, jambs, sash, control joints, headers, bonding, and other special conditions.

C. Provide square-edged units for exterior corners and bullnose edges on exposed interior corners.

D. Concrete Masonry Units: ASTM C 90 and as follows:
1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength indicated below;

E. Do not use chipped or broken units.

F. Not less than the unit compressive strengths required to produce concrete unit masonry construction of the strength indicated.
1. Weight Classification: Normal weight.
2. Aggregates: Do not use aggregates made from pumice, scoria or tuff.
3. Provide Type II, non-moisture-controlled units.
4. Size: Manufactured to the actual dimensions listed below (within tolerances specified in the applicable referenced ASTM specification) for the corresponding nominal sizes indicated on the Drawings:
   a. 4" nominal: 3-5/8" actual
   b. 6" nominal: 5-5/8" actual
   c. 8" nominal: 7-5/8" actual
   d. 12" nominal: 11-5/8" actual

G. Exposed Faces: Smooth uniform texture and free from chips and broken edges.

H. Provide ¾" clearance at all structural steel components by laying or cutting of units.

I. Provide 2 hour fire rated concrete masonry units as required.

2.2 BRICK MASONRY

A. General: Provide shapes indicated for each form of brick masonry required.

B. Face Brick: ASTM C 216:
   1. Initial Rate of Absorption: Between 5 and 20 g/30 sq in per minute when tested per ASTM C67
   2. Surface Coloring: Brick with surface coloring shall withstand 50 cycles of freezing and thawing per ASTM C67 with no observable difference in the applied finish when viewed from 10 feet. Face brick and texture shall match the existing face brick.
   3. Type: FBS
   4. Size: Brick manufactured to the following actual dimensions within tolerances specified in ASTM C216.
      a. Size of existing units: 3 5/8″ wide by 2 ¼″ high by 7 5/8″ long. Brick shall match existing building (FIELD VERIFY).
   5. Products: Subject to compliance with requirements, base bid shall be based upon the following: Face bricks shall match the existing face bricks of the existing building (FIELD VERIFY).

2.2 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II

B. Masonry Cement: ASTM C 91.

C. Mortar Cement: UBC Standard No. 21-14

D. Hydrated Lime: ASTM C 207, Type S.

E. Portland Cement-Lime Mix: Packaged blend of Portland cement complying with ASTM C 150, Type I or III, and hydrated lime complying with ASTM C 207.

F. Aggregate for Mortar: ASTM C 144

G. Aggregate for Grout: ASTM C 404

H. Water: Clean and potable.

2.3 REINFORCING STEEL

A. Steel Reinforcing Bars: Material and grade as follows:
   1. Billet steel complying with ASTM A 615
   2. Grade 60

B. Deformed Reinforcing Wire: ASTM A 496, with ASTM A 153, Class B-2 zinc coating.

2.4 JOINT REINFORCEMENT

A. General: Provide joint reinforcement formed from the following:

B. Galvanized carbon steel wire, coating class as follows:

C. ASTM A 153, Class B-2 for both interior and exterior walls.

D. Description: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee units, and complying with requirements indicated below:
   1. Wire Diameter for Side Rods: 9 gage
   2. Wire Diameter for Cross Rods: 9 gage

E. For single & double wythe masonry, provide type with deformed side rods and smooth cross rods and a unit width of 1½" to 2 " less than the wall thickness.
   1. Ladder design with perpendicular cross rods spaced not more than 16″ o.c. Diagonal design with cross rods is not approved.

2.5 TIES AND ANCHORS, GENERAL

A. General: Provide ties and anchors specified in subsequent articles that comply with requirements for metal and size of this Article, unless otherwise indicated.

B. Wire: As follows:
1. Galvanized Carbon Steel Wire: ASTM A 82; with ASTM A 153, Class B-2 coating.
2. Wire Diameter: 0.1875 inch

C. Steel Sheet: As follows:
1. Thickness of Steel Sheet Galvanized After Fabrication: Uncoated thickness of steel sheet for hot-dip galvanizing after fabrication.
2. Steel Plates and Bars: ASTM A 36, hot-dip galvanized to comply with ASTM A 153, Class B-1, B-2 or B-3, as applicable to size and form indicated.

2.6 ADJUSTABLE ANCHORS FOR CONNECTING TO STRUCTURAL FRAME

A. General: Two-piece assemblies as described below allowing vertical or horizontal differential movement between wall and framework parallel to plane of wall, but resisting tension and compression forces perpendicular to it.
1. Wire Diameter: 0.1875".

2.7 MISCELLANEOUS ANCHORS

A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron inserts of type and size indicated.

B. Anchor Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washers; of diameter and length indicated and in the following configurations:
1. Headed bolts

2.8 EMBEDDED FLASHING MATERIALS

A. Vinyl Sheet Flashing: Flexible sheet flashing especially formulated from virgin polyvinyl chloride with plasticizers and other modifiers to remain flexible and waterproof in concealed masonry applications, black in color, and of thickness indicated below:
1. Thickness: 30 mils
2. Application: Use where flashing is fully concealed in masonry.

B. Adhesive for Flashings: Of type recommended by manufacturer of flashing material for use indicated.

C. Available Products: Subject to compliance with requirements, products that may be incorporated into the work include, but are not limited to, the following:
1. Vinyl Sheet Flashing:
a. Lexusco Water Barrier, International Permalite, Inc.
b. Nervastral, Nervastral, Inc.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Bond Breaker Strips: Asphalt-saturated organic roofing felt complying with ASTM D 226, TypeI (No. 15 asphalt felt).

B. Plastic Weep Hole/Vent:
1. Available Products: Subject to compliance with requirements, weep hole/ventilators that may be incorporated into the work include, but are not limited to, the following:
a. Cell Vent, Dur-O-Wall, Inc.

2.10 MASONRY CLEANERS

A. Job-Mixed Detergent Solution: Solution of ½ cup dry measure tetrasodium polyphosphate and½ cup dry measure laundry detergent dissolved in 1 gallon of water.

2.11 MORTAR AND GROUT MIXERS

A. General: Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

B. Do not use calcium chloride in mortar or grout.

C. Mortar for Unit Masonry: Comply with ASTM C 270, proportion specification for types of mortar indicated below:
1. Type S

D. Grout for Unit Masonry: Comply with ASTM C 476. Use grout of consistency indicated, or if not otherwise indicated, of consistency (fine or coarse) at time of placement that will completely fill spaces intended to receive grout.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other specific conditions, and other conditions affecting performance of unit masonry. Do not proceed until satisfactory conditions have been corrected.

B. For the record, prepare written report, endorsed by the Installer, listing conditions detrimental to the performance of unit masonry.

C. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.

3.2 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to the full thickness shown. Build single-wythe walls to the actual thickness of the masonry units, using units of thickness indicated.

B. Build chases and recesses as shown or required to accommodate items specified in this and other sections of the Specifications.

C. Leave openings for equipment to be installed before completion of masonry. After installation of equipment, complete masonry to match construction immediately adjacent to the opening.

D. Cut masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting where possible. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

3.3 CONSTRUCTION TOLERANCES

A. Variation from Plumb: For vertical lines and surfaces of columns, walls, and arises, do not exceed ¼ inch in 10 feet, nor 3/8 inch in 20 feet, nor ½ inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed ¼ inch in 20 feet, nor ½ inch in 40 feet or more. For vertical alignment of head joints, do not exceed plus or minus ¼ inch in 10 feet, nor ½ inch maximum.

B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed ¼ inch in 20 feet, nor ½ inch in 40 feet or more. For top surface of bearing walls, do not exceed 1/8 inch in 10 feet, nor 1/16 inch within width of a single unit.

C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls, and partitions, do not exceed ½ inch in 20 feet, nor ¾ inch in 40 feet or more.

D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus ¼ inch nor plus ½ inch.

E. Variation in Mortar Joint Thickness: Do not vary from bed-joint thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to ½ inch. Do not vary bed- joint thickness from bed-joint thickness of adjacent course by more than 1/8 inch. Do not vary from head-joint thickness by more than plus or minus 1/8 inch. Do not vary from head-joint thickness from adjacent head-joint thickness by more than 1/8 inch. Do not vary from collar- joint thickness indicated by more than minus ¼ inch or plus 3/8 inch. Brick mortar joints shall match the thickness of the existing brick mortar joints.

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform jointwidths and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid the use of less-than-half size units at corners, jambs, and where possible, at other locations.

B. Lay walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.

C. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4 inch horizontal face dimensions at corners or jambs.
1. One-half running bond with vertical joint in each course centered on units in courses above and below.

D. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4 inch horizontal face dimensions at corners or jambs.

E. Stopping and Resuming Work: In each course, rack back half-unit length for one-half running bond; do not tooth. Clean exposed surfaces of set masonry, wet clay masonry units lightly (if required), and remove loose masonry units and mortar prior to laying fresh masonry.

F. Built-In Work: As construction progresses, build-in items specified under this and otherSections of the Specifications. Fill in solidly with masonry around built-in items.

G. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated. Conduit and pipes shall not run horizontally through masonry.

H. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath in the joint below and rod mortar or grout into core.

I. Fill cores in hollow concrete masonry units with grout 24 inches under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

A. Lay hollow concrete masonry units as follows:
1. With full mortar coverage on horizontal and vertical face shells.
2. Bed webs in mortar in starting course on footings and in all courses of piers, columns, and pilasters, and where adjacent to cells or cavities to be filled with grout.
3. For starting course on footings where cells are not grouted, spread out full mortar bed including areas under cells.

B. Maintain joint widths indicated, except for minor variations required to maintain bond alignment. If not indicated, lay walls with 3/8 inch joints.

C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

D. Cut joints flush for masonry walls that are to receive plaster or other direct-applied finishes (other than paint), unless otherwise indicated.

3.6 STRUCTURAL BONDING OF MASONRY

A. Corners: Provide interlocking masonry unit bond in each course, at corners, unless otherwise shown.

B. Provide continuity with horizontal joint reinforcement at corners by using prefabricated "L" units in addition to masonry bonding.

C. Intersecting and Abutting Walls: Unless vertical expansion or control joints are shown at juncture, provide same type of bonding specified for structural bonding between wythes and space as follows:
   1. Provide individual metal ties not more than 16" o.c.
   2. Provide continuity with horizontal-joint reinforcement by using pre-fabricated "T"- units.

3.7 CAVITIES

A. Keep cavities clean of mortar droppings and other materials during construction. Strike joints facing cavities/air spaces flush.

B. Use wood strips temporarily placed in cavity to collect mortar droppings. As work progresses, remove strips, clean off mortar droppings, and replace in cavity.

C. Tie exterior wythe to back-up with individual metal ties. Stagger alternate courses.

3.8 HORIZONTAL JOINT REINFORCEMENT

A. General: Provide continuous horizontal joint reinforcement. Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8" in exterior side of walls, ½" elsewhere. Lap reinforcing a minimum of 6".

B. Space reinforcement not more than 16 inches o.c.

C. Provide reinforcement in mortar joint 1 block course above and below wall openings and extending 24 inches beyond opening.

D. Reinforcement above is in addition to continuous reinforcement.

E. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

F. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T"sections. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.9 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:
   1. Provide an open space not less than 1" in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar or other rigid materials.
   2. Anchor masonry to structural members with flexible anchors embedded in masonry joints and attached to structure.
   3. Space anchors as indicated, but nor more than 24" o.c. vertically and 36" o.c. horizontally.

3.10 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joints in unit masonry where indicated. Build in related items as the masonry progresses. Do not form a continuous span through movement joints unless provisions are made to prevent in-plane restraint of wall or partition movement.

B. Form control joints in concrete masonry as follows:
   1. Fit bond breaker strips into hollow contour in ends of block units on one side of control joint. Fill the resultant core with grout and rake joints in exposed faces.

C. Build-in horizontal pressure relieving joints where indicated; construct joints by either leaving an air space or inserting a compressible air filler of width required for installing a sealant and backer rod specified in Division 7 Section "Joint Sealants".

3.11 LINTELS

A. Provide masonry lintels where shown and where openings of more than 24 inches for block size units are shown without structural steel or other supporting lintels.

B. Provide precast lintels made from concrete matching concrete masonry units in color, texture, and compressive strength and with reinforcement bars indicated or required to support loads indicated. Cure precast lintels by same method as CMU.

C. Provide galvanized steel lintel angles at brick openings.

D. Provide minimum bearing of 8 inches at each jamb, unless otherwise indicated.

3.12 INSTALLATION OF REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores as required to support reinforced masonry elements during construction.

B. Construct formwork to conform to shape, line and dimensions shown. Make sufficiently tight to prevent leakage of mortar, grout, or concrete. Brace, tie and support as required to maintain position and shape during construction and curing of reinforced masonry.

C. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and all other reasonable temporary loads that may be placed on them during construction.

D. Grouting: Do not place grout until entire height of masonry to be grouted has attained a sufficient strength to resist grout pressure.

E. Do not exceed the following pour heights for grout:
1. For minimum widths of grout spaces of 1-1/2 inches or for minimum grout space of hollow unit cells of 1-1/2 by 3 inches, pour height of 12 inches.
2. For minimum widths of grout spaces of 2 inches or for minimum grout space of hollow unit cells of 2-1/2 by 3 inches, pour height of 60 inches.
3. For minimum widths of grout spaces of 2-1/2 inches or for minimum grout space of hollow unit cells of 3 by 3 inches, pour height of 12 feet.
4. For minimum widths of grout spaces of 3 inches or for minimum grout space of hollow unit cells of 3 by 4 inches, pour height of 24 feet.

F. Provide cleanout holes at least 3 inches in least dimension for grout pours over 60 inches in height.

G. Provide cleanout holes at each vertical reinforcing bar.

3.13 REPAIRING, POINTING AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units and in fresh mortar or grout, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including corner, openings, and adjacent construction to provide a neat, uniform appearance, prepared for application of sealants.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears prior to tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry.

E. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

F. Test cleaning methods on sample wall panel; leave half panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.

G. Protect adjacent stone and non-masonry surfaces from contract with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.

H. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.

I. Clean brick by means of bucket and brush hand-cleaning method described in BIA "TechnicalNote No. 20 Revised" using the following masonry cleaner:
   1. Job mixed detergent solution.

J. Clean concrete masonry by means of cleaning method indicated in NCMA TEK 8-2 applicable to type of stain present on exposed surfaces.

K. Protection: Provide final protection and maintain conditions that ensure unit masonry is without damage and deterioration at time of Substantial Completion.

END OF SECTION

SECTION 05500

METAL FABRICATIONS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:
1. Steel framing and supports for countertops
2. Steel framing and supports for mechanical and electrical equipment
3. Steel framing and supports for applications where framing and supports are not specified in other Sections
4. Shelf angles
5. Loose bearing and leveling plates
6. Steel weld plates and angles for casting into concrete not specified in other Sections
7. Abrasive metal nosing

B. Products furnished but not installed under this Section include the following:
1. Loose steel lintels
2. Anchor bolts, steel pipe sleeves and wedge type inserts indicated to be cast into concrete

1.3 PERFORMANCE REQUIREMENTS

A. Thermal Movements: Provide exterior metal fabrications that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections and other detrimental effects. Base engineering calculation on surface temperatures of materials due to solar heat gain and nighttime sky heat loss. Temperature Change (Range): 120°F, ambient; 180°F, material surfaces.

1.4 SUBMITTALS

A. Product Data for the following:
1. Metal nosings
2. Paint products
3. Grout

B. Shop Drawings: (Show fabrication and installation details for metal fabrications)
1. Include plans, elevations, sections and details of metal fabrications and their connections. Show anchorage and accessory items.
2. Provide templates for anchors and bolts specified for installation under other Sections.
3. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples for Verification: For each type and finish of extruded nosing

D. Welding certificates

E. Qualification Data: For professional engineer. Must be licensed in the State of Florida

1.5 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to the following:
1. AWS D1.1 "Structural Welding Code – Steel"
2. AWS D1.2 "Structural Welding Code – Aluminum"
3. AWS D1.3 "Structural Welding Code – Sheet Steel"

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other constructions contiguous with metal fabrications by field measurements before fabrication and indicate measurements on Shop Drawings.
   1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabrication without field measurements. Coordinate wall and other contiguous construction to ensure that actual dimensions correspond to established dimensions.
   2. Provide allowance for trimming and fitting at site.

1.7 COORDINATION

A. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts and items with integral anchors that are to be embedded in concrete. Deliver such items to Project site in time for completion.

B. Coordinate installation of steel weld plates and angles for casting into concrete that are specified in this Section but required for work of another Section. Deliver such items to Project site in time for installation.

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. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include but are not limited to products specified.
   2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include but are not limited to manufacturers specified.

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces, unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names or blemishes.

2.3 FERROUS METALS

A. Steel Plates, Shapes and Bars: ASTM A 36/A 36M

B. Steel Tubing: ASTM A 500 Cold-Formed Steel Tubing

C. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless another weight is indicated or required by structural loads.

D. Slotted Channel Framing: Cold-Formed metal channels with continuous slot complying with MFMA-3
   1. Size of Channels: 1 5/8″ x 1 5/8″
   2. Material: Galvanized steel complying with ASTM A 653/A 653M, commercial steel, Type B, with G90 coating; 0.018″ nominal thickness.

E. Cast Iron: ASTM A48/A 48M, Class 30, unless another class si indicated or required by structural loads.

2.4 NON-FERROUS METALS

A. Aluminum Plate and Sheet: ASTM B 209, Alloy 6061-T6

B. Aluminum Extrusions: ASTM B 221, Alloy 6063-T6

C. Aluminum-Alloy Rolled Tread Plate: ASTM B632/B 632M, Alloy 6061-T6

2.5 FASTENERS

A. Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at exterior walls. Provide stainless steel fasteners for fastening aluminum. Select fasteners for type, grade and class required.

B. Steel Bolts and Nuts: Regular, hexagon head bolts, ASTM A 307, Grade A; with hex nuts, ASTM A 63; and, where indicated, flat washers.

C. Stainless Steel Bolts and Nuts: Regular, hexagon head annealed stainless steel bolts, nuts and where indicated, flat washers; ASTM F 593 for bolts and ASTM F 594 for nuts, Alloy Group 1

D. Anchor Bolts: ASTM F 1554, Grade 36. Provide hot-dip or mechanically deposited, zinc coated anchor bolts where item being fastened is indicated to be galvanized.

E. Eyebolts: ASTM A 489

F. Machine Screws: ASME B18.2.1

G. Lag Bolts: ASME B18.2.1

H. Plain Washers: Round, ASME B18.22.1

I. Lock Washers: Helical, spring type, ASME B18.21.1

J. Cast-In-Place Anchors in Concrete: Anchors capable of sustaining, without failure, a load equal to four times the load imposed, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.

K. Expansion Anchors: Anchor bolt and sleeve assembly with capability to sustain, without failure, a load equal to four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
   1. Material for Anchors in Interior Locations: Carbon steel components zinc-plated to comply with ASTM B 633, Class Fe/Zn 5.
   2. Material for Anchors in Exterior Locations: Alloy Group 1 stainless steel bolts complying with ASTM F 593 and nuts complying with ASTM F 594.

2.6 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welding.

B. Universal Shop Primer: Fast curing, lead and chromate free, universal modified alkyd primer complying with MPI #79.
   1. Use primer with a VOC content of 420g/L (3.5lb/gal) or less when calculated according to 40 CFR, Subpart D (EPA Method 24)

C. Use primer containing pigments that make it easily distinguishable from zinc rich primer.

D. Galvanizing Repair Paint: High zinc content dust paint for re-galvanizing welds in steel, complying with SSPC-Paint 20.

E. Bituminous Paint: Cold applied emulsion complying with ASTM D 1187.

F. Non-shrink, Non-metallic Grout: Factory packaged, non-staining, non-corrosive, non-gaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.7 FABRICATION, GENERAL

A. Shop Assembly: Pre-assemble items in the shop to the greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for re-assembly and coordinated installation.

B. Cut, drill and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch, unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing gain separation or otherwise impairing work.

D. Form exposed work true to line and level with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:
   1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
   2. Obtain fusion without undercut or overlap.
   3. Remove welding flux immediately.
   4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) screws or bolts, unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Cut, reinforce, drill and tap metal fabrications as indicated to receive finish hardware, screws and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads. Where units are indicated to be cast into concrete, equip with integrally welded steel trap anchors, 1/8" by 1 ½" with a minimum 6" embedment and 2" hook, not less than 8" from ends and corners of units and 24" o.c., unless otherwise indicated.

2.8 MISCELLANEOUS FRAMING AND SUPPORTS

A. Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates and bars of welded construction, unless otherwise indicated. Fabricate to sizes, shapes and profiles indicated and as necessary to receive adjacent construction retained by framing and supports. Cut, drill and tap units to receive hardware, hangers and similar items.
   1. Fabricate units from slotted channel framing where indicated.
   2. Furnish inserts if units are installed after concrete is placed.

C. Fabricate supports for operable partitions from continuous steel beams of sizes indicated with attached bearing plates, anchors and braces as indicated. Drill bottom flanges of beams to receive partition track hanger rods; locate holes where indicated on operable partition shop drawings.

D. Galvanize miscellaneous framing and supports where indicated.

E. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

2.9 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings at locations indicated. Weld adjoining members together to form a single unit where indicated.

B. Size loose lintels to provide bearing length at each side of openings equal to 1/12 of clear span but not less than 8", unless otherwise indicated.

C. Galvanize loose steel lintels located in exterior walls and where indicated.

2.10 SHELF ANGLES

A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive ¾" bolts spaced not more than 6" from ends and 24" o.c., unless otherwise indicated.
   1. Provide mitered and welded units at corners.
   2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately 2" larger than expansion or control joint.

B. Galvanize shelf angles located in exterior walls and where indicated.

C. Furnish wedge type concrete inserts, complete with fasteners, to attach shelf angles to cast in place concrete.

2.11 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Galvanize plates after fabrication at exterior locations.

C. Prime plates with zinc rich primer, at interior locations not indicated to be galvanized.

2.12 STEEL WELD PLATES AND ANGLES

A. Provide steel weld plates and angles not specified in other sections for items supported from concrete construction as needed to complete the Work. Provide each units with not less than two integrally welded steel strap anchors for embedding in concrete.

2.13 MISCELLANEOUS STEEL TRIM

A. Unless otherwise indicated, fabricate units from steel shapes, plates and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.

B. Provide cutouts, fittings and anchorages as needed to coordinate assembly and installation with other work. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.

C. Galvanize miscellaneous interior and exterior steel trim, where indicated.

D. Prime interior miscellaneous steel trim, where not indicated to be galvanized with zinc rich primer.

2.14 ABRASIVE METAL NOSINGS

A. Cast Metal Units: Cast aluminum, with an integral abrasive finish consisting of aluminum oxide, silicon carbide or a combination of both. Fabricate units in sizes and configurations indicated and in lengths necessary to accurately fit openings or conditions.
   1. Available Manufacturers:
      a. American Safety Tread Co., Inc.
      b. Balco, Inc.
      c. Barry Pattern & Foundry Co., Inc.
      d. Safe-T-Metal Co
      e. Wooster Products, Inc.
   2. Nosings: Cross hatched units, 3" wide with ¼" lip for casting into concrete steps.

B. Provide anchors for embedding units in concrete, either integral or applied to units, as standard with manufacturer.

C. Apply bituminous paint to concealed bottoms, sides and edges of cast metal units set into concrete.

2.15 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes

B. Finish metal fabrications for assembly.

2.16 STEEL & IRON FINISHES

A. Galvanizing: Hot dip galvanize items as indicated to comply with requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:
1. Exteriors (SSPC Zone 1B) and Items Indicated to Receive Zinc Rich Primer: SSPC SP6/NACE No. 3, "Commercial Blast Cleaning".
2. Interiors (SSPC Zone 1A): SSPC-SP3, "Power Tool Cleaning"

B. Shop Priming: Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes and those to be embedded in concrete, sprayed on fireproofing, or masonry, unless otherwise indicated. Comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field and Maintenance Painting of Steel," for shop painting. Stripe paint corners, crevices, bolts, welds and sharp edges.

2.17 ALUMINUM FINISHES

A. Furnish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.

B. As Fabricated Finish: AA-M10 (Mechanical Finish: As fabricated, unspecified)

C. Class L Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: non-specular as fabricated.) Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting and Placement: Perform cutting, drilling and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment and elevations, with edges and surfaces level, plumb, true and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut or abrade surfaces of exterior units that have been hot dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:
1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete inserts, toggle bolts, through bolts, lag bolts and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete or similar construction.

F. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact wirh grout, concrete or dissimilar metals with a heavy coat of bituminous paint.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. Install framing and supports to comply with requirements of items being supported, including manufacturers written instructions and requirements indicated on Shop Drawings.

B. Install pipe columns on concrete footings with grouted base plates. Position and grout column base plates as specified in "Installing Bearing and Leveling Plates" Article. Grout base plates of columns supporting steel girders after girders are installed and leveled.

3.3 INSTALLING BEARING AND LEVELING PLATES

A. Clean concrete bearing surfaces of bond reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.

B. Set bearing and leveling plates on wedges, shims or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims, but if protruding, cut off flush with edge of bearing plate before packing with grout.
   1. Use non-shrink metallic grout.
   2. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 INSTALLING NOSING, TREADS AND THRESHOLDS

A. Center nosings on full tread widths.

B. For nosings embedded in concrete steps, align nosings flush with riser faces and level with tread surfaces.

3.5 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop painted surfaces. Apply by brush or spray to provide a minimum 2.0 mil dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION

SECTION 06100

ROUGH CARPENTRY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this section.

1.2 SUMMARY

A. This section includes the following:
1. Rooftop equipment, bases and support curbs
2. Wood blocking, grounds, cants, sills and nailers
3. Engineered lumber

1.3 DEFINITIONS

A. Rough Carpentry: Carpentry work not specified in other sections and not exposed, unless otherwise indicated.

B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
1. NELMA: Northeastern Lumber Manufacturers Association
2. NLGA: National Lumber Grades Authority
3. SPIB: Southern Pine Inspection Bureau

C. Dimension Lumber: Lumber of 2" nominal or greater but less than 5" nominal in least dimension.

D. Engineered Lumber Products: Laminated veneer lumber.

1.4 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated products. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood preservative treatment from chemical treatment manufacturer and certification by treating plant that tested materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
2. Fire retardant treatment of wood lumber products for this project is not permitted.
3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to project site.
4. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

B. Research/Evaluation Reports: For the following, showing compliance with building code in effect for the Project:
1. Preservative-treated wood
2. Power driven fasteners
3. Expansion anchors
4. Metal framing anchors

1.5 DELIVERY, STORAGE AND HANDLING

A. Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

1.6 QUALITY ASSURANCE

A. Source Limitations for Treated Wood: Obtain each type of treated wood product through one source from a single producer.

PART 2 – PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rule writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
   1. Factory mark each piece of lumber with grade stamp of grading agency.
   2. Provide dressed lumber, S4S, unless otherwise indicated.

2.2 WOOD PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA C2.
   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry material after treatment to maximum moisture content of 19 %. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark each treated item with the treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:
   1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
   2. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.

2.3 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
   1. Blocking
   2. Nailers
   3. Rooftop equipment bases and support curbs
   4. Cants
   5. Grounds

B. For items of dimension lumber size, provide construction or No. 2 grade lumber with 19% maximum moisture content and any of the following species:
   1. Mixed Southern pine (SPIB)
   2. Spruce-pine-fir (south): NeLMA, WCLIB, WWPA
   3. Western woods: WCLIB or WWPA

C. For blocking and nailers used for attachment of other construction, select and cut timber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
   1. Where rough carpentry is exposed to weather, in ground contact, pressure preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel.

B. Nails, Brads, Staples: ASTM F 1667

C. Power Driven Fasteners: NES NER-272

D. Wood Screws: ASME B18.6.1

E. Screws for Fastening Cold-Formed Metal Framing: ASTM C954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.

F. Lag Bolts: ASME B18.2.1

G. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.

H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to four times the load imposed when installed in concrete as determined by testing agency per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
   1. Material: Carbon-steel components, zinc-plated to comply with ASTM B 633, Class Fe/Zn 5.
   2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.5 METAL FRAMING ANCHORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include but are not limited to the following:
   1. Cleveland Steel Specialty Co.
   2. Harlen Metal Products, Inc.
   3. KC Metals Products, Inc.
   4. Simpson Strong-Tie Company, Inc.
   5. Southeastern Metals Manufacturing Co., Inc.
   6. USP Structural Connectors

B. Galvanized Steel Sheet: Hot-dip, zinc coated steel complying with ASTM A 653/A 653M, G60 coating designation.

2.6 MISCELLANEOUS MATERIALS

A. Flexible Flashing: Self-adhesive, rubberized asphalt compound, bonded to a high density, polyethylene film to produce an overall thickness of not less than 0.025".

PART 3 – EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking and similar supports to comply with requirements for attaching other construction.

B. Where wood preservative treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF & PA's "Details for Conventional Wood Frame Construction", unless otherwise indicated.

D. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

E. Do not splice structural members between supports.

F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
   1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16" o.c.

G. Provide fire blocking in furred spaces, stud spaces and other concealed cavities as indicated and as follows:
   1. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96" o.c.. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2" nominal thickness.
   2. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20' o.c..

H. Sort and select lumber so that natural characteristics will not interfere with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

I. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative treated lumber.
   1. Use copper napthenate for items not continuously protected from liquid water.

J. Securely attach carpentry work to substrate by anchoring and fastening as indicated.
   1. NES NER-272 for power driven fasteners.
   2. Table 2304.9.1 "Fastening Schedule" in ICC's Florida Building Code.

K. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; do not countersink nail heads, unless otherwise indicated.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

A. Install where indicated and were required for screeding or attaching other work. Form shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flash with surfaces, unless otherwise indicated. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.

END OF SECTION

SECTION 06200

FINISH CARPENTRY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DESCRIPTION OF WORK

A. Definition: Finish carpentry includes carpentry work which is exposed to view, in non-structural, and which is not specified as part of other sections.

B. Types of finish carpentry work in this section include:
   1. Exterior running and standing trim
   2. Interior running and standing trim

1.3 QUALITY ASSURANCE

A. Factory mark each piece of lumber and plywood with type, grade, mill and grading agency identification; except omit marking from surfaces to receive transparent finish, and submit mill certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

1.4 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors, and include construction and application details.

B. Samples for Initial Selection: For each type of exterior finish carpentry indicated.

C. Samples for Verification: For each product with half of exposed surface finished; 50 sq. inches minimum for ornamental product and 8″ x 10″ for standing and running trim.

D. Maintenance Data: For exterior finish carpentry trim and accessories to include in maintenance manuals.

E. Warranties: Special warranties specified in this section.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Protect finish carpentry materials during transit, delivery, storage and handling to prevent damage, soiling and discoloration.

B. Do not deliver finish carpentry materials until painting, wet work, grinding and similar operations which could cause damage, soil or deteriorate woodwork have been completed in installation areas. If, due to unforeseen circumstances, finish carpentry materials must be stored in other than installation areas, store only in areas meeting requirements specified for installation areas.

1.6 JOB CONDITIONS

A. Conditioning: Installer shall advise Construction Manager of temperature and humidity requirements for finish carpentry and installation areas. Do not install finish carpentry until required temperature and relative humidity have been stabilized and will be maintained in installation areas.

B. Maintain temperature and humidity in installation area as required to maintain moisture content of installed finish carpentry within a 1.0% tolerance of optimum moisture content, from date of installation through remainder of construction period. The fabricator of the woodwork shall determine optimum moisture content and required temperature.

1.7 WARRANTY

A. Special Warranty for Cellular PVC Trim: Manufacturer's standard form, signed by manufacturer, Installer, and Contractor, in which manufacturer agrees to repair or replace trim that fails due to defects in manufacturing within specified warranty period. Failures include, but are not limited to rotting, corrosion, de-lamination, shrinkage, and excessive swelling from moisture. Warranty period: Lifetime.

B. Lifetime Limited Warranty; That the exterior white primer paint finish will be free from UV ray degradation, blistering, and paint peeling under normal use for a period of one year from the date of purchase. Further provide a LIFETIME WARRANTY to the original purchaser on the urethane material. This LIFETIME WARRANTY provides that the urethane material will be free from defects in material and workmanship under normal use.

PART 2 – PRODUCTS

2.1 WOOD PRODUCTS QUALITY STANDARDS

A. Softwood Lumber Standards: Comply with PS 20 and with applicable grading rules of the respective grading and inspecting agency for the species and product indicated.

B. Plywood Standard: Comply with PS/1 ANSI A199.1.

C. Hardwood Lumber Standard: Comply with NHLA rules.

D Hardwood Plywood Standard: Comply with PS 51.

E. Woodworking Standard: Where indicated for a specific product, comply with specified provision of:
1. Architectural Woodwork Institute (AWI) "Quality Standards".

A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate. For applications not otherwise indicated, provide hot-dip galvanized steel fasteners
1. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.

2.2 MATERIALS

A. General:
1. Nominal sizes are indicated, except as shown by detailed dimension. Provide dressed or worked and dressed lumber, as applicable, manufactured to the actual sizes as required by PS 20.
2. Moisture Content of Harwood Lumber: Provide seasoned (KD) lumber having a moisture content from the time of manufacture until the time of installation within the ranges required in the referenced woodworking standard.
3. Lumber for Transparent Finish (Stained or Clear): Use pieces made of solid lumber stock.
4. Lumber for Painted Finish: Use pieces which are made of solid lumber stock.

B. Exterior Finish Carpentry:
1. Standing and Running Trim:
a. Species: Fir; Grade: Clear VG
b. Species: Western Red Cedar (WWPA or WCLIB); Grade: B and Better – 1 & 2 Clear
c. Species: Southern Yellow Pine SYB; Grade: No. 1
d. Contractor's Option: Provide either species listed above.
e. Texture: Surfaced (smooth)
2. Plywood for Painted Finish: Any softwood species exterior type, maximum density overlay (MDO/EXT-APA, of thickness indicated).

C. Interior Finish Carpentry:
1. Standing and Running Trim for Painted Finish: Any Western softwood species graded and inspected by WWPA complying with the following requirements:
a. Grade for Standard Sizes and Patterns: "C Select" or "Choice" for Idaho White Pine, "C" for Southern Yellow Pine, Clear for Poplar and Red Oak.

b. Grade for Special (custom) Sizes and Patterns: Custom for quality of materials and manufacture as required in referenced woodworking standard. Pattern mouldings shall be equal to moulding manufactured by S & S Craftsmen, Inc. 1-800-922-9663.

2. Standing and Running Trim for Transparent Finish: Plain Sawn Birch, Maple, Poplar or Red Oak, manufactured to sizes and patterns (profile) shown from selected First Grade Lumber (NHLA); complying with the following grade requirements of referenced woodworking standard, for quality materials and manufacture:
   a. Grade: Custom, clear

D. Miscellaneous Materials:
   1. Fasteners and Anchorages: Provide nails, screws and other anchoring devices of the type, size, material and finish required for application indicated to provide secure attachment, concealed where possible, and complying with applicable Federal Specifications.

PART 3 – EXECUTION

3.1 PREPARATION

A. Condition wood materials to average prevailing humidity conditions in installation areas prior to installing.

3.2 INSTALLATION

A. Discard units of material which are unsound, warped, bowed, twisted, improperly treated or finished, inadequately seasoned, or too small to fabricate work with proper jointing arrangements. Do not use manufactured units with defective surfaces, sizes or patterns.

B. Install the work plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8″ in 8′0″ for plumb and level countertops; and with 1/16″ maximum offset in flush adjoining 1/8″ maximum offsets in revealed adjoining surfaces.

C. Scribe and cut work to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.

D. Anchor finish carpentry work to anchorage devices or blocking built-in directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinished matching fastener heads are required, use fine finishing nails for exposed nailings, countersunk and filled flush with finished surface, and matching final finish where transparent is indicated.

3.3 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION

A. Repair damaged and defective finish carpentry work wherever possible to eliminate defects functionally and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.

B. Refer to Division 9 Sections for final finishing of installed finish carpentry work.

C. Protection: Installer of finish carpentry work shall advise Construction Manager of final protection and maintained conditions necessary to ensure that work will be without damage at time of acceptance.

END OF SECTION

SECTION 08111

HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
1. Fully galvanized standard hollow metal doors and frames for new exterior doors and frames.
2. Standard hollow metal door frames for new interior doors.
3. Hardware for new doors is included in Section 08710, Finish Hardware.

B. Related Sections:
1. Division 09 Section "Painting" for field painting hollow metal doors

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings.

B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, fire resistance rating and finishes.

B. Shop Drawings: Include the following:
1. Elevations of each door design
2. Details of doors, including vertical and horizontal edge details and metal thickness
3. Frame details for each frame type, including dimensioned profile and metal thickness
4. Locations of reinforcement and preparations for hardware
5. Details of each different wall opening condition
6. Details of anchorages, joints, field splices and connections
7. Details of accessories
8. Details of moldings, removable stops and glazing
9. Details of conduit and preparations for power, signal and control systems

C. Other Action Submittals:
1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Provide with door hardware schedule.

D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each type of hollow metal door and frame assembly.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal work from single source from a single manufacturer.

B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at a positive pressure according to NFPA 252 or UL 10C.
1. Temperature – Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450° F above ambient after 30 minutes of standard fire-test exposure.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver hollow metal work palletized, wrapped or crated to provide protection during transit and Project-site storage. Do not use non-vented plastic.
   1. Provide additional protection to prevent damage to finish of factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project Site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4" high wood blocking. Do not store in a manner that traps excess humidity.
   1. Provide minimum ¼" space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts and items with integral anchors. Deliver such items to Project Site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements. Provide products by one of the following:
   1. Steelcraft, an Ingersoll-Rand Company (existing doors and basis of design)
   2. Architectural Openings, Inc.
   3. Amweld Building Products, LLC>
   4. Ceco Door Products: an Assa Abloy Group company
   5. Curries Company: an Assa Abloy Group company
   6. Habersham Metal Products Company
   7. Pioneer Industries

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.

D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips of other accessory devices for attaching hollow metal frames of type indicated.

G. Grout: ASTM C 476, except with a maximum slump of 4", as measured according to ASTM C 143/C 143M.

H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing): consisting of fibers manufactured from slag or rock wool with 6 to 12 lb/cu ft density; with maximum flame-spread and smoke development indexes of 25 and 50 respectively; passing ASTM E 136 for combustion characteristics.

I. Glazing: Comply with requirements in Division 08 Section "Glazing".

J. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat.

2.3 STANDARD HOLLOW METAL DOORS

A. General: Provide doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.
   1. Design: Flush panel.
   2. Core Construction: Manufacturer's standard polystyrene, polyurethane, polyisocyanurate, mineral-board or vertical steel-stiffener core.
      a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
      b. Thermal-Rated (insulated) Doors: Where indicated, provide doors fabricated with thermal-resistance value (R-value) of not less than 4.0° F x h x sq. ft./BTU when tested according to ASTM C 1363.
   3. Vertical Edges for Single-Acting Doors: Manufacturer's standard.
      a. Beveled Edge: 1/8" in 2"
   4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2 1/8" radius.
   5. Top and Bottom Edges: Closed with flush or inverted 0.042" thick, end closures or channels of same material as face sheets.
   6. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames"

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
   1. Level 2 and Physical Performance Level B (Heavy Duty), Model 2 (Seamless).

C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

D. Fabricate concealed stiffeners and hardware reinforcement from either cold or hot rolled steel sheet.

2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

B. Exterior and Interior Frames: Fabricated from metallic-coated steel sheet.
   1. Fabricate frames with mitered or coped corners.
   2. Fabricate frames as fill profile welded unless otherwise indicated.

C. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

A. Jamb Anchors:
   1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042" thick, with corrugated or perforated straps not less than 2" wide by 10" long; or wire anchors not less than 0.177" thick.
   2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.42" thick.
   3. Post-Installed Expansion Type for In-Place Concrete or Masonry: Minimum 3/8" diameter bolts with expansion shields or inserts. Provide pip spacer from frame to wall with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, not less than 0.042" thick, and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 STOPS AND MOULDINGS

A. Moldings for Glazed Lites in Doors: Minimum 0.032" thick, fabricated from same material as door face sheet in which they are installed.

B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8" high unless otherwise indicated.

C. Loose Stops for Glazed Lites in Frames: Minimum 0.032" thick, fabricated from same material as frames in which they are installed.

2.7 ACCESSORIES

A. Grout Guards: Formed from same material as frames; not less than 0.016" thick

2.8 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warps or buckles. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project Site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.

C. Hollow Metal Doors:
1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
2. Glazed Lites: Factory cut opening in doors.
3. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating where indicated. Extend minimum ¾" beyond edge of door on which astragal is mounted.

D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
2. Provide countersunk, flat or oval head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four (4) spot welds per anchor.
5. Jamb Anchors: Provide number and spacing of anchors as follows:
   a. Post-installed Expansion Type: Locate anchors not more than 6' from top and bottom of frame. Space anchors not more than 26" on center.
6. Door Silencers: Except on weather stripped doors, drill stops to receive door silencers as follows. Keep holes clear during construction:
   a. Single Door Frames: Drill stop in strike jamb to receive three (3) door silencers.
   b. Double Door Frames: Drill stop in head jamb to receive two (2) door silencers.

E. Fabricate concealed stiffeners, edge channels and hardware reinforcement from either cold or hot rolled steel sheet.

F. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive non-templated, mortised and surface mounted door hardware
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specification for preparations of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 16 Sections.

G. Stops and Moldings: Provide stop and moldings around glazed lites and transoms where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.

2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Provide loose stops and moldings on inside of hollow metal work.
5. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.9 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pre-treating.
1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.10 HARDWARE

A. Refer to Division 08 Section "Finish Hardware: for hardware requirements and schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filing, and dressing, as required to make repaired area smooth, flush and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist and plumbness to the following tolerances:
1. Squareness: Plus or minus 1/16", measured at door rabbet on a line 90° from jamb perpendicular to a frame head.
2. Alignment: Plus or minus 1/16", measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16", measure at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16", measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive non-templated, mortised and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.

1. Set frames accurately in position, plumbed, aligned and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
a. At fire protection rated openings, install frames according to NFPA 80.

b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress and make splice smooth, flush and invisible on exposed faces.
c. Install frames with removable glazing stops located on secure side of opening.
d. Install door silencers in frames before grouting.
e. Remove temporary braces necessary for installation only after frames have been properly set and squared.
f. Check plumbness, squareness and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
g. Field apply bituminous coating to backs of frames that are filled with grout containing anti-freezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor and secure with post-installed expansion anchors.
3. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist and plumb to the following tolerances:
   a. Squareness: Plus or minus 1/16", measured at door rabbet on a line 90° from jamb perpendicular to frame head.
   b. Alignment: Plus or minus 1/16", measured at jambs on a horizontal line parallel to plane of wall.
   c. Twist: Plus or minus 1/16", measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   d. Plumbness: Plus or minus 1/16", measured at jambs at floor.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearance specified below. Shim as necessary.
1. Non Fire Rated Standard Steel Doors:
   a. Jambs and Head: 1/8" plus or minus 1/16".
   b. Between Edges of Pairs of Doors: 1/8" plus or minus 1/16".
   c. Between Bottom of Door and Top of Threshold: Maximum 3/8".
   d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum ¾".
2. Fire-Rated Doors: Install doors with clearance according to NFPA80.

D. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instruction.
1. Secure stops with countersunk flat or oval head machine screws spaced uniformly not more than 9" on center and not more than 2" on center from each corner.

E. Hardware: Install in accordance with manufacturer's instructions and as approved by the Owner's Locksmith.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION

SECTION 08210

WOOD DOORS

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Pre-fit and pre-machined wood doors.
   2. Prefinished wood doors.

B. Related Sections:
   1. Section 08111 – Hollow Metal Doors and Frames
   2. Section 08710 – Door Hardware

1.2 SUBMITTALS

A. Shop Drawings and Product Data:
   1. Indicate general construction, jointing methods, hardware and louver locations, and locations of cut-outs for glass. Indicate thickness of veneers.

B. Samples:
   1. Submit samples of wood veneer and factory finishing in accordance with ANSI/WDMA Quality Standards I.S. 1-A 1997, sections G-18 and Guide Specifications 1.03C.

C. Certification:
   1. Submit certification that doors and frames comply with UBC 7-2 1997 or UL10c, Positive Pressure Fire Door Test Method.

1.3 PRODUCT HANDLING

A. Plastic wrap and protect wood doors during transit, storage and handling to prevent damage, soiling or deterioration. Follow the Care and Installation guidelines as described in ANSI/WDMA I.S. 1-A 1997.

B. Upon acceptance on site inspect for damage. Do not store in damp or wet areas. HVAC system should be operating and balanced prior to arrival of the doors and have acceptable humidity conditions ranging from 25% to 50% relative humidity.

1.4 GUARANTEE/WARRANTY

A. Guarantee: Provide manufacturer's guarantee for all wood doors. Guarantee period: Lifetime of original installation. Doors exhibiting defects in materials or workmanship within guarantee period shall be replaced (including hanging and finishing) with new doors. These items shall be part of the manufacturer's standard warranty.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. GRAHAM Manufacturing

B. Eggers Industries

C. Algoma Hardwoods

2.2 MATERIALS

A. Door Construction:
   1. Non-Fire Rated Doors: SLC-5 or SCL-5; Thickness: 1 ¾", interior flush wood, bonded, staved lumber core or structural composite lumber conforming to ANSI/WDMA I.S. 1-A 1997 and the following
      a. Core: Bonded, Staved Lumber Core (SLC) conforming to ANSI/WDMA I.S. 1-A 1997.

b. Door construction shall conform to ANSI/WDMA I.S. 1-A 1997 Premium Grade requirements.
c. Stiles: Hardwood or veneer edge banded to match face veneer over Structural Composite Lumber backers (SCL), glued to core.
d. Rails: Mill option hardwood or SCL. Top and bottom.
e. Facing: Wood veneer cut and specie as specified shall conform to ANSI/WDMA I.S. 1-a 1997 "A" grade for Premium Grade Door Construction requirements.

B. Wood Veneer:
1. Door face veneers shall meet quality standards conforming to ANSI/WDMA I.S. 1-A 1997 "A" grade. Minimum face veneer thickness shall be 1/50" at 12% moisture content after finish sanding
2. Species: shall match existing interior finished wood doors
3. Face Cut: Plain Sliced
4. Face Assembly: Book Match
5. Face Symmetry: Running Match

C. Adhesives:
1. Face to core adhesives shall be Type I or Type II as appropriate for location in building. Adhesives must be classified Type I or Type II per WDMA TM-6 "Adhesive Bond Test Method" Type I adhesives shall be used for doors in exterior application, Type II adhesives shall be used for doors in interior applications.

D. Core:
1. Non-rated and 20 minute doors: Staved Lumber Core or structural composite lumber.
2. Fire-rated doors: Non-combustible fire resistive core containing no asbestos.

2.3 FACTORY FINISHING

A. Comply with referenced WDMA Section G-15, "Factory Finishing" for Premium Grade factory finish systems.

B. Pre-Finish wood doors at factory.

C. Transparent Finish: Match finish indicated in WDMA Section G-17: WDMA System #6. Submit complete range of actual samples of transparent finish for selection by Architect.

2.4 FABRICATION

A. Fabricate wood doors in accordance with requirements of ANSI/WDMA I.S> 1-A 1997 Quality Standards.

B. Fabricate non-fire rated and fire rated doors with WDMA Quality Standards hardware blocking options. Appropriate blocking shall be included for all doors to receive both surface mounted and mortised hardware. The use of thru-bolts will not be accepted.

C. Make cut-outs and provide stops for glass and louvers. Install metal door louvers. Seal cut-outs prior to installation of moldings.
1. For full light doors: Provide cut out from flush wood door with vertical grain direction.

D. Bevel lock and hinge edges of single acting doors 3° or 1/8" in 2". Radius strike edge of double acting swing doors as required by pivot hinge manufacturer.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine installed door frames before hanging doors.

B. Verify that frames comply with indicated requirements for type, size, location and swing characteristics and have been installed with plumb jambs and level heads.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Handle doors in accordance with recommendations of ANSI/WDMA I.S. 1-A, "Care and Installation at Job Site."

B. Condition doors to average temperature and humidity in area of installation for not less than 48 hours prior to installation. Store doors per recommendation of ANSI/WDMA I.S> 1-A, "Care and Installation at Job Site."

C. Install in neat and workmanlike manner, free from hammer or tool marks, open joints or slivers.

D. Set plumb, level, square and true. Install work after building humidity is at acceptable level.

E. Remove and replace all doors found to be warped, twisted, bowed or otherwise damaged. Do not install doors which cannot be properly fitted to frames.

F. Adjust prefinished doors and hardware and other moving or operating parts to function smoothly and correctly.

G. If doors are to be field finished, the process must follow the ANSI/WDMA I.S. 1-A, "Care and Handling at Job Site" instruction for field applied finishes.

H. Ensure that smoke gaskets are in place before prefinished door installation.

3.3 CLEANING/PROTECTION

A. Clean prefinished doors and hardware.

B. At clear finished doors, do not partially cover door surfaces with paper, cardboard or any other opaque covering that will create uneven aging of wood veneer.

C. Refinish or replace finished door damaged during installation.

END OF SECTION

SECTION 08710

DOOR HARDWARE

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:
   1. Swinging doors.
   2. Other doors to the extent indicated.

B. Door hardware includes, but is not necessarily limited to, the following:
   1. Mechanical door hardware.
   2. Cylinders specified for doors in other sections.

C. Related Sections:
   1. Division 08 Section "Door Hardware Schedule".
   2. Division 08 Section "Hollow Metal Doors and Frames".
   3. Division 08 Section "Interior Aluminum Doors and Frames".
   4. Division 08 Section "Flush Wood Doors".

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
   1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
   2. ANSI/SDI A250.13 - Testing and Rating of Severe Windstorm Resistant Components for Swing Door Assemblies.
   3. ASTM E1886 - Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Shutters Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
   4. ASTM E1996 - Standard specification for performance of exterior windows, curtain walls, doors and storm shutters impacted by Windborne Debris in Hurricanes.
   5. ICC/IBC - International Building Code.
   6. NFPA 70 - National Electrical Code.
   7. NFPA 80 - Fire Doors and Windows.
   8. NFPA 101 - Life Safety Code.
   9. NFPA 105 - Installation of Smoke Door Assemblies.
   10. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:
   1. ANSI/BHMA Certified Product Standards - A156 Series
   2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
   1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
   2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
   3. Content: Include the following information:
      a. Type, style, function, size, label, hand, and finish of each door hardware item.
      b. Manufacturer of each item.

c. Fastenings and other pertinent information.
d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
e. Explanation of abbreviations, symbols, and codes contained in schedule.
f. Mounting locations for door hardware.
g. Door and frame sizes and materials.
h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Proof of Certification: Provide copy of manufacturer(s) official certification or accreditation document indicating proof of status as a qualified installer of Windstorm assemblies.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:
1. Hurricane Resistant Openings (State of Florida): Within the State of Florida, provide copy of current State of Florida Product Approval or Metro-Dade County Notice of Acceptance (NOA) as proof of compliance that doors, frames and hardware for exterior opening assemblies have been tested and approved for use at the wind load and design pressure level requirements specified for the Project.
a. Hurricane Resistant Components (State of Florida): Within the State of Florida, provide copy of independent, third party certified listing to ANSI A250.13.
2. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

E. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:
1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.

5. Address and requirements for delivery of keys.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:
1. Ten years for mortise locks and latches.
2. Seven years for heavy duty cylindrical (bored) locks and latches.
3. Five years for exit hardware.
4. Twenty five years for manual surface door closer bodies.

PART 2 – PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

C. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
   1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
      a. Two Hinges: For doors with heights up to 60 inches.
      b. Three Hinges: For doors with heights 61 to 90 inches.
      c. Four Hinges: For doors with heights 91 to 120 inches.
      d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
   2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
      a. Widths up to 3′0″: 4-1/2″ standard or heavy weight as specified.
      b. Sizes from 3′1″ to 4′0″: 5″ standard or heavy weight as specified.
   3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
      a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
      b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
   4. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
      a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
   5. Acceptable Manufacturers:
      a. Hager Companies (HA).
      b. McKinney Products (MK).

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.
   1. Acceptable Manufacturers:
      a. Bommer Industries (BO).
      b. McKinney Products (MK).
      c. Pemko Manufacturing (PE).

2.3 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

C. Cylinders: Original manufacturer cylinders complying with the following:
   1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
   2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
   3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
   4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
   5. Keyway: Match Facility Standard.

D. Key Quantity: Provide the following minimum number of keys:
   1. Change Keys per Cylinder: Two (2)
   2. Master Keys (per Master Key Level/Group): Five (5).
   3. Construction Keys (where required): Ten (10).

E. Construction Keying: Provide construction master keyed cylinders.

F. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.4 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body. Match existing lever stile.
1. Acceptable Manufacturers:
a. Corbin Russwin Hardware (RU) − ML2000 Series.
b. Sargent Manufacturing (SA) − 8200 Series.
c. Yale Locks and Hardware (YA) − 8800FL Series.

B. Cylindrical Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.2, Series 4000, Grade 1 certified.
1. Furnish with solid cast levers, standard 2 3/4″ backset, and 1/2" (3/4" at rated paired openings) throw brass or stainless steel latchbolt.
2. Locks are to be non-handed and fully field reversible.
3. Acceptable Manufacturers:
a. Corbin Russwin Hardware (RU) − CL3300 Series.
b. Sargent Manufacturing (SA) − 10 Line.
c. Yale Locks and Hardware (YA) 5400LN Series.

C. Knurling: Where required by local code provide knurling or abrasive coating to all levers on doors leading to hazardous areas such as mechanical rooms, boiler and furnace rooms, janitor closets, and as otherwise required or specified.

2.5 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:
1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.5.
4. Dustproof Strikes: BHMA A156.16.

2.6 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:
1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
6. Vertical Rod Exit Devices: Provide and install interior surface and concealed vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2″ wide stiles.
8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.
11. Hurricane and Tornado Resistance Compliance: Conventional exit devices are to be U.L. listed for windstorm components where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.
1. Acceptable Manufacturers:
    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.
    c. Yale Locks and Hardware (YA) - 7000 Series.

C. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.
1. At openings designed for severe wind load conditions due to hurricanes or tornadoes, provide manufacturer’s certified mullion and accessories to meet applicable state and local windstorm codes.
2. Provide keyed removable feature where specified in the Hardware Sets.
3. Provide stabilizers and mounting brackets as required.
4. Provide electrical quick connection wiring options as specified in the hardware sets.
5. Acceptable Manufacturers:
    a. Corbin Russwin Hardware (RU) - 700/900 Series.
    b. Sargent Manufacturing (SA) - 980S Series.
    c. Yale Locks and Hardware (YA) - M200 Series.

2.7 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
    a. Where closers are indicated to have mechanical dead-stop, provide heavy duty arms and brackets with an integral positive stop.
    b. Where closers are indicated to have mechanical hold open, provide heavy duty units with an additional built-in mechanical holder assembly designed to hold open against normal wind and traffic conditions. Holder to be manually selectable to on-off position.
    c. Where closers are indicated to have a cushion-type stop, provide heavy duty arms and brackets with spring stop mechanism to cushion door when opened to maximum degree.

d. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics. Provide drop plates or other accessories as required for proper mounting.

6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and through-bolt and security type fasteners as specified in the door Hardware Sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Acceptable Manufacturers:
   a. Corbin Russwin Hardware (RU) - DC8000 Series.
   b. Sargent Manufacturing (SA) - 351 Series.
   c. Norton Door Controls (NO) - 7500 Series.
   d. Yale Locks and Hardware (YA) - 4400 Series.

2.8 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1″ LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
   a. Stainless Steel: 300 grade, 050-inch thick.
4. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
5. Acceptable Manufacturers:
   a. Rockwood Manufacturing (RO).

2.9 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Acceptable Manufacturers:
   a. Rockwood Manufacturing (RO).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Acceptable Manufacturers:
   a. Rixson Door Controls (RF).
   b. Rockwood Manufacturing (RO).
   c. Sargent Manufacturing (SA).

2.10 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.
   1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.
   1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Hurricane and Tornado Resistance Compliance: Architectural seals to be U.L. listed for windstorm components where applicable. Provide the appropriate hurricane or tornado resistant products that have been independent third party tested, certified, and labeled to meet state and local windstorm building codes applicable to project.

G. Acceptable Manufacturers:
   1. National Guard Products (NG).
   2. Pemko Manufacturing (PE).
   3. Reese Enterprises, Inc. (RS).

2.11 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.12 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
   1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
   1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
   2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
   3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
   4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SCHEDULE

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

B. Manufacturer's Abbreviations:
   1. MK - McKinney
   2. PE - Pemko
   3. SA - Sargent
   4. RF - Rixson
   5. RO - Rockwood

END OF SECTION

SECTION 08800

GLASS AND GLAZING

PART 1 – GENERAL

1.1 SCOPE

A. This Section describes the required materials and installation standards for all glass and glazing including, but not limited to: interior and exterior storefront, interior windows, sidelights, and door lights.

1.2 APPLICABLE PUBLICATIONS

A. The following publications form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM) Publications:
1. Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors
2. Water Penetration of Exterior Windows, Curtain Walls and Doors
3. Cellular Elastomeric Preformed Gasket and Sealing Material
4. Staining and Color Change of Single or Multicomponent Joint Sealants
5. Volatility of Oil and Resin Based, Knife Grade, Channel Glazing Compounds
6. Standard Specification for Flat Glass

C. American National Standards Institute, Inc. (ANSI):
1. 797.1-75 – Performance Specification and Methods of Test for Safety Glazing Material used in Buildings

D. Consumer Products Safety Commission (CPSC) Standard:
1. 16 CFR – Safety Standard for Architectural Glazing Materials, January 1977, Part 1201

E. National Fire Protection Association (NFPA) Publication:
1. 80-1977 Fire Doors and Windows

F. Flat Glass Marketing Association (FGMA) Publications:
1. Glazing Manual – 1974 Edition
2. Glazing, Sealing Systems Manual, First Edition, 1970

G. National Association of Architectural Metal Manufacturers (NAAMM) Publication:
1. SG-1-70 Dense Rubber-Like Compression Gasket Material

1.3 SUBMITTALS

A. See Section 01300 – SUBMITTALS

1.4 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver glass in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store glass in accordance with manufacturer's instructions.
1. Store glass in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
2. Store products in manufacturer's labeled packaging until ready for installation.
3. Store glass in clean, dry area indoors.
4. Protect from exposure to direct sunlight and freezing temperatures.
5. Apply temporary coverings loosely to allow adequate ventilation.
6. Protect from contact with corrosive chemicals.
7. Avoid placement of glass edge on concrete, metal, and other hard objects.
8. Rest glass on clean, cushioned pads at 1.4-points.

C. Handling: Handle glass in accordance with manufacturer's instructions.
1. Protect glass from damage during handling and installation.
2. Do not slide one lite of glass against another.
3. Do not use sharp objects near unprotected glass.

1.5 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.6 SEQUENCING AND SCHEDULING

A. Conference: Convene a pre-installation conference to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

1.7 WARRANTY

A. Manufacturer's Special warranty on Coated Glass:
   1. Manufacturer's standard form in which coated-glass manufacturer agrees to replace coated glass units that deteriorate within specified warranty period.
   2. Deterioration of coated glass is defined as failure of coating, including discoloration or de-lamination, under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions.

B. Manufacturer's Special Warranty on Insulating Glass:
   1. Manufacturer's standard form in which insulating glass manufacturer agrees to replace insulating glass units that deteriorate within specified warranty period.
   2. Deterioration of insulated glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions.
   3. Evidence of failure is the obstruction of vision by dust, moisture, or film on interior surfaces of glass.
   4. Warranty Period: 5 years from date of manufacture.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. See drawings for location of each type of glass specified herein. Unless otherwise shown, all door lights and sidelights, entrance ways and high traffic areas shall be glazed with safety glazing materials conforming to CPC 16 CFR, Part 1201.

B. All exterior glass and glazing systems shall meet the requirements of ASCE 7-10.

C. All glazing within 48" of a door (including door glazing) shall be tempered safety or laminate safety glass.

D. All exterior glazing shall clear with energy select 23 (surface-2).

E. All exterior glazing in existing wall systems shall match the existing.

2.2 SHEET OR FLOAT GLASS

A. Clear sheet or float glass shall be glazed in interior openings not indicated or specified otherwise. Install 3/16" float glass for glazing openings up to and including 36 sq. ft. Install 7/32" glass for the glazing openings over 36 sq. ft. but not over 45 sq. ft. Sheet for float glass shall be one of the following manufacturer's products:
   1. DS Float Glass: PPG Industries, Inc.
   2. DS Float Glass: Ford Glass Division
   3. DS Float Glass: Guardian Industries
   4. DS Float Glass: Oldcastle Glass
   5. DS Float Glass: AGC Glass Company North America

2.3 INSULATING GLASS

A. Insulating glass units shall be 1" total thickness and shall be as follows:
   1. Exterior glass shall be 6.0 mm, clear energy select 23 (surface 2).
   2. Space shall be 12.7 mm.
   3. Interior glass shall be 6.0 mm clear (tempered as required by code).

B. Insulating glass unit shall be a product of one of the following manufacturers:
   1. PPG Industries, Inc.
   2. Guardian Industries, Inc.
   3. Oldcastle Glass, Inc.
   4. AGC Glass Company North America

2.4 TEMPERED GLASS:

A. Tempered glass shall be fully tempered safety glass manufactured by a special heat treating process to improve its mechanical strength. Glass shall meet the requirements of ANSI Z97.1 and USPC standard 16 CFR 1201 C and C11. Interior glass shall be clear and exterior glass shall be clear with tongless edges of thickness shall be a minimum of 7/32" or as required by CPSC for openings size.

B. Tempered glass shall be products of one of the following manufacturers:
   1. Herculite as manufactured by PPG Industries, Inc.
   2. Tempered safety glass as manufactured by Ford Glass Division
   3. Guardian tempered glass as manufactured by Guardian Industries, Inc.
   4. Tempered Safety Glass as manufactured by Oldcastle Glass
   5. Tempered Safety Glass as manufactured by AGC Glass Company North America

2.5 MIRRORS:

A. Mirrors shall be ¼" Plate Glass (Tempered).

2.6 SEALING MATERIAL

A. Provide neoprene setting materials of the types required for the applicable setting method specified in the FGMA Glazing Sealing Systems Manual, unless specified otherwise herein. Do not use metal sash putty, non-skinning compounds, non-resilient preformed sealers or impregnated preformed gaskets. Materials which will be exposed to view and unpainted shall be gray or neutral color.

2.7 GLAZING TYPE

A. Butyl-polyisobutylene preformed sealant complying with AAMA 804.1 for Channel Glazing.

2.8 GLAZING COMPOUND

A. Non-hardening, elastic type as recommended by glass manufacturer.

2.9 ELASTOMERIC SEALANT

A. Shall be recommended by sealant manufacturer for glazing applications of project. Sealant shall be chemically compatible with setting blocks, edge blocks, sealing tapes and with sealants used in manufacture of insulating glass units.

2.10 PREFORMED CHANNELS

A. Neoprene, vinyl or rubber, NAAMM SG-1, as recommended by the glass manufacturer for the particular condition.

2.11 SEALING TAPES

A. Preformed, semi-solid, polymeric based material of proper size and compressibility for the particular condition. Use only where glazing rabbet is designed for tape and tape is recommended by the glass or sealant manufacturer. Provide spacer shims for use with compressible tapes.

2.12 SETTING BLOCKS AND EDGE BLOCKS

A. Lead or neoprene of 70 to 90 Shore durometer hardness, chemically compatible with sealants used and of sizes recommended by the glass manufacturer.

2.13 ACCESSORIES

A. As required by manufacturer to provide a complete installation, including glazing points, clips, shims, angles, beads and spacer strips. Provide non-corroding metal accessories. Provide primer sealers and cleaners as recommended by the glass and sealant manufacturers.

PART 3 – EXECUTION

3.1 PRECAUTIONS AND PROCEDURES

A. Determine the sizes to provide the required edge clearances by field measuring the actual openings to receive the glass. Grind smooth all edges of glass that will be exposed in finish work. Leave labels in place until the installation is approved, except remove applied labels on insulating glass units as soon as glass is installed. Securely fix moveable items or keep in a closed and locked position until glazing compound has thoroughly set.

3.2 GLASS SETTING

A. Items to be glazed shall be either shop or field glazed using glass of the quality and thickness specified or indicated. Preparation and glazing, unless otherwise specified or approved, shall conform to all applicable recommendations in the FGMA Glazing Manual and Glazing Sealing Systems Manual. Aluminum windows, wood doors and wood windows may be glazed in conformance with one of the glazing methods described in the standards under which they are produced, except that face puttying with no bedding will not be permitted. Handle and install glazing materials in accordance with the manufacturer's instructions. Use beads or stops which are furnished with the items to be glazed to secure the glass in place.

3.3 EDGE CLEARANCE, FACE CLEARANCE AND BITE

A. The glazing system must provide adequate edge and face clearance to properly cushion the glass, thermally and mechanically isolate the glass from the framing members and prevent glass to metal contact.

3.4 WEEP SYSTEMS

A. The glazing system must ne installed to prevent accumulation of moisture in glazing channels for prolonged periods. Weep holes shall be provided to ensure adequate drainage.

3.5 FLOAT GLASS

A. Cut and set with any visible lines or waves horizontal.

3.6 CLEANING

A. Thoroughly clean glass and remove labels, paint spots, putty and other defacement. Glass shall be clean at the time the Work is accepted.

END OF SECTION

SECTION 09250

GYPSUM WALLBOARD (DRYWALL)

PART 1 – GENERAL

1.1 SCOPE

A. The listing herein of article or material, operation or method requires that the Contractor shall furnish and install each item listed, of quality, or subject to qualification, noted: according to conditions stated providing therefore all necessary labor, equipment, and incidentals, including:
   1. Gypsum Wallboard
   2. Metal trim features, including corner treatment
   3. Metal wall and ceiling framing systems
   4. Joint reinforcement and treatment
   5. Fasteners
   6. Clean-up

1.2 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. American Society for Testing and Materials (ASTM) Publications:
   1. Gypsum Wallboard
   2. Joint Treatment Materials for Gypsum Wallboard Construction
   3. Steel Drill Screws for the Application of Gypsum Board to Light-Gauge Steel Studs
   4. Application and Finishing of Gypsum Board
   5. Surface Burning Characteristics of Gypsum Board

C. Underwriters Laboratories (UL) Publication:
   1. Fire Resistance Directory, 1980 Edition.

D. Commercial Publication:
   1. United States Gypsum Company Publications SA-923, SA-932

1.3 SUBMITTALS

A. See Section 01300 – Submittals for requirements, if any.

PART 2 – PRODUCTS

2.1 GYPSUM WALLBOARD

A. Gypsum wallboard shall be manufactured from asbestos-free materials. Gypsum wallboard shall be as follows:
   1. Gypsum Wallboard: ASTM C36
      a. Regular: m 48" wide, 5/8" thick, tapered edges (unless noted otherwise on drawings)
      b. Type X Special Fire-Resistant: 48" wide, 5/8" thick, tapered edges (rated assemblies)
      c. Cement Backer Board (CB): 48" wide, 1/2" thick, tapered edges (Provide in all toilet rooms shown to be finished with tile on cement backer board).

2.2 JOINT TREATMENT MATERIAL: ASTM C475

A. Taping or Embedding Compound: Specifically formulated and manufactured for use in embedding tape at gypsum board joints and completely compatible with tape and substrate.

B. Finishing or Topping Compound: Specifically formulated and manufactured for use as a finishing compound.

C. All-Purpose Compound: Specifically formulated and manufactured to serve as both a taping and a finishing compound and compatible with tape and substrate.

D. Joint Tape: Perforated cross-laminated, tapered edge, reinforced paper, or special tape recommended by the manufacturer.

E. Screws: ASTM C546, Type "S" or Type "W" steel, self-drilling and self-tapping screws.

F. Adhesives: Adhesive containing benzene, carbon tetrachloride, and trichloroethylene shall not be used.

G. Adhesive for Fastening Gypsum Board to Metal Framing: Type as recommended by the gypsum board manufacturer and approved.

H. Corner Bead and Edge Trim: Fabricate from protective-coated steel or plastic designed for its intended use. Flanges shall be free of dirt, grease and other materials that may adversely affect the bond of joint treatment. Materials shall be prefinished or decorated.

I. Water: Clean, fresh and potable.

2.3 WALL/PARTITION SUPPORTS MATERIALS:

A. Studs: 25 gauge (except noted otherwise on the drawings) screw-type "Cee" shaped studs of the depth indicated on the drawings, zinc-coated steel; comply with ASTM C645. Provide 20 gauge studs at following locations:
1. Interior door jambs in 25 gauge stud walls.
2. Studs higher than 13'-6" and where wall hung cabinets or other wall mounted equipment is to be installed.
3. At structural exterior skin locations.
4. See drawing for stud gauge for structural bearing walls.

B. Depth of Section: 3-5/8", except as otherwise indicated on the drawings.

C. Runners: Match studs; type recommended by stud manufacturer for floor and ceiling support of studs, and for vertical abutment of drywall at other work.

D. Stiffeners: 3/4" rolled steel channels at 0.3 lb. per ft. , rust-inhibitive paint finish.

E. Stud System Accessories: Provide stud manufacturer's standard clips, shoes, ties, reinforcements, fasteners, and other accessories as needed for a complete stud system.

F. Resilient furring channels shall be similar and equal to USG RC-1 resilient channels faced with sound absorbent acoustical tape. Install in accordance with manufacturer's direction.

2.4 CEILING SUPPORT/FRAMING MATERIALS

A. Support/framing for suspended gypsum wallboard ceilings shall consist of 1-1/2" galvanized steel main runner channels and hat shaped galvanized steel furring channels.

2.5 HANGERS, TIE WIRES AND CLIPS

A. Hangers supporting main runner channels shall be soft steel wire not less than 0.1620" nominal diameter (8 gauge) conforming to Federal Specification QQ-W-461, AISI No. 1010, Class 2 zinc coating. Flat steel hangers, 1" by 3/16", with zinc coating, may be substituted for the wire hangers.

B. Tie wires for splicing furring channels or securing furring to main runner channels shall be galvanized steel of not less than 0.0915" nominal diameter (13 gauge). Tie wires for splicing hat- shaped furring channels to main runner channels or to structural members shall be galvanized steel of not less than 0.0625" nominal diameter (16 gauge).

C. Clips used in lieu of wire shall be galvanized steel equivalent in holding power to that provided by tie wires for the specific application.

D. Metal trim features for wallboard shall be formed from zinc-coated steel not lighter than 0.0217: nominal thickness (25 gauge) and shall conform to Federal Specification QQ-S-775, Type I, Class D or E. Metal trim shall be in the following shapes and sizes:

E. Casing beads shall be channel shaped with a concealed wing not less than 7/8" wide and an exposed wing. Exposed wing may be covered with paper cemented to metal and shall be suitable for joint treatment.

F. Corner beads for use at perimeter of ceilings shall be angle-shaped with wings not less than ¾" wide. Concealed wing shall be perforated for nailing and exposed wing edge folded flat. Exposed wing may be factory finished in a white color.

2.6 GYPSUM WALLBOARD/ASSEMBLY FASTENERS:

A. Bolts shall conform to Federal Specification FF-B-575.

B. Expansion shields shall conform to Federal Specification FF-S-325, Group I, II, or III, of the type and class applicable.

C. Metal screws shall be not less than 1" long with self-tapping threads and self-drilling points.

D. Toggle bolts shall conform to Federal Specification FF-B-588, type and class best suited for the purpose.

E. Approved manufacturers of gypsum drywall products subject to compliance with the drawings and this section are as follows:
1. Gypsum Board and Related Products:
   a. United States Gypsum Company
   b. Flintkote Products, Genstar Building Materials Company
   c. Georgia Pacific Company
   d. Gold Bond Building Products Division, National Gypsum Company.
2. Metal Support Materials:
   a. United States Gypsum Company
   b. Gold Bond Building Products Division, National Gypsum Company
   c. Milcor Division, Inryco, Inc.
3. Direct Suspension Systems:
   a. Chicago Metallic Corporation
   b. Donn Corporation
   c. National Rolling Mills Company
   d. United States Gypsum Company

PART 3 – EXECUTION

3.1 DELIVERY AND STORAGE

A. Wallboard delivered prior to use shall be stored within a completely enclosed structure or off the ground and completely enclosed within a weather tight covering. Wallboard shall be dry, free of warpage, and with bundling tape intact immediately prior to use. Application shall commence only after the structure is completely weather tight.

3.2 FURRING

A. Hat-shaped steel channels or steel studs shall be provided where steel furring is indicated for screw attachment of gypsum wallboard.

B. For Spans Up To and Including 4' On Centers: Hat-shaped furring members shall be spaced 16" on centers and securely attached across suspended main runner channels with wire clips or double strand of 16 gauge tie-wire saddle-tied at each crossing. Ends of wire ties shall receive three full twists. Furring shall be spliced with 8" nested laps securely tied near each end of lap with two loops of 16 gauge tie-wire. Splices shall be staggered. Furring wall channels shall be located within 2" of walls. Where wallboard abuts dissimilar wall materials, perimeter of ceilings shall be finished with an edge bead trim strip applied to wall and accurately aligned with the finished ceiling.

3.3 WALL/PARTITION SUPPORT SYSTEM:

A. Install supplementary framing, in accordance with ASTM C754. Provide blocking and bracing to support fixtures, equipment, services, heavy trim, furnishings and similar work which cannot be adequately supported on gypsum board alone. Blocking for TV brackets, grab bars, or other equipment shall support a minimum weight of 200 lb.

B. Isolate stud system from transfer of structural loading to system, both horizontally and vertically. Provide slip or cushioned type joints to attain lateral support and avoid axial loading.

C. Anchor ends of horizontal stiffeners where system abuts structural columns or walls.

D. Install runner tracks at floors, ceilings, and structural walls and columns where gypsum drywall stud system abuts other work, except as otherwise indicated.

E. Space studs 16″ o.c., except as otherwise indicated.

F. Fasten studs at ends of floor and ceiling runner tracks by installing a screw into both flanges at each end.

G. Install horizontal stiffeners in stud system; space 4′-0″ o.c. vertically; wire-tie at each intersection.

H. Secure jamb studs to frames of openings with screws, wire-ties or welds, either directly to frames or to special frame-support brackets; and install runner track sections (for jack studs) above and below openings, secured to jamb studs.

I. Space jack studs same as partition studs, and screw to runner tracks above and below.

J. Install 2 studs at each jamb of each opening and one additional stud not more than 6″ from jamb studs.

K. Install horizontal stiffeners 6″ above and 6″ below each opening more than 3′-0″ wide, and extend 2 regular stud spaces beyond each jamb.

L. Wall furring shall be "2" members. Space furring members 24″ o.c. except as otherwise indicated.

M. Install extra furring members and angle runners at terminations of drywall work, and at openings and where required for support of other work occurring in the drywall work.

3.4 APPLICATION OF GYPSUM BOARD

A. Apply gypsum board to framing and furring members in accordance with ASTM C840 and the requirements specified herein. Apply gypsum board with separate boards in moderate contact; do not force in place. Stagger end joints of adjoining boards. Neatly fit abutting end and edge joints. Use gypsum board of maximum practical length. Cut out gypsum board as required to make neat close joints around openings. In vertical application of gypsum board, panels shall be of length required to reach full height of vertical surfaces in one continuous piece. Surfaces of gypsum board and substrate members may be adhered together with an adhesive, except where prohibited by fire rating(s). Leave a space approximately ¼″ at the bottom of gypsum board for caulking. Type of gypsum board for use in each system specified herein shall be as indicated. Screw spacing shall not exceed 8″.

B. Erection Tolerances: Wall surfaces shall have square corners, be plumb and true, with variations not exceeding 1/8′ in 8′ from required plane.

C. Control Joints: Install expansion and contraction joints in ceilings and walls in accordance with ASTM C 840, System XIII, unless indicated otherwise. See reflected ceiling plan.

3.5 FINISHING OF GYPSUM BOARD

A. Tape and finish gypsum board in accordance with ASTM C840. Provide joint, fastener depression, and corner treatment. Gypsum board finishing shall be Level 4.

B. Caulking: Caulk openings around pipes, fixtures and other items projecting through gypsum board as specified in SECTION 07900 – JOINT SEALANTS. Apply caulking material with exposed surface flush with gypsum board.

3.6 FIRE-RESISTANT ASSEMBLIES

A. Wherever fire-rated gypsum board construction is indicated, provide all materials and application methods, including types and spacing of fasteners, in accordance with the specifications contained in the UL Fire Resistance Directory for the Design Number(s) indicated.

3.7 PATCHING

A. Correct surface defects and damage as required to leave gypsum board smooth, uniform appearance, and ready to receive finish as specified.

3.8 CLEAN UP

A. Clean up all debris caused by the work of this Section.

END OF SECTION

SECTION 09300

CERAMIC TILE

PART 1 – GENERAL

1.1 STANDARDS AND GUIDELINES

A. ANSI Tile Standards: Comply with ANSI A13.1 Standard Specification for Ceramic Tile and ANSI 108 series of tile installation standards included under "American National Standard Specification for the Installation of Ceramic Tile".

B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated.

C. Submittals: With manufacturer's product data and installation instructions for tile work, submit samples of each type, color, and texture of tile.
   1. Provide manufacturer's Master Grade Certificate.

PART 2 – PRODUCTS

2.1 PRODUCTS

A. Colors, Textures, and Patterns: For tile, grout and other products requiring selection of colors, surface textures, patterns and other appearance characteristics, comply with the following requirements:
   1. Provide selections made by Architect from manufacturer's full range of standard colors, textures, and patterns for type of products indicated.
   2. All interior floor tiles shall be non-slip.

B. Sizes and Thicknesses: As indicated or, if not indicated, as selected by Architect from manufacturer's standard sizes and thickness. Interior glazed wall tile units shall be 12" x 24".

C. Tile Grade: "Standard Grade" unless otherwise indicated.

D. Glazed Wall Tile:
   1. Glazed wall tile and floor tile shall be similar and equal to Marazzi, "Modern Oasis" Tile.
   2. Size: 12" x 24" and mosaic square 2" x 2" and 12" x 12"
   3. Colors: Submit entire range of colors for selection of three colors for walls and floors.

E. Trim: Schluter system, aluminum tile edge, base, corner and cap trim.

F. Marble Thresholds: Group "A"; ASTM C 503, for exterior use with minimum hardness of 10.0 per ASTM C 241; white with honed finish unless otherwise indicated.

G. Setting Materials: Provide setting materials as follows:
   1. Portland Cement Mortar: Materials complying with ANSI A 108.1 and as follows:
      a. Latex Additive: Manufacturer's Standard
   2. Dry-set Portland Cement Mortar: ANSI A118.1
   3. Latex Portland Cement Mortar: ANSI A118.4.

H. Grouting Materials:
   1. Latex Portland Cement Grout: ANSI A118.6 of the following composition:
      a. Prepackaged dry grout mix composed of Portland cement, graded aggregate, and the following dry polymer additive in the form of a re-emuslifiable powder to which only water is added at job site.
         1) Dry Polymer Additive: Polyvinyl acetate or ethylene vinyl acetate.
      b. Latex additive (water emulsion) replacing part or all of gauging water, added at job site with dry grout mixture, with type of latex and dry grout mix as follows:
         1) Latex Type: Manufacturer's Standard.

I. Elastomeric Sealant: Manufacturer's standard curing, elastomeric sealants of base polymer indicated that comply with the requirements of Division 7 section "Joint Sealers", including ASTM C920 as referenced by Type, Grade, Class and Uses.

J. Miscellaneous Materials: Provide the following materials:

1. One-Part Mildew Resistant Silicone Sealants: ASTM C 920, Type S, Grade NS, Class 25, Uses NT, G, A, and O (for use in joints in non-traffic areas).
2. Temporary Protective Coating: As follows, formulated to protect the exposed surfaces of tile against adherence of mortar and grout, compatible with tile and mortar/grout products, and easily removable without damaging grout or tile.
   a. Petroleum paraffin wax, fully refined, tasteless, odorless, containing at least 0.5 percent oil, with a melting point of 120° F (49° C) to 140° F (60° C) per ASTM D 87.
   b. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as a temporary protective coating for tile.

K. Cement Backer Board: Equal to ½" "Wonderboard" backerboard.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Do not start tile work until roughing in for plumbing, heating, ventilating, air conditioning, and electrical work has been completed. Floor surfaces to receive ceramic tile set in a mortar setting bed shall not vary by more than ¼" in 10' from the required plane or slope. Floor surfaces to receive thin set ceramic tile shall not vary by more than 1/8" in 10' for the required plane or slope. Wall surfaces receiving ceramic tile shall have square corners, be plumb and true, with variations not exceeding 1/8" in 8' from the required plane.

B. Preparation of Structural Floor Slabs: Prepare in accordance with ANSI A108.1 or A108.5. Before tile is applied the structural concrete floor shall be tested for levelness or uniformity of slope by using straightedges. Area where the floor does not meet the required tolerances shall be filled and leveled in accordance with ANSI A108.5

C. Floor and Wall Tile in Dry-Set Mortar or Latex-Portland Cement Mortar: Install floor and wall tile in accordance with ANSI A108.5 where slab is not recessed and tile is scheduled. Masonry walls at showers shall receive a waterproof coating, thin set coating, brown coat of cement plaster and a coat of mortar prior to the application of wall tile.

D. Joints: Make parallel, plumb, level, and in alignment. Make end joints in broken-joint work, as far as practicable, on center lines of adjoining tiles. Set square tiles with straight joints, and set oblong tiles with broken joints, except in special arrangements and design, as indicated or specified.

E. Joint Width: Make joints uniform in width and space to accommodate tile in given spaces with a minimum of cutting, except maintain standard mounting widths between units abutting sheets of mounted ceramic mosaic tile. Make joint widths as follows:
1. Mounted Tile: As determined by the mounted tile spacing.
2. Un-mounted Glazed Wall Tile: As determined by spacing lugs.
3. Trim Units and Accessories: Match that of adjoining tile units.

F. Grouting and Pointing: Dry-set grout may be applied over dry tile without wetting of tile. Factory premixed colored epoxy grouts may be used. Color shall be as indicated.

G. Grout glazed wall tile in accordance with ANSI A108.1 or A108.5.

H. Grout ceramic mosaic tile in accordance with ANSI A108.1.

I. Expansion and Control Joints: Provide expansion and control joints in tile work in accordance with ANSI A108.1 or A108.5 and where indicated. Unless indicated otherwise, treat expansion and control joints as follows:

3.2 CURING AND CLEANING

A. Curing: Cover floors with waterproof paper with joints lapped at least 4" and the laps tape-sealed or held down with planks or other weights. Allow to damp cure for at least 72 hours before permitting foot traffic on tiled floor. Cure in accordance with ANSI A108.1 or A108.5.

B. Cleaning: Clean in accordance with ANSI A108.1 or A108.5 except acid cleaning of unglazed tile, when necessary, shall be done no sooner than 14 days after setting tile.

3.3 PROTECTION

A. Meet the requirements of ANSI A108.1 or A108.5; cover finished tile floors with clean building paper before permitting foot traffic on them. Place board walkways on floors that are to be continuously used as passageways by workmen. Cover window stools and thresholds with boards. Protect tiled vertical outside corners (external angles) with board corner strips in areas used as passageways by workmen.

END OF SECTION

SECTION 09510

ACOUSTICAL TREATMENT

PART 1 – GENERAL

1.1 SCOPE

A. This Section includes the furnishings and installation of acoustical ceilings complete in areas of building where scheduled on the drawings.

1.2 APPLICABLE PUBLICATIONS

A. The following publications of the issues listed below, but referenced thereafter by basic designation only, form a part of this Specification to the extent indicated by the references thereto.

B. American Society for Testing Materials (ASTM):
1. Metal Suspension Systems for Acoustical Tile Lay-In Panel Ceilings.
2. Installation of Metal Ceiling Suspension Systems (1981) for Acoustical Tile and Lay-In Panels.
3. Surface Burning Characteristics of Building Materials.
4. C-423-81a Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
5. Latex Ceiling Compounds (R 1981)
6. Fire Test of Building Construction and Materials
7. Determination of Sound Transmission Class

1.3 SUBMITTALS (See Section 01300 – SUBMITTALS)

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Ceiling Sound Absorption: The Noise Reduction Coefficient (NRC) shall be determined in accordance with ASTM C-423 Method of Test.

2.2 CEILING MATERIALS

A. Acoustical ceiling units shall be mineral fiber lay-in panels with minimum NRC at 0.70 for AT-1 when tested in accordance with ASTM E 795 (E 400 mounting) and Class A flame spread rating when tested in accordance with ASTM E 84-81.

B. Finish shall be factory-applied white vinyl latex paint. Size and face pattern shall be as follows.

C. Acoustical Ceiling Units AT-1 Typical: 24″ x 24″ x ¾″, non-directional, all purpose ceiling pattern, beveled tegular, lay in panels, product of one of the following manufacturers.
1. USG Radar Clima-Plus High NRC (#22121)
2. Armstrong Fine Fissured High NRC (#1820)
3. Celotex Fine Fissured High NRC (#PFF-454)

D. Ceiling Tile Units AT-2 Typical: 24″ x 24″ x 1/2″, vinyl-faced MR, gypsum wallboard ceiling panels. Grid tees shall be aluminum faced.

2.3 CEILING SUSPENSION SYSTEM: ASTM C 635 and the following requirements:

A. Type: Exposed grid, direct hung, concealed, upward access.

B. Finish: Surfaces exposed to view shall be of uniform width (15/16″) and shall be aluminum or steel with factory applied white baked enamel finish. Zinc coated steel shall receive a phosphate treatment prior to painting.

C. Accessories: Provide manufacturer's standard wall or edge moldings.

D. Accessibility: Provide access panels in locations indicated on the drawings. Access panels shall match adjacent acoustical units in appearance. Equip the panels with suitable framing or fastening devices designed to permit removal or replacement without damage to the units or supporting system. Access panels shall not be less than 24″ x 24″, no more than 24″ x 48″ in size.

2.4 HANGERS

A. Wires: ASTM A 641-81, soft annealed, light zinc coated carbon steel wire.

B. Straps: 1" by 1/16" galvanized steel conforming to ASTM A 526 with a light commercial zinc coating or ASTM A 366 with an electrodeposited zinc coating conforming to ASTM B 633, Type RS.

C. Rods: 3/16" diameter threaded steel rods, zinc or cadium coated.

2.5 ADHESIVE: ASTM D 1779

A. Acoustical Sealant: Synthetic rubber or polymeric-based materials complying with ASTM C 834.

B. Extra Stock: Furnish one spare acoustical unit for each 100 units installed.

PART 3 – EXECUTION

3.1 DELIVERY AND STORAGE

A. Deliver acoustical units in the manufacturer's original unopened containers with brand name and type clearly marked. Handle materials carefully and store them under cover in dry, watertight enclosures. Immediately before installation, store acoustical units for not less than 24 hours at the same temperature and relative humidity as the space where they will be installed.

3.2 ENVIRONMENTAL CONDITIONS

A. Maintain a uniform temperature of not less than 60°F or more than 85°F and a relative humidity of not more than 70% continuously before, during and after installation of acoustical units. Interior finish work such as plastering, concrete and terrazzo work shall be completed and dry before installation. Mechanical, electrical and other work above the ceiling line shall be completed and approved prior to the start of acoustical ceiling installation.

3.3 CONDITIONS OF SURFACES

A. Examine surfaces to receive directly attached acoustical units for unevenness, irregularities, and dampness that would affect quality and execution of the work. Areas to which acoustical units will be cemented shall be free of oils, from residue, or other materials that reduce bonding capabilities of the adhesive.

3.4 INSTALLATION

A. Suspended Ceilings: Install the suspension system in accordance with ASTM C 635 and ASTM C 636 and the following additional requirements:

B. Hangers: Space hangers 4' on center each direction. Hangers shall be laid out for each individual room or space. Install additional hangers where required to support framing around beams, ducts, columns, grilles, light fixtures and other penetrations through the ceiling.

C. Suspension Members: Keep main runners and carrying channels clear of abutting walls and partitions. Provide at least two main runners for each ceiling span.

D. Directly attach hanger wires to overhead steel structure. Where structural members do not occur at required maximum hanger location, provide 1 ½" C.R. steel channels intermediate support between structural members.

E. Provide metal edge molding at perimeter of each room, space or panel and at adjacent vertical surfaces. Edge molding shall be steel with baked enamel finish. Molding shall be installed to level horizontal line, except in those areas indicated on the drawing to have sloped ceilings.

F. Erect acoustical units with joints closed, straight and true to line and with exposed surfaces level and flush at joints. Make corners and arrises full and without worn or broken places. Join units neatly to connecting work.

G. Caulking: Seal all joints around pipes, ducts or electrical outlets penetrating the ceiling. Apply a continuous ribbon of acoustical sealant on vertical web of wall or edge moldings.

3.5 CLEANING

A. Clean soiled or discolored unit surfaces after installation. Touch up scratches, abrasions, voids or other defects in painted surfaces. Remove damaged or improperly installed units and install new materials.

END OF SECTION

SECTION 09666

RESILIENT FLOORING (LUXURY VINYL MODULAR FLOORING)

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Flooring and accessories as shown on the drawings and schedules and as indicated by the requirements of this section.

1.2 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract (including General and Supplementary Conditions and Division1 sections) apply to the work of this section.

1.3 RELATED SECTIONS

A. Division 3 Concrete; not the work of this section.

1.4 QUALITY ASSURANCE AND REGULATORY REQUIREMENTS

A. Select an installer who is competent in the installation of luxury vinyl modular flooring.

B. If required, provide types of flooring and accessories supplied by one manufacturer, including leveling and patching compounds, and adhesives.

C. If required, provide flooring material to meet the following fire test performance criteria as tested by a recognized independent testing laboratory:
1. ASTM F 1700− Class III, Type A and B
2. Static coefficient of friction: ASTM D204 greater than 1
3. Static Load Limit: ASTM F 970 − Passes
4. Fire Performance: Flooring Radiant Panel: ASTM E 648 Class 1
5. Smoke Density: ASTM E662
6. Chemical Resistance: ASTM F 925
7. Wear Layer Thickness: .020″ (0.51 mm)
8. Overall Thickness: ASTM F 386 .125″

1.5 SUBMITTALS

A. Submit shop drawings, seaming plan, coving details, and manufacturer's technical data, installation and maintenance instructions for flooring and accessories.

B. Submit the manufacturer's standard samples showing the required complete line of colors and sizes for flooring and applicable accessories.

1.6 ENVIRONMENTAL CONDITIONS

A. Deliver materials in good condition to the jobsite in the manufacturer's original unopened containers that bear the name and brand of the manufacturer, project identification, and shipping and handling instructions.

B. Store materials in a clean, dry, enclosed space off the ground, and protected from the weather and from extremes of heat and cold. Protect adhesives from freezing. Store flooring, adhesives and accessories in the spaces where they will be installed for at least 24 hours before beginning installation.

C. Maintain a minimum temperature in the spaces to receive the flooring and accessories of 68ºF and a maximum temperature of 85ºF for at least 24 hours before, during, and for not less than 24 hours after installation. Thereafter, maintain a minimum temperature of 68ºF in areas where work is completed. Protect all materials from the direct flow of heat from hot-air registers, radiators, or other heating fixtures and appliances.

D. Install flooring and accessories after the other finishing operations, including painting, have been completed. Close spaces to traffic during the installation of the flooring. Do not install flooring over concrete slabs until they are sufficiently dry to achieve a bond with the adhesive, in accordance with the manufacturer's recommended bond and moisture tests.

PART 2 - PRODUCTS

2.1 LUXURY VINYL TILE MATERIALS

A. Provide Responsive Luxury Vinyl Tile and Luxury Vinyl Plank floor covering, multi-layer vinyl product with rotogravure photo layer between solid vinyl backing and clear vinyl wear layer.
   1. Tile (18 x 18inches).
   2. Plank (6″ wide x 36″ long installed with random length placement).
   3. Similar and equal luxury vinyl flooring products must be presented and approved by the Architect of Record a minimum of 7 days prior to bidding for design and color and must produce maintenance instructions and warranty publishing a damp mop maintenance recommendation.
   4. Products which have not been approved by the Architect of Record will not be accepted.

2.2 WALL BASE MATERIALS

A. Provide 1/8 in. thick, 4 in. high Johnsonite Wall Base with a matte finish, conforming to ASTM F1861, Type CB vinyl, coved (toe) profile.

2.3 ADHESIVES

A. Provide Respond 9000 for general field tile areas. For field tile areas exposed to topical water, heavy rolling loads, and under Hill-Rom hospital beds, provide Respond 9200 two-part epoxy adhesive.

B. Provide Johnsonite 960 Acrylic Cove Base Adhesive for vinyl wall base at porous surface installation and Johnsonite 946 Contact Bond Adhesive for non-porous surface installation.

2.4 ACCESSORIES

A. Provide transition/reducing strips tapered to meet abutting materials.

B. Provide threshold of thickness and width as shown on the drawings or as required.

C. Provide resilient edge strips of width shown on the drawings or as required, of equal gauge to the flooring, homogeneous vinyl or rubber composition, tapered or bullnose edge, with color to match or contrast with the flooring, or as selected by the Architect from standard colors available.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine subfloors prior to installation to determine that surfaces are smooth and free from cracks, holes, ridges, and other defects that might prevent adhesive bond or impair durability or appearance of the flooring material.

B. Inspect subfloors prior to installation to determine that surfaces are free from curing, sealing, parting and hardening compounds; residual adhesives; adhesive removers; and other foreign materials that might prevent adhesive bond. Visually inspect for evidence of moisture, alkaline salts, carbonation, dusting, mold, or mildew.

C. Concrete shall be prepared using ASTM F710, Practice for Preparing Concrete Floors and other Monolithic Floors to receive resilient flooring.

D. Floor covering shall not be installed over expansion joints.

E. Report conditions contrary to contract requirements that would prevent a proper installation. Do not proceed with the installation until unsatisfactory conditions have been corrected.

F. Failure to call attention to defects or imperfections will be construed as acceptance and approval of the subfloor. Installation indicates acceptance of substrates with regard to conditions existing at the time of installation.

3.2 PREPARATION

A. Smooth concrete surfaces, removing rough areas, projections, previous floor adhesives, ridges, and bumps, and filling low spots, control or construction joints, and other defects as recommended by the flooring manufacturer.

B. Remove paint, varnish, oils, release agents, sealers, and waxes. Remove residual adhesives as recommended by the flooring manufacturer. Remove curing and hardening compounds not compatible with the adhesives used, as indicated by a bond test or by the compound manufacturer's recommendations for flooring. Avoid organic solvents.

C. It is essential that moisture tests be taken on all concrete floors regardless of age and grade level. One test should be conducted for every 1,000 sf in accordance with ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs using *in situ* probes with a maximum relative humidity of 75% . If the test results exceed the limitations, the installation must not proceed until the problem has been corrected.

D. Conduct an adhesive bond test.

E. Vacuum or broom-clean surfaces to be covered immediately before the application of flooring. Make subfloor free from dust, dirt, grease, and all foreign materials.

3.3 INSTALLATION OF LUXURY VINYL FLOORING

A. Review tile labels to be sure all tiles are of the same batch/shade.

B. Install flooring wall to wall before the installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings as shown on the drawings.

C. If required, install flooring on pan-type floor access covers. Maintain continuity of color and pattern within pieces of flooring installed on these covers. Adhere flooring to the subfloor around covers and to covers.

D. Scribe, cut, and fit or flash cove to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets.

E. Adhere flooring to the subfloor without cracks, voids, raising and puckering at the seams. Roll with a 100-150 pound (45.36 kilogram) roller in the field areas. Hand-roll flooring at the perimeter and the seams to assure adhesion. Refer to specific rolling instructions of the flooring manufacturer.

F. Install flooring with adhesives, tools, and procedures in strict accordance with the manufacturer's written instructions. Observe the recommended adhesive trowel notching, open times, and working times. Provide required divider strips (1″ wide) under doors where floor material or direction changes.

3.4 INSTALLATION OF ACCESSORIES

A. Apply top set wall base to walls, columns, casework, and other permanent fixtures in areas where top-set base is required. Install base in lengths as long as practical, with inside corners fabricated from base materials that are mitered or coped. Tightly bond base to vertical substrate with continuous contact at horizontal and vertical surfaces.

B. Fill voids with plastic filler along the top edge of the resilient wall base or integral cove cap on masonry surfaces or other similar irregular substrates.

C. Place resilient edge strips tightly butted to flooring, and secure with adhesive recommended by the edge strip manufacturer. Install edge strips at edges of flooring that would otherwise be exposed.

Install edge strips centered under doors as required where one type of flooring is adjacent to another flooring type.

D. Caulk space between LVT flooring and door frames. Caulk shall match flooring color.

3.5 CLEANING ANDPROTECTION

A. Light foot traffic may be allowed 24 hours after installation.

B. No heavy traffic, rolling loads, or furniture placement for 72 hours after installation.

C. Allow at least 72 hours for adhesive to achieve bond before commencing recommended maintenance routine.

D. Do not use acetone or similar materials to clean floors.

E. Refer to Responsive Vinyl Flooring's Maintenance Instructions for complete maintenance details.

END OF SECTION

SECTION 09901

PAINTING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This section includes surface preparation and the application of paint systems on interior surfaces as follows:
   1. Complete prep and painting of surfaces is required whether indicated on the drawings, scheduled, or specified herein. The intent is to provide coatings on all new or newly revealed surfaces exposed to view, except factory-finished or integrally colored surfaces.
   2. Complete painting is required behind all equipment or fixtures, whether exposed to view or not, as a function of providing a portion of the weather-resistant coating. This may necessitate removal and reinstallation of the equipment or fixtures as required to provide weather resistant coating. The Contractor, in his capacity as coordinator of the work, shall determine who shall remove and reinstall the equipment, at no additional cost to the Owner.
   3. Specific items intended to be left unfinished or specifically noted to have another finish applied are to be protected from these finishing operations and to be under other sections of these specifications.
   4. Examine specifications and drawings for various other trade requirements for items that require painting. Become familiar with their provisions regarding painting. Paint or finish surfaces that are left unfinished by requirements of other specification sections including piping, conduit, etc., in exposed-to-view conditions.
   5. All switch plates, cover plates, device cover plates, fixtures, grilles, or any other type of similar materials applied to the wall shall be removed prior to painting. The devices shall be reinstalled after the coating processes have been completed. Electrical and Mechanical fixtures shall, at a minimum, have prime and one finish coat applied to mounting surfaces prior to installation of fixtures.
   6. All hardware that is applied or attached to any doors or other materials or equipment that are to be painted shall have all hardware removed prior to painting or coating processes, unless those hardware pieces are specifically noted to be painted. If the Contractor is unsure of the requirements for painting or coatings to be applied, he shall request, in writing, the Owner's or Architect's requirements. Failure to adhere to these procedures will result in the Contractor removing and cleaning or replacing all items of field painted hardware.
   7. Furnish all tools, ladders, scaffolding, and any other equipment necessary for completion of the work.

B. This section <u>does not</u> include:
   1. Painting specified under other sections.
   2. Painting of metal surfaces that are pre-finished and are intended to remain as factory finished and all plated metals intended to remain unfinished, except where specifically required herein or as noted on the drawings.
   3. Painting of any moving parts of operating units, hinges, valves, operators, linkages, sensing devices, motor shafts, etc., unless specifically noted otherwise.
   4. Painting over labels or equipment identification, performance rating, name or nomenclature plates.
   5. Painting of any pre-finished wall plates or outlet covers unless specifically noted to match interior or exterior color schemes.

C. This section includes surface preparation and the application of paint systems on the following substrates:
   1. Concrete
   2. Concrete masonry units (CMU)
   3. Steel (including all exposed-to-view steel framing)
   4. Galvanized metal (including all exposed-to-view metal deck and steel roof framing)
   5. Wood
   6. Gypsum Board
   7. Cement Plaster

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.
B. Samples for Initial Selection: For each type of product indicated.
C. Samples for Verification: For each type of paint system and each color and gloss of topcoat indicated.
   1. Submit samples on rigid backing, 8 inches (200 mm) square.
   2. Step coats on samples 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: For each product indicated, include the following:
   1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
   2. Printout of current Master Painters Institute "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.

1.4 QUALITY ASSURANCE

A. MPI Standards:
   1. Products: Complying with MPUI standards indicated and listed in "MPI Approved Products List."
   2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.

B. Mockups: Apply benchmark samples 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. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
      a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft.
      b. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
      c. Other Items: Architect will designate items or areas required.
   2. Apply each benchmark samples after permanent lighting and other environmental services have been activated.
   3. Final approval of color selection will be based on benchmark samples.
      a. If preliminary color selections are not approved, apply up to four (4) additional benchmark samples of additional colors selected by Architect at no added cost to Owner.

C. Qualifications of Workmen:
   1. Provide at least one person who shall be present at all times during the execution of the work of this Section, who shall be thoroughly familiar with the specified requirements and the materials and methods needed for their execution, and who shall direct all work performed under them.
   2. Provide adequate numbers of workmen skilled in the necessary crafts and informed of the methods and materials to be used.
   3. In acceptance or rejection of the work of this Section, the Architect will make no exception for the lack of skill on the part of the workmen.

1.5 DELIVERY, STORAGE AND HANDLING

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

1.6 PROJECT CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50ºF and 95ºF.

B. Do not apply paints in snow, rain, fog or mist; when relative humidity exceeds 85%; at temperatures less than 5ºF (3ºC) above dew point; or to damp or wet surfaces.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that are from same production run (bath mix) as materials applied and that are packaged for storage and identified with labels describing contents.
   1. Quantity: Furnish an additional 5%, but not less than 1 gallon of each material and color applied.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
   1. Sherwinn-Williams Company (basis of design and paint systems)
   2. Benjamin Moore & Co.
   3. ICI Paints
   4. Porter Paints
   5. PPG Architectural Finishes
   6. Ospho by The Skybryte Co.

2.2 PAINT, GENERAL

A. Material Compatibility:
   1. Provide materials for use within each paint system that are 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, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors: As selected by Architect from manufacturer's full range.

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 work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   1. Concrete: 12%
   2. Masonry (Clay and CMU): 12%
   3. Wood: 15%
   4. Plaster: 12%
   5. Gypsum Board: 12%

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
   1. Beginning coating application constitutes Contractor's acceptance of substrates 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 plates, machined surfaces, and similar items already in place that 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.
   2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

C. Clean the substrates of substances that could impair the bond of paints, including dirt, oil, grease, and incompatible paints and encapsulates.
   1. Remove incompatible primers and re-prime substrate with compatible primers 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. Concrete Masonry Substrates: Remove 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.

F. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.

G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

H. Aluminum Substrates: Remove surface oxidation.

I. Wood Substrates:
   1. Scrape and clean knots and apply coat of knot sealer before applying primer.
   2. Sand surfaces that will be exposed to view and dust off.
   3. Prime edges, ends, faces, undersides, and backsides of wood.
   4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

J. Gypsum Board Substrates: Do not begin paint application until finishing compound is dry and sanded smooth.

K. Plaster Substrates: Do not begin paint application until plaster is fully cured and dry.

L. Synthetic Wood and Fiber Reinforced Plastic Substrates:
   1. Prepare surfaces and paint materials as recommended by the molding manufacturer. If moldings get dirty during installation, clean with a light detergent and warm water. For stubborn stains use denatured alcohol or one part bleach to five parts water.
   2. Correct dents and gouges before applying primer.
   3. Prime edges, ends, faces, undersides and backsides.
   4. After priming, fill holes and imperfections in the finish surfaces with filler. Sand smooth when dried.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions.
   1. Use applicators and techniques suited for paint and substrate indicated.
   2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tine 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 tracks, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Mechanical and Electrical Work: See mechanical and electrical specification sections for specific and additional painting and coating requirements. Paint items exposed in equipment rooms and occupied spaces including, but not limited to, the following:
   1. Mechanical Work:
      a. Un-insulated metal piping

b. Un-insulated plastic piping
c. Pipe hangers and supports
d. Tanks that do not have factory-applied final finishes
e. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets
f. Duct, equipment and pipe insulation having cotton or canvas insulation covering or other paintable jacket material
g. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

2. Electrical Work
a. Switchgear that does not have factory-applied final finishes
b. Panel boards that do not have factory-applied final finishes
c. Electrical equipment that is indicated to have factory-primed finish for field painting
d. Plywood terminal boards, where required, shall be finished with two coats of fire resistant paint. Color as selected by Architect.

3.4 FIELD QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:
1. Testing agency will perform tests for compliance of paint materials with product requirements.
2. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove non-complying paint materials from the Project site, pay for testing and re-paint 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.

3.5 FIELD QUALITY CONTROL

A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure at any time and as often as Owner deems necessary during the period when paints are being applied:

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping or other methods. Do not scratch or damage adjacent surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing 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. The systems listed below shall be used in all areas where applicable. Not all systems will be used.

B. Concrete Substrates, Non-traffic Surfaces:
1. Alkyd Over Sealer System: MPI INT 3.1A
a. Prime Coat: Interior alkyd primer/sealer (SWB28W400)
b. Intermediate Coat: Interior alkyd matching topcoat (SWB34W51)
c. Topcoat: Interior alkyd (semi-gloss) (SWB34W51)

C. CMU Substrates:
1. Alkyd System: MPI INT 4.2A
a. Prime Coat: Interior/exterior alkyd block filler (SW B51W20)
b. Intermediate Coat: Interior alkyd matching topcoat (SWB34W51)
c. Topcoat: Interior alkyd (semi-gloss) (SWB34W51)

D. Steel Substrates
1. Alkyd System: MPI INT 5.1E (for exposed to view metal deck and steel roof framing)
a. Prime Coat: Alkyd anticorrosive metal primer
b. Intermediate Coat: Interior alkyd matching topcoat
c. Topcoat: Interior alkyd (semi-gloss)

E. Galvanized-Metal Substrates
   1. Alkyd System: MPI INT 5.1E (for exposed to view metal deck and steel roof/floor structural framing)
      a. Prime Coat: Alkyd anti-corrosive metal primer
      b. Intermediate Coat: Interior alkyd matching topcoat
      c. Topcoat: Interior alkyd (semi-gloss)
   2. Water-Based Dry-Fall System: MPI INT 5.1C
      a. Prime Coat: Alkyd anti-corrosive metal primer (SWB50Z series)
      b. Topcoat: Waterborne dry fall (SWB42W1)
   3. Restoration of light gauge metal framing shall include the following:
      a. Remove loose rust from light gauge metal framing members and coat metal areas with "Ospho" rust-inhibiting coating. Let dry for 24 hours. Follow manufacturer's instructions.
      b. Prime coat: Kem Kromick Universal Metal Primer. B50AZ6

E. Dressed Lumber Substrates: Including architectural woodwork or wood doors
   1. Alkyd System: MPI INT 6.3T
      a. Prime Coat: Interior oil-based wood primer
      b. Intermediate Coat: Interior alkyd matching topcoat
      c. Topcoat: Interior alkyd (semi-gloss)

F. Gypsum Board Substrates:
   1. Alkyd System: MPI INT 9.2A
      a. Prime Coat: Interior alkyd primer
      b. Intermediate Coat: Interior alkyd matching topcoat
      c. Topcoat: Interior alkyd (semi-gloss)

END OF SECTION

SECTION 10425

SIGNS

PART 1 – GENERAL

1.1 SCOPE

A. This Section includes the furnishing and installation of specialty signed including room identification, building identification and an exterior sign.
   1. All signs shall be produced by a single manufacturer and shall include mounting hardware.
   2. Provide listing of sign types, lettering and locations to be attached with overall dimension of each sign.
   3. Provide the following signs for each door or pair of doors:
      a. Room occupancy name (See plans for name). Where abbreviations are used on the plans, substitute full name. Verify names with Owner prior to fabrication.
      b. Room number, actual room numbers will be supplied by Owner.
      c. FISH number, list of numbers will be furnished by Owner.
      d. Accessible Toilet Room pictogram (for handicapped toilets, see plans).
      e. Toilet Room pictogram (for non-handicapped toilets, see plans)
   4. Do not deliver signs until ready for their installation. Protect from damage during delivery, handling, storage and installation.
   5. All signage shall meet ADA requirements.

1.2 SUBMITTALS – See Section 01300 – SUBMITTALS

PART 2 – PRODUCTS

2.1 IDENTIFICATION SYSTEM

A. Room Signage, Type S-1
   1. Signs of laminated or colored plastic total thickness 0.125".
      a. Room Occupancy Name and Room Number (FISH) sign shall be attached with two stainless steel screws. In addition, provide adhesive backs to signs as recommended by the manufacturer for permanent mounting.
   2. Size of Sign: 4" high x number of characters plus ¾" each end or as shown on the drawings.
   3. Color: Dark matte background with white letters.
   4. Letters: Letters shall be raised 1/32" and shall be ¾" tall with Grade 2 Braille matching sign message. All letters shall be capitalized.

B. FISH Number, Type S-5
   1. Signs of laminated or colored plastic total thickness 0.125".
      a. FISH number sign shall be attached to doorhead frame with two stainless steel screws. Provide one sign at each door frame.
   2. Size of Sign: 1 ½" high x number of characters plus 3/8" each end, or as shown on drawings.
   3. Color: Dark matte background with white letters.
   4. Numbers shall be engraved into laminate 1/32" and shall be ¾" tall.

C. Pictograms
   1. 6" minimum border printed with smaller international symbol inside with verbal description below and Grade 2 Braille. See Room Occupancy Name signage requirements for material, lettering and color. Secure pictogram with four stainless steel screws and adhesive.

D. Location
   1. Signs are to be placed on the wall adjacent to the latch side of the door.
   2. The dimension from the floor to the centerline of the sign or sign grouping is to be 60".
   3. For double doors, or if no wall space exists, sign is to be placed on the nearest adjacent wall.
   4. Space from door swing or any obstacles is to be a minimum of 3".
   5. For overhead signs, the clearance is to be 6' 8" (80").

2.2 EXTERIOR SIGN: "FIRE ALARM PULL STATION INSIDE" – SIGN S-4

A. Sign 15" x 5" x 0.125", acrylic background, red matte.

B. White letters, size proportional to sign dimensions (minimum height to be 5/8")

C. Unit shall be equal to "Volmar 18T" Series.

D. All interior fire alarm pull stations shall have this signage at the nearest exterior door.

E. Provide Grade 2 Braille pictogram on fire alarm signage matching sign message.

2.3 ACCESSIBLE AND NON-ACCESSIBLE TOILET ROOM PICTOGRAM – SIGN S-3

A. Sign 6" x 6" x.0125" thick acrylic background with universal pictogram (color to be selected by Architect).

B. Mount at 5'0" above finish floor to centerline of sign.

C. Attach with four stainless steel screws and wall adhesive.

D. Provide handicapped pictogram at all accessible Toilet Rooms and all Group Toilets.

E. Provide standard pictogram at all other Toilet Rooms that are not accessible.

2.4 FIRE EXTINGUISHER SIGNAGE: "FIRE EXTINGUISHER INSIDE" – SIGN S-2

A. Sign 6" x 6" x .0125" thick red matte acrylic background with 5/8" raised (1/32") white letters and numbers. Provide Grade 2 Braille at bottom of sign to match sign message.

B. Mount at 5'0" above finish floor to centerline of sign.

C. Attach with four stainless steel screws and wall adhesive.

D. Provide one sign outside of all rooms containing FE's and FEC's.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install sign units and components at locations shown or scheduled, securely mounted with theft-resistant fasteners, unless otherwise indicated. Attach signs to substrates in accordance with manufacturer's instructions.

B. Install level, plumb, and at proper height. Cooperate with other trades for installation of sign units to finish surfaces. Repair or replace damaged units as directed by the Contractor.

END OF SECTION

SECTION 12 32 16

PLASTIC LAMINATE CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes wood cabinets and countertops.

1.3 DEFINITIONS

A. Exposed Surfaces: surfaces visible when drawers and opaque doors are closed; bottoms of casework 43″ or more above finished floor.

B. Semi-exposed Surfaces: Surfaces which become visible when opaque doors are open or drawers are extended; bottoms of casework are more than 30″ and less than 42″ above finished floor.

C. Concealed Surfaces: Surfaces considered concealed when surfaces not visible after installation; bottoms of casework less than 30″ above finished floor; tops of casework over 78″ above finished floor and not visible from an upper level; stretchers, blocking, and components concealed by drawers.

D. Flush Overlay: Door and drawer faces cover cabinet frame with space between faces sufficient for operating clearance.

1.4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
   1. Product data for each hardware type specified.
   2. Shop drawings for casework showing location and size, accessories, materials, finishes, and filler panels. Include fully dimensioned plans, elevations, and anchorage details to countertop and walls.
   3. Shop drawings for countertops showing sizes, shapes, edge and backsplash profiles, cutouts for plumbing fixtures, and methods of joining.
   4. Samples for initial selection purposes in the form of manufacturer's color charts consisting of sections of units showing full range of colors, textures, and patterns available for each type of material indicated or exposed to view.
   5. Product certificates signed by the manufacturer certifying that materials furnished comply with specified requirements.
   6. Maintenance data for plastic laminate casework for inclusion in Maintenance Manual specified in Division 1.

1.5 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain plastic laminate casework from one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver casework as a factory-assembled unit, packaged individually, and shipped each in its own carton.

1.7 PROJECT CONDITIONS

A. Environmental Conditions: Comply with casework manufacturer's recommendations for optimum temperature and humidity conditions during storage and installation. Do not install casework until these conditions have been attained and stabilized.

B. Field Measurements:

1. Verify casework dimensions by field measurements. Verify casework to be installed in compliance with the original design and referenced standards.
2. Verify countertop size and shape prior to fabrication by field measurements taken after base units are installed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Casework:
   a. Smith Products, Palatka
   b. Trimline
   c. LSI
   d. American Desk Company
   e. Gulf Millwork & Fixture Co, Tampa, Florida

2. Plastic Laminate for Countertops:
   a. Domtar Industries, Inc.
   b. Formica Corp.
   c. Laminart
   d. Nevamer Corp.
   e. Sterling Engineered Products, Inc., Pionite
   f. Westinghouse Electric Corp., Micarta Div.
   g. Wilson Plastics Co., Dart Industries, Inc.

2.2 MATERIALS, GENERAL

A. Sizes, dimensions, and thicknesses given are minimum dimensions.

B. High Density Particleboard: ANSI A208.1, mat-formed particleboard, Grade 1-M-2 with minimum density of 45 pcf, internal bond of 60 psi, and minimum screw-holding capacity of 225 lbs. on faces and 200 lbs. on edges.

C. Plywood: All cabinets in wet areas shall be constructed of plywood veneer, in material of millwork shop's option. No particleboard will be accepted in wet areas.

D. Plastic Laminate: NEMA LD 3; in thicknesses indicated and colors and patterns, and finishes as selected from approved samples.

E. Thermoset Decorative Finish: ALA-1985; Melamine or polyester.

F. Exposed surfaces shall be laminated with nominal .028" decorative high pressure plastic laminate, selected by Architect from manufacturer's standard colors and patterns (40 solid colors, 5 wood grain patterns minimum). Interior of open cabinets in public areas (classrooms, offices, etc.) shall be considered exposed.

G. Non-exposed surfaces shall be melamine or polyester. Exposed particle board or plywood is unacceptable.

H. Door and drawer fronts shall be edge banded in 3 mm thick PVC in manufacturer's standard colors (minimum of 4 solid colors). Edges shall be eased and corners shall be radiused on door and drawer fronts. Exposed cabinet edges shall be banded with 1 mm PVC edge banding in manufacturer's standard colors (minimum 4 solid colors) or in matching nominal .028" high pressure laminate. Shelves shall be banded on the lead edge with 1 mm PVC edge banding in color to match manufacturer's standard interior color.

I. Adjustable Shelves shall rest on metal shelf support pins equal to KV 346, inserted into holes row-bored a minimum of 32mm on center. KV 256 clips inserted in KV 255 shelf standards routed flush with cabinet interior surface shall be an acceptable alternate.

J. Locks shall be 5 disk tumbler equal to National Lock Remove-A-Core series. Locks may be keyed alike or keyed different with a minimum of 200 key changes. Two master keys shall be furnished to permit opening of any lock. Furnish locks as indicated on drawings.

K. Hinges shall be concealed hinges with soft close. Hinge shall permit door to swing 270° without binding. Doors less than 48" in height shall have two hinges over 48" in height shall have three hinges. Hinges to be "satin chrome".

L. Pulls: All pulls shall be round tube type at least 4" in length w/min. 1″ clearance for finger pulls shall be stainless steel.

2.3 WOOD CASEWORK FABRICATION

A. Cabinets shall be constructed utilizing at a minimum 45# medium density industrial grade particle board and AB grade, exterior glue fir plywood. Sound grade solid hardwood may be substituted for particle board for drawer box components, hanging rails, cabinet rails between drawers, and door frames for glazed doors. Fiberboard shall not be acceptable for any cabinet or drawer components. Materials and minimum thicknesses of cabinet components shall be as follows:

Sink Cabinet Tops, Bottom, Ends	3/4" Fir Plywood
Sink Cabinet Backs	1/4" Fir Plywood
Sink Cabinet Doors, Fronts	3/4" Fir Plywood
Std. Cabinet Tops	3/4" Fir Plywood
Std. Cabinet, Bottoms, Ends	3/4" 45# Particle Board
Std. Cabinet Doors, Drawer Fronts	3/4" 45# Particle Board
Std. Cabinet Backs	1/2" 45# Particle Board
Std. Cabinet Finished Backs	3/4" Fir Plywood
Cabinet Shelves to 36" Width	3/4" 45# Particle Board
Cabinet Shelves over 36" Width	1" 45# Particle Board
Drawer Box Sides, Back, Front	1/2" 45# Particle Board
Drawer Bottom	1/2" 45# Particle Board
Aprons, Fillers, Cabinet Rails	
Hanging Rails, Miscellaneous	3/4" 45# Particle Board

2.4 WOOD CASEWORK, FINISHES

A. Factory Finishing: To the greatest extent possible, finish casework at factory. Defer only final touch-up until after installation.

B. Finish: Provide selections made by Architect from full range of standard finishes available.

2.5 PLASTIC LAMINATE CASEWORK

A. Face style: Flush overlay.

B. Construction: Case body members shall be joined as approved by AWI 1600B-S-4.

C. A full depth sub-top shall be utilized for all base cabinets except sink cabinets. Sink cabinets shall utilize a 3/4"x7" (min.) panel in lieu of a top front cross rail.

D. Cabinet backs shall be nailed and glued into a dado in cabinet ends. Backs nailed or stapled on flush or in a rabbet are unacceptable.

E. Cabinets shall rest on a continuous plinth base of 1x4 pressure treated pine or 3/4" exterior glue fir plywood. Base shall consist of a front and back rail connected by cross rails spaced 24" o.c. Plinth base shall be leveled by means of adjusting bolts, hardwood shims or other mechanical device spaced 24" o.c. Softwood shims, cedar shakes, or other such mechanisms that compress or shift under load are unacceptable as leveling devices.

2.6 COUNTERTOPS, PLASTIC LAMINATE

A. Countertops shall be constructed of 3/5" 45# density particle board. A 3/4" x 3"45# density particle board buildup strip shall be applied at the back, front and end edges of the top to provide a 1-1/2" thick finished edge. Edges of top shall be laminated prior to surface of tops with nominal .050" high pressure plastic laminate. Underside of tops shall be laminated with a nominal .020" backing sheet at locations where underside is visible (knee spaces, etc.) and at sink locations. At sink locations, 3/4" 45# density particle board.

B. Backsplashes shall be 3/4"x4" typical, particle board at dry locations, plywood at wet locations. Top edge shall be laminated prior to face with nominal .050" high pressure plastic laminate. Backsplashes shall be field applied using an adhesive caulking material equal to Phenoseal.

C. The Architect will select laminate from casework laminate manufacturer in the event that countertop and casework laminates are required to match.

D. Configuration: Provide countertops with the following front style, cove, and backsplash style.
1. Front Style: Rolled
2. Backsplash and Endsplash Style: Curved or waterfall shape with scribe.
3. Accessories: Provide (60) tray drawers of glass reinforced fiberglass with rim return & label holder. 17" x 11 1/2" x 3 3/4" deep.

PART 3 -EXECUTION

3.1 INSTALLATION

A. Install casework with no variations in flushness of adjoining surfaces, using concealed shims. Where casework abuts other finished work, scribe, and cut for accurate fit. Provide filler strips, scribe strips, and moldings in finish to match casework face.

B. Install casework without distortion so that doors and drawers fit openings properly and are aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete the installation of hardware and accessories as indicated.

C. Install casework and countertop level and plumb to a tolerance of 1/8″ in 8′.

D. Fasten unit of casework to adjacent unit and into structural support members of wall construction with #10 sheet metal or wood screws with washer head or washer.

E. Fasten plastic laminate countertops by screwing through corner blocks in base units into underside of countertop. Spline and glue joints in countertops and provide concealed mechanical clamping of joint.

F. Fasten filled-polymer countertops by screwing through corner blocks in base units into underside of countertop. Align adjacent surfaces. Form seams 1/8″ wide and adhere with manufacturer's recommended joint adhesive in color to match countertop.

3.2 ADJUSTING AND CLEANING

A. Adjust hardware to center doors and drawers in openings and lubricate to provide unencumbered operation. Doors shall swing freely, catches shall hold securely, and all doors shall be aligned both vertically and horizontally with each other. Drawers shall open and close smoothly, without binding and without excess side play.

B. Keys shall be labeled appropriately and turned over to the Owner.

C. Clean casework on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

D. Advise Owner of procedures for protection of installed materials from damage by work of other trades.

END OF SECTION

SECTION 15 05 00

BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division l Specification sections, apply to work of this section, in addition to the following:

1.2 SCOPE

A. Materials listed on the drawings are general mechanical materials to be used unless specifically noted otherwise in the particular section or on the drawings.

1.3 STANDARDS

A. Quality and weight of materials shall comply with requirements and specifications of the appropriate standards of the American Society of Testing and Materials.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT, GENERAL

A. All materials and equipment shall be new and without blemish or defects.

B. Equipment and materials shall be products which will meet with the acceptance of the agency inspecting the work. Where acceptance is contingent upon having the products examined, tested and certified by Underwriters Laboratory or other recognized testing laboratory, the product shall be so examined, tested and certified.

C. Where no specific indication as to the type or quality of material or equipment is indicated, a standard item or system shall be furnished with all options, features and capabilities to meet the project requirements.

D. Performance and Capacity:
   1. Performance as delineated in schedules and in the specifications shall be interpreted as minimum performance. In some cases equipment may be sized to allow for future requirements or for other reasons which may not be stated on the Drawings or in the Specifications; provide equipment and systems with the capacities, capabilities and features indicated to provide the maximum or minimum (as appropriate) conditions.

E. Operating conditions and capacities must be as follows:
   1. No overloading.
   2. No operation at conditions outside of maximum and minimum limits recommended by the manufacturer and accepted by the Architect/Engineer.
   3. Compatible with all systems.

F. Unless otherwise specified, all equipment and materials furnished must be as follows:
   1. Recommended by the manufacturer for the application.
   2. Installed in accordance with the manufacturer's recommendations for the application except where specifications and drawings clearly indicate otherwise.

2.2 SLEEVES

A. General: Lay out work and set sleeves in new construction so that minimum cutting, drilling and patching is required. Seal all sleeves not used during construction period with grout. Submit proposed method to show proof of UL approval.

PART 3 - EXECUTION

3.1 EQUIPMENT ACCESS

A. Access Doors and Panels:
   1. Locations: Provide access unit at the following locations.

a. Where additionally specified in other sections of this Division-1S and where specifically indicated on the drawings.
b. Where not specifically indicated on the drawings but where the work to be provided will require accessibility for purposes as described or as recommended by the manufacturer of the concealed item.
c. At all locations where concealed equipment, fixtures, devices and similar items require accessibility for service, inspection, maintenance, repair, replacement and where such concealed item would not otherwise be accessible for such functions without the provision of an appropriately sized access unit.

3.2 HANGERS AND INSERTS

A. Provide and properly locate hangers to adequately support piping and equipment. Arrange hangers to permit expansion and contraction.

3.3 ANCHORS

A. Install a suitable anchor on piping to prevent movement from expansion and contraction by welding or clamping securely to pipe at fitting or coupling. Approval of the Architect/Engineer of method of anchorage must be obtained before installation of work. Properly anchor piping to remove strains on equipment which would be caused by expansion and contraction. Adequately insulate anchors on piping, with operating fluid temperatures below 75°F, to prevent moisture condensation problems.

3.4 EXPANSION AND CONTRACTION PROVISIONS

A. Piping is designed with offsets and loops to provide for expansion and contraction. At such points, piping shall be cold sprung to equalize expansion when at operating temperatures. Install piping to maintain grade at all operating temperatures.

3.5 FLASHING

A. Flashing shall be done as work of other divisions.

3.6 SLEEVES FOR PIPING

A. Provide sleeves for all piping where pipe penetrations in walls, floors or other building structure are required. Sleeves in poured concrete shall have watertight seams and joints.

B. Extend sleeves through walls, partitions and ceilings to finished surface. Extend sleeves through finished floors to not less than 1/4 inch above finished surface. Extend sleeves in concrete floors in chases to not less than 1 inch above floor top surface. Sleeves installed above finished ceilings as part of fire/smoke rated wall assemblies shall extend not less than 1" beyond both wall faces.

3.7 SLEEVES FOR DUCTWORK

A. Ductwork sleeves shall be provided in accord with current SMACNA recommendations or as otherwise detailed on Drawings. Refer also section describing duct systems.

3.8 ESCUTCHEONS

A. Provide chrome plated brass escutcheons (for ¼ or 1” projecting sleeves as required) at each point where an un-insulated pipe passes thru a finished surface.

3.9 SEALANT

A. Sealant shall be installed in strict compliance with the manufacturer’s installation instructions.

END OF SECTION

SECTION 16 01 00

BASIC ELECTRICAL REQUIREMENTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

B. Coordination of work between mechanical and electrical trades.

1.2 SUMMARY

A. This Section specifies the basic requirements for electrical installations and includes requirements common to all electrical work.

1.3 CODES AND STANDARDS

A. Install all work in accordance with the applicable requirements of the latest edition of the following:
1. National Electric Code (NEC)
2. Local, State, County and City Codes
3. National Fire Protection Association (NFPA)
4. American National Standards Institute (ANSI)
5. NEMA Standards

B. It is the intent of the Contract Documents to comply with the applicable codes, ordinances, regulations, and standards. Where discrepancies occur, notify the Architect in writing, and ask for interpretation. Correct any installation that fails to comply with the applicable codes and standards at no additional cost to the Owner.

C. All materials shall be new and free of defects, and shall be UL listed, bear the UL label or be labeled or listed with an approved, nationally recognized Electrical Testing Agency. Where no labeling or listing service is available for certain types of equipment, test data shall be submitted to prove to the Engineer that the equipment meets or exceeds available standards.

1.4 PERMITS AND INSPECTIONS

A. Obtain and make all payments for permits and inspections required. At the completion of the project and before final acceptance of the electrical work, provide evidence of final inspection and approval by the authorities having jurisdiction.

1.5 QUALITY ASSURANCE

A. Manufacturers: Firms regularly engaged in manufacture of electrical products specified whose products have been in satisfactory use in similar service for not less than 5 years.

B. Installer's Qualifications: Firm with at least 5 years of successful installation experience on projects with electrical work similar to that required for this project.

1.6 IDENTIFICATION

A. The following items shall be equipped with nameplates: All motors, motor starters, motor-control centers, pushbutton stations, control panels, time switches, disconnect switches, panelboards, circuit breakers, contactors.

B. Nameplates shall adequately describe the function of the particular equipment involved. Nameplates for panelboards and switchboards shall include the panel designation, branch (normal or emergency), voltage and phase of supply. For example, "Panel A, Emergency Branch, 480Y/277Vm 3-phase, 4-wire."

C. All junction box covers shall be hand marked with a 1/8" wide permanent black marking pen, indicating panel and circuit numbers contained, or system contained, telephone, etc.

1.7 ROUGH-IN

A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected, and architectural room elevations.

1.8 ELECTRICAL INSTALLATIONS

A. Coordinate electrical equipment and materials installation with other building components.

B. Verify all dimensions by field measurements.

C. Arrange for chases, slots, and openings in other building components to allow for electrical installations.

D. Coordinate connection of electrical systems with local utility services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connections for each service.

1.9 CUTTING AND PATCHING

A. This Article specifies the cutting and patching of electrical equipment, components, and materials to include removal and legal disposal of selected materials, components, and equipment.

B. Do not endanger or damage installed Work through procedures and processes of cutting and patching.

C. Arrange for repairs required to restore other work, because of damage caused as a result of electrical installations.

D. No additional compensation will be authorized for cutting and patching Work that is necessitated by ill-timed, defective, or non-conforming installations.

E. Perform cutting, fitting, and patching of electrical equipment and materials required to:
1. Uncover Work to provide for installation of ill-timed work;
2. Remove and replace defective Work;
3. Remove and replace Work not conforming to requirements of the Contract Documents;
4. Remove samples of installed Work as specified for testing;
5. Upon written instructions from the Architect/Engineer, uncover and restore Work to provide for Architect/Engineer observation of concealed Work.
6. Install electrical work in existing facilities.

1.10 ELECTRICAL SUBMITTALS

A. Refer to the Conditions of the Contract (General and Supplementary) and Division 1 Section: Shop Drawings, Product Data, and Samples for submittal definitions, requirements, and procedures.

B. Submittal of shop drawings, product data and samples will be accepted only when submitted by the Contractor. Data submitted from Subcontractors and material suppliers directly to the Architect/Engineer will not be processed.

1.11 PRODUCT OPTIONS AND SUBSTITUTIONS

A. Refer to the Instructions to Bidders and Division 1 for requirements in selecting products and requesting substitutions. Where a listing of acceptable manufacturers has been given, use one of those manufacturers given only.

1.12 PRODUCT LISTING

A. Prepare listing of major electrical equipment and materials for the project.

B. Provide all information requested.

C. Submit this listing as a part of the submittal requirement specified in Division 1.

D. When two or more items of the same material or equipment are required they shall be of the same manufacturer, i.e., panelboards, motor starters, transformers, etc. Product manufacturer uniformity

does not apply to raw materials, bulk materials, wire, conduit, fittings, sheet metal, steel bar stock, welding rods, solder, fasteners, motors for dissimilar equipment units, and similar items used in Work, except as otherwise indicated.

E. Provide products which are compatible within systems and other items.

1.13 DELIVERY, STORAGE AND HANDLING

A. Deliver products to project properly identified with names, model numbers, types, grades, compliance labels and similar information needed for distinct identifications; adequately packaged and protected to prevent damage during shipment, storage, and handling.

B. Store equipment and materials at the site, unless off-site storage is authorized in writing. Protect stored equipment and materials from damage.

C. Coordinate deliveries of electrical materials and equipment to minimize construction site congestion. Limit each shipment of materials and equipment to the items and quantities needed for the smooth efficient flow of installations.

1.14 RECORD DOCUMENTS

A. Refer to the Division 1 Section: Project Closeout or Project Record Documents for requirements. The following paragraphs supplement the requirements of Division 1.

B. Mark Drawings to indicate revisions to conduit size and location both exterior and interior; actual size equipment locations, distribution and branch electrical circuitry; fuse and circuit breaker size and arrangements; support ad hanger details.

C. Mark Specifications to indicate approved substitutions; Change Orders; actual equipment and materials used.

1.15 OPERATION AND MAINTENANCE DATA

A. Refer to the Division 1 Section Project Closeout for procedures and requirements for preparation and submittal of maintenance manuals.

1.16 WARRANTIES

A. Refer to individual equipment specifications for warranty requirements.

B. Compile and assemble the warranties specified in Division 16 into a separate set of vinyl covered, three ring binders, tabulated and indexed for easy reference.

C. Provide complete warranty information for each item to include product or equipment, date of beginning of warranty or bond; and names, addresses and telephone numbers and procedures for filing a claim and obtaining warranty services.

1.17 CLEANING

A. Refer to the Division 1 Section Project Closeout or Final Cleaning for general requirements for final cleaning.

B. Clean all light fixtures, lamps and lenses prior to final acceptance. Replace all inoperative lamps.

1.18 TEMPORARY POWER

A. Provide and pay for all temporary electrical service as required for construction.

B. Provide all temporary lighting and power distribution as required for construction. All temporary electrical work shall be in accordance with the NEC.

1.19 EXISTING CONDITIONS

A. Prior to bid, the Contractor shall visit the site and become familiar with existing conditions.

B. Existing piping, conduit and ductwork are located in areas of construction under this Contract. Contractor shall relocate or modify any existing piping, conduit or ductwork. Shutdown of existing systems for relocation shall be coordinated with the Owner.

C. Before any construction begins, it shall be the responsibility of the Contractor to investigate and become familiar with existing conditions.

D. It shall be the Contractor's responsibility to adjust new ductwork, plumbing, piping and conduit systems to accommodate the work in the ceiling height required. Architect shall be notified before construction begins if any ceiling space is not adequate for the work shown.

E. All interior and exterior lighting fixtures and ceiling fans shall be selected by the Owner and purchased by the Contractor under the lighting fixture and ceiling fan allowance.

END OF SECTION