

BID DOCUMENT FOR HENDERSON COUNTY PUBLIC LIBRARY REMODEL

7/16/2018



SECTION 0001

NOTICE TO BIDDERS

There will be a Mandatory Pre-bid Meeting,
10 am July 31st 2nd Floor Conference Room
100 North King Street Government Office Building,
Hendersonville NC

Sealed bids for the construction of the following project will be received by Henderson County. at Tamara Peacock's office at 104 1st Avenue East, Suite A, Hendersonville, NC at 2:00PM on AUGUST 13th, 2018 at which time and place bids will be publicly opened and read aloud.

REMODEL PORTIONS FOR HENDERSON COUNTY PUBLIC LIBRARY
Hendersonville, NC

The project will be bid using a single prime contract.

Single prime bidders must identify on their bid the subcontractors they have selected for the subdivisions or branches of work for:

Framing
Masonry
Electrical
HVAC
Painting

Complete plans, specifications and contract documents will be open for inspection in the office of the Architect, Tamara Peacock, R.A., President, 104 1st Avenue East, Suite A, Hendersonville, NC.

All Bidders are hereby notified that they must have a proper license under the laws of the state of North Carolina.

Bids shall include all taxes and, in particular, North Carolina and local sales and use taxes. Include in each monthly application for payment sales tax info so that Owner can be reimbursed.

Tax info shall be given to Owner as requested.

Payment will be made on the basis of ninety percent (90%) of monthly estimates and final payment made upon completion and acceptance of work. Retainage will be 10%.

No bid may be withdrawn after the scheduled closing time for the receipt of bids for a period of (90) days.

The Owner reserves the right to reject any or all bids, and to waive informalities.

By: David Walen

THE TAMARA PEACOCK COMPANY
Architects 

**FORM OF PROPOSAL
GENERAL CONTRACT WORK**

DATE _____

The undersigned as Bidder, hereby declares that the only person or persons interested in this proposal as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this proposal or in the person, company or parties making a bid or proposal; and that 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 place where the work is to be done; that he has examined the specifications for the work and the contract documents relative, and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees, if this proposal is accepted to contract with Henderson County Public Library, herein called the Owner, in the form of contract specified, to furnish all transportation and contract labor necessary to complete the Remodeling of Henderson County Public Library, Hendersonville, NC, in full and complete accordance with the plans, specifications, and contract documents, to the full and entire satisfaction of Tamara Peacock, R.A., President, The Tamara Peacock Company Architects, and the Owner, with a definite understanding that no money will be allowed for extra work, except as set forth in the General Conditions and Contract Documents for the sum of:

BASE BID _____
_____ (\$ _____)

Breakdown of Costs:

Attach Yours and write herein the title and page count: _____

Add Alternate 1 \$ _____
Testing and Balancing of HVAC after work.

Time of Completion _____ days.

Electrical Sub _____
HVAC Sub _____

The undersigned further states that he is a duly licensed GENERAL CONTRACTOR in the state of North Carolina, and that all fees, licenses, etc., pertinent to the submission of this bid have been paid in full.

Retainage 10%.

This bid may be withdrawn at any time prior to the scheduled time for the opening of bids or any authorized postponement thereof.

The Bidder further declares that he has received the documents titled REMODELING OF HENDERSON COUNTY PUBLIC LIBRARY, Hendersonville, NC; consisting of the specifications and drawings and that he acknowledges receipt of the following addenda:

- #1
- #2
- #3

(The Bidder has included addendum provisions in his Proposal).

Respectfully submitted this ____ day of _____, 2018.

COMPANY

LICENSE# _____

BY: _____
(Signature of Person from
Company making bid)

SEAL

Title: _____
Address: _____

NOTE: If the Bidder is Corporation, write state of incorporation under signature and if a Partnership, give full names of all partners.

HENDERSON CO. PUBLIC LIBRARY REMODEL SCHEDULE

7/11/2018		ENTITY				WEEK ENDING												
TASK	DESCRIPTION	WORK DAYS	TPCarch	HCPL	FINAL BIDDER	COMMENTS	6/19/18	6/26/18	7/6/18	7/13/18	7/20/18	7/27/18	8/3/18	8/10/18	8/17/18	8/24/18	8/31/18	12/20/18
75% CD	Prepare 75% CD set		6/19/18			6-19: COMPLETED: @ HCPL												
HCPL Review 75% CD	Await HCPL Comments	7		6/19-6/26														
Submit for review CD @100%	Respond to comments, 75-100%CD set, specifications to HCPL	14	6/19-7/6	7/6/2018-7/13/2018		Meeting to discuss possible spec. clarifications												
100% CD/specs	CD set, Specs, and scheduleTo HCPL for approval to Permit/Bid	14	7/6/18	7/6-7/13														
HCPL Bid Set/Permit set to County Review	Bid set to HCPL for release, Permit Set to County	7	7/13/18															
Bid Set 100% release/Permit coordination	30 Days to receive bids, RFI schedule, Mandatory Pre-Bid Mtg	30	7/16/18	8/13/18		RFI'S due by end of day 7/27					7/16 BID START	RFI'S DUE 7/27 5PM	8/3 ADDENDA RFI FASE	8/13 BID DEADLINE 2PM				
Respond to Permit note	Submitted to County, respond to comments	7&7	7/27-8/3 addenda		RFIs due by 8/3	Respond to any questions w addenda					7/16 PERMIT SET @	7/23 County Response	Addenda @ County					
Select Contractor	Begin Construction	120	TBD			Mandatory Pre Bid meeting, 10 am July 31st 2nd Floor Conference Room 100 King Street Courthouse,							7/31 10:am Mandatory Pre Bid Mtg			8/20/2018 Tentative Start		
CA	Under Construction	120	TBD	TBD														
CA	Construction Completion	TBD	TBD	TBD		RFIS AND PROPOSALS TO BE SENT TO TAMARA PEACOCK ARCHITECTS												Punch list with HCPL

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NOT USED

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NOT USED

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NOT USED

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NOT USED SEE AE101

END OF SECTION

 **AIA** Document A201™ – 2007*General Conditions of the Contract for Construction*

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

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

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

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Written Orders
1.1.1, 2.3, 3.9, 7, 8.2.2, 12.1, 12.2, 13.5.2, 14.3.1,
15.1.2

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 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 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 Correlation and Intent of the Contract Documents

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

§ 1.2.2 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 will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment 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 this 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 material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them 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 material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

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 Information and Services Required of the Owner

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 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.

§ 2.2.3 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.

§ 2.2.4 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.

§ 2.2.5 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.

§ 2.3 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.

§ 2.4 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 written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor 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. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

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 obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

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

information furnished by the Owner pursuant to Section 2.2.3, 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 make 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 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, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and 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 written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required 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 authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

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

§ 3.5 Warranty

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.

§ 3.6 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 21 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 an equitable adjustment 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 in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

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

§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

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

§ 3.9 Superintendent

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

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply 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 Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be 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, 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 maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be 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 the way by which 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 requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing 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 written 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. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly 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, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, 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. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 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, and 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 and patching shall be restored to the condition existing prior to the cutting, fitting and 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 such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's 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 or 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 Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect 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 such 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 the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 Indemnification

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

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

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The 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.

§ 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.

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

§ 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, except as provided in Section 3.3.1.

§ 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 report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) 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 Facilitating Contract Administration

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 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 13.5.2 and 13.5.3, whether or not such 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, material and equipment 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, unless otherwise specifically stated by the Architect, 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 authorize 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 duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or 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 or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply 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 previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate agreement, written where legally required for validity, 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, which the Contractor, by these 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 in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

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

§ 5.4.3 Upon such 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 Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 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 other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the 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, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor 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 report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report 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, except as to defects not then reasonably discoverable.

§ 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 the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

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

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, 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 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 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.

§ 7.3.6 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.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and 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 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .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 related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 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 has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

§ 8.2 Progress and Completion

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

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor’s control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order 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

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.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor’s 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. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material 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 material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having 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 issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part 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 comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. 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. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. 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 material 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 for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

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

§ 9.5.3 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 material or equipment suppliers 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 Architect will reflect such payment on the next Certificate 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 material and equipment 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 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, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment 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 and 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, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 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' written 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 shut-down, 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, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall 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 such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such 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 as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

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

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

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's written 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 and, 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 terms and conditions of 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 and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, 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 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 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; or
- .3 terms of special warranties required by the Contract Documents.

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; 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 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 owners and users of adjacent sites and utilities.

§ 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, except damage or loss 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, written notice of such 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

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. 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 report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written 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 such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, 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 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 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 indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance 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 indemnify 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 Liability Insurance

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

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall

be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 Property Insurance

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

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

§ 11.3.2 Boiler and Machinery Insurance

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

§ 11.3.3 Loss of Use Insurance

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 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, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

§ 11.3.7 Waivers of Subrogation

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, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, 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 covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance 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 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

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

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, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after 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 an 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 written 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 2.4.

§ 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, whether completed or partially completed, of the Owner or separate contractors 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 except that, 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 such 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 such assignment.

§ 13.3 Written Notice

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 Rights and Remedies

§ 13.4.1 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.

§ 13.4.2 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 there under, except as may be specifically agreed in writing.

§ 13.5 Tests and Inspections

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 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 13.5.1, 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 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 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.

§ 13.5.4 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.

§ 13.5.5 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.

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

§ 13.6 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may 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.

§ 13.7 Time Limits on Claims

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time 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 13.7.

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 or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, 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 promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, 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' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written 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 for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .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 above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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' written 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 as described in 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 written 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 Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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, 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.

§ 15.1.2 Notice of Claims

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must 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 Continuing Contract Performance

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. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 Claims for Additional Cost

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

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein 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.

§ 15.1.5.2 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.

§ 15.1.6 Claims for Consequential Damages

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, 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 arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no 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 such 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 an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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

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

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 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 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. 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 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, 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 the Owner and Contractor under this Agreement.

SECTION 01110 (01 11 00)

SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Project Description and Location.
- B. Work by Owner.
- C. Owner Supplied Products.
- D. Contractor Use of Site and Premises.
- E. Future Work.
- F. Work Sequence.
- G. Owner Occupancy.
- H. Utility Sources.

1.2 PROJECT DESCRIPTION AND LOCATION

- A. Work of this Contract comprises general construction of Demolition and removal of interior elements, and along North exterior wall. New partitions, storefront windows, ceiling adjustments, door and interior window installation and the refurbished finishes for these areas.
- B. Project site is located at the following address:
 - 1. Facility Name: Henderson County Public Library.
 - 2. Facility Address: 301 N. Washington street Hendersonville, NC 28792.

1.3 RELATED SECTIONS

- A. Other Divisions and sections relating to this section include, but are not limited to:
 - 1. Bidding Requirements, Contract Forms, and Contract Conditions.
 - 2. Division 1 General Requirements sections.
 - 3. Specification Divisions 2 through 16 including all sections.

1.4 CONTRACT DESCRIPTION

- A. Type of Contract: Project will be constructed under a single prime contract.

1.5 WORK BY OWNER

- A. Cooperate and facilitate Owner's operations: Do not limit access to project site.
- B. Coordinate with Project Consultant concerning scheduling, scope, and duration of Owner's operations.

Items noted NIC (Not in Contract), Furniture, and books & shelves will be supplied by Owner after issuance of substantial completion.

- C. Owner will retain possession of the following items before start of work:
 - 1. [Bricks where removed at North Wall, Doors being relocated, Ceiling Tiles, Ceiling suspension frames, Fire Alarm Horn, Surface Mounted Emergency lights, Fire extinguishers, Ceiling Lights and any bulbs within, HVAC Registers, Transfer Ducts, Transfer Grills. _____].
 - 2. [_____].
 - 3. [_____].
- D. Contractor will remove and Owner will take possession of the following items prior to start of work:
 - 1. [__Books and Bookshelves____].
 - 2. [_____].
 - 3. [_____].

1.6 OWNER SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed Shop Drawings, Product Data, and Samples, to Contractor where products are supplied by owner.
 - 2. Arrange and pay for product delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Review Owner reviewed Shop Drawings, Product Data, and Samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 3. Handle, store, install and finish Products.
 - 4. Designating all delivery dates of Owner's furnished items in the Contractor's Construction Schedule, including receiving, unloading, handling, storing (as may be required), unpacking, assembling and installing (as required by this document) of all Owner's furnished items at the site, including removal from site of all packing materials and debris.
 - 5. Provide necessary support systems and personnel to receive Owner's furniture and equipment, as well as making all necessary mechanical and electrical connections.
 - 6. The Contractor shall be fully responsible for securing and protecting all Owner-furnished items from damage, including damage from exposure to the elements, and to repair and/or replace items damaged as a result of the Contractor's operations.
- C. Products supplied to site and installed by Owner:
 - 1. [__furniture____].
 - 2. [_____].
- D. Items supplied by Owner for installation by Contractor:
 - 1. .
 - 2. [__book drop____].
 - 3. [_____].

1.7 CONTRACTORS USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Use of designated site areas, sidewalks, and adjacent playground areas by public for library functions.

3. Coordinate restriction of public use along North alley with owner.

B. Construction Operations:

1. A designated area on the site shall be provided for the Contractor. This area requires confirmation, approval and acceptance by the Owner and the Project Consultant as to its location, access, perimeter, size and use on the Site.
2. Schedule deliveries so as to minimize space and time requirements for storage of materials and equipment on site.
3. The sequence of delivery and storage of materials shall comply with the limits of the designated and approved on-site area.
4. The Contractor shall be fully responsible for securing and maintaining this area in a clean, organized and workmanlike manner at all times.
5. During the all phases of work on the project, the Contractor shall remove any and all excess materials and debris from the site after the completion of each and every sequence of the work and-or phase of construction.
6. In existing areas of remodeling/renovations remove debris and clean areas of the building and project site containing construction materials, debris, and spills on a daily basis to the satisfaction of the HCPL. Dispose using covered rubbish containers.
7. Upon completion of the Project, but prior to Substantial Completion, the Contractor shall repair, refurbish and return all designated areas to their contract required final conditions.
8. Do not interact with the public, faculty or staff.
9. Do not utilize radios, cellular telephones or paging devices within student occupied spaces.
10. Maintain all exterior areas locations in clean and usable condition. Keep tools, equipment, material, rubbish, and other Work related items out of student areas.

Emergency Building Exits During Construction:

(a) Maintain egress widths to exits.

11. Administer allocation of available space equitably among entities needing both access and space so as to produce the best overall efficiency in performance of the total Work of the Project.

12. At existing facilities, schedule arrival times of workforce and deliveries to minimize conflict with arriving students, faculty and staff.

C. Time Restrictions for Performing Work:

1. Regular Working Hours: Comply with local requirements, ordinances, noise restrictions and coordinate with HCPL for scheduling activities.
2. After Hours and Weekend Work: Coordinate with HCPL for scheduling activities.
3. Schedule hazardous operations for times during which the public and library staff shall not be present.
4. Time Restrictions for Performing [Interior] [Exterior] work: [_____].
5. Utility Outages and shutdown: [_____]

1.8 OWNER OCCUPANCY

- A. The Owner will occupy the site and premises during entire period of construction for the conduct of normal operations.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. Schedule the Work to accommodate this requirement.

END OF SECTION

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Price and Payment Procedures:
 - 1. Alternates.
 - 2. Allowances.
 - 3. Tenant Allowances.

1.2 ALTERNATES

- A. Total Price: Provide total price for each alternate in Bid Form. Include cost of modifications to other work to accommodate alternate. Include related costs such as overhead and profit..
- B. Acceptance of Alternates: Owner will determine which alternates are selected for inclusion in the Contract.
- C. Coordination of Alternates: Modify or adjust affected adjacent work as necessary to integrate work of the alternate into Project. Coordinate alternates with related work to ensure that work affected by each selected alternate is properly accomplished.
- D. List of Alternates:
 - 1. ((Test and Balance Mech Syst..))

1.3 ALLOWANCES

- A. Allowances: Lump sum allowances and unit cost allowances are listed below and as indicated on the Drawings. Amounts shall include all costs including overhead and profit except as specifically noted. Coordinate allowances with requirements for related and adjacent work.
- B. Notification of Owner: Notify Owner of date when final decision on allowance items is required to avoid delays in the work.
- C. Certification of Quantities: Furnish certification that quantities of products purchased are the actual quantities needed with reasonable allowance for cutting or installation losses, tolerances, mixing, waste, and similar margins.
- D. Invoices and Delivery Slips: Submit invoices or delivery slips to indicate actual quantities of materials delivered and costs. Indicate amounts of applicable trade discounts.
 - 1. Section 01290
 - 2. NOT USED
 - 3. NOT USED

1.4 SCHEDULE OF ALLOWANCES

- 1 UNFORESEEN CONDITIONS \$5,000

END OF SECTION

SECTION 01230 (01 23 00)

ALTERNATES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Alternates to the Contract Documents.

1.2 RELATED DOCUMENTS

- A. Document BY HCPL

1.3 DEFINITION

- A. Alternates: Proposals required of bidders reflecting amounts to be subtracted or added to basic proposals in the event of specific changes in the work are ordered. May be either deductive or additive alternates.

1.4 ACCEPTANCE OF ALTERNATES

- A. Alternatives quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternatives will be identified in the Owner-Contractor Agreement.
- B. Coordinate related work and modify surrounding work to integrate the Work of each alternate.

1.5 REQUIREMENTS

- A. Within 7 days following award of the Contract: Prepare and distribute a notification of status of each alternate to each entity involved in the performance of the Work. Indicate which alternates have been accepted, rejected or deferred for consideration at a later date by the Owner.
- B. Coordinate related work and modify surrounding work to integrate the Work of each accepted Alternate.
- C. A "Schedule of Alternates" is included at the end of this Section. Each alternate is defined by abbreviated language, recognizing that Drawings and Specification Sections document in detail the requirements relative to each alternate.
- D. Include in each alternate, miscellaneous devices, accessory objects and similar items incidental to or required by a complete installation whether or not mentioned as part of the Alternate.

1.6 SCHEDULE OF ALTERNATES Alternate No. Description

- A. Alternate No. 1: TESTING AND BALANCING HVAC DUCTS AT SITES EFFECTED

END OF SECTION

SECTION 01290 (01 29 00)

PAYMENT PROCEDURES

PART 1 GENERAL

PART 2 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for payment.

B. RELATED DOCUMENTS

C. Document 0110-General Conditions of the Contract: For Contract Payments, Withholding Payments to Contractor, and Retainage procedures.

D. Section 01330-Submittal Procedures.

E. Section 01770-Closeout Procedures.

F. FORMAT

G. Submit requests for payment on Document 01290a-Application for Payment and Document 00435-Schedule of Values (as a continuation/detail sheet).

H. Contractor's electronic media driven forms, which replicate the Owner's standard forms, may be utilized when pre-approved by the Owner and Project Consultant and when required.

I. For each item, provide a column for listing each of the following:

J. Item Number.

K. Project Manual Section Number.

L. Description of work.

M. Scheduled Values.

N. Work Completed From Previous Applications.

O. Work Completed This Application.

P. Materials Presently Stored To Date.

Q. Total Completed and Stored to Date.

R. Percentage of Completion.

S. Balance to Finish.

T. Retainage.

U. PREPARATION OF APPLICATIONS

V. Present required information in typewritten or computer generated form.

W. Execute certification by original signature of authorized officer.

X. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.

Y. Entries shall match current data of Schedule of Values, Construction-Schedule, and other reports substantiating the Contractor's progress.

Z. List each authorized Change Order as an extension on Document 00435-Schedule of Values, listing Change Order number and dollar amount as for an original item of Work.

AA. Prepare Application for Final Payment as specified in Section 01770-Closeout Procedures.

BB. SUBMITTAL PROCEDURES

CC. Submit 1 copy of each Application for Payment.

DD. Submit an updated Construction Schedule with each Application for Payment.

EE. Payment Period: Submit at intervals stipulated in the Agreement.

FF. Personally deliver or transmit to the Project Consultant by means ensuring receipt within 24 hours or less. Verify receipt.

GG. SUBSTANTIATING DATA

HH. Submit data justifying dollar amounts requested for payment on the Document 01290a-Application for Payment. Include as a minimum:

II. Description of stored materials, storage place, evidence of inspection by the Project Consultant, and verification that the Contractor's purchase order amounts reconcile with the corresponding line items submitted for stored materials on the Application for Payment.

JJ. Copies of Document 01320a-Weekly Progress Reports for the respective payment period with copies of Contractor's Daily Log not yet submitted under provisions of Section 01320.

KK. A complete accounting of all payments made to Subcontractors and the balances owed to the Subcontractors with each Application For Payment submitted by the Contractor.

LL. Dollar Value/Time Graphs: Provide graphs as required by Document 00700-General Conditions, Article 9 and Section 1320, 1.4, C, 2.

MM. Upon request, submit data (or allow inspections) verifying:

NN. Daily regular and continuous updating of Project Record Documents.

OO. Timely payment of subcontractors and suppliers.

PP. Copies of acquired authorizations and licenses from governing authorities for current performance of the Work.

QQ. Listing of subcontractors and principal suppliers and fabricators (including documentation of any applicable licensure and or journeymen workforce supervision).

RR. Evidence of Drug-Free Workplace certification, safety programs, prohibition of illegal aliens, and other workforce requirements of the Contract Documents.

SS. Records concerning the dates of delivery of materials, lengths of time materials have been stored, and the time remaining until such materials are incorporated into the Work.

TT. Other evidence as shall be required, at the discretion of the Owner and Project Consultant, to verify the progress and quality of the Work.

UU. Provide 1 copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

END OF SECTION

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administration of Contract: Provide administrative requirements for the proper coordination and completion of work including the following:
 - 1. Supervisory personnel.
 - 2. Preconstruction conference.
 - 3. Project meetings, minimum of two per month; prepare and distribute minutes.
- B. Work Schedule: Submit progress schedule, updated monthly.
- C. Submittal Schedule: Prepare submittal schedule; coordinate with progress schedule.
- D. Schedule of Values: Submit schedule of values.
- E. Schedule of Tests: Submit schedule of required tests including payment and responsibility.
- F. Emergency Contacts: Submit and post a list of emergency telephone numbers and address for individuals to be contacted in case of emergency.
- G. Record Documents: Submit record drawings and specifications; to be maintained and annotated by Contractor as work progresses.

1.2 SUBMITTALS

- A. Types of Submittals: Provide types of submittals listed in individual sections and number of copies required below.
 - 1. Shop drawings, reviewed and annotated by the Contractor – 1 copy.
 - 2. Product data – 1 copy.
 - 3. Inspection and test reports - 1 copy.
 - 4. Warranties - 1 copy.
 - 5. Closeout submittals - 1 copy.
 - 6. Project photographs - 1 digital image each month submitted on CD. Submit cumulative CD at each subsequent submittal. Label each image with date.
- B. Submittal Procedures: Comply with project format for submittals. Comply with submittal procedures established by Architect including Architect's submittal and shop drawing stamp. Provide required resubmittals if original submittals are not approved. Provide distribution of approved copies including modifications after submittals have been approved.
- C. Shop Drawings: Shop drawings shall be prepared specifically for this project. Shop drawings shall include dimensions and details, including adjacent construction and related work. Note special coordination required. Note any deviations from requirements of the Contract Documents.
- D. Warranties: Provide warranties as specified; warranties shall not limit length of time for remedy of damages Owner may have by legal statute. Contractor, supplier or installer responsible for performance of warranty shall sign warranties.

END OF SECTION

SECTION 01340 (01 33 23)

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Section Includes: Shop drawings, manufacturer's catalog cuts, product data, samples, and attached Shop Drawing/ Catalog Cut Submittal form necessary to satisfy requirements specified.
- B. Related Sections:
 - 1. 01700 Execution & Closeout Requirements
 - 2. 01745-Warranties.

1.2 DATES FOR SUBMISSION AND REVIEW

- A. Refer to Section 01320-Construction Progress Documentation.

1.3 SHOP DRAWINGS/MANUFACTURER'S CATALOG CUTS

- A. Shop Drawings: Submit 1 print, for each required shop drawing.
 - 1. Identify each shop drawing with the following information placed on each drawing:
 - (a) Name of the facility.
 - (b) Name of project at the facility.
 - (c) Board's project number.
 - (d) Name of company submitting the shop drawing.
 - (e) Date of drawing.
 - 2. Provide a blank space 6 inches wide by 4 inches high in the lower right corner of each shop-drawing page for the Project Consultant's shop drawing stamp.
- B. Manufacturer's Catalog Cuts: Submit 8 copies of each catalog cut or 8 edited catalogs.
- C. The Shop Drawing/Product Data Submittal form shall be attached to each required Shop Drawing, manufacturer's catalog cut, or other product data.
- D. Submittal of Samples, Color Charts, Color Chips, or Color Samples for Selection and Coordination:
 - 1. Submit 3 copies of all material color charts, color chips, or color samples within 60 days after start of construction to allow for selection, color coordination, and final acceptance by Project Consultant. Material color charts, color chips, or color samples shall be manufacturer's full color range and of standard sizes unless specified otherwise.
- E. Prints, samples, and color charts shall be at the expense of Contractor.
- F. Submit all color selection materials for complete coordination of color scheme. No individual color selections will be approved before receipt of all the colors.

1.4 SUBMITTAL IDENTIFICATION

- A. Submit only 1 item or system per letter of transmittal properly identified to include the appropriate specification section and section paragraphs.

- B. When shop drawings, edited catalog cuts of components, product data, diagrams, or charts are submitted with more than 1 type of specified product, identify the particular item, including options, intended for use in the Work.
- C. Re-submittals shall be identified with original shop drawing number and followed with a dash (-) and a letter A, B, etc. corresponding to the re-submittal sequence.

1.5 SUBMITTAL COMPLETENESS

- A. Submit catalog sheets, product data, shop drawings, material samples, color chips, color charts, test data, and warranties at the same time for each item.
 - 1. Submit shop drawings with appropriate data and with the Drawing identification mark numbers as shown, specified, or scheduled.
 - 2. Shop drawings without identification mark numbers or with incomplete performance information will not be reviewed until submission is complete.

1.6 PREPARATION

- A. Clearly mark each submittal to identify each appropriate product or model.
- B. Show performance characteristics and capacities.
- C. Show dimensions and clearances required.
- D. Show wiring or piping diagrams and controls.

1.7 IDENTIFICATION

- A. Identify details by reference to sheets and details, schedules, or room numbers as shown on Drawings.
- B. Manufacturer's standards, schematic drawings, and diagrams:
 - 1. Modify drawings and diagrams to delete information not applicable to the Work.
 - 2. Supplement standard information to provide information specifically applicable to the Work.

1.8 SAMPLES

- A. Submit samples of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of product, integrally related parts, and attachment devices.
 - 2. Full range of color, texture, and pattern.

1.9 FIELD SAMPLES AND MOCK-UPS

- A. Refer to Section 01450-Quality Control.

END OF SECTION

SHOP DRAWING/CATALOG CUT SUBMITTAL FORM

TRANSMITTAL NO.

DATE:

PROJECT: **CHECKED AND APPROVED FOR**

SUBMISSION BY:

PROJECT NO.

ITEM: **CHECK ONE OF THE FOLLOWING:**

SPECIFIED ITEM.

SUBSTITUTION*

SPECIFICATION SECTION AND PARA. NO.

CONTRACTOR:

CONTRACTOR'S PROJECT OR CONTRACT NO.

SUB-CONTRACTOR:

MANUFACTURER:

SUPPLIER:

MANUFACTURER'S CATALOG NO.

DRAWING NO.

***If Substitution, submittal shall include information required by the General Conditions. Attach sufficient pages to this form to fully respond to the requirements of the General Conditions.**

(RESERVE THE SPACE BELOW FOR DATE AND SHOP DRAWING REVIEW STAMPS)

ATTACH THIS PAGE TO EACH COPY OF THE SHOP DRAWINGS OR CATALOG CUTS.

SECTION 01400

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Quality Monitoring: Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Perform quality control procedures and inspections during installation.
- B. Standards: Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Tolerances: Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.
- D. Reference Standards: For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- E. Manufacturer's Field Services: When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to perform the following as applicable, and to initiate instructions when necessary.
 - 1. Observe site conditions.
 - 2. Conditions of surfaces and installation.
 - 3. Quality of workmanship.
 - 4. Start-up of equipment.
 - 5. Test, adjust and balance of equipment.
- F. Mock-Ups: NONE
- G. Removal of Mock-Ups: Where mock-up has been accepted by Architect and no longer needed, remove mock-up and clear area when directed to do so.

PART 2 PRODUCTS - Not applicable to this Section

PART 3 EXECUTION - Not applicable to this Section

END OF SECTION

SECTION 01410 (01 41 00)

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Description of Requirements.
- B. Codes and Standards.
- C. Governing Regulations and Authorities.
- D. Submittals.

1.2 RELATED SECTIONS

- A. Section 01420-References.
- B. Section 01450-Quality Control.

1.3 DESCRIPTION OF REQUIREMENTS

- A. General:
 - 1. This section specifies procedural and administrative requirements for compliance with governing regulations and codes and standards imposed upon the Work. These requirements include obtaining permits, licenses, inspections, releases and similar requirements associated with the regulations, codes and standards.
 - 2. The term "Regulations" is defined to include laws, statutes, ordinances, and lawful orders issued by governing authorities, as well as those rules, conventions and agreements within the construction industry which effectively controls the performance of the Work regardless of whether they are lawfully imposed by governing authority or not.
 - 3. Governing Authority: For requirements related to compliance with governing regulations, refer to:
 - (a) Document 00520-Agreement Form.
 - (b) Document 00700-General Conditions of the Contract.
 - (c) Document 00800-Supplementary Conditions of the Contract.
 - (d) General Requirements: Provisions and requirements of the Contract, the General Conditions of the Contract, the Supplementary Conditions of the Contract, and other Division 1 Specification Sections apply to the entire Work defined by the Contract Documents. As such, there is no need to separately enumerate the application of those documents within the individual specification sections or the drawings.

1.4 DEFINITIONS

- A. Basic Contract definitions are included in:
 - 1. Document 00200-Instructions to Bidders.
 - 2. Document 00520-Agreement Form.
 - 3. Document 00700-General Conditions of the Contract.
 - 4. Document 00800-Supplementary Conditions of the Contract.
 - 5. Section 01710-Examination.
 - 6. Section 01745-Warranties.

- B. Certain terms used in the Contract Documents are defined in this Section. Definitions and explanations contained in this Section are not necessarily complete, but are general for the Work to the extent that they are not stated more explicitly in another document within the Contract Documents.
1. **Indicated:** refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
 2. **Directed:** Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Project Consultant", "requested by the Project Consultant, and similar phrases. However, no implied meaning shall be interpreted to extend the Project Consultant's responsibility into the Contractor's area of construction supervision.
 3. **Approve:** The term "approved," where used in conjunction with the Project Consultant's action on the Contractor's submittals, applications, and requests, is limited to the duties and responsibilities of the Project Consultant as stated in the Contract, General and Supplementary Conditions of the Contract or other Division 1 Specifications. Such approval shall not release the Contractor from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.
 4. **Furnish:** The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
 5. **Install:** The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
 6. **Provide:** The term "provide" means "to furnish and install, complete and ready for the intended use."
 7. **Project Site:** is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.
 8. **Testing Laboratories:** A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.5 CODES AND STANDARDS

- A. Except where earlier editions are specifically indicated, latest adopted editions with current revisions and amendments of the following codes and standards are considered minimum requirements for materials, workmanship and safety where not covered elsewhere in these specifications.
- B. Codes and Standards: Obtain copies of the following regulations (unless otherwise indicated) and retain at the project site, available for reference by parties who have a reasonable need for such reference:
1. Comply with latest edition of The 2012 NC IBC (Building, Plumbing, Mechanical, Fuel Gas protocols and required product
 2. All portions of the following codes and regulations are incorporated into and made a part of SREF:
 - (a) **AHERA.** Asbestos Hazard Emergency Response Act, 40 CFR, Part 763.
 - (b) **ANSI.** American National Standards Institute. References to ANSI standards shall be the edition listed in the latest edition of the ANSI standards. Obtain copies of standards only as required in respective Specification Sections.

- (c) **ASCE.** American Society of Civil Engineers. References to ASCE standards shall be the edition listed in SREF. Obtain copies of standards only as required in respective Specification Sections.
 - (d) **ASHRAE.** American Society of Heating, Refrigeration, and Air Conditioning Engineers. Obtain copies of standards only as required in respective Specification Sections.
 - (e) **ASTM.** American Society for Testing Materials. References to ASTM standards shall be the edition listed in the latest edition of the ASTM standards. Obtain copies of standards only as required in respective Specification Sections.
 - (f) **DCA.** Department of Community Affairs.
 - (1) North Carolina Americans With Disability Implementation Act, latest adopted edition
 - (2) North Carolina Energy Efficiency Code for Building Construction (FEEC), latest adopted edition
 - (3) Standards for radon resistant buildings.
 - (g) **FEMA.** Federal Emergency Management Agency. Rules and Regulations 44 CFR, Parts 59 and 60, latest adopted edition, for flood plain criteria governing insurability of facilities constructed in flood plain.
 - (h) **NEC.** NFPA 70, National Electrical Code.
 - (i) **NFPA.** National Fire Protection Association. References to NFPA codes shall be the edition listed in the latest edition of the National Fire Codes. Obtain copies of standards only as required in respective Specification Sections.
 - (j) **TMS.** The Masonry Society. References to TMS standards shall be the edition listed in SREF. Obtain copies of standards only as required in respective Specification Sections.
3. **Conflicting Requirements:** In the case of conflicting requirements where SREF is mute, the more, or most, stringent shall apply.

C. **Other Regulatory Agencies.**

- (a) The following local agencies will provide services or will have jurisdictional authority for permitting and inspection of the elements of the Work indicated:
- (b) Fire protection:
- (c) Necessary traffic control and safety devices:
- (d) Trash Removal Franchise:
- (e) General Construction Permitting Outside Owner's Property Line:

1.6 GOVERNING REGULATIONS/AUTHORITIES

- A. Coordinate inspections and regulatory requirements of the agencies specified above under provisions of Section 01450-Quality Control.
- B. Pay fees and obtain permits as specified elsewhere in the Contract Documents.
- C. The organization of the Contract Documents is not intended to be an indication of jurisdictional or trade union agreements.

1.7 SUBMITTALS

- A. **Licenses and Certificates:** Submit copies of licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon the performance of the Work.

END OF SECTION

SECTION 01450 (01 45 00)

QUALITY CONTROL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contractor's Quality Control.
- B. Field Samples and Mock-Up Requirements.
- C. Plant Inspections and Source Quality Control.
- D. Inspection and Testing Laboratory Services.
- E. Threshold Inspector.
- F. Inspections.

1.2 RELATED DOCUMENTS

- A. Section 01330-Submittal Procedures.
- B. Section 01710-Examination.
- C. Section 01730-Execution.
- D. Section 01770-Closeout Procedures: Substantial Completion and Acceptance Inspections.
- E. Individual Specification Sections: Quality control measures, inspections and tests required, and standards for testing.

1.3 REFERENCES

- A. The North Carolina Building Code,
- B. North Carolina Building Code (for work outside Owner's property line and as otherwise specified).

1.4 CONTRACTOR'S QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence except where those instructions are superseded by more exacting or stringent requirements in the Contract Documents.
- C. Should manufacturer's instructions conflict with Contract Documents, request clarification from Project Consultant before proceeding.

- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.5 FIELD SAMPLES AND MOCK-UP REQUIREMENTS

- A. Field Samples and Mock-Ups:
 - 1. Erect at the Project site at location acceptable to the Owner and Project Consultant.
 - 2. Construct each field sample or mock-up complete, including all work of all trades required in finishing the Work.
- B. Provide field samples and mock-ups identical with final condition the proposed materials or products for the Work.
 - 1. Include "range" of field samples (not less than 3) where unavoidable variations must be expected, and describe or identify variations between units of each set.
 - 2. Provide full set of optional field samples where Project Consultant's selection is required. Prepare samples to match Project Consultant's sample where so indicated.
- C. Include identification on each field sample or mock-up, with full Project information as required in Section 01330-Submittal Procedures.
- D. Provide the number of field samples and mock-ups as specified in individual specification Sections.
- E. Color selections: Refer to Section 01330-Submittal Procedures, Article 1.9 Samples.
- F. Reviewed field samples and mock-ups which may be used in the Work are indicated in individual specification Sections and shall be in undamaged condition when incorporated into the Work.
- G. Fabricate each sample and complete as acceptable to Project Consultant.
- H. Remove mockups at completion of the work when acceptable to Project Consultant.

1.6 PLANT INSPECTIONS AND SOURCE QUALITY CONTROL

- A. The Project Consultant, BCI and other inspectors, and other personnel authorized by the Owner, shall at all times have access to the Work whenever it is in preparation or progress and wherever located.
- B. Provide safe facilities for such access so the Project Consultant and the Project Manager may perform their functions under the Contract.
- C. Ensure that off-site work locations (including factories, shops, warehouses and other structures which might be used for the manufacture, fabrication, assembly and storage of any element which will be incorporated into the Work) conforms the quality standards specified herein.
- D. Ensure that all off-site work is performed to the standards specified in this Project Manual for the respective elements of the Work.

1.7 INSPECTION AND TESTING LABORATORY SERVICES

- A. Owner shall appoint, employ, and pay for services of an independent firm to perform inspection and testing.
- B. The independent firm shall perform inspections, tests, and other services specified in individual Specification Sections and as required by the Owner.
- C. Reports shall be submitted by the independent firm to the Owner, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify Owner independent firm 24 hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- E. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Owner. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the Contract Sum/Price.

1.8 INSPECTIONS

- A. Building Code Inspector: (BCI)
 - 1. Building Code Inspector (BCI): Employees of Henderson County, North Carolina and others designated by the Facilities and Construction Management.
 - 2. In addition to the list of Mandatory Inspections scheduled below, BCI's may also inspect any other aspect of Work at any other time during the progress of the Work.
 - 3. The Owner may designate members of Owner selected consulting firms as inspectors.
- B. Municipal, Henderson County, and Other Jurisdictions
 - 1. The Contractor is responsible for procuring and paying for all permits required by respective jurisdictional authorities for Work located outside the Owner's property line.
 - 2. Coordinate with respective jurisdictional agencies to verify their requirements and procedures for requesting and conducting inspections of the Work.
- C. Inspection Procedures:
 - 1. On-Site Inspections:
 - (a) Requests for Inspection: For on-site inspections (for work with-in the Owner's property line), notify the BCI a minimum of 24 hours prior to the time of the requested inspection. Inspections requested which fall on weekends or holidays observed by the Owner will be scheduled for the next business day except for exceptional circumstances approved by the Owner in advance. Provide a simultaneous notification to the Project Consultant that the Request for Inspection has been made. Coordinate and make arrangements for an Independent Testing Laboratory or other testing agency if one is required to be present at or participate in the inspection.
 - (b) Inspections will be conducted by the BCI.
 - (c) Cooperate with and facilitate the BCI's inspection by providing incidental labor and facilities:
 - (d) To provide access to Work to be inspected.
 - (e) To obtain and handle samples at the site or at source of Products to be inspected or tested.

- (f) To facilitate tests and inspections.
 - (g) To provide storage and curing of test samples.
 - (h) Maintaining complete set of submittals on site as specified in Section 01330-Submittal Procedures, and having them available for the BCI's use.
2. Off-Site Inspections:
 - (a) Requests for Inspection: For off-site inspections (for work outside the Owner's property line), request inspection from the respective jurisdictional agency according to that agency's standard request procedures. Notify the BCI and the Project Consultant a minimum of 24 hours prior to the time of the requested inspection. Coordinate and make arrangements for an Independent Testing Laboratory or other testing agency if one is required to be present at or participate in the inspection.
 - (b) Inspections will be conducted by the inspector representing the respective jurisdictional agency in the presence of the BCI, and the Project Consultant.
 - (c) Cooperate with and facilitate the jurisdictional agency's inspection by providing incidental labor and facilities:
 - (d) To provide access to Work to be inspected.
 - (e) To obtain and handle samples at the site or at source of Products to be inspected or tested.
 - (f) To facilitate tests and inspections.
 - (g) To provide storage and curing of test samples.
 - (h) Provide Inspection Report as specified below.
 3. Non-Conforming Work
 - (a) Re-execute or correct Work identified during inspections as deficient.
 - (b) Upon completion of re-executed or corrected Work, request re-inspection following procedures specified above.
- D. Inspection Reports:
1. After each inspection promptly submit 1 copy of inspection report to Project Consultant.
 2. Include:
 - (a) Date issued.
 - (b) Project title and number.
 - (c) Date and time of inspection.
 - (d) Weather conditions and temperature at the time of inspection.
 - (e) Identification of product and relative specification sections.
 - (f) Location in the Project.
 - (g) Type of inspection.
 - (h) Results of tests,
 - (i) Conformance with Contract Documents.
 3. When requested by Project Consultant, provide interpretation of inspection results.
- E. Limits On Inspector's Authority:
1. BCI and jurisdictional agency inspectors shall not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. BCI and jurisdictional agency inspectors shall not accept any portion of the Work.
 3. BCI and jurisdictional agency inspectors shall not assume any duties of Contractor or the Project Consultant.
- F. Schedule Of Mandatory BCI Inspections for every project:
1. For list of mandatory inspections refer to:
 - (a) **Building Department website and refer to Inspection Guidelines for Mandatory Inspections.**
 2. Additional inspections may be required by the respective technical specifications or as determined by the BCI or jurisdictional inspector. The Contractor shall be notified in advance of any additional inspections required.

PART 2 PRODUCTS-Not Used

PART 3 EXECUTION

3.1 REPAIR AND PROTECTION

- A. Upon completion of inspection, testing, sample-taking and similar services repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Document requirements for "Cutting and Patching".
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection shall be the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Services: Provide temporary services and utilities, including payment of utility costs including the following.
 - 1. Materials storage.
- B. Construction Facilities: Provide construction facilities, including payment of utility costs including the following.
 - 1. Construction equipment.
 - 2. Enclosures.
- C. Security and Protection: Provide security and protection requirements including the following.
 - 1. Fire extinguishers.
 - 2. Site enclosure fence, barricades, warning signs, and lights.
 - 3. Building enclosure and lock-up.
 - 4. Environmental protection.
 - 5. Pest control during and at the end of construction.
 - 6. Snow and ice removal if applicable.
- D. Personnel Support: Provide personnel support facilities including the following.
 - 1. Contractor's field office.
 - 2. Sanitary facilities.
 - 3. Drinking water.
 - 4. Project identification sign.
 - 5. Cleaning.

PART 2 PRODUCTS - Not applicable to this Section

PART 3 EXECUTION - Not applicable to this Section

END OF SECTION

SECTION 01510 (01 51 00)

TEMPORARY UTILITIES

PART 1 GENERAL

PART 2 SECTION INCLUDES

A. Water Service and Distribution.

B. Telephone Service.

C. Storm and Sanitary Sewer.

D. RELATED DOCUMENTS

E. Document 00700-General Conditions of the Contract

F. SUBMITTALS

G. Contractor shall pay for, or reimburse Owner for use of temporary and permanent utility service until occupancy by the Owner.

H. QUALITY ASSURANCE

I. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:

1. The North Carolina Building Code and Amendments
2. Health and safety regulations.
3. Utility company requirements.
4. Police, Fire Department and Rescue Squad requirements.
5. Environmental protection regulations.

J. Comply with:

1. Comply with NFPA Code 241, Building Construction and Demolition Operations.
2. ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition".
3. NECA Electrical Design Library "Temporary Electrical Facilities."

K. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.

L. Electrical Service:

1. Comply with NEMA, NECA and UL standards and regulations for temporary electric service.
2. Install service in compliance with National Electric Code (NFPA 70).

M. Inspections: Arrange for inspection and testing by BCI and other authorities having jurisdiction under provisions of Section 01450-Quality Control.

N. Obtain required certifications and permits.

O. CONDITIONS OF USE

- P. Keep temporary services and facilities clean and neat in appearance.
- Q. Operate in a safe and efficient manner.
- R. Take necessary fire prevention measures.
- S. Do not overload facilities, or permit them to interfere with progress.
- T. Do not allow dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 3 PRODUCTS

PART 4 MATERIALS

- A. Provide new materials; if acceptable to the Project Consultant, undamaged previously used materials in serviceable condition may be used.
- B. Provide materials suitable for the use intended.
- C. Water: Provide potable water approved by local health authorities.

D. EQUIPMENT

- E. Provide new equipment.
 - 1. Undamaged, previously used equipment in serviceable condition may be used.
 - 2. Provide equipment suitable for use intended.
- F. Electrical Outlets:
 - 1. Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets.
 - 2. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- G. Electrical Power Cords:
 - 1. Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic.
 - 2. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
- H. Lamps and Light Fixtures:
 - 1. Provide general service incandescent lamps of wattage required for adequate illumination.
 - 2. Provide guard cages or tempered glass enclosures, where exposed to breakage.
 - 3. Provide exterior fixtures where exposed to moisture.

PART 5 EXECUTION

PART 6 INSTALLATION

- A. Use qualified personnel for installation of temporary utilities and conform to the workforce composition and supervision requirements specified elsewhere in the Contract Documents.

- B. Locate temporary utilities where they will serve the Project adequately and result in minimum interference with performance of the Work or existing.
- C. Relocate and modify facilities as required.
- D. Provide each temporary utility ready for use when needed to avoid delay.
- E. Maintain and modify as required.
- F. Do not remove until temporary utilities are no longer needed, or are replaced by authorized use of completed permanent utility.
- G. TEMPORARY UTILITY INSTALLATION**
 - 1. Project Consultant, and shall not be accepted as a basis of claims for a Change Order.
- H. Temporary Lighting:
 - 1. After installation of temporary power connections, provide the following:
 - (a) Temporary Lighting: As the building is altered, provide temporary lighting as required or according to Project Consultant's direction consisting of one 100-watt lamp for each 250 square feet of area, but not less than 1 lamp per area.
 - 2. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
- I. Prior to Substantial Completion, clean and renovate permanent facilities that have been used during the construction period.

END OF SECTION

SECTION 01550 (01 55 00)
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preparation.
- B. Traffic Signs and Signals.
- C. Haul Routes.
- D. Access Roads.
- E. Construction Parking Controls.
- F. Parking.
- G. Existing Pavements and Parking Areas.
- H. Permanent Pavements and Parking Facilities.
- I. Maintenance.
- J. Removal and Repair.

1.2 RELATED SECTIONS

- A. Section 01110-Summary.
- B. Section 01510-Temporary Construction: Temporary construction.
- C. Section 01580-Project Identification: Traffic directional and control signage.

D. PRODUCTS

1.3 MATERIALS

- A. Temporary Construction: Contractor's option.

B. EXECUTION

1.4 PREPARATION

1.5 not used

1.6 TRAFFIC SIGNS and SIGNALS

- A. At approaches to site and on site, install at crossroads, detours, parking areas, and other amenities elsewhere as needed to direct construction and affected public traffic.
- B. Install and operate traffic control signals as necessary to direct and maintain orderly flow of traffic in areas under Contractor's control, and areas affected by Contractor's operations.
- C. Relocate as Work progresses, to maintain effective traffic control.

1.7 HAUL ROUTES

- A. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
***** [OR] *****
- B. A. Drawings indicate haul routes designated by authorities for use of construction traffic.
- C. Confine construction traffic to designated haul routes.
- D. Provide traffic control at critical areas of haul routes to regulate traffic, and to minimize interference with public traffic.

1.8 ACCESS ROADS

- A. not used.

1.9 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

1.10 PARKING

- A. [Arrange for temporary parking areas to accommodate use of construction personnel.
- B. When site space is not adequate, provide additional off-site parking.

1.11 EXISTING PAVEMENTS and PARKING AREAS

- A. Use of designated existing on-site streets and driveways used for construction traffic is permitted. Tracked vehicles not allowed on paved areas.
- B. Use of designated areas of existing parking facilities used by construction personnel is permitted.
- C. Do not allow heavy vehicles or construction equipment in parking areas.

1.12 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, Products, mud or other debris.
- B. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

1.13 REMOVAL, REPAIR

not used

END OF SECTION

SECTION 01560 (01 56 00)

TEMPORARY BARRIERS AND ENCLOSURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Barriers and Barricades.
- B. General Environmental Controls.
- C. Security Programs.
- D. Tree and Plant Protection.

1.2 RELATED DOCUMENTS

- A. Section 01110-Summary of Work: Work sequence, Owner occupancy.

1.3 BARRIERS AND BARRICADES

- A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.
 - 1. Comply with standards and code requirements for erection of structurally adequate barriers.
 - 2. Install barriers of a neat and uniform appearance. Surfaces exposed to public view: Provide graphics and signs warning of the hazard being protected against.
 - 3. Where appropriate and needed provide lighting, including flashing red or amber lights.
 - 4. Provide barriers at public rights-of-way and for public access to existing buildings when adjacent to construction operations.
- B. Provide barricades with blinking beacon light at all open trenches and other excavations.
- C. Provide protection as specified below for plant life designated to remain.
- D. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
- E. Interior Enclosures
 - 1. Provide temporary non-combustible partitions and ceilings to separate work areas from Owner occupied areas, to prevent penetration of dust, fumes, and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.
 - 2. Construction:
 - (a) Separation Partitions: Where construction enclosure exceeds 100 square feet in area provide separation partitions constructed of fire retardant treated zip walls, treated wood or metal framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
 - (b) STC rating of 35 in accordance with ASTM E90 when separating occupied or conditioned spaces.
 - (c) Maximum flame spread rating of 75 in accordance with ASTM E84.
 - (d) Temporary Dust Partitions: Refer to Article 2.1 below.

- (e) Duct, Register and Grille Protection: Securely seal air conditioning and ventilation ducts, registers, grilles, outlets and other system components with polyethelene prior to conducting any dust or other contaminant producing construction activities.

F. Replace or repair any material damaged during work to original condition at start of work.

1.4 GENERAL ENVIRONMENTAL CONTROLS

- A. Dust Control:
 - 1. Execute Work by methods to minimize raising dust from construction operations.
 - 2. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
- B. Noise Control:
 - 1. Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 2. Schedule excessively noisy or disruptive operations during hours when normal classroom activities are not scheduled.
 - 3. Observe local ordinances limiting noise-generating operations within the neighborhoods adjacent to the area of the Work.
- C. Pollution Control:
 - 1. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
 - 2. Do not violate environmentally sensitive lands without proper permits from the authorities having jurisdiction and a written notice to proceed with those particular operations issued by the Owner.

1.5 SECURITY PROGRAMS

- A. Limit access of existing facilities by Contractor's personnel to only those areas directly involved in the Work.
- B. Provide all personnel with instruction as to the possible presence of children in and around the construction site and the precautions necessary to ensure children's safety while conducting construction operations, operating motor vehicles or equipment, or any other associated activity.

C. PRODUCTS

1.6 PRODUCT REQUIREMENTS

- A. General:
 - 1. Provide new materials; if acceptable to the Project Consultant, undamaged previously used materials in serviceable condition may be used.
 - 2. Provide materials suitable for the use intended.
- B. Barriers and Exterior Enclosures:
 - 1. Lumber and Plywood: Comply with requirements in applicable Division 6 specification sections.
 - (a) Exterior fences and vision barriers: Provide exterior type, minimum 3/8 inch thick plywood.

- (b) Safety barriers, sidewalk bridges and similar uses: Provide minimum 5/8 inch thick exterior plywood.
- C. Barricades: Standard metal folding barricades with reflective finishes. Provide with or without battery powered flashing lights as appropriate for hazard.
- D. Interior Non-Combustible Temporary Dust Partitions: Wood or metal framing and reinforced opaque polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.
 - 1. Wood: Fire retardant treated, comply with product and installation requirements of Division 6.
 - 2. Metal Framing: Comply with product and installation requirements of Division 9.
 - 3. Sheeting: Provide translucent nylon reinforced laminated polyethylene sheeting attached securely to wood or metal framing so as to avoid tears, leaks, or openings.

(a) EXECUTION

1.7 BARRIERS, BARRICADES and ENCLOSURES

- A. Install temporary items under provisions specified above or, where not specified, to level of quality suitable for the intended purpose as judged by the Project Consultant.

1.8 REMOVAL of TEMPORARY BARRIERS, ENCLOSURES and PROTECTIONS

- A. Remove temporary barriers, barricades, fencing, enclosures and protections as warranted by the progress of the Work and prior to Substantial Completion.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition at start of work or as specified elsewhere in the Contract Documents.
- D. Restore permanent facilities used during construction to specified condition.

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manufacturers: Provide products from one manufacturer for each type or kind as applicable. Provide secondary materials as acceptable to manufacturers of primary materials.
- B. Product Selection: Provide products selected or equal approved by Architect. Products submitted for substitution shall be submitted with complete documentation, and include construction costs of substitution including related work.
- C. Substitutions: Request for substitution must be in writing. Conditions for substitution include:
 - 1. An 'or equal' phrase in the specifications.
 - 2. Specified material cannot be coordinated with other work.
 - 3. Specified material is not acceptable to authorities having jurisdiction.
 - 4. Substantial advantage is offered to the Owner in terms of cost, time, or other valuable consideration.
- D. Substitution Requests: Substitutions shall be submitted prior to award of contract, unless otherwise acceptable. Approval of shop drawings, product data, or samples containing substitutions is not an approval of a substitution unless an item is clearly presented as a substitution at the time of submittal.

PART 2 PRODUCTS - Not applicable to this Section

PART 3 EXECUTION - Not applicable to this Section

END OF SECTION

SECTION 01663 (01 66 00)

PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Product Transportation and Delivery.
- B. Product Storage, Protection and Handling.

1.2 RELATED DOCUMENTS

- A. Section 01450-Quality Control.

1.3 PRODUCT TRANSPORTATION AND DELIVERY

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, toxic, easily damaged, or sensitive to deterioration, theft and other losses.
- D. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
- E. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
- F. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- G. Keep and maintain shipping receipts, damage reports, and other shipping/delivery documentation as project records.
- H. Defective materials and products shall not be acceptable.

1.4 PRODUCT STORAGE, PROTECTION AND HANDLING

- A. Store products at the site in a manner that shall facilitate inspection and measurement of quantity or counting of units.
- B. Periodically inspect storage areas to assure products are undamaged and are maintained under specified conditions.
- C. Make stored materials available for Owner's inspection and inventory prior to and on dates of project meetings.

- D. Store and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible.
- E. Protect sensitive materials from weather and climate.
- F. Maintain temperature and humidity within range required by manufacturer's instructions.
- G. Store heavy materials away from the Project structure in a manner that shall not endanger the supporting construction.
- H. Provide equipment and personnel to store and handle products by methods to prevent soiling, disfigurement, or damage.
- I. Replace materials improperly transported, stored or handled at no additional cost to the Owner.
- J. Defective materials or products shall not be acceptable.

PART 2 PRODUCTS-Not Used

PART 3 EXECUTION-Not Used

END OF SECTION

SECTION 01700

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cutting and patching.
- B. Substantial Completion: The following are prerequisites to substantial completion. Provide the following.
 - 1. Punch list prepared by Contractor and subcontractors as applicable.
 - 2. Supporting documentation.
 - 3. Warranties.
 - 4. Certifications.
 - 5. Occupancy permit.
 - 6. Start-up and testing of building systems.
 - 7. Meter readings.
 - 8. Commissioning documentation.
- C. Final Acceptance: Provide the following prerequisites to final acceptance.
 - 1. Final payment request with supporting affidavits.
 - 2. Completed punch list.
- D. As-Built Drawings: Provide a marked-up set of drawings including changes, which occurred during construction.
- E. Project Closeout: Provide the following during project closeout.
 - 1. Submission of record documents.
 - 2. Submission of maintenance manuals.
 - 3. Training and turnover to Owner's personnel.
 - 4. Final cleaning and touch-up.
 - 5. Removal of temporary facilities.

PART 2 PRODUCTS - Not applicable to this Section

PART 3 EXECUTION

3.1 CUTTING AND PATCHING

- A. Cutting and Patching: Provide cutting and patching work to properly complete the work of the project, complying with project requirements for:
 - 1. Structural work.
 - 2. Mechanical/electrical systems.
 - 3. Visual requirements, including detailing and tolerances.
 - 4. Operational and safety limitations.
 - 5. Fire resistance ratings.
 - 6. Inspection, preparation, and performance.
 - 7. Cleaning.
- B. Means and Methods: Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease energy performance, increase maintenance, decrease operational life, or decrease safety performance.
- C. Inspection: Inspect conditions prior to work to identify scope and type of work required. Protect adjacent work. Notify Owner of work requiring interruption to

building services or Owner's operations.

- D. Performance of Operations: Perform work with workmen skilled in the trades involved. Prepare sample area of each type of work for approval.
- E. Cutting: Use cutting tools, not chopping tools. Make neat holes. Minimize damage to adjacent work. Inspect for concealed utilities and structure before cutting.
- F. Patching: Make patches, seams, and joints durable and inconspicuous. Comply with tolerances for new work.
- G. Cleaning: Clean work area and areas affected by cutting and patching operations.

END OF SECTION

SECTION 01700 (01 70 10)

CONTRACT CLOSEOUT

PART 1 GENERAL

PART 2 SECTION INCLUDES

- A. Record Documents.
- B. Contractor Closeout Submittals to Project Consultant.
- C. Final Adjustments of Accounts.
- D. Final Change Orders.
- E. Final Application of Payment.

F. RELATED DOCUMENTS

- G. Section 01770-Closeout Procedures.
- H. Section 01810-Commissioning.
- I. Related requirements specified in respective specification Section of Division 2 through 16.

J. RECORD DOCUMENTS

- K. Record Drawings:
 - (a) Keep accurate notes on Record Drawings of Work as installed. Include dimensions of underground lines, their offsets, and valve locations.
 - 2. Maintain the set of Record Drawings apart from those used for construction.
 - 3. Mark each page of the Record Drawings with the words "RECORD DRAWINGS" in neat, large printed letters.
 - 4. Record information concurrently as Work progresses.
 - (a) Shall not conceal any work until the required information is marked on Drawings.
 - (b) Show locations of internal utilities and appurtenances concealed in the construction to visible and accessible features.
 - (c) Show locations of field changes and details not on original Drawings.
- L. Record Specifications and Addenda:
 - 1. Mark each section to record manufacturer, trade name, catalog number, supplier of each product, and item of equipment installed.
- M. Update record drawings daily for Project Consultant review of compliance. Non-compliance shall be grounds for Project Consultant to note in the certification for payment of such fact. Failure to update record drawings will be grounds for not processing the Requisition for Payment.

N. CONTRACTOR'S CLOSEOUT SUBMITTALS TO PROJECT CONSULTANT

- O. Evidence of compliance with requirements of governing authorities and construction documents as noted in various sections.

1. Project record documents.
2. Operating and maintenance data, instructions to Owner's personnel.
3. Warranties and bonds.
4. Record list of various building finishes including tile, carpet, acoustical finish, wall covering, paints and coatings, giving manufacturers' brand names or types and colors used in various locations.
5. Keys: According to requirements of Section 08710-Finish Hardware.
6. Spare parts and maintenance materials.
7. Evidence of payment and release of liens.

8. FINAL ADJUSTMENTS OF ACCOUNTS

- P. Submit a statement of accounting to Project Consultant. Statement shall reflect all adjustments to contract sum and the following:
1. The original contract sum.
 2. Additions and deductions resulting from:
 - (a) Previous change orders.
 - (b) Allowances.
 - (c) Unit prices.
 - (d) Deductions for uncorrected work.
 - (e) Penalties and bonuses.
 - (f) Deductions for liquidated damages.
 - (g) Deductions for additional construction review payments.
 - (h) Other adjustments.
 3. Total contract sum, as adjusted.
 4. Previous payments.
 5. Sum remaining due.

6. FINAL CHANGE ORDER

- Q. Prepare a Final Change Order, reflecting approved adjustments to contract sum not made by previous Change Orders.

R. FINAL APPLICATION FOR PAYMENT

- S. Submit final Application.

PART 3 PRODUCTS-Not Used

PART 4 EXECUTION-Not Used

END OF SECTION

SECTION 01780 (01 78 00)

CLOSEOUT SUBMITTALS

GENERAL

1.1 SECTION INCLUDES

- A. Final Site Survey.
- B. Maintenance Contracts.
- C. Operation and Maintenance Data.
- D. Maintenance Materials.
- E. Product Warranties.
- F. Product Bonds.
- G. Project Record Documents.
- H. Spare Parts.
- I. Electronic Media.

1.2 RELATED DOCUMENTS

- A. Document 01100-General Conditions
- B. Related requirements specified in respective specification Sections of Divisions 2 through 17.

1.3 SUBMITTALS

- A. Project closeout submittals required by the Contract Documents for the Work, or a portion thereof, shall be submitted by the Contractor at or prior to the time of Contractor request for the Project Consultant's inspection unless otherwise specified in this Section or elsewhere in the Contract Documents.
- B. The Project Consultant (assisted by others as applicable) will review project closeout submittals with the Owner for content, accuracy, and format:
 - 1. If the Project Consultant disapproves or rejects any project closeout submittal, it shall be returned to the Contractor for correction and modification.
 - 2. Contractor shall then submit his revised and corrected project closeout submittals to the Project Consultant for review and approval.
 - 3. Contractor shall continue to revise and resubmit project closeout submittals until all required submittals have been accepted by the Project Consultant.
 - 4. Project Consultant shall forward approved project closeout submittals to the Owner prior to the Owner's Substantial Completion Inspection.
 - 5. Corrections or modifications of Project Closeout Submittals shall not be used as justification for an extension of Time.

- C. Submit closeout submittals under provisions of Section 01330-Submittal Procedures, with content and in formats specified within this Section and elsewhere in the Contract Documents.

1.4 MAINTENANCE CONTRACTS

- A. Preparation of Submittals:
 - 1. Obtain maintenance contracts as may be required by the Contract Documents, executed in duplicate by responsible subcontractors, suppliers, or manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of maintenance contracts until the Date of Substantial Completion is determined.
 - 2. Verify that documents are in proper form, contain full information, and are notarized.
 - 3. Co-execute submittals when required.
 - 4. Retain maintenance contracts until time specified for submittal.
- B. Form of Submittals
 - 1. Draft Copies:
 - (a) When a maintenance contract is required to be executed by the Contractor, or the Contractor or a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties.
 - (b) Forms for maintenance contracts: Shall not be provided by Owner. Prepare a written document utilizing an appropriate contract form, ready for execution by the Contractor, or the Contractor and subcontractor, supplier or manufacturer. Submit a draft to the Owner through the Project Consultant for approval.
 - (c) Submit draft copies of all proposed final maintenance contracts to the Project Consultant under provisions of Section 01330-Submittal Procedures for the Owner and Project Consultant's review.
 - 2. Form of Submittal:
 - (a) Prior to Substantial Completion compile 2 copies of each required maintenance contract properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer.
 - (b) Organize maintenance contracts into an orderly sequence based on the table of contents of the Project Manual and provide three-ring binders with the cover titled "MAINTENANCE CONTRACTS" with binder, accessories, index tabs and table of contents, and other identifications as specified for Warranty documents below adjusted to reflect the appropriate product bonds content.
 - (c) When operating and maintenance manuals are required for construction or products for which a maintenance contract is required, provide additional copies of each required maintenance contract, as necessary, for inclusion in each required manual.
- C. Timing of Submittals:
 - 1. Draft:
 - (a) Submit two copies of preliminary draft maintenance agreement within 90 days of the Contract's required Substantial Completion Date for the Work or a portion thereof.
 - (b) Project Consultant will review draft and return one copy with comments.
 - 2. Final:
 - (a) Submit 5 copies of revised final maintenance agreements in final form ready for the Owner's execution prior to submitting Document 01770a-Contractor's Request for Substantial Completion Inspection.
 - (b) Effective date of Contract will be the final completion date for the Work or portion thereof as established by Document 01770e-Project Consultant's Letter Establishing Substantial Completion Date, or as otherwise required in the Contract Documents.

1.5 OPERATION AND MAINTENANCE DATA

- A. Quality Assurance:
1. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- B. Format:
1. Prepare data in the form of an instructional manual.
 2. Bind in commercial quality 8-1/2 inch x 11 inch three D side ring binders with durable plastic covers, 3 inch maximum ring size:
 - (a) When multiple binders are used, correlate data into related consistent groupings.
 - (b) Provide sheet lifters for front and back of binder.
 - (c) Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
 - (d) Index Tab Dividers:
 - (1) Provide tabbed dividers for each separate product and system, with typed description of product and major component parts of equipment.
 - (2) Provide index tab sheet identified as "Contents" in front of the first page of the table of contents to prevent laser printer or copier toner from sticking to vinyl binder.
 3. Text: Manufacturer's printed data, or neatly typewritten data on 20 pound minimum paper.
 4. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- C. Contents Each Volume:
1. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Project Consultant, subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
 2. Each Product or System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts and applicable local maintenance Contractors.
 3. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
 4. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Shall not use Project Record Documents as maintenance drawings.
 5. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.
 6. Warranties: Bind in copy of each.
 7. Product Bonds: Bind in photocopy of each.
- D. Manual for Materials and Finishes:
1. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured Products.
 2. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
 3. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
 4. Additional Requirements: As specified in individual product specification sections.
 5. Provide a listing in Table of Contents for design data, with tabbed fly-sheet and space for insertion of data.
- E. Manual For Equipment And Systems:

1. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.
 2. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
 3. Include color-coded wiring diagrams as installed.
 4. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 5. Provide servicing and lubrication schedule, and list of lubricants required.
 6. Include manufacturer's printed operation and maintenance instructions.
 7. Include sequence of operation by controls manufacturer.
 8. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
 9. Provide control diagrams by controls manufacturer as installed.
 10. Provide Contractor's coordination drawings, with color-coded piping diagrams as installed.
 11. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
 12. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
 13. Include test and balancing reports as specified in Section 15995 and elsewhere in the Contract Documents.
 14. Additional Requirements: As specified in individual Product specification sections.
 15. Provide a listing in Table of Contents for design data, with tabbed dividers and space for insertion of data.
- F. Instruction of Owner Personnel:
1. Provide copies of all instructional materials, including video taped documentation of training sessions or other instructional audio-visual materials, as specified in Section 01820-Demonstration and Training and other locations in the Contract Documents.
 2. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.
- G. Submittals:
1. Draft:
 - (a) Prior to completing and submitting draft Operations and Maintenance Manuals, review content and coordinate.
 - (b) Provide content that is project specific to the Work and reflecting the actual systems, assemblies, equipment and products provided and the results of the pre-functional performance and operational performance tests.
 - (c) Submit 2 copies of draft or proposed formats and outlines of contents within 90 days of receipt of Notice to Proceed.
 - (d) Project Consultant will review draft and return 1 copy with comments.
 2. Equipment, or component parts of equipment put into service during construction and operated by Owner: Submit documents within 10 days after acceptance.
 3. Review Copy:
 - (a) Submit 1 copy of completed volumes 30 days prior to submitting Document 01770a-Contractor's Request for Substantial Completion Inspection.
 - (b) After review copy will be reviewed, copy will be returned to Contractor with comments by the Project Consultant, the Owner.
 - (c) Contractor shall revise content of all document sets as required by review comments provide by the Project Consultant, the Owner, and the Owner's Commissioning Authority prior to final submission.
 4. Final:

- (a) Submit 5 sets of revised final volumes in final form prior to submitting Document 01770a-Contractor's Request for Substantial Completion Inspection.

1.6 MAINTENANCE MATERIALS

- A. Submit maintenance materials, equipment and accessories of the types and in the quantities specified within the respective specification Sections of Divisions 2 through 16.
- B. Provide maintenance materials, equipment and accessories in original manufacturer's packaging with manufacturer's original, clearly legible labeling.
- C. Coordinate delivery date and final storage location of maintenance materials, equipment and accessories to the Owner through the Project Consultant prior to submittal of Document 01770a-Contractor's Request for Substantial Completion Inspection.
- D. Shall not utilize maintenance materials or equipment for cleaning, maintenance or other Contractor operations.
- E. Test and inspect maintenance materials, equipment and accessories to ensure operability, fitness for purpose and new condition prior to submitting to the Owner.

1.7 PRODUCT WARRANTIES

- A. Summary:
 - 1. This article specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
 - (a) Refer to Document 01100-General Conditions, for terms of the Contractor's special warranty of workmanship and materials.
 - (b) Specific requirements for warranties for the Work and products and installations that are specified to be warranted, are included in the individual Sections of Divisions 2 through 16.
- B. Submittals:
 - 1. Submit written warranties to the Project Consultant before the date certified for Substantial Completion. If the Project Consultant's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work or a designated portion of the Work, submit written warranties upon request of the Project Consultant.
 - (a) When a designated portion of the Work is completed and occupied or used by the Owner by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Project Consultant within 15 days of completion for the designated portion of the work.
 - 2. Form of Submittal:
 - (a) Prior to Substantial Completion compile 2 copies of each required warranty properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the specifications.
 - (b) Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - (c) Bind in heavy-duty, commercial quality 8-1/2 inch x 11 inch three D side ring binders with durable plastic covers, 3 inch maximum ring size:
 - (1) Use binder thicknesses as necessary to accommodate contents and sized to receive 8-1/2 inch by 11 inch paper.

3. Give the name, address, and telephone number of the installer.
4. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.
5. Cover: Identify each binder with typed or printed title WARRANTIES with title of Project; name, address and telephone number of Contractor and name of responsible company principal.
6. Table of Contents:
 - (a) Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item and the name of Product or work item.

1.8 PROJECT RECORD DOCUMENTS

- A. Upon commencement of construction, the Owner shall Furnish to the Contractor, at no cost to the Contractor:
 1. One complete set of Contract Documents to be used for the "RECORD SET" in accordance with the General Conditions of the Contract for Design and Construction.
- B. During construction all changes shall be marked legibly in red on the RECORD Documents as the work progresses. Accurately dimensioned
 1. Prior to the Application for Payment, the Contractor shall have and bring the RECORD Documents up-to-date for the Project Consultants acceptance and the Contractor shall provide certification at each Application of Payment that the Contractor has complied.
 2. Upon completion of the work and prior to Application for Final Payment, the Contractor shall deliver to the Project Consultant, the completed set of reproducible "RECORD DRAWING SET" as prepared by the Contractor's A/E incorporating all field documented as-built conditions. The Record Drawing Set(s) shall be drafted to scale and indicated all changes, modifications, utility locations, connections, etc. Additionally, the CD-Rom in the Owner's latest version of AutoCadd.
- C. General Requirements:
 1. Do not use record documents for construction purposes.
 2. Protect from deterioration and loss in a secure, fire resistive location.
 3. Provide access to record documents for reference by the Project Consultant, the Owner, BCI, the SBBC Building Department and other Owner related personnel during normal working hours.
 4. Make project record documents available for inspection by BCI and other jurisdictional authorities at all times.
 5. Ensure special protection of project record documents
- D. Maintain at the site for the Owner one record copy of:
 1. Specifications.
 2. Drawings.
 3. Addenda.
 4. Change Orders, Project Consultant's Supplementary Instructions and other modifications to the Contract.
 5. Approved submittals including all of those types required in Section 01330-Submittal Procedures, and other administrative submittals as may be required elsewhere in the Project Manual.
 6. Field Test Records and Reports.
 7. Construction Photographs.
- E. Record Drawings:
 1. Maintain a clean, undamaged set of blue or black line on white prints of Contract Drawings and Shop Drawings.

2. Mark the Contract Drawings to show the actual installation where the installation varies substantially from the Work as originally shown.
3. Mark whichever drawing is most capable of showing conditions fully and accurately.
4. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
5. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
6. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
7. Note related Change Order and Project Consultant's Supplementary Instructions numbers where applicable.

END OF SECTION

SECTION 01820 (01 79 00)
DEMONSTRATION AND TRAINING

PART 1 GENERAL

PART 1 SECTION INCLUDES

- A. Demonstration and Instructions.
- B. Documentation of Demonstration and Instructions.
- C. Commissioning Coordination.
- D. RELATED DOCUMENTS**
- E. Section 01430-Quality Assurance.
- F. Section 01450-Quality Control.
- G. Section 01750-Starting and Adjusting.
- H. Section 01770-Closeout Procedures.
- I. Section 01780-Closeout Submittals.
- J. DEMONSTRATION AND INSTRUCTIONS**
- K. Demonstrate operation and maintenance of products to Owner's personnel 2 weeks prior to date of Substantial Completion.
- L. Demonstrate Project equipment and systems on site to the Owner's personnel.
 - 1. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled times, at equipment location.
 - 2. Ensure comprehensive demonstration of all features, capabilities, and controls.
- M. Provide additional training concerning operator safety, maintenance, operation, trouble-shooting and other related topics in an Owner designated classroom environment.
- N. Provide demonstration and classroom instruction by trained instructors and manufacturer's representatives who are knowledgeable about the Work and its component systems, assemblies, equipment, and products.
- O. For equipment or systems requiring seasonal operation, perform demonstration for other season within 6 months.
- P. Utilize operation and maintenance manual content as basis for instruction. Review contents of manual with Owners' personnel in detail to explain all aspects of operation and maintenance.
- Q. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

R. Attendance form shall be fill-in by Contractor for each demonstration or training session. Contractor shall submit form with closeout submittals. (See Document 01820a-Contractor's Demonstration and Training Attendance Form).

S. DOCUMENTATION OF DEMONSTRATIONS AND INSTRUCTIONS

PART 2 PRODUCTS-Not Used

PART 3 EXECUTION-Not Used

END OF SECTION

SECTION 04100

MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Mortar and grout for Masonry.

1.2 ENVIRONMENTAL REQUIREMENTS

1.3 A. Cold weather Requirements: IMIAC – Recommended Practices and Guide Specifications for Cold Weather Masonry Construction.

1.4 SUBMITTALS

A. No color choice necessary.

PART 2 PRODUCTS

2.1 MATERIALS

A. Portland Cement: ASTM C150, Type 1, gray color or approved equal.

B. Mortar Aggregate (Sand): ASTM C144, standard masonry type.

C. Hydrated Lime: ASTM C207, Type S.

D. Premix Mortar: ASTM C387 and ASTM C91, using gray cement, normal strength, as manufactured by Brixment.

E. Grout Aggregate: ASTM C404.

F. Water: Clean and potable.

SECTION 05400 (05 44 00)
COLD FORMED METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Load bearing and non-load bearing steel stud walls and soffit systems.
- B. Steel joists and rafters.
- C. Steel trusses.

1.2 RELATED SECTIONS

- A. Section 01572-Construction Waste Management.
- B. Section 09250-Gypsum Board.

1.3 REFERENCES

- 1.4 International Organization for Standardization (ISO) 14021–1999; Environmental Labels and Declarations

1.5 SUBMITTALS

- A. Product Data:
 - 1. Submit properly identified manufacturer's literature and technical data including specifications and installation instructions before starting work.
 - 2. Recycled Content:
 - (a) Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
 - (b) Indicate relative dollar value of recycled content product to total dollar value of product included in project.
 - (c) If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
 - (d) If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.
- B. Samples:
 - 1. Metal framing.
 - 2. Required accessories.
- C. Shop Drawings: Show layouts and sections coordinated with contract documents showing framing, anchorage accessories, and connection details.
 - 1. For systems not completely detailed in Contract Documents, provide the following in addition to shop drawings:
 - (a) Structural design calculations for framing members, connections and accessories. (to be provided upon request)

- (b) Calculate structural properties of framing and accessories in accordance with AISI "Specification" for the Design of Cold Formed Steel Structural Members.
 - (c) Trusses: ASTM A 653/653M steel G60 galvanized. Provide manufacturer's standard chord and web member profiles with mechanical properties as required by structural design calculations. Shop fabrication required.
 - (d) Design trusses in accordance with AISI "Design Guide for Cold-Formed Steel Trusses, Publication RG-9518."
 - (e) Determine mechanical properties by testing in accordance with ASTM A 370.
 - (f) Configure web members as shown on Shop Drawings.
2. Calculations and Engineered Shop Drawings shall be signed and sealed by a Florida Registered Professional Engineer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Light Gage Metal Framing:
 - 1. Clark Framing Systems, Inc.
 - 2. Dietrich Metal Framing.
 - 3. MarinoWare Industries, Inc.
 - 4. Unimast Incorporated (USG).

2.2 MATERIALS

- A. All manufactured cold formed metal framing products are to contain recycled content.
- B. Steel Studs thickness and grade as required by Contract Drawings or Shop Drawings, but not less than the following:
 - 1. 4 inch, 20 gage (minimum), galvanized.
 - 2. 6 inch, 20 gage (minimum), galvanized.
 - 3. 8 inch, 18 gage (minimum), galvanized.
- C. Steel Runner Track thickness and grade as required by Contract Drawings or Shop Drawings, but not less than the following:
 - 1. 20 gage for 4 inch and 6 studs.
 - 2. 18 gage for 8-inch studs.
- D. Coating: Steel studs and runner track shall comply with ASTM 525 and have a G-60 galvanized coating.
- E. Steel Studs, Runner Track, and Accessories:
 - 1. 12, 14, and 16 Gage: Form of steel meeting the requirements of ASTM A653, Grade D, with a minimum yield of 50,000 psi.
 - 2. 18, 20 and 22 Gage: Form of steel meeting with the requirements of ASTM A653, Grade A, with a minimum yield of 33,000 psi.
- F. Metal Screws: Corrosion resistant coated, self-drilling, pan or hex washer head. Provide screw type and size as required by Contract Drawings or Shop Drawings (as applicable).

PART 3 EXECUTION

3.1 INSPECTION

- A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

3.2 INSTALLATION

- A. Use of powder- actuated shots is prohibited, except in anchoring tracks to concrete or steel.
- B. Stud Spacing: Maximum 16 inches on center, unless otherwise indicated on the drawings.
 - 1. Frame corners with three studs.
 - 2. Frame wall openings wider than stud spacing with double 20 gauge studs at each jamb. Connect studs with clips min 48 inch AF and one at head.
- C. Runner Track: Securely anchor to floor and overhead structure as detailed on Contract Drawings or Shop Drawings (as applicable).
- D. Seat studs squarely in runner track with stud web and flanges abutting track web, plumbed and aligned, and securely attached to flanges each side or web of both upper and lower runner tracks, with no. 8 screws, unless otherwise noted.
- E. Install framing accessories and bridging as shown on Contract Drawings or Shop Drawings as applicable.

END OF SECTION

SECTION 06200
FINISH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Finish carpentry items, other than shop prefabricated casework; hardware and attachment accessories.

- B. Work of Other Sections:
 - 1. "Joint Sealers", Section 079200
 - 4. "Wood Doors", Section 08210
 - 5. "Glazing", Section 08800
 - 6. "Painting", Section 09900

1.2 SUBMITTALS

- A. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, finishes, and accessories. Indicate necessary dimensions, sizes, elevations, sections, layouts, and details, for the Architect's approval prior to fabrication.

- B. Samples: Submit color samples of laminated plastic, as required, for color selection by the Architect prior to fabrication.

1.3 QUALITY ASSURANCE

- A. Perform work in accordance with AWI quality.

1.4 REGULATORY REQUIREMENTS

- A. Conform to applicable code for fire retardant requirements.

1.5 PRODUCT HANDLING

- A. Materials shall be inspected by the Contractor's superintendent on arrival at the job site. Faulty or damaged materials shall be rejected. It shall be the Contractor's responsibility to produce finished items of work in first class condition free from defects.

Do not deliver these materials until entire building has been "dried out" and interior humidity is maintained at 15% or less, at 70 degrees F, for a minimum of 10 days.

PART 2 PRODUCTS

2.1 LUMBER MATERIALS

- A. Softwood Lumber: PS 20: Graded in accordance with AWI, maximum

moisture content of 6 percent.

B. Hardwood Lumber: Graded in accordance with AWI, maximum moisture content of 6 percent.

2.2 SHEET MATERIALS

A. Softwood Plywood: PS 1 Grade C-D; Graded in accordance with AWI.

B. Wood Particleboard: ANSI A208.1 Type 1: AWI standard, composed of wood chips made with waterproof resin binders, sanded faces.

C. Cover exposed edges of shelving with 3/8 inch thick hardwood edging.

D. Apply plastic laminate finishes with adhesive over entire surface.
Apply laminate backing sheet on reverse side of plastic laminate finished surfaces.

E. Install hardware in accordance with manufacturer's instructions.

3.3. WORKMANSHIP

A. Fastenings

1. Anchors. Provide expansion bolts as needed at masonry and concrete.

2. Attach exterior woodwork with galvanized or aluminum nails.

3. Attach interior finish wood with proper size finish nails. Set nails.

B. Woodwork shall be set plumb and level, with tight joints. Cope moldings at returns and miter outside corners.

C. Backprime or have same done on exterior and interior finish wood.

D. Set exterior door thresholds in caulking compound.

3.4 PREPARATION FOR FINISH

A. Sand work smooth and set exposed fasteners. Apply wood filler in exposed fastener indentations.

B. Site Finishing: Refer to Section 09900.

3.5 SCHEDULE

A. Wood Oak. Stain as selected by Owner and Interior Designer. Match Existing.

B. Stained wood trim: Oak. Stain as selected by Owner and Interior Designer.

- C. Wood Shelves. Select grade wood jams wood edge. 1" AC plywood. Adjustable metal standards and brackets to support shelves.
- D. Epoxy coated steel rod ventilated shelving with matching steel rod as manufactured by Shulte Corp., 11450 Gotham Road, Cincinnati, Ohio 45242 (513-489-9300) or equal. (Coat closets).
- E. Build partitions indicated on drawings. (Note: Metal studs at interior partitions required.)
- F. Wood base, Match Existing.
- G. Door Frames, Match Existing.
- H. Soffit: Match Existing.
- I. Fascia Covering: Match Existing.
- J. Louvers: Match Existing.

END OF SECTION

SECTION 06400 (06 40 00)

ARCHITECTURAL WOODWORK

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Casework.

1.2 RELATED SECTIONS

1. Section 01572-Construction Waste Management
2. Section 06100-Carpentry.

1.3 REFERENCES

- A. AWI-Architectural Woodwork quality Standards Illustrated; Architectural Woodwork Institute.
- B. BHMA A156.9-American National Standard for Cabinet Hardware; builders Hardware Manufacturers Association (ANSI/BHMA).
- C. GSA CID A-A1936-Adhesive, contact, Neoprene rubber; Federal Specifications and Standards.
- D. PS 1-construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce).
- E. PS 20-American softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce)
- F. Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services
- G. FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- H. ASTM - American Society for Materials and Testing
 1. D6007-Determination of Formaldehyde Concentration in Air from Wood Products.
 2. D6330-Determination of Volatile Organic Compounds (Excluding Formaldehyde) Emissions from Wood-Based Panels.

1.4 SUBMITTALS

- A. Shop Drawings: Indicate AWI Quality Grades, plans, elevations, component profiles, details of construction and installation, dimensions, finishes, fittings and fastenings, hardware and accessories.
- B. Product Data: Submit data for items used by architectural woodworker.
 1. Low Emitting Materials.
 - (a) Submit manufacturer's Material Safety Data Sheet Indicating VOC limits of all products.

- (b) Submit manufacturer's certification that all products comply with Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services or GREENGUARD Product Emission Standard for Children & Schools.

1.5 QUALITY ASSURANCE

- A. Lumber Grading: Comply with NIST Voluntary Product Standard PS20.
- B. Standards: Grades as defined by AWI "Quality Standards".
- C. Cabinets shall be designed to support 75 lbs per linear foot per row of shelving. This includes design of attachment to wall or blocking.

1.6 MOCK-UP:

- A. Product mock-up of full size base cabinet, which includes plumbing accessories and fittings.
- B. Locate where directed.
- C. Mock-up may not remain as part of the work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from damage and moisture.

PART 2 PRODUCTS

2.1 MATERIALS

- A. All engineered wood, plastic laminate, and hardware materials to contain recycled content.

2.2 PLASTIC LAMINATED FINISHED CASEWORK

- A. Quality Grade: AWI Custom.
- B. Construction: Details conforming to AWI Flush overlay design (unless shown otherwise on Drawings).

2.3 WOOD:

- A. All wood baseboard to be clear finished white oak, to match thickness and finish surface profiles.
- B. All engineered wood products such as plywood and fiberboard shall comply with Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services or GREENGUARD™ Product Emission Standard for Children & Schools. Or similar.

- C. Face Frame Rail: 3/4 inch thick lumber.
- D. Plywood: 3/4 inch thick for counters, doors, drawer faces, shelves, cabinet bodies etc.
 - 1. Countertops in which sinks occur must have a core of exterior grade plywood.
- E. Fiberboard: Cabinet backs and drawer bottoms: 1/4-inch thickness minimum, tempered with factory applied gloss surface.
- F. Shelves: 3/4 or 1 inch thickness plywood per AWI and Article 1.3 C above.
- G. Particleboard is not permitted.

2.4 PREPARATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.
- C. Field measurements: Verify all critical dimensions in field prior to fabrication.

2.5 INSTALLATION

- A. Baseboard to match and align with existing. Counter sink all nail (use finish nails)
- B. Miter to hide end to end seams.

END OF SECTION

**SECTION 07900
CAULKING AND WEATHERSTRIPPING**

1. GENERAL

- a) Applicable provisions of General Conditions and Special Conditions govern work under this section.

2. WORK INCLUDED

- a) Furnish labor and materials to complete caulking indicated or specified herein, or both, including but not limited to:
 - i) Exterior Caulking
 - a) Remove exterior wood molds, staff beads, etc., from exterior door frames, clean out, caulk joints between frames and masonry.
 - b) Caulk joints between sub-frames, door and window frames.
 - c) Set metal door saddles in caulking bed.
 - ii) Interior Caulking
 - a) Caulk joint between tile work (plaster) and back rim of lavatories, sinks with caulking of selected color.
 - iii) Priming: Prime sides of joints to be caulked, except where glass or metal, with one coat of colorless waterproofing such as shellac or varnish.

3. MATERIALS

- a) Deliver, store, handle, materials in original packages until ready for use. Do not use packages showing evidence of water or other damage.
- b) Primer: Quick drying clear varnish thinned to proper consistency, of type as recommended by caulking manufacturer. Apply with brush.
- c) Exterior caulking: G.E. Silicone Rubber Caulking Compound in colors as required for use with standard caulking guns - to be applied before paint finishes.
- d) Interior caulking: Oil grade "painters" caulk.

4. APPLICATION

- a) Prime with brush that will reach all parts of joints to be filled with caulking, apply caulking with hand gun or tool.
- b) Use nozzles of proper size to fit joints, drive material in with sufficient pressure to fill joints.
- c) Prime inside surface of masonry openings, surfaces of frames with prime. Butter inside edge of masonry openings or surfaces of frames to be embedded with thin coat of caulking. Caulk jambs, heads, sills neatly with trowel, gun, finish joints as specified.

- d) Metal Door Saddles - Spread caulking bed over entire seat of excess material, neatly point joints as specified.
 - e) In caulking around openings in wood or masonry, include entire perimeter of each opening.
5. JOINTS
- a) Neatly point finish of caulking joints on flush surface with beading tool; remove excess material.
 - b) Neatly point finish of caulking
 - c) Caulking where exposed; free from wrinkles, uniformly smooth. Make caulked joints watertight.
6. CLEANING
- a) Immediately clean adjacent materials which have been sealed; leave work in neat, clean condition.
7. GUARANTEE
- a) Guarantee that specified work will be free from defects of materials, workmanship for two (2) years from date of final certificate.
 - b) Repair, replace, such defective work and other work damaged thereby, which becomes defective during guarantee term, without extra cost to Owner.
 - c) Following types of failures will be adjudged defective work: Leakage, hardening, cracking, crumbling, melting, shrinkage, or running of caulking; or staining of adjacent work by caulking.

END OF SECTION

SECTION 07920 (07 92 00)

JOINT SEALANTS

PART 1 GENERAL

PART 2 SECTION INCLUDES

PART 3 Sealants and caulking for joints between dissimilar materials and to close other joints.

3.1 REFERENCES

- A. ASTM C 834-Standard Specification for Latex Sealants.
- B. ASTM C 919-Standard Practice for Use of Sealants in Acoustical Applications.
- C. ASTM C 920-Standard Specification for Elastomeric Joint Sealants.
- D. ASTM D 1056-Standard Specification for Flexible Cellular Materials-Sponge or Expanded Rubber.
- E. GREENGUARD Product Emission Standard for Children & Schools.
- F. Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services.
- G. SWRI (Sealant, Waterproofing and Restoration Institute): Sealants: The Professional's Guide.

H. SUBMITTALS

- I. Product Data: Indicate chemical characteristics, performance criteria, limitations and color chart for all materials.
 - 1. Low Emitting Materials.
 - (a) Submit manufacturer's Material Safety Data Sheet Indicating VOC limits of all products.
 - (b) Submit manufacturer's certification that all products comply with Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services or GREENGUARD Product Emission Standard for Children & Schools.
 - (c) Samples: Submit samples of each type of sealant and caulking.
 - (d) Submit manufacturer's installation instructions.
 - (e) **QUALITY ASSURANCE**
 - (f) Single source responsibility: Obtain materials from a single manufacturer.

- (g) Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum 3 years documented experience.
- (h) Applicator Qualifications: Company specializing in performing the work of this section with minimum 5 years documented experience.
- (i) **WARRANTY**
- (j) Replace sealants and caulking which fails because of loss of cohesion or adhesion, or does not cure.
- (k) Furnish written warranty that work executed under this section is free from defects of material and workmanship for a period of 5 years from date of substantial completion of the entire project.

PART 4 PRODUCTS

4.1 MATERIALS

A. Toxicity/IEQ: All joint sealant materials are to comply with Standard Practice for The Testing Of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda. California Department of Health Services or GREENGUARD Product Emission Standard for Children & Schools.

1. Sealant Type 3:
2. Polyurethane, two-part, chemical cure.
3. Non-sag type for vertical applications.
4. Capable of being continuously immersed in water; withstand movement up to 50 percent of joint width and satisfactory applied throughout a temperature range of 40 degrees to 90 degrees Fahrenheit.
5. Uniform, homogenous, and free from lumps, skins, and coarse particle when mixed.
6. Shore A hardness: Minimum 30, Maximum 40
7. Conforming to requirements of ASTM C920 Type M, Grade NS, Class 25 use T, NT, M, G, A, O.
8. Non-Staining and non-bleeding.
9. Color: Selected by Project Consultant.
10. Sealant Type 4
11. Acrylic base, one-part, solvent curing.
12. Capable of being continuously immersed in water, withstand movement up to 7-1/2 percent of joint width and satisfactorily applied throughout a temperature range of 40 degrees to 90 degrees Fahrenheit.
13. Shore A hardness: Maximum 55.
14. Non-staining and non-bleeding.
15. Conforming to requirements of ASTM C834.
16. Color: Selected by Project Consultant.
17. Sealant Type 5:
18. Silicone base, one-part, neutral curing.
19. Withstand movement up to 50 percent of joint width and satisfactorily applied throughout a temperature range of 40 degrees to 90 degrees Fahrenheit.
20. Shore A hardness: Maximum 30.

21. Conforming to requirements of ASTM C920, Type S, Grade NS, Class 50, US = NT, M, G, A. Selected by Project Consultant.
22. SWRI Sealant validation.
23. Color: Selected by Project Consultant.

24. Primer:
25. As recommended by manufacturers of caulking or sealant used.
26. Type that will seal the surfaces and prevent absorption of the vehicle essential to the retention of elasticity by the caulking or sealant compound.

27. Accessories: Provide solvent, cleaning agents and other necessary materials as recommended by the caulking or sealant manufacturer essential for a complete installation.

PART 5 EXECUTION

PART 6 PREPARATION

- PART 7 Verify joint dimensions, physical and environmental conditions are acceptable to receive work of this Section.
- PART 8 Verify that substrate surfaces and joint openings are ready to receive work.
- PART 9 Verify that joint backing and release tapes are compatible with sealant.
- PART 10 Remove loose materials and foreign matter, which might impair adhesion of sealant.
- PART 11 Clean and prime joint under provisions of manufacturer's instructions.
- PART 12 Perform preparation under provisions of manufacturer's instructions.

- A. Protect elements surrounding work of this section from damage or disfiguration.

B. INSTALLATION

- C. Perform work under provisions of ASTM C 804 for solvent release and ASTM C 790 for latex base sealants.
- D. Install sealant under provisions of manufacturer's instruction.
- E. Measure joint dimensions and size materials to achieve required width/depth ratios.
- F. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.
- G. Install sealant free of air pockets, foreign embedded matter, ridged and sags.
- H. Apply sealant within recommended temperature range. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- I. Apply generally with caulking gun of proper nozzle size to fit joints.

- J. Apply with sufficient pressure to fill joint from backing to surface.
- K. For joints in flat surfaces, neatly tool compound slightly concave with proper tools.
- L. Execute finishing of caulking around frames with coving tool.
- M. As work progresses, immediately remove compound that may accidentally flow onto adjoining surfaces using manufacturer's recommended solvent and cleaners. Remove excess material from joints immediately.
- N. At completion, carefully check all joints for damage and repair-damaged joints.
- O. Clean adjoining surfaces.
- P. Protect sealants and caulking until cured.

12.2 SCHEDULES

12.3

Exterior:

1. Perimeters of exterior openings where frames meet exterior facade of building: Type 1 or 3.
 2. Expansion and control joints in exterior surfaces of poured-in-place concrete walls: Type 1 or 3.
 3. Expansion and control joints in exterior surfaces of pre-cast tilt-up wall panels: Type 7 (unpaintable) or Type 3 (paintable polyurethane).
 4. Exterior joints in horizontal wearing surfaces: Type 2 in areas subject to foot and vehicular traffic; Type 3 at plazas, malls, patios etc.
 5. Skylights and glazing: Type 5.
- Interior:**
6. Seal interior perimeters of exterior openings: Type 1.
 7. Expansion and control joints in interior surfaces of poured-in-place concrete walls: Type 1 or Type 3.
 8. Expansion and control joints in interior surfaces of pre-cast tilt-up wall panels: Type 1 or Type 3.
 9. Interior control and expansion joints in floor surfaces: Type 1 or Type 2.
 10. Perimeters of interior frames: Type 1.
 11. Perimeters of bath fixtures: Type 4.
 12. Exposed interior control joints in drywall: Type 4.
 13. Control joints in drywall, perimeter, and between metal framing and substrate in sound rated partitions: Type 6.

END OF SECTION

SECTION 08200

WOOD DOORS

1.1 GENERAL

- A. The General Conditions, Supplementary General Conditions, and applicable portions of Division 1 apply to this section.

1.2 SCOPE

- A. This section includes all labor, materials, equipment, and services required to provide, complete, the wood doors as indicated.

- B. WORK OF OTHER SECTIONS:

1. Finish Carpentry
2. Glass and Glazing
3. Painting

1.3 SUBMITTALS

- A. Submit, prior to shipment of material, written certification of compliance with the requirements of this specification.
- B. Furnish written guarantee, for doors, for interior use for life of installation, including repair or replacement, and refinishing of defective material.
- C. Submit shop drawings, indicating sizes, types, material, mark, numbers and necessary details for Architect's approval prior to fabrication.
- D. LEED Submittals
 1. See Section 01353 – Sustainable Design Certification Procedures, for submittal procedures.
 2. Submit data for each different product made of sustainably harvested wood, salvaged and reused wood, wood fabricated from recovered timber, as well as regionally-sourced wood. Include statement indicating costs for each different wood material made of sustainably harvested wood, salvaged and reused wood, wood fabricated from recovered timber, as well as regionally-sourced wood and third party certificate.

3. Provide documentation for adhesives and composite wood products indicating that adhesives and bonding agents used contain no added urea formaldehyde resins.
4. Provide documentation of VOC content of all interior adhesives actually used.
5. LEED Worksheet: Containing total cost of material.
6. Letter from manufacturer or MSDS verifying post consumer or post industrial recycled content and location of extraction/harvest and manufacturing location.

1.4 PRODUCT HANDLING

- A. Deliver, store, and handle this material in strict accordance with instructions of approved door manufacturer as required to avoid damage.

1.5 ENVIRONMENTAL CONDITIONS

- A. Building shall be enclosed, dry, continuously heated, and adequately ventilated prior, during, and after installation with temperature and humidity at approximate levels which will be maintained by the Owner following acceptance of this Project.

2.1 MATERIALS

- A. Flush doors shall meet or exceed NWMA Industry Standard I.S. I-76 and Architectural Woodwork Institute for core specified, faces 1,4,5.
 1. Face doors with good grade rotary sliced natural birch.
 2. Water repellent treatment on exterior doors.
 3. Flat slat louvers as scheduled, by door manufacturer, matching face veneer.
 4. Factory cut and trimmed openings for glass by others.
- B. Solid core doors, equal to Weyerhaeuser Timbled Core DPC-1 or approved equal.

- C. “B” label doors, equal to Weyerhaeuser Mineral Core DFM-60 (1 hour) or approved equal.
- D. “C” label doors equal to Weyerhaeuser Mineral Core DFM-45 or approved equal.
- E. Hollow core doors, equal to Weyerhaeuser Standard Honeycomb Core DHC 2 or approved equal. Door to be complete with hardware.
- F. Doors where indicated to have panelized look.
- G. Wood Doors to be red oak veneer.

3.1 PREPARATION

- A. Door frames shall be properly installed with square corners, plumb sizes, level at heads, securely anchored, and of proper size in hand, as indicated. Do not install doors in improperly installed frames.

3.2 INSTALLATION

- A. Fit doors to frames by planning for width; saw for height, preferably using 12 point and crosscut saw, taking not over 1/2” first from bottom, then not over 1/2” from top. Bevel lock edge 1/8” in 2 inches.
 - 1. Do not cut doors down to opening sizes smaller than those for which they were manufactured.

END OF SECTION

SECTION 08520 (08 51 13)

ALUMINUM WINDOWS

PART 1 GENERAL

PART 2 SECTION INCLUDES

- A. Extruded aluminum windows with operating sash, factory glazing, operating hardware, insect screens, and associated accessories.

2.2 RELATED SECTIONS

- A. 08800-Glass & Glazing.

2.3 REFERENCES

- A. American Architectural Manufacturers Association (AAMA):
 - 1. AAMA 902.2-Sash Balances
 - 2. AAMA 1502.6
- B. ANSI/AAMA 101-Voluntary Specifications for Aluminum Prime Windows and Sliding Doors.
- C. American Society for Testing and Materials (ASTM):
 - 1. A123-Specification for Zinc Coatings on Iron and Steel Products
 - 2. C509-Specification for Cellular Elastomeric Preformed Gasket and Sealants.
 - 3. D2000-Classification System for Rubber Products in Automotive Applications
 - 4. E283-Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors
 - 5. E330-Test Method for Structural Performance of Exterior Windows
 - 6. E331-Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.
- D. International Organization for Standardization (ISO) 14021-1999;Environmental Labels and Declarations
- E. National Fenestration Rating Council (NFRC) Labeling Program.

F. SYSTEM DESCRIPTION

- G. Performance requirements: Fabricate units to comply with the following requirements and performance.
 - 1. High Performance requirements of ANSI/AAMA A101, Section 3.
 - 2. Provide windows with 45-condensation resistance factor, under provisions of AAMA 1502.6.
 - 3. Limit air infiltration to 0.10 cubic feet per minute per foot of crack at edge of operable sash; tested by ASTM E283, for 20 percent of pressure resulting from design wind loading.
 - 4. Structural Performance: Provide units with no failure or permanent deflection for a positive (inward) and negative (outward) test pressure of that meets or

exceeds the design pressures shown on the Contract Documents, and the missile impact criteria.

5. SUBMITTALS

- H. Product Data:
1. Recycled Content:
 - (a) Indicate recycled content; indicate percentage of pre-consumer and post-consumer recycled content per unit of product.
 - (b) Indicate relative dollar value of recycled content product to total dollar value of product included in project.
 - (c) If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
 - (d) If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.
 2. Energy Efficiency:
 - (a) Submit product data indicating aluminum window Solar Heat Gain Coefficient (SHGC) and Visible Light Transmittance (VT) in accordance with the National Fenestration Rating Council (NFRC) methodology.
 3. Manufacturer's specifications and catalog cuts.
 4. Submit the type of finish to be supplied for aluminum in this section, with manufacturer's name and brand name, along with certification or test report as evidence that the finish has passed the 10-year weathering test and complies with AAMA 2605. Submit this product data before submitting shop drawings.
- I. Shop Drawings: Indicate elevations, locations, markings, quantities, materials, jamb conditions, metal thickness, sizes, shapes, dimensions, finishes, and wind pressures.
1. Indicate locations for installing frames.
 2. Indicate methods of assembling, connecting, anchoring, fastening and bracing.
 3. Indicate types, material, finishes, sizes and locations of hardware.
 4. Indicate which panels of each window unit are operable and which are fixed.
 5. Identify each type of mullion and anchorage.
 6. Identify maximum allowable design pressures for windows and mullions.
- J. Samples:
1. Aluminum and color finish including metal materials, glass, screen and screen frame, and glazing gaskets.
 2. Sealants: Provide manufacturer color chart and sample for selection by Project Consultant.
 3. Operator mechanisms.
- K. Manufacture installation instructions: Indicate special procedures and conditions requiring special attention.
- L. Warranty.
- M. QUALITY ASSURANCE**
- N. Regulatory Requirements:
1. Notify Building Code Inspector (BCI) within 24-hours after completion of windows to arrange for inspection.
 2. Do not conceal anchors and connections until inspection is complete.

- O. Single Source Responsibility: Provide aluminum windows produced by a single manufacturer capable of showing prior production of units similar to those required.
- P. Coordination of Fabrication:
 - 1. Check actual window openings in construction work by accurate field measurement before fabrication, and show recorded measurements on final shop drawings.
 - 2. Coordinate fabrication schedule with construction progress as directed by Contractor to avoid delay of work.
- Q. Repair damaged materials, or replace units that cannot be repaired to original condition. Replace materials that are warped.
- R. Protect exposed surfaces of metal with removable covering to prevent damage to finish. Protect metal while adjacent stucco work, painting and caulking is being performed.
- S. Labeling: Each unit shall bear a permanent label with manufacturer's name or logo, city, and state.
- T. All work shall be performed in accordance with referenced standards.

2.4 DELIVERY, STORAGE and HANDLING

- A. Deliver packaged materials in manufacturer's original, unopened, labeled containers.
- B. Store in accordance with manufacturer's published instructions, above grade on dunnage, properly protected from weather and construction activities.

C. WARRANTY

- D. Submit written warranty, signed jointly by manufacturer, installer and Contractor, agreeing to replace aluminum window units, which fail in materials or installations within 3 years of date of acceptance. The 3 parties jointly and separately are responsible for the installation for the period stated herein.
- E. Failure of materials or installation: Include, but not be limited to, excessive leakage or air infiltration, excessive deflections, faulty operation of sash, deterioration of finish or metal in excess or normal weathering, and defects in hardware and weather-stripped.

F. PRODUCTS

G. MATERIALS

- H. All aluminum window assemblies are to contain recycled content.
- I. Window Performance and Class Designations:
 - 1. Provide window units complying with the requirements of ANSI/AAMA 101:
 - (a) Performance Grade (aka: wind pressure): As noted on the drawings.
- J. Basic Materials:
 - 1. Extrusions: AA-6063 T-5 aluminum alloy.

2. Surface: Free of scratches and blemishes.
 - 3.
- K. Aluminum Extrusions: 6063-T5, alloy, minimum 22,000-psi ultimate tensile strength and minimum 0.125-inch thickness at any location for mainframe and sash members.
- L. Fasteners:
1. Aluminum, non-magnetic stainless steel materials warranted by manufacturer to be non-corrosive and compatible with aluminum window members, trim, hardware, anchors, and other components of window units.
 2. Reinforcement: Where fasteners screw-anchor into aluminum less than 0.125 inches thick reinforce interior with aluminum or non-magnetic stainless steel to receive screw threads, or provide standard non-corrosive pressed-in splined grommet nuts.
 3. Do not use exposed fasteners except for application of hardware.
 4. Exposed fasteners: Match finish of adjoining metal.
 5. Provide tamper-proof machine screws for exposed fasteners.
- M. Anchors, Clips and Window Accessories:
1. Depending on strength and corrosion-inhibiting requirements, fabricate units of aluminum, non-magnetic stainless steel, or hot-dip zinc coated steel complying with ASTM A386.
 2. Exposed items: Match the window frame color.
 3. Provide sufficient strength to withstand design pressure indicated.
 4. Use nylon shims at all fastener locations to substrate.
- N. Compression Glazing Strips and Weather-stripping: Molded neoprene gaskets complying with ASTM D2000 Designation 2BC415 to 3BC620, or molded expanded neoprene gaskets complying with ASTM C509, Grade 4.
- O. Sealant:
1. Seal frame joints; completely filling voids, flush with exposed surfaces. Provide type recommended by window manufacturer for joint size and movement, to remain permanently elastic, non-shrinking and non-migrating.
 2. Comply with Section 07920-Joint Sealants for materials and installation of sealants.
 3. Color: As selected by the Project Consultant.
- P. Friction Shoes: Nylon or other non-abrasive, non-staining, non-metallic, non-corrosive durable material.
- Q. Balance Mechanism: Spring loaded, with adjustable tension control.
- R. Mullions:
1. Provide mullions and cover plates as shown, matching window units, and complete with anchors for support and installation.
 2. Allow for erection tolerances and provide for movements of window units due to thermal expansion and building deflections.
- S. Fasteners: Aluminum, stainless steel or zinc plated steel. Properly insulate steel anchors from aluminum.
- T. FABRICATION**
- U. General:

1. Provide manufacturer's standard fabrication that complies with the indicated standards and that produces units that are reglazable without dismantling sash framing.
 2. Include a complete system for assembly of components and anchorage of window units, and prepare sash for glazing except where pre-glazing at the factory is indicated.
- V. Sizes and Profiles:
1. Required sizes for window units and profile requirements are indicated on the drawings.
 2. Variable dimensions are indicated along with maximum and minimum dimensions as required to achieve design requirements and coordination with other work.
- W. Details shown on drawings are based upon standard details by 1 manufacturer. Similar details by other manufacturers will be acceptable, provided they comply with size requirements, minimum/maximum profile requirement, and performance standards as indicated or specified.
- X. Provide weep holes and internal water passages to conduct infiltrating water to the exterior.
- Y. Provide sub-frames and anchors for window units where shown, of profile and dimensions indicated but not less than 0.062 inch thick extruded aluminum. Miter or cope corners, and weld and dress smooth with concealed mechanical joint fasteners. Finish to match window units. Seal joints on inside with silicone sealant.
- Z. Provide mullions and cover plates as shown, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, in the manner indicated.
- AA. Glazing Stops: Provide screw-applied or snap-on glazing stops, coordinated with glass selection and glazing system indicated. Finish glazing stops to match window units.
- BB. Pre-glazed Fabrication: Pre-glaze window units at the factory where possible and practical for applications indicated. Comply with glass and glazing requirements of the "Glass and Glazing" sections of these specifications, and AAMA 101.

2.5 PREPARATION

- A. Clean aluminum surfaces and treat following ASTM D1730, Type B, Method 5 or 7.
- B. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface and are under provisions of approved shop drawings.

C. INSTALLATION

- D. Use only skilled tradesmen, erect all storefront components to all building bench marks and column centerlines.
- E. Erect windows plumb, level and true.
1. Do not distort windows by erection screws or fittings.

- F. Separate aluminum from masonry and ferrous metals by use of bituminous coating or gaskets to eliminate possibility of corrosion from electrolytic action.
- G. Protect work from corrosion, prime coat concealed steel stiffeners, anchors, brackets, fasteners and the like prior to installation and seal joints between window frames and building tightly and continuously.
- H. Furnish and apply sealants to provide a weathertight installation at all joints and intersections and at opening perimeters. Wipe off excess material; leave all exposed surfaces and joints clean and smooth.
- I. Maintain wire or clips holding ventilators closed in place until windows are completely erected and hardware is attached.
- J. Adjust operating sash and hardware to provide tight fit at contact points and at weather-stripping, and to ensure smooth operation and weathertight closure.
- K. Cleaning:
 - 1. Clean surfaces promptly after installation of windows, exercising care to avoid damage to protective coatings and finishes.
 - 2. Remove excess glazing and sealant compounds, dirt and other substances.
 - 3. Lubricate hardware and moving parts.
 - 4. Clean glass of pre glazed units promptly after installation of windows.
- L. Protection:
 - 1. Provide protection to prevent damage to window units.
 - 2. Protect all adjacent finished surfaces from scratches and damage.
- M. After completion of storefront installation: Inspect, adjust, put into working order and leave clean, free of labels, dirt, etc. Protection from this point: Shall be the responsibility of the Contractor.

END OF SECTION

SECTION 08710 (08 71 00)

DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Finish hardware items required for swinging doors indicated on schedules and/or shown on drawings including hinges, lock or latch sets, dead locks, cylinders, bolts, exit devices, push/pull units, closers and miscellaneous door control devices, protection plates, and other miscellaneous hardware.

1.2 RELATED SECTIONS

1.3 SYSTEM DESCRIPTION

- A. Furnish labor and material to complete hardware work indicated, as specified, or as may be required by actual conditions at building.
- B. Include all necessary screws, bolts, expansion shields, and all other devices and accessories, if necessary, as required for proper hardware application. The hardware supplier assumes all responsibility for correct quantities.
- C. Ensure all hardware meets or exceeds the requirements of federal, state and local codes having jurisdiction over this project, notwithstanding any real or apparent conflict therewith in these specifications. This includes all ADA, windload, and Owner's requirements.
- D. Exterior Doors: Open outwards 180 degrees (except when in an alcove or against 90 degree wall).
- E. Copies of the hardware schedule, templates and keying schedules: Shall be submitted and approved before ordering.

1.4 SUBMITTALS

- A. Before ordering any materials, prepare and submit shop drawings of all hardware materials with complete hardware schedule to Project Consultant and SBBC Physical Plant Operations (Hardware Department) for review. The hardware schedule shall be specific and conclusive with respect to catalog numbers, finishes, template requirements, type of fasteners and locations. Incomplete schedule will not be reviewed.
- B. At the completion of review, make corrections as directed and resubmit the corrected schedule for final approval.
- C. Approval of schedule will not relieve Contractor of the responsibility for furnishing all necessary hardware, including the responsibility for furnishing correct quantities.
- D. After the hardware schedule has been approved, coordinate with the door and frame manufacturers and any other trade affected. Furnish templates required by manufacturing contractors to facilitate accurate fitting and preparation for proper installation.
- E. Furnish templates in ample time to facilitate progress of work.

- F. Door numbers and hardware sets are not to be changed.
- G. Submit initial draft of hardware schedule at earliest possible date in order to facilitate the fabrication of other work, particularly hollow metal frames, which are critical in the project construction schedule. Include with schedule product data or other shop drawings and information essential to coordinated review of hardware schedule. Include in schedule installation dimensions for the benefit of the installer.
- H. Contractor: Check specified schedule against latest revised plans when making up schedule for approval. Schedule each door separately and, where practical, schedule item numbers the same as door numbers shown on drawings and schedules and in consecutive sequences.
- I. Submit final draft of hardware schedule, after approvals are complete, for use on project. Six copies are required.
- J. Prepare detailed keying schedule after obtaining Owner's instructions and requirements and submit for approval.
- K. Samples, if requested, shall be submitted to Project Consultant for approval. Approved samples, if of proper finish, will be delivered to job for ultimate use; otherwise samples will be returned to contractor upon completion.
- L. Provide 4 sets of operating and maintenance manuals for all hardware.
- M. Complete current Florida Building Code (FBC) High Velocity Hurricane Zones (HVHZ) Protocols and required product Notice of Acceptance (NOA).

1.5 QUALITY ASSURANCE

- A. Ensure hardware supplier has an office and warehouse facilities in the state of Florida to accommodate the materials used on this project.
- B. Provide written guarantee that all materials furnished under this Section will be free from defects in materials and workmanship for a period of one year from date of final Certificate of Acceptance. Provide documentation for those products with longer warranties.
- C. Provide certification that all materials furnished have been properly located under provisions of the hardware schedule and installed under provisions of the manufacturer's instructions.
- D. Hardware supplier shall make three inspections: The first shall be just before installation, the second shall be a month later to verify that the items are being installed properly and in the proper location, and the third inspection shall be during the punch list phase to verify that items are properly installed, are in the correct location, and master-key system is maintained. Report improper application of hardware to Owner. The Owner's representative or Contractor may require additional meetings or inspections with proper notification to the hardware supplier.
- E. Ensure the provision, proper coordination and functioning of finish hardware required for all openings, whether or not hereinafter listed in the detailed schedule, including proper type of strike plates, length of spindle, hand, backset and bevel of locks, hand and degree opening for closers, length of kick plates, length of rods and flush bolts, type of door stop and other functions or mechanism to meet the requirements of the project.
- F. FIRE-RATED OPENINGS:

1. Provide hardware for fire-rated openings in compliance with A.I.A. (NBFU) Pamphlet No. 80 and NFPA Standards No. 101. This requirement takes precedence over other requirements for such hardware. Provide only hardware that has been tested and listed by UL for the types and sizes of doors required, and complies with the requirements of the door and doorframe labels.
2. Where panic exit devices are required on fire-rated doors, provide supplementary marking on door UL label indicating Fire Door to be equipped with fire exit hardware and provide UL label on exit device indicating "Fire Exit Hardware".

G. FASTENERS:

1. Hardware shall conform to published templates generally prepared for machine screw or through-bolt installation.
2. Furnish each item complete with all screws, through-bolts, or other fasteners required for installation.
3. Concealed Type Fasteners: Furnish hardware units which have exposed screws with Phillips flat heads screws. Finished to match adjacent hardware.
4. Install door closers and exit devices with closed head through bolts (sex bolts).
5. Coordinate work with requirements of other sections.

1.6 DELIVERY, STORAGE, and HANDLING

- A. Send duplicate lists of hardware in each shipment to the Contractor. The original list shall accompany the first shipment. The Owner shall not be responsible for shipping and delivery charges that shall be the hardware suppliers responsibility.
- B. Coordinate delivery of hardware to respective shops of subcontractors as required. Ensure timely delivery of hardware components.
- C. Sort and deliver hardware to jobsite marked to correspond with item numbers of vendor's approved schedule and be specific as to exact opening and other locations for which items are packaged. Each door opening: receive separate item number of hardware schedule.
- D. Check all shipments to determine proper accessories and templates have been received.
- E. Deliver hardware only after detailed schedule, keying diagrams and samples have been approved.
- F. Provide secure lock-up for hardware delivered to the project. Control handling and installation of hardware items, which are not immediately replaceable so that the completion of the work will not be delayed by hardware losses.

1.7 WARRANTY

- A. Ensure material furnished is warranted for 1 year after installation or longer as the individual manufacturer's warranty permits. Provide documentation for items with a longer warranty.
- B. Mechanical Locks and Electronic Access Locks: Warranted in writing by the manufacturer against failure due to defective materials and workmanship, for a period of a minimum of 7 years for cylindrical locks, a limited lifetime warranty for mortise locks and a 3 year warranty for electric locks commencing from the date of purchase. Exit devices shall be warranted for a period of 5 years.
- C. Other Electronic Hardware Accessories (Power supplies, EL/RX/LX switches, etc.): Warranted for 1 year from Date of Purchase.

- D. Overhead Door Closers: Warranted in writing by the manufacturer against failure due to defective materials and workmanship, for a period of 10 years commencing on the Date of Final Completion and Acceptance, and in the event of failure, the manufacturer is to promptly repair or replace the defective with no additional cost to the Owner.
- E. Submit copies of the certification of windstorm testing in compliance with the Florida Building Code (FBC) High Velocity Hurricane Zones (HVHZ) Protocols and required product Notice of Acceptance (NOA).

PART 2 PRODUCTS

2.1 MANUFACTURERS/MATERIALS

- A. Refer to Section 01620-Product Options for Buy American First-Foreign Product Limits.

2.2 HINGES

- A. Hinges: Manufactured by Stanley, Hager, Bommer.
- B. Quantity: Use 1.5 pair 3 hinges for each door leaf up to and including 7'-6" in height and 0.5 pair 1 hinge for each additional 30 inches in door height; and 0.5 pair 1 hinge for each door leaf 40 inches to 48 inches in width.
- C. Ensure all doors equipped with closers are furnished with ball bearing (BB) hinges.
- D. Size, Type and Finish: Provide the following unless otherwise noted in the hardware set.
 1. Exterior Doors: FBB199, 4-1/2 inches x 4-1/2 inches with Non Removable (stainless steel) Pins (NRP), BHMA 630 SATW stainless steel satin finish, ANSI 5111.
 2. Interior Doors: Corridors, classrooms, gym, dining areas and other high abuse areas, use heavy duty hinge FBB168, 4-1/2 inches x 4-1/2 inches BHMA 652 steel satin chromium finish for door leaf up to and including 36 inches wide. ANSI 8111
 3. Interior Doors: Offices, conference rooms, workrooms, storage rooms, mechanical rooms, janitors closets, electrical rooms and other standard use doors use standard duty hinges F179 or FBB179, 4-1/2 inches x 4-1/2 inches BHMA652 steel satin Chromium finish for door leaf up to and including 36 inches wide. ANSI 8112.
 4. Verify the depth of door reveal. Coordinate with the architectural details and field conditions. Provide special sized hinges as appropriate.

2.3 LOCKS and LATCHSETS

- A. All Locksets:
 1. Best Lock Company.
 2. Schlage Lock Company.
 3. Marks Lock Company.
- B. All Exterior Doors: Schlage "L" series, 06A design, Best 40H series 15H, Marks 5 series 92 630 finish
- C. All interior doors: Schlage "ND" Series, Rhodes Vandleguard design and B600 Series Deadbolts; provide Everest Restricted and Patented "D" Keyway. Best 9K 15D ATB LM and 83T deadbolt, Marks Survivor 195 American and 140 deadbolt. **Exception:** Existing facilities (including new buildings at existing facilities) match existing keyway system.

- D. Provide interchangeable core rim cylinders, type 20-057, for all keyed exit devices and exterior doors. At mortise cylinders provide 20-061.
- E. Lock Trim, Latch Face and Strike Finish: BHMA 626 stainless steel chromium plated satin finish. For exterior provide stainless steel locksets.
- F. Functions as designated in hardware sets. All locksets, regardless of manufacturer, shall have compatible, interchangeable mounting holes to eliminate the need to drill new holes if a replacement is required.
- G. Provide all mechanical, electrical, custodial storage and any area deemed to be hazardous to the visually impaired, with door levers with tactile warning (manufacturers standard) applied to the exterior portion of the lever.
- H. Provide plastic strike boxes at all interior and exterior frames, and all double doors inactive leaf.
- I. Provide manufacturer's vandal resistant trim on all cylindrical locksets.
- J. Provide NOA certification \pm 90psf.

2.4 KEYS and KEYING

- A. Ensure all locks are keyed, masterkeyed, grandmasterkeyed and construction masterkeyed as directed by the Owner. Submit keying schedule for approval by Henderson Co. Library Department prior to ordering locks. Any keying schedule not approved by the Owner will be the General Contractors and Hardware Supplier's responsibility to replace all or any part of the cylinders and keys involved as deemed necessary at no additional cost to the Owner.
- B. Perform all keying at the lockset manufacturer's factory. Factory stamp all keys with bitting and registration number.
- C. Ensure all cylinders are Schlage Everest D Restricted and Patented Keyway. **Exception:** *existing facilities (including new buildings at existing facilities) match existing keyway system.*
- D. Construction key all locks.
- E. Pack all change keys in separately identified envelopes and ship as directed by School Board of Broward County, Physical Plant Operations Hardware Department.
- F. Ensure that at no time, the General Contractor has possession of the permanent keys, or bitting array. Permanent keys and cylinders shall be sent directly to the Owner's designated representative.
- G. Upon completion of the Project, the Owner will collect all keys including construction keys. Provide the Owner with the extractor keys and construction keys for future key control.
- H. Provide 3 change keys per lock; 8 grandmaster and master keys; 6 construction master keys; 2 construction extractor keys, and bitting array.
- I. Upon completion of the project, ensure that a representative of the hardware supplier accompanies the Owner in de-activating the construction master key along with confirming each lock's location, operation and keying.

2.5 CLOSING DEVICES

- A. All hydraulic door closers shall be furnished by 1 manufacturer and guaranteed for 10 years and electric releases guaranteed for 3 years. Closers shall meet LCN 4040EDA hole patterns.
- B. Closers:
 - 1. LCN 4040 EDA (Basis of Design).
 - 2. Stanley D-4550EDA
 - (a) LCN 4041 EDA Series (for 180 degree swing doors) having non-ferrous covers, forged steel arms separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide sizes 1 through 6.
 - (b) Closers are to be LCN 4040 Spring-Cush Series where wall stops cannot be used and doors open 110 degrees or less.
 - (c) Closers are to be LCN 4040EDA Series where wall stops or other stops are available to stop the door.
 - 3. Provide with heavy-duty parallel arm mounted on all doors opening into corridors or other public spaces and mounted to permit 180 degrees door swing wherever wall conditions permit. Mount door closers for the maximum degree of opening.
 - 4. Provide with non-hold open arms unless otherwise indicated.
- C. Door closer cylinders:
 - 1. Of high strength cast iron or R-14 high-silicon aluminum alloy construction to provide low wear operating capabilities of internal parts throughout the life of the installation.
 - 2. Tested to ANSI/BHMA A 156.4 test requirements by a BHMA certified testing laboratory.
 - 3. Provide a written warranty for 10 years.
- D. Door Closers:
 - 1. Utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees Fahrenheit to minus 30 degrees Fahrenheit, without requiring seasonal adjustment of closer speed to properly close the door.
 - 2. Closers for Fire-Rated Doors: Provide with temperature stabilizing fluid that complies with the standards UBC 7-2 (1997) and UL 10 C.
 - 3. Incorporate tamper resistant non-critical screw valves of V-slot design to reduce possible clogging from particles within the closer.
 - 4. Have separate and independent screw valve adjustments for latch speed, general speed, and hydraulic backcheck.
 - 5. Properly adjust closer to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location to protect the doorframe and hardware from damage.
 - 6. Pressure Relief Valves (PRV) are not acceptable.
 - 7. Spindle shall be full bridge, rack and pinion construction with full complement needle bearings.
 - 8. Provide all accessories necessary for proper operation of doors including drop plates. Provide Spring Cush arms where auxiliary stops not feasible.
 - 9. Coordinate with Article 2.2, D, 5, above.

2.6 PANIC and FIRE EXIT DEVICES

- A. Acceptable Manufacturers:
 - 1. Precision Apex 2100 Series.
 - 2. Sargent 88 series.
 - 3. Von Duprin 98 Series.
- B. Finish: US32D finish.

- C. Ensure devices are listed under “Panic Hardware” in accident equipment list of Underwriters Laboratories. All labeled doors with “Fire Exit Hardware” must have labels attached and comply with the provisions of Underwriters Laboratories.
- D. Through-bolt all exit devices.
- E. Exit Devices: Tested to ANSI/BHMA A 156.3 test requirements by a BHMA certified testing laboratory
- F. Surface Strikes: Roller type complete with shim plates as required.. Provide with a dead-latching feature to prevent latch bolt tampering.
- G. Provide lever trim on all fire rated exit devices. Provide night latch function (key retracted latch bolt) with sex bolts, on all non-rated exit devices, or as noted in the hardware sets.
- H. Standard Removable Mullion: Provide keyed removable mullion by exit device manufacturer with Schlage interchangeable (IC) Mortise Cylinder number 20-061 at double door openings.
- I. Fire-Exit Removable Mullions: Provide L fire label mullion when using fire exit rim devices on fire labeled pairs of doors. Provide Hurricane Rated Mullions when required.

2.7 PUSH, PULL, KICK and ARMOR PLATES

- A. Acceptable Manufacturers:
 - 1. Ives.
 - 2. Rockwood.
 - 3. Trimco (Basis of Design).
- B. Push Plates: Trimco 1001-9 6 inches x 16 inches, US32D Finish.
- C. Pull Plates: Trimco 1139-2 6 inches x 16 inches, US32D Finish.
- D. Kickplates: Provide on push side of doors with closers, but not on closer/holder doors unless scheduled otherwise. 10 inches high, 0.050 thick, bevelled on all exposed edges and sized as follows:
 - 1. Single Doors: 2 inches LDW (less door width).
 - 2. Pairs of Doors: 2 inches LDW (less door width).
 - 3. Armourplates: 34 inches in height, 0.050 thick, beveled on all exposed edges and sized as follows:
 - 4. Single Doors: 2 inches LDW (less door width).
- E. Finishes: Stainless steel, BHMA 630.
- F. Provide stainless steel screws.
- G. Coordinate with ADA and other accessibility code requirements.

2.8 EXTENSION FLUSH BOLTS

- A. Provide extension flush bolts as manufactured by Trimco Model 3917 UL Listed, 12 inches US 26D finish.
- B. Provide Trimco Model 3915, dust proof strike 3910 with plate with screws and lead shields.

2.9 WALL DOOR STOPS

- A. Provide Trimco Model 1270CVPV-wall stop in US 26D Finish. Wall stop shall have anti-rotation pin so rubber cannot be removed. Confirm that the contractor has provided proper backing in all walls.
- B. No floor stops permitted.

2.10 WEATHER-STRIPS, SWEEPS, DRIP CAPS, and THRESHOLDS

- A. Rigid Jamb and Head Weatherstrip: Aluminum mill finish, vinyl bulb insert, stainless steel screws. Manufacturers: Pemko 290AV, National Guard 160A Zero International 328A.
- B. Door Bottom Sweeps: Clear anodized aluminum finish, neoprene insert, stainless steel screws. Manufacturers: Pemko 315CN, National Guard 200NA, Zero International 39A.

2.11 ACCESSORIES

- A. Acceptable Manufacturers:
 - 1. Glynn-Johnson (Basis of Design).
 - 2. Hiawatha.
- B. Surface Mounted Overhead Door Holder/Stop: Provide Glynn-Johnson 70H/S Series Extra Heavy Duty Hold Open/Stop Model, US26D Finish.
- C. Acceptable Manufacturers:
 - 1. Glynn-Johnson.
 - 2. Rockwood.
 - 3. Trimco (Basis of Design).
- D. Provide Trimco 3094 with filler bar and mounting brackets for stop mounted hardware as required.

2.12 MISCELLANEOUS HARDWARE

- A. Astragal: NONE
- B. Door Hasp:.
- A. Door Silencers:
 - 1. Provide 3 rubber silencers per single door.
 - 2. Provide 2 rubber silencers per pair of doors.
- B. Padlocks: Provide Schlage PL 1001 Series Everest D. Keyway.
- C. Miscellaneous Locks and Cylinders: Provide Schlage cylinders and keyways for entrance doors, gate locks and electrical switches.

2.13 KEY CABINET

- A. Existing remain

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine openings scheduled to receive hardware. Repair openings requiring corrective work prior to installation of hardware.

3.2 INSTALLATION

- A. General: Prior to installing any hardware or locksets, the consultant shall arrange a meeting with the General Contractor, the hardware/door/frame supplier, the Owner, the lockset manufacturer's representatives and the hardware installer to review installers' qualifications, installation, any special requirements, etc. Installer must have five years minimum comparable experience in commercial/institutional hardware installations.
- B. Apply and install all hardware under provisions of the Finish Hardware Schedule. Exercise care not to mar or damage adjacent Work.
- C. Install hardware under provisions of manufacturer's installation instructions; unless otherwise indicated.
- D. Provide a secure lock-up for hardware delivered to the project but not yet installed.
- E. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the Work will not be delayed by hardware losses both before and after installation.
- F. Placement of Hardware: Install hardware at following heights and locations (unless otherwise indicated, heights are shown from finish floor to center line of item).
 - 1. Hinges:
 - (a) Top: 5 inch from top of door to top of hinge.
 - (b) Bottom: 10 in from finished floor to bottom of hinge.
 - (c) Intermediate: Center between top and bottom hinges.
 - (d) On Dutch Doors: 5 inch from top of door to top of hinge; 10 inch from finished floor to bottom of bottom hinge; 5 inch from split line to top and bottom respectively of lower and upper intermediate hinges.
 - 2. Cylindrical Lockset: 36 inches
 - 3. Deadlock/Dead latch 48 inches maximum
 - 4. Push Plate: 48 inches
 - 5. Pull Plate: 42 inches
 - 6. Panic Bar: 38 inches
 - 7. Kick Plate: 1/4 inch from door bottom
 - 8. Closer: Per manufacturer's template to give maximum degree of opening. Mount closers on room side of door.
- G. Stops and Holders:
 - 1. Wall: On block wall or stud wall where knob or pull hits. Provide wood blocking
 - 2. Overhead Door Holder: Per template.
 - 3. Door Holder: 2 inches from lead edge of door.

3.3 ADJUSTING and CLEANING

- A. Contractor: Adjust all hardware under strict provisions of manufacturer's instructions. Prior to turning project over to Owner, clean and make final adjustments to the finish hardware.

3.4 PROTECTION

- A. Contractor: Protect all hardware, as it is stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase.

3.5 DESCRIPTION OF HARDWARE SET NUMBERS

- A. Refer to Architecture drawings. Consultant shall coordinate using hardware of similar type and quality to meet job conditions. Supply hardware to meet project requirements and produce complete project.
- B. Hardware should be modified to be consistent with Product Approvals where required. The SBBC Standards shall be maintained.
- C. For existing facilities or new buildings constructed at existing facilities, keyways shall match existing facility keyway system.

3.6 HARDWARE SCHEDULE

Hardware Set 1: Interior Single Door-Office, Check-in Sorting, Classroom, Study Rooms

3 each	Hinges	F179 4-1/2 x 4-1/2	US26D
1 each	Lockset	ND94PD RHO x Everest D	626
1 each	Wall Stop	1270CVPV	US26D
3 each	Silencers		

END SECTION

SECTION 08800 (08 80 00)

GLASS AND GLAZING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Types of work in this section include glass and glazing for:
 - 1. Window units.
 - 2. Hollow metal frame construction.
 - 3. Doors.
 - 4. Entrances and Storefront.
- B. All glass required for project is specified herein. Intent is that glass for windows be "re-glazed" by window manufacturer, with remaining glass either pre-glazed or field installed in accordance with recommended practice.
- C. Extent of glass and glazing work is indicated on drawings and schedules.
- D. Mirror units are specified in Section 10810-Toilet Accessories.

1.2 RELATED SECTIONS

- A. Section 08520 – Aluminum Windows

1.3 REFERENCES

- A. AAMA (American Architectural Manufacturer's Association) A 804.1
- B. ANSI (American National Standard Institute) Z97.1-Glazing Materials Used in buildings-Safety Performance Specifications and Methods of Test.
- C. ASTM (American Society for Testing and Materials):
 - 1. C 509-Elastomeric Cellular Preformed Gasket and Sealing Material.
 - 2. C 864-Dense, Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers.
 - 3. C 920-Elastomeric Joint Sealants.
 - 4. C 1036-Flat Glass.
 - 5. C 1048-Heat-Treated Flat Glass.
 - 6. E 199-fire Tests of Building Construction and Materials.
 - 7. E 2010-Positive Pressure Fire Test of Window Assemblies.
 - 8. E 2074-Fire Test for Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Doors Assemblies.
 - 9. E2190 - 08 Standard Specification for Insulating Glass Unit Performance and Evaluation.
- D. CPSC (Consumer Product Safety Commission) 16 CFR (Code of Federal Regulation).
- E. NCBC

- F. GANA (Glass Association of North America):
 - 1. GANA-Glazing Manual.
 - 2. FGMA (Flat Glass Marketing Association) Sealant Manual.
 - 3. International Organization for Standardization (ISO) 14021–1999; Environmental Labels and Declarations
- G. National Fenestration Rating Council (NFRC)
- H. NFPA (National Fire Protection Association): NFPA 80-Fire Doors and Windows.
- I. Underwriters Laboratories, Inc. (UL): UL 263-fire Tests of Building Construction and Materials.

1.4 SYSTEM DESCRIPTION

- A. Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing materials, and other defects in the work.
- B. Normal thermal movement is defined as that resulting from an ambient temperature range of 120 degrees Fahrenheit and from a consequent temperature range within glass and glass framing members of 180 degrees Fahrenheit.

1.5 SUBMITTALS

- A. Product Data: Submit manufacturer’s technical data for each glazing material and fabrication glass product required, maximum allowable design pressure, Impact Standard Certification, including installation and maintenance instructions and the following:
 - 1. Energy Efficiency:
 - (a) Submit product data indicating glass and glazing Solar Heat Gain Coefficient (SHGC) and Visible Light Transmittance (VT) in accordance with the National Fenestration Rating Council (NFRC) methodology.
- B. Samples: Submit, for verification purposes, 12 inch square samples of each type of glass indicated except for clear single pane units, and 12 inch long samples of each color required, for each type of sealant or gasket exposed to view. Install sealant or gasket sample between two strips of material representative of adjoining framing system in color.
- C. Certificates: Submit certificates from respective manufacturers attesting that glass and glazing materials furnished for project comply with requirements.
 - 1. Separate certification will not be required for glazing materials bearing manufacturer’s permanent labels designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authorities having jurisdiction.
- D. Compatibility and Adhesion Test Report: Submit statement from sealant manufacturer indicating that glass and glazing materials have been tested for compatibility and adhesion with glazing sealants and interpreting test results relative

to material performance, including recommendations for primers and substrate preparation needed to obtain adhesion.

- E. Complete current NCBC High Velocity Hurricane Zones (HVHZ) Protocols and required product Notice of Acceptance (NOA).

1.6 QUALITY ASSURANCE

- A. Design Requirements: Design exterior glazing systems to conform to the NC Building Code and meet the design pressures shown on Contract Documents and meet the Impact Standards, in compliance with Florida Building Code (FBC) High Velocity Hurricane Zones (HVHZ) Protocols and required product Notice of Acceptance (NOA).
- B. Glazing Standards: Comply with recommendation of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.
- C. Safety Glazing Standards: Where safety glass is indicated or required by authorities having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of CPSC 16 CFR Part 1201 for category II materials.
 - 1. Subject to compliance with requirements, provide safety glass permanently marked with certification label of Safety Glazing Certification Council (SGCC) or other certification agency acceptable to authorities having jurisdiction.
- D. Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator for each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.
- E. Preconstruction Compatibility and Adhesion Testing: Submit samples of all glass, gaskets, glazing accessories, and glass framing members proposed for use in contact with, or in proximity of, glazing sealants, to sealant manufacturer for compatibility and adhesion testing in accordance with sealant manufacturer's standard testing methods and the following requirements.
 - 1. Submit not less than 3 pieces of each type and finish of glass framing member and of each type, class, kind, condition, and form (monolithic units) of glass for adhesion testing and one sample of substrates (gaskets, setting blocks and spacers) for compatibility testing.
 - 2. Schedule sufficient time for testing and analysis of results to prevent delay in the progress of the work.
 - 3. Investigate materials failing compatibility or adhesion tests and obtain sealant manufacturer's written recommendations for corrective measures, including use of specially formulated primers.
- F. All work shall be performed in accordance with referenced standards.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including

condensation, of temperature changes, of direct exposure to sun, and from other causes.

- B. Deliver materials in manufacturer's or distributor's packaging, undamaged, complete with installation instructions.
- C. Do not expose glazing to temperatures greater than 120 degrees F. or less than 40 degrees F. during storage or transportation.
- D. Store off the ground, under cover, protected from weather and construction activities.
- E. Do not expose the non-PVB side of glass to UV light.
- F. Store sheets of glass vertically. DO NOT LEAN.

1.8 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with glazing when ambient and substrate temperature conditions are outside the limits permitted by glazing material manufacturer or when joint substrates are wet due to rain, condensation or other causes.

1.9 WARRANTY

- A. Provide a 5 year warranty to include coverage for sealed glass units from seal failure, interpane dusting or misting, and replacement of same.
- B. Provide a 5 year warranty to include coverage for delamination of laminated glass and replacement of same.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, provide products of one of the following:
 - 1. Manufacturers of Fire Rated Glass:
 - (a) Interedge Technologies.
 - (b) Nippon Electric Glass Co., Ltd (Distributor: TPG).
 - (c) Pilkington Building Products North America (Distributor: TPG).
 - (d) Pilkington Building Products North America.
 - (e) (Basis of Design) TPG (Technical Glass Products).
 - 2. Manufacturers of Heat-Treated Glass:
 - (a) AFG Industries, Inc.
 - (b) Guardian Industries Corp.
 - (c) LOF Glass, Inc.
 - (d) Pilkington Building Products North America
 - (e) PPG Industries, Inc.
 - (f) Versalux Glass.

2.2 GLASS PRODUCTS-GENERAL

- A. Primary Glass Standard: Provide primary glass, which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.

- B. Heat-Treated Glass Standard: Provide heat-treated glass which complies with ASTM C 1048 requirements, including those indicated by reference to kind, condition, type, quality, class, and, if applicable form and finish.
- C. Sizes: Fabricate glass to sizes required for glazing openings indicated with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thickness indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated.

2.3 EXTERIOR GLASS

- A. Tint: As selected by Project Consultant.
- B. Solar Control Low-E Glass:
 - 1. Laminated Glass Performance Criteria:
 - (a) Maximum Solar Heat Gain Coefficient: [Insert Solar Heat Gain Coefficient (SHGC)].
 - (b) Minimum Visible Light Transmittance: [Insert Percent Visible Transmittance (VT)].
 - 2. Insulating Glass Minimum Performance
 - (a) Maximum Solar Heat Gain Coefficient: [Insert SHGC Coefficient].
 - (b) Minimum Visible Light Transmittance: [Insert VT Coefficient].
- C. Labeling: Each piece of glass shall be permanently labeled with manufacturer's name and product name, UL logo, and fire-rating.
- D. Fire Rating: 60 minutes or greater; fire rating listed and labeled by UL for fire rating scheduled at opening locations on Drawings, when tested in accordance with ASTM E 119 and UL 263.
- E. Substitutions:
 - 1. Will be considered by the A/E and Owner when submitted per requirements of Division-0, Division-1, and Section 01630-Product Substitution Procedure.

2.4 HEAT-TREATED GLASS

- A. Manufacturing Process: Manufacture heat-treated glass as follows: by horizontal (roller hearth) process with roll wave distortion parallel with bottom edge of glass as installed, unless otherwise indicated.
- B. Uncoated Tinted Heat-Treated Float Glass: For exterior application: Condition A (uncoated surfaces), Type 1 (transparent glass, flat), Class 2 (tinted heat absorbing and light reducing), Quality q3 (glazing select), ¼ inch thickness, Kind FT (fully tempered), "gray" tint with visible light transmittance of 41-43 percent and shading coefficient of 0.67-0.69 percent.
- C. Uncoated Clear Heat-Treated Float Glass: For interior applications; Condition A (uncoated surfaces), Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select), 1/4 inch thickness, Kind FT (fully tempered).

2.5 ELASTOMERIC GLAZING SEALANTS AND PREFORMED GLAZING TAPES

- A. General: Provide products of type indicated and complying with the following requirements:

- B. Compatibility: Select glazing sealants and tapes of proven compatibility with other materials with which they will come into contact, including glass products and glazing channel substrates, under conditions of installation and service as demonstrated by testing and field experience.
- C. Suitability: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants and tapes, which have performance characteristics suitable for applications indicated and conditions at time of installation.
- D. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those for Type, Grade, Class and Uses.
- E. Colors: Provide color of exposed sealants indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standard colors.
- F. One-Part Acid-Curing Silicone Glazing Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and as applicable to uses indicated O.
- G. Performed Butyl-Polysobutylene Glazing Tape: Provide manufacturer's standard solvent-free Butyl-Polysobutylene formulation with a solids content of 100 percent complying with AAMA A 804.1; in extruded tape form; non-standing and non-migrating in contact with nonporous surfaces; packaged on rolls with a release paper on one side; with or without continuous spacer rod as recommended by manufacturers of tape and glass for application indicated. Install each side of glass.
- H. Products: Subject to compliance with requirements, provide one of the following:
 1. One-Part Acid-Curing Silicone Glazing Sealant.
 - (a) "Tremsil 600", Tremco, Inc.
 - (b) "Chem-Calk 200", Bostik Construction Products Div.
 - (c) "Dow Corning 999", Dow Corning Corp.
 - (d) "SCS 1200", General Electric Corp.
 - (e) "863", Pecora Corp.
 2. Performed Butyl-Polysobutylene Glazing Tape Without Spacer Rod:
 - (a) "Chem-Tape QO", Bostik Construction Products Div.
 - (b) "Shim-Seal", Pecora Corp.
 - (c) "Tremco-440 Tape", Tremco, Inc.
 3. Performed Butyl-Polysobutylene Glazing Tape With Spacer Rod:
 - (a) "Chem-Tape 60", Bostik Construction Products Div.
 - (b) "Shim-Seal", Pecora Corp.
 - (c) "Pre-Shimmed Tremco 440 Tape", Tremco Inc.,

2.6 GLAZING GASKETS

- A. Dense Elastomeric Compression Seal Gaskets: Molded or extruded gaskets of neoprene, EPDM, or thermoplastic polyolefin rubber, complying with ASTM C 864, of profile and hardness required to maintain watertight seal. Install each side of glass.
- B. Cellular Elastomeric Preformed Gaskets: Extruded or molded closed cell, intergral-skinned neoprene of profile and hardness required to maintain watertight seal; complying with ASTM C 509, Type II; black. Install each side of glass.
- C. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

1. Manufacturers of Preformed Gaskets:
 - (a) D.S. Brown Co.
 - (b) Maloney Precision Products Co.
 - (c) Tremco.

2.7 MISCELLANEOUS GLAZING MATERIALS

- A. Compatibility: Provide Materials with proven record of compatibility with surfaces contacted in installation.
- B. Cleaner, Primers and Sealers: Type recommended by sealant or gasket manufacturer.
- C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness. Located at ¼ points of glass panels.
- D. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.
- E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.
- F. Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10 psi compression strength of 25 percent deflection.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Require glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face of edge clearances; and for effective sealing of joinery. Obtain Glazier's written report, listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Pre-Installation Meeting: At Contractor's direction, Glazier, sealant and gasket manufacturer's technical representatives, glass framing erector and other trades whose work affects glass and glazing shall meet at project site to review procedures and time schedule proposed for glazing and coordination with other work.
- B. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings, which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.
- C. Finish paint all substrates prior to glazing installations.

3.3 GLAZING-GENERAL

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances and adequate sealant thicknesses, with reasonable tolerances. Adjusts as required by job conditions at time of installation.
- C. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raised or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge, which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of a kind that when installed, weakens glass and impairs performance and appearance.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by pre-construction sealant-substrate testing.

3.4 GLAZING

- A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6 inches from corner, unless otherwise required. Set blocks in thin course of sealant, which is acceptable for heel bead use.
- B. Provide spacer inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8 inch minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.
- C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.
- D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and form adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.
- F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.
- G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

- H. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not “walk” out when installation is subject to movement.
- I. Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.5 PROTECTION AND CLEANING

- A. Protect exterior glass from breakage immediately upon installation by use of crossed steamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
- B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.
- C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less often than once a month, for build-up of dirt, scum, alkali deposits and staining. When examination reveals presence of these forms of residue, remove by method recommended by glass manufacturer.
- D. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.
- E. Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

END OF SECTION

SECTION 09250 GYPSUM BOARD

1. GENERAL

- a) The General Conditions, Supplementary General Conditions and applicable portions of Division 1 apply to this section.

2. SCOPE

- a) This section includes all labor, materials, equipment and services required to install, complete, the gypsum drywall as indicated. SEE FINISH SCHEDULE.

3. QUALIFICATIONS

- a) This work shall be performed by an established firm principally engaged in the installation of materials similar to those required in this project, having minimum of five years experience in this specified field.

4. PRODUCT HANDLING

- a) Protect materials from harmful elements when stored at site. Store above the ground on platforms, pallets, or other supports.

5. MATERIALS

a) Gypsum Wallboard

- i) As manufactured by U.S. Gypsum Co., National Gypsum Co., or approved equal.
- ii) Tapered edges, thickness and type as shown and scheduled in drawings.
- iii) Gypsum wallboards
 - a) 5/8" regular wallboard
 - b) Water resistant gypsum wallboard in all showers and where scheduled or noted on drawings.
- iv) Adhesives, manufactured recommended.
- v) Joint treatment
 - a) Perforated tape
 - b) Ready-mixed compound, Perf-A-Tape, Quick Treat or equal.
 - c) Topping compound
- vi) Metal corner bead, casing bead, etc., as required.

vii) Fastenings. Annular ring nails or wallboard nails for wood framing. Bugle head screws for metal framing.

viii) Fasteners for all components of wallboard system shall be of the size and type recommended by the manufacturer, for the specified application. Drywall screws will be required on this project.

6. INSTALLATION

- a) Conform to manufacturer's recommendations.
- b) Examine materials to which gypsum board is to be applied. Misaligned framing or furring or other defects shall be corrected before application of gypsum board.
- c) Cut boards by scoring and breaking, working from face side. Scribe neatly to projecting surfaces.
- d) Apply boards with long dimension at right angles to studs, furring, or joists. Stagger end joints.
- e) Space fasteners at maximum 12" on center in field, 7" at ceiling edge of board. Drive fasteners slightly below board face.
- f) Locate wallboard joints at openings so end joints will not align with edge of opening. Stagger end joints; end joints shall also be staggered on opposite sides of partitions.
- g) Coordinate this work with other trades. Cut boards to fit neatly around electric boxes, registers, and other wall openings.
- h) Treat internal and external angles formed by the intersection of wall board surfaces or with other surfaces, with metal trim and/or joint treatment.
- i) Joint Treatment
 - i) Mix joint compound and topping compound as per manufacturer's directions.
 - ii) Apply uniform thin layer of joint compound over joint, about 4" wide. Center tape over joint and embed, leaving enough compound to provide bond. Reinforce ceiling and wall angles with tape folded to conform to angle and embed into compound.
 - iii) After compound is thoroughly dry, (approximately 24 hours, under normal drying conditions) cover tape with a coat of Joint Compound with slight, uniform crown over the joint. This coat shall be smooth and the edges feathered approximately 3" beyond the preceding coat.

- iv) Coat inside corners with at least one coat of Joint Compound with the edges feathered out.
- v) Nails or screw heads or dimples shall receive three coats of Joint Compound or Topping Compound. This may be applied as each coat is applied to the joints, allowing 24 hours drying time between coats; 2 1/2 hours if Quick-Treat Joint Compound is used.
- vi) Conceal flanges of wallboard corner bead with minimum of two coats of compound. The first coat shall be Joint Compound, and the second coat may be Joint Compound or Topping Compound feathered out approximately 9" on both sides of the exposed metal nose.
- vii) Allow each application of compound to joints and nail heads to dry, they sand if necessary. Caution shall be used to avoid roughing of the wallboard paper. Finish wallboard and treated areas smooth, free from defects, and ready for decoration.

7. PATCHING

- a) Patch damaged surfaces and sand joints or surfaces smooth prior to painting by others.

8. CLEANING

- a) Upon completion of this work, clean gypsum wall surfaces of foreign materials, leaving surfaces ready for treatment by others.

END OF SECTION

SECTION 09900 PAINTING

1. GENERAL

- a) Applicable provisions of General Conditions and Special Conditions govern work under this section.

2. WORK INCLUDED

- a) Furnish labor and materials to complete painting work indicated, as specified herein, or both.
- b) Following specifications cover complete painting, finishing of wood, unfinished metal, other surfaces throughout interior, exterior of building, except as otherwise specified.
- c) Furnish tools, ladders, scaffolding, other equipment necessary for work completion.

3. MATERIALS

- a) Best quality, as manufactured by Olympic, Glidden, Moore, or Sherwin-Williams. Colors as selected by Owner.

4. SCHEDULE OF SURFACE FINISHES

a) INTERIOR

Gypsum Board one (1) coat primer-sealer, two (2) coats latex egg shell.

Gypsum board one (1) coat primer-sealer, one undercoat, two (2) coats latex flat.

5. APPLICATION

- a) Putty nail holes after priming, speckle, do light sanding and take similar preparatory steps.
- b) Do not apply exterior paint or stain in damp, rainy weather or until the surface has thoroughly dried from the effects of such weather. Do not apply varnish or paint when temperature is below 50 degrees F.
- c) Surface to be stained or painted shall be clean, dry, smooth, and adequately protected from dampness. Each coat of paint shall be brushed on, worked out evenly and allowed to dry (at least 48 hours) before a subsequent coat is applied. Conform to manufacturer's directions.
- d) Finish work shall be uniform, of approved color, smooth and free from runs, sags, defective brushing, clogging or excessive flooding. Make edges of

paint adjoining other materials or colors sharp and clean without overlapping.

- e) At completion, touch-up and restore finish and leave in good condition. Seal tops and bottoms of doors after fitting. Back prime all door casings and trims.
6. **COLORS AND SAMPLES**
- a) Before proceeding with painting, finish one complete room, space or item of each color scheme required and showing selected colors, finished texture, material and workmanship. After approval, these samples, rooms or items shall serve as a standard for similar work throughout the building.
7. **GUARANTEE**
- a) All work and material provided under this section shall be guaranteed free from defective workmanship or other defects for a period of one year following date of acceptance by the Owner. This warranty shall not include normal wear and tear; however, any corrective work performed by this Contractor under the provisions of this warranty shall be completed without cost or undue hindrance or hardship or operation to the Owner.

END OF SECTION

SECTION 09 91 00
PAINTS AND COATINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Paints, stains, transparent coatings, and opaque stains.
- B. Materials for backpriming woodwork, execution of which is specified elsewhere.
- C. Preparation of new surfaces for painting.
- D. Preparation of existing surfaces for re-painting.

1.2 RELATED SECTIONS

- A. Section 06 20 00 - Finish Carpentry: Backpriming of trim and paneling.

1.3 REFERENCES

- A. SSPC-SP 1 - Solvent Cleaning; Society for Protective Coatings.
- B. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings.
- C. SSPC-SP 3 - Power Tool Cleaning; Society for Protective Coatings.
- D. MPI (The Master Painters Institute) - MPI Approved Products List.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each paint and coating product to be used, including:
 - 1. Product characteristics.
 - 2. Preparation instructions and recommendations.
 - 3. Primer requirements and recommendations.
 - 4. Storage and handling requirements and recommendations.
 - 5. Application methods.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and sheens.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and sheen.

1.5 MOCK-UP

- A. Finish all surfaces required to be painted in one room.
 - 1. Finish room designated by Architect.

2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 APPLICATIONS/SCOPE

- A. Scope: Use products specified in this section to finish ALL interior and exterior surfaces exposed to view, unless otherwise indicated; DO NOT PAINT THE FOLLOWING:
 1. Items specified or provided with factory finish; materials and products having factory-applied primers are not considered factory finished.
 2. Items indicated to receive other finishes.
 3. Items indicated to remain unfinished.
 4. Marble, granite, slate, and other natural stones.
 5. Brick, concrete, cast stone, integrally colored plaster.
 6. Glass.
 7. Concrete masonry in utility, mechanical, and electrical spaces.
 8. Stainless steel, anodized aluminum, bronze, terne, and lead.
 9. Equipment nameplates, fire rating labels, and operating parts of equipment.
 10. Acoustical materials.
 11. Concealed pipes, ducts, and conduits.
- B.

2.2

- A. Interior Metal Surfaces Subject to Frequent Contact by Occupants: Including railings, handrails, balustrades and door frames.
 1. Preparation as specified by manufacturer.
 2. 1 coat of primer recommended by manufacturer.
 3. Eggshell: 2 coats RedSeal Interior Oil Eggshell Finish (Alkyd/oil).
 4. Eggshell: 2 coats Accolade Interior 100% Acrylic Waterborne Paint + Primer Eggshell (100% Acrylic).
 5. Eggshell: 2 coats RedSeal Interior Waterborne Eggshell (Vinyl Acrylic)
 6. Eggshell: 2 coats RedSeal Supreme Interior Latex Eggshell (EVA Resin)
 7. Eggshell: 2 coats Pro-Hide Gold Ultra Interior Latex Eggshell (Vinyl Acrylic). MPI approved for Gloss Level 2.
 8. Eggshell: 2 coats Pro-Hide Gold Interior Latex Eggshell (Vinyl Acrylic)
 9. Eggshell: 2 coats Pro-Hide Silver Interior Latex Eggshell (Vinyl Acrylic)
 10. Mid-Sheen: 2 coats Pro-Hide Gold Ultra Interior Latex Mid-Sheen (Vinyl Acrylic). MPI approved for Gloss Level 3.

11. Satin: 2 coats RedSeal Interior Oil Satin Finish (Alkyd/oil).
 12. Satin: 2 coats Accolade Interior 100% Acrylic Waterborne Paint + Primer Satin (100% Acrylic).
 13. Satin: 2 coats RedSeal Interior Waterborne Satin (Vinyl Acrylic)
 14. Satin: 2 coats Pro-Hide Gold Ultra Interior Latex Satin (Vinyl Acrylic). MPI approved for Gloss Level 4.
 15. Satin: 2 coats Pro-Hide Gold Interior Latex Satin (Vinyl Acrylic)
 16. Semi-Gloss: 2 coats DTM Acrylic Semi-Gloss(100% Acrylic).
 17. Semi-Gloss: 2 coats Accolade Interior 100% Acrylic Waterborne Paint + Primer Semi-Gloss (100% Acrylic).
 18. Semi-Gloss: 2 coats RedSeal Interior Waterborne Semi-Gloss (Vinyl Acrylic)
 19. Semi-Gloss: 2 coats RedSeal Supreme Interior Latex Semi-Gloss (EVA Resin)
 20. Semi-Gloss: 2 coats Pro-Hide Gold Ultra Interior Latex Semi-Gloss (Vinyl Acrylic). MPI approved for Gloss Level 5.
 21. Semi-Gloss: 2 coats Pro-Hide Gold Interior Latex Semi-Gloss (Vinyl Acrylic)
 22. Semi-Gloss: 2 coats Pro-Hide Silver Interior Latex Semi-Gloss (Vinyl Acrylic)
 23. Gloss: 2 coats DTM Acrylic Gloss (100% Acrylic).
 24. Gloss: 2 coats Industrial Alkyd Enamel High Solids (Alkyd/oil).
 25. Gloss: 2 coats RedSeal Interior/Exterior Oil Gloss (Alkyd/oil).
 26. Gloss: 2 coats Pro-Hide Gold Interior Latex Gloss (Vinyl Acrylic).
- B. Interior Wood - Oiled Finish: Including _____.
1. Preparation as specified by manufacturer.
- C. Interior Surfaces to be Finished with Wall1 Covering:
1. Comply with wall covering manufacturer's instructions.

2.3 MATERIALS - GENERAL REQUIREMENTS

- A. Paints and Coatings - General:
1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 3. Supply each coating material in quantity required to complete entire project's work from a single production run.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
1. Back Primer for Transparent-Finished Woodwork: Same as finish coat.
- C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin application of coatings until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Seal surfaces that might cause bleed-through or staining of topcoat.
- D. Prepare rusted steel surfaces using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

3.3 INSTALLATION

- A. Stir coatings before and during application as recommended by manufacturer.
- B. Do not apply to wet or damp surfaces.
 - 1. Wait at least 30 days before applying to new concrete masonry.
 - 2. Test new concrete for moisture content.
 - 3. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply coatings using methods recommended by manufacturer.
- D. Apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturer's recommended film thickness.
- F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G. Exterior Woodwork: **NOT USED**

3.4 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Touch-up damaged coatings after Substantial Completion.

END OF SECTION

SECTION 10445

DOOR AND ROOM SIGNS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Door signs.
- B. Room signs.

1.2 REFERENCES

- A. ADAAG - Americans with Disabilities Act Accessibility Guidelines; U.S. Architectural and Transportation Barriers Compliance Board.
- B. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible To and Usable By Physically Handicapped People.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01300.

1.4 Product Data and installation instructions for each type of sign specified.

- A. Shop Drawings:
 - 1. Show layout, signage copy, size and type of mounting for each sign.
 - 2. Indicate location of each individual sign in the project.
- B. Selection Samples: Sample of two for each sign with full range of color, pattern, and surface texture available.
- C. Verification Samples: Sample of two for each sign type for verification of quality, color, pattern, and surface texture.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualification:
 - 1. Specializing in the products specified with minimum five years experience.
 - 2. Single source responsibility: Obtain signs from one source and a single manufacturer.
- B. Regulatory Requirements: Conform to applicable codes, ADAAG and ANSI A117.1.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products of this section in manufacturer's unopened packaging until installation.
- B. Maintain dry, heated storage area for products of this section until installation of products.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Seton Identification Products; 20 Thompson Road, Branford CT 06405. ASD. Tel: (203) 488-8059. Fax: (203) 488-5973. Toll Free Tel: 800-448-8630, Toll Free FAX: 800-345-7819. Email: Custsvc_SetonUS@seton.com. Web: www.seton.com.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01600.
- C. Substitutions: Equal

2.2 MANUFACTURED UNITS

- A. Braille Signs:
 - 1. Acceptable Product: match existing
- B.
- C. Acrylic Standard Braille Signs:
 - 1. Acceptable Product: Seton Acrylic Standard Braille Signs.
 - 2. Colors: Face color _____; letter color _____.
 - 3. Colors: match existing
 - 4. Colors: Specified in SCHEDULES Article of this section.
 - 5. Sign Size: _____ inches by _____ inches.
 - 6. Sign Sizes: Specified in SCHEDULES Article of this section.
 - 7. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
 - 8. Sign Frames: Manufacturer's standard.
- D. Acrylic Custom Braille Signs:
 - 1. Acceptable Product: Seton Acrylic Custom Braille Signs.
 - 2. Colors: match existing
 - 3. Colors: Selected by Architect from manufacturer's full range of available colors.
 - 4. Colors: Specified in SCHEDULES Article of this section.
 - 5. Sign Size match existing
 - 6. Sign Sizes: Specified in SCHEDULES Article of this section.
 - 7. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
 - 8. Sign Frames: Manufacturer's standard.
- E. Acrylic Room Number Braille Signs:
 - 1. Acceptable Product: Seton Acrylic Room Number Braille Signs.
 - 2. Colors: match existing
 - 3. Colors match existing
 - 4. Colors: Specified in SCHEDULES Article of this section.
 - 5. Sign Size: 4 inches (102 mm) by 4 inches (102 mm).
 - 6. Sign Sizes: Specified in SCHEDULES Article of this section.
 - 7. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
 - 8. Sign Frames: Manufacturer's standard.
- F. Injection Molded Economy Braille Signs:
 - 1. Acceptable Product: Seton Injection Molded Economy Braille Signs.
 - 2. Colors: Handicap accessibility, blue face; all others gray face; white graphics and lettering.
 - 3. Sign Size: 9 inches (229 mm) high by 6 inches (152 mm) wide by 1/8 inch (3 mm) thick.

4. Sign Sizes: Specified in SCHEDULES Article of this section.
 5. Graphics: International symbols for indicated information.
 6. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
- G. Injection Molded Braille Signs:
1. Acceptable Product: Seton Injection Molded Braille Signs.
 2. Colors: Black face; white graphics and lettering.
 3. Sign Size: 8 inches (203 mm) high by 8 inches (203 mm) wide by 1/8 inch (3 mm) thick.
 4. Sign Sizes: Specified in SCHEDULES Article of this section.
 5. Graphics: International symbols for indicated information.
 6. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
- H. Indoor/Outdoor Braille Signs:
1. Acceptable Product: Seton Indoor/Outdoor Braille Signs; Tedlar and polycarbonate face, adhered to 1/8 inch (3 mm) thick back plate.
 2. Colors: Face color _____; letter color _____.
 3. Colors: Selected by Architect from manufacturer's full range of available colors.
 4. Colors: Specified in SCHEDULES Article of this section.
 5. Sign Size: _____ inches by _____ inches.
 6. Sign Sizes: Specified in SCHEDULES Article of this section.
 7. Graphics: International symbols for indicated information.
 8. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
- I. Accessible Route Signs:
1. None used
 2. Colors: match existing
 3. Colors: Specified in SCHEDULES Article of this section.
 4. Sign Size: match existing
 5. Sign Sizes: Specified in SCHEDULES Article of this section.
 6. Graphics: International symbols for indicated information, with directional arrows.
 7. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm), with Number 2 Braille coding.
- J. Double-Faced Accessibility Signs:
1. Acceptable Product: Seton Double-Faced Accessibility Signs; vinyl faces.
 2. Colors: Face color blue _____; graphics and letter color white.
 3. Colors: Specified in SCHEDULES Article of this section.
 4. Sign Size: 12 inches (305 mm) high by 9 inches (229 mm) wide, 1/32 inch (0.8 mm) thick.
 5. Sign Sizes: Specified in SCHEDULES Article of this section.
 6. Graphics: International symbols for indicated information, with directional arrows.
 7. Lettering: 5/8 inch (16 mm) high, raised 1/32 inch (0.8 mm).
 8. Sign Sizes: Specified in SCHEDULES Article of this section.
 9. Graphics/Lettering: As indicated.
- K. Accessories: Installation accessories specified in manufacturer's instructions.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces to receive signs have been finished, and that finishes are dry and correctly cured.

3.2 INSTALLATION

- A. Install room and door signs in accordance with manufacturer's printed installation instructions.
- B. Locate signs in accordance with approved shop drawings and ADA requirements.

3.3 SCHEDULE

- A. Colors:
 - 1. match existing

END OF SECTION



THROUGH WALL DEPOSITORIES
Sheet 1 of 2

Product: thruWall Depositories
Catalog #: 10-8175 Ease Drive-Up thruWall

Date: January 1,2018. Go to www.kingsley.com for all updates.
Specifications are subject to change without notice. MADE IN THE USA

INCLUDED WITH THIS SYSTEM:

A complete easy to install through wall system with state of the art **features for today's** libraries. The system includes the faceplate with Kwik Drop depository, attached chute housing with entry chute; slide chute, and Airbloc system plus all features listed below. The design allows it to be installed in walls up to 13 inches thick. **Depository opening projects outward 10.5" [266.70 mm]** to assist with easier deposit of material from vehicle.

TRANSPORT CARTS USED WITH THIS THRUWALL:

Contingent on height of installation, Ease DRIVE-UP is compatible with any Kingsley receiving cart, and compatible with most conveyer systems.

ACCESSORIES/OPTIONS FOR THIS THRUWALL:

Thick Wall Extension (for walls more than 13" thick)

Custom wording available. Call for quote.

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THROUGH WALL EXTERIOR CONSTRUCTION/FEATURES

Materials: Heavy-duty stainless steel exterior faceplate and depository door flap.

Features: The depository door is mounted into a built in weather hood and opens inward and up. It is spring loaded and weight balanced allowing it to automatically close after materials have passed through. All edges are honed smooth.

THROUGH WALL INTERIOR CONSTRUCTION/FEATURES

Materials: Air craft grade aluminum throughout. Airbloc is a Neoprene rubber panels to help block air flow. Magnetic closure installed on depository door flap to help keep flap closed. All edges are honed smooth.

Features: The chute housing has four sides, extends 13 inches from the faceplate and will cover the wall rough cuts when installed. The entry chute has an upward angle to prevent theft. The neoprene rubber Airbloc panels are attached to the rear of the unit.

10-8175 Ease Drive-Up thruWall Continued

SYSTEM FEATURES

Weather Resistance: Spring loaded, weight balanced and weather sealed depository door helps to prevent the entry of rain and snow. Will not blow open in most winds. Weather stripping on the inside edges of the faceplate provide further protection from inclement weather.

Air Draft Prevention: The Air Bloc system helps to eliminate drafts caused when the depository door is opened. It helps stabilize outside air temperature before it enters the building.

Theft Deterrence: The angle of the entry chute, length of the slide chute and the Airbloc system prevent reaching inside through the depository door and block phishing of materials with a claw apparatus.

Locking Method: N/A

ADA Compliancy: ADA compliant when properly installed.

Available Wording: Self-adhesive vinyl decals. See website for complete list of wording options.

Assembly Required: Attach slide to system.

Dimensions

Overall Dimensions: **22"W x 25-1/8"D x 20"H** [558.8mmW x 638.17mmD x 508.0mmH]

Depository opening: **18"W x 3-1/4"H** [457.2mmW x 82.6mmH] Depository opening projects outward 10.5" [266.70 mm] to assist with easier deposit of material from vehicle.

Product Weight: 22 lbs. [9.98kg]

Shipping Method/Class: Ground or LTL/Class 150

INSTALLATION (Rough cut only. Please visit www.kingsley.com for complete instructions)

Rough Cut dimensions and trim 36-1/2" [927.10mm] from exterior floor to bottom of cut out. Rough cut opening 20-3/16"W x 18-5/16"H [512.76mmW x 465.1mmH] all the way through wall. 1/4" [6.35mm] trim on the top, bottom and sides of opening.
