Chambers Charitable Foundation

ARCHIVE BUILDING ADDITION

2240 Calder Avenue
Beaumont, Texas 77701

September 16, 2020 Project No. 1938 SET NO. _____

Architectural Alliance,Inc.

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CHAMBERS CHARITABLE FOUNDATION
ARCHIVE BUILDING ADDITION
2240 CALDER AVENUE
BEAUMONT, TX 77701

REGISTERED ARCHITECT
JAMES R. CLARK
8212
STATE OF TEXAS

DIVISION 4 - MASONRY

DIVISION 5 - METALS

DIVISION 6 - WOOD AND PLASTICS

06 20 00	ROUGH CARPENTRY	4
06 40 00	INTERIOR ARCHITECTURAL WOODWORK	4

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 13 13	FIBERGLASS COMPOSITION SHINGLES	2
07 21 00	BUILDING INSULATION	4
07 25 00	WEATHER RESISTIVE BARRIER	9
07 26 00	BELOW SLAB VAPOR BARRIER	2
07 62 00	SHEET METAL FLASHING AND TRIM	5

DIVISION 8 - DOORS AND WINDOWS

08 21 10	WOOD DOORS (SOLID CORE PAINT GRADE DOORS)	2
08 71 00	DOOR HARDWARE	4
08 80 00	GLAZING	8

DIVISION 9 - FINISHES

09 25 00	GYPSUM BOARD ASSEMBLIES	15
09 65 00	RESILIENT FLOORING AND BASE (ALTERNATE #6)	2
09 91 00	PAINTING	7

DIVISION 10 - SPECIALTIES

10 14 00	SIGNAGE	2
10 52 00	FIRE EXTINGUISHERS & ACCESSORIES	2

DIVISION 22 - PLUMBING	8
DIVISION 23 - MECHANICAL	3
DIVISION 26 - ELECTRICAL	3

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

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

THE OWNER:
(Name, legal status and address)

THE ARCHITECT:
(Name, legal status and address)

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

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

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

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

Additions and Deletions Report for

AIA® Document A201™ – 2007

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 08:51:59 on 09/14/2009.

PAGE 1

for print

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, J. Rob Clark, AIA, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 08:51:59 on 09/14/2009 under Order No. 4566172493_1 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2007 - General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

_____

(Signed)

_____

(Title)

_____

(Dated)

SUBSTITUTION REQUEST FORM

TO: _____

_____

PROJECT: _____

_____

We hereby submit for your consideration the following product instead of the specified item for the above project.

SECTION	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____

Proposed Substitution: _____

_____

Attach complete technical data, including laboratory tests, if possible.

Include complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Fill in the Blanks Below:

A. Does the substitution affect dimensions shown on Drawings?

_____

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

_____

C. What effect does substitution have on other trades?

_____

D. Difference between proposed substitution and specified item?

_____

E. Manufacturer's guarantees of the proposed and specified items are:

_____Same _____ Different (explain on attachment)

AIA® Document G701™ – 2001

Change Order

PROJECT *(Name and address)*:	**CHANGE ORDER NUMBER:**	OWNER: ☐
	DATE:	ARCHITECT: ☐
TO CONTRACTOR *(Name and address)*:	**ARCHITECT'S PROJECT NUMBER:**	CONTRACTOR: ☐
	CONTRACT DATE:	FIELD: ☐
	CONTRACT FOR:	OTHER: ☐

THE CONTRACT IS CHANGED AS FOLLOWS:
(Include, where applicable, any undisputed amount attributable to previously executed Construction Change Directives)

The original Contract Sum was	$ _____
The net change by previously authorized Change Orders	$ _____
The Contract Sum prior to this Change Order was	$ _____
The Contract Sum will be by this Change Order in the amount of	$ _____
The new Contract Sum including this Change Order will be	$ _____

The Contract Time will be by ( ) days.
The date of Substantial Completion as of the date of this Change Order therefore is

NOTE: This Change Order does not include changes in the Contract Sum, Contract Time or Guaranteed Maximum Price which have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

ARCHITECT *(Firm name)*	**CONTRACTOR** *(Firm name)*	**OWNER** *(Firm name)*
ADDRESS	**ADDRESS**	**ADDRESS**
BY *(Signature)*	**BY** *(Signature)*	**BY** *(Signature)*
(Typed name)	*(Typed name)*	*(Typed name)*
DATE	**DATE**	**DATE**

AIA® Document G702™ – 1992

Application and Certificate for Payment

TO OWNER:	PROJECT:	APPLICATION NO: 003	Distribution to:
		PERIOD TO:	OWNER: ☐
		CONTRACT FOR: General Construction	ARCHITECT: ☐
FROM CONTRACTOR:	VIA ARCHITECT:	CONTRACT DATE:	CONTRACTOR: ☐
		PROJECT NOS: / /	FIELD: ☐
			OTHER: ☐

CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM ..... $ 0.00
2. Net change by Change Orders ..... $ 0.00
3. CONTRACT SUM TO DATE (Line 1 ± 2) ..... $ 0.00
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) ..... $ 0.00
5. RETAINAGE:
   a. 0 % of Completed Work (Column D + E on G703) $ 0.00
   b. 0 % of Stored Material (Column F on G703) $ 0.00
   Total Retainage (Lines 5a + 5b or Total in Column I of G703) ..... $ 0.00
6. TOTAL EARNED LESS RETAINAGE ..... $ 0.00 (Line 4 Less Line 5 Total)
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT ..... $ 0.00 (Line 6 from prior Certificate)
8. CURRENT PAYMENT DUE ..... $ 0.00
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6) $ 0.00

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner	$ 0.00	$ 0.00
Total approved this Month	$ 0.00	$ 0.00
TOTALS	$ 0.00	$ 0.00
NET CHANGES by Change Order	$	0.00

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By: _____ Date: _____

State of:

County of:

Subscribed and sworn to before me this day of

Notary Public:

My Commission expires:

ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED ..... $ 0.00

(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)

ARCHITECT:

By: _____ Date: _____

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract

AIA Document G703™ – 1992

Continuation Sheet

AIA Document, G702™–1992, Application and Certification for Payment, or G736™–2009,
Project Application and Project Certificate for Payment, Construction Manager as Adviser Edition,
containing Contractor's signed certification is attached.
In tabulations below, amounts are in US dollars.
Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO: 001
APPLICATION DATE:
PERIOD TO:
ARCHITECT'S PROJECT NO:

A	B	C	D	E	F	G		H	I
			WORK COMPLETED						
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00 %	0.00	0.00
	GRAND TOTAL	$0.00	$0.00	$0.00	$0.00	$0.00	0.00 %	$0.00	$0.00

User Notes:

AIA® Document G704™ – 2000

Certificate of Substantial Completion

PROJECT:
(Name and address)
.

PROJECT NUMBER: /
CONTRACT FOR: General Construction
CONTRACT DATE:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
FIELD: ☐
OTHER: ☐

TO OWNER:
(Name and address)

TO CONTRACTOR:
(Name and address)

PROJECT OR PORTION OF THE PROJECT DESIGNATED FOR PARTIAL OCCUPANCY OR USE SHALL INCLUDE:

The Work performed under this Contract has been reviewed and found, to the Architect's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated above is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

Warranty **Date of Commencement**

ARCHITECT	BY	DATE OF ISSUANCE

A list of items to be completed or corrected is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment.

Cost estimate of Work that is incomplete or defective: $0.00

The Contractor will complete or correct the Work on the list of items attached hereto within Zero (0) days from the above date of Substantial Completion.

CONTRACTOR	BY	DATE

The Owner accepts the Work or designated portion as substantially complete and will assume full possession at (time) on (date).

OWNER	BY	DATE

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance shall be as follows:
(Note: Owner's and Contractor's legal and insurance counsel should determine and review insurance requirements and coverage.)

AIA® Document G707™ – 1994

Consent Of Surety to Final Payment

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

CONTRACT FOR: General Construction

TO OWNER: *(Name and address)*

CONTRACT DATED:

OWNER: ☐
ARCHITECT: ☐
CONTRACTOR: ☐
SURETY: ☐
OTHER: ☐

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the
(Insert name and address of Surety)

, SURETY,

on bond of
(Insert name and address of Contractor)

, CONTRACTOR,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety of any of its obligations to
(Insert name and address of Owner)

, OWNER,

as set forth in said Surety's bond.

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:
(Insert in writing the month followed by the numeric date and year.)

(Surety)

(Signature of authorized representative)

Attest:
(Seal):

(Printed name and title)

SUPPLEMENTAL GENERAL CONDITIONS

PART 1 – INSTRUCTIONS:

The following items are changes or additions to the AIA Document A201 – 2007 General Conditions of the Contract for Construction and shall be included in all considerations for contract for this project.

PART 2 – SCHEDULE OF CHANGES:

Paragraph 3.10.3: Add “Contractor shall not perform Work outside of the schedule of Work without prior approval”.

Paragraph 3.18.1: Add “and non-payment of Subcontractors and Sub-subcontractors” after “Work” -1n.4.

Paragraph 5.3: Add “This section dos not nor does it intend to create a contractual relationship and/or obligation between the Owner and the Subcontractors and Sub-subcontractors”.

Paragraph 7.1.1: Add “Substantial changes to Work shall require a new schedule of Work and approval by the Owner.”

Paragraph 9.5.1: Add “.8 for Work performed outside of the schedule of Work without prior approval that could reasonably lead to delays or duplicate work.

Paragraph 9.10.2: Add “labor performed, and goods received,” after “equipment” –in.2 otherwise.

Paragraphs 11.2 and 11.3: Note this provision only applies to existing buildings; remove otherwise for this paragraph.

Paragraph 10.3.3: Delete in its entirety

Paragraph 10.3.6: Delete in its entirety

Paragraph 15.4: Delete in its entirety

SECTION 00 00 10

ADMINISTRATIVE PROVISIONS

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED:

A. Title of Work, and type of Contract.
B. Work sequence.
C. Contractor use of premises.
D. Coordination.
E. Project meetings.
F. Owner-furnished products.
G. Job report.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. Construction of new archive building and concrete sidewalk leading to it. Reconfiguration of wood fencing and addition of new wood gate to secure access to the new archive building. Fence and gate to match existing on site.

1.3 CONTRACT METHOD

A. Stipulated Sum Owner/Contractor Agreement.

1.4 WORK SEQUENCE

A. All work will be awarded, plus any accepted alternates, to the lowest qualified general contractor.
B. All work will be performed in a safe manner with the general contractor responsible to maintain a safe perimeter fence around the area of construction plus barriers and warning devices to prevent the general public from wondering onto the site.
C. Contractor will present an updated schedule with each application for payment and documented rain day extensions at each monthly meeting for review by architect, owner's representative and owner's facility maintenance supervisors. Contractor may only pick-up the current month's rain day extensions. Picking up past month rain day extensions will not be permitted.
D. Contractor is reminded of liquidated damages for this project if not completed within the contract period plus approved rain days.

1.5 CONTRACTOR USE OF PREMISES

A. Assume full responsibility for the protection and safekeeping of products under this contract, stored on and off the site.

1.6 COORDINATION

A. Coordinate work of the various sections of Specifications to assure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items for later installation.
B. Verify that characteristics of elements of interrelated operating equipment are compatible; coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
C. Coordinate space requirements and installation of mechanical and electrical work which is indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

D. In finished areas, except as otherwise shown, conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

1.7 PROJECT MEETINGS

A. Monthly meeting date will be established as part of the contract agreement to be attended by the contractor project superintendent, project manager and personnel having necessary knowledge of the project; Owner's representatives and building maintenance personnel; subcontractors and suppliers when necessary to provide information regarding project materials, methods and issues; architect and personnel; engineering consultants with information regarding specific issues or scope; and other persons needed to assist in keeping the project moving forward, without delay.

1.8 OWNER-FURNISHED PRODUCTS

A. Certain products will be furnished and paid for by the Owner, where so described in the Specifications and/or the Drawings.
B. For those products designated as Owner Furnished/Contractor Installed, Contract responsibilities are to be as outlined below.
C. Owner's Responsibilities:
   1. Provide necessary utilities rough-in drawings, shop drawings, product data and samples to the Contractor.
   2. Arrange and pay for product delivery to the site, in accordance with the construction schedule.
   3. Submit claims for transportation damage.
   4. Arrange for replacement of damaged, defective or missing items.
   5. Arrange for manufacturer's warranties, service, and inspections, as required.
D. Contractor's Responsibilities:
   1. Designate delivery dates of equipment to coincide with Construction Schedule.
   2. Review utilities rough-in drawings, shop drawings, product data and samples.
      (a) Submit to Architect with notification of any discrepancies or problems anticipated in utility rough-in locations or the use of products.
   3. Receive item at site or at another location as designated by Contractor and give written receipt for item at time of delivery and notify Owner, in writing, within 15 days of delivery listing all items received, noting visible defects or omissions; if such declaration is not given, Contractor shall assume responsibility for such defects and omissions.
   4. Handle products at the site, including uncrating and storage.
   5. Protect products from exposure to elements, from damage.
   6. Store item until ready for installation. Owner will not provide space for storage.
   7. Install items in conformance with manufacturer's recommendations, instructions and shop drawings under supervision of manufacturer's representative when appropriate, supplying labor and material required and making mechanical, plumbing and electrical connection necessary to operate equipment.
   8. Repair or replace items damaged by Contractor.
   9. Provide Owner with copy of supplier bill of materials and all other receiving documentation.
   10. Dispose of equipment crates, cartons, packing materials and other debris resulting from unpacking Owner's equipment.

1.9 JOB REPORTS:

A. Submit, in two copies, each week to the Architect a summary of the contractor's work prepared by the construction Superintendent.
B. These information summaries will not relieve the contractor of the responsibility for giving any specific notification or report required by the specifications.

END OF SECTION

SECTION 00 10 00

SUMMARY

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General Conditions, Supplementary General Conditions, Special Provisions and other Division 1 Project Manual Sections, apply to work of this Section.

THE PROJECT

Name of Project:	Archive Building Addition
Location of Site:	2240 Calder Avenue Beaumont, Texas 77701
Owner:	Chambers Charitable Foundation
Architect:	Architectural Alliance, Inc. 350 Pine Street Suite 720 Beaumont, Texas 77701

All work under this project will be coordinated with the owner, architects, the general contractor and sub-contractors. These individuals will be identified at the pre-construction meeting. Contractors are to pay close attention to requirements to be included in proposal for this project.

The successful contractor will submit his proposed sequence of operations to the Owner/Architect for review and acceptance before the authorization to proceed is issued.

Prior to submitting proposal, visit site and become familiar with conditions under which work on this Contract will have to be performed.

No allowance will be made in behalf of the Contractor for any error or negligence on his part, for by his submission of his proposal, the bidder represents that he is familiar with the conditions of the site.

- The contractor will be responsible for all damages that incur during the sequence of construction.

- The intention of this project is to complete the addition of new archive building to the existing office and storage buildings as indicated on the drawings and specifications.

CONTRACT LIMITS

Contractor must utilize the existing site for construction, lay-down, job shack, etc. utilizing street only for parking. Contractor must provide a 6' chain link fence around the construction site and provide protective barriers and warning signs at all new site improvement construction. The contractor is solely responsible to provide a secure and safe construction site throughout the course of the construction project including use of signage warning to "stay off construction site" and "danger".

Contractor must provide necessary barriers around trees noted to be saved to edge of drip line to prevent any supplier or subcontractor for parking or using area for lay-down area during the course of the construction.

CONTRACT FORMS

The Contract will be executed on American Institute of Architects Standard construction contract form. Copies of the form may be found in this project manual.

PERMITS, FEES, TAXES

All proposals submitted by the various contractors and/or sub-contractors shall include all permits, fees, taxes, disposal and trash fees and like expenses necessary for the construction and completion of work includes landfill disposal fees.

STATE SALES TAX

The Owner qualifies for exemption from State and Local Sales Tax pursuant to the provisions of Article 20.04 (F) of the Texas Limited Sales, Excise and Use Tax Act.

The Contractor performing this Contact may purchase, rent or lease all materials, supplies, equipment used or consumed in the performance of this Contract by issuing to his suppliers an exemption certificate in lieu of the tax, said exemption certificate complying with State Comptroller of Public Accounts Ruling No. 95-0.07. Any such exemption certificate issued by the Contractor in lieu of the tax shall be subject to the provisions of the State Comptroller of Public Accounts ruling No. 95-0.09 as amended.

BONDS

The Contractor will be required to furnish a Performance Bond, Payment Bond and Maintenance Bond in the amount of not less than one hundred percent (100%) of the Contract Sum including all authorized extras, conditioned upon the faithful performance of the Contract and upon payment of all persons supplying equipment, materials and/or labor as a portion of the Contract Documents.

The following Rules will be strictly adhered to by all workmen of Contractors, Sub-Contractor and Supplier performing work on this campus.

Possession, use or transfer of drugs is prohibited.

Possession of fire arms and/or other weapons is prohibited.

Tobacco products and alcohol is prohibited.

Contractor must comply with applicable Federal Agency Requirements as might be included in the construction documents and as provided by the City of Beaumont and Federal Reviewers.

PREVAILING WAGE RATES

Attention is called to the fact that bidders must comply with State Labor Laws as required by Articles 1579, 1580, 1581 and 1581A of Vernon's Penal Code and Article 5159A of Vernon's Civil Code. Contractor is required to pay, as a minimum, the prevailing wage scales of the various classes of labor upon this work. Contractors must verify the most current applicable wage decision and utilize wage rates published for the Sabine Area.

CLAIMS FOR UNPAID LABOR AND MATERIALS

When the value of the Contract (between the Owner and the Contractor) is in excess of $25,000.00, claims must be sent direct to the Contractor and his surety in accordance with Article 5160 V.T.C.S. The Owner will furnish, in accordance with such Article, a copy of the Payment Bond as provided therein to claimants upon their request. ALL CLAIMANTS ARE CAUTIONED THAT NO LIEN EXISTS ON THE FUNDS UNPAID TO THE CONTRACTOR ON SUCH CONTRACTS, AND THAT RELIANCE ON NOTICES SENT TO THE OWNER MAY RESULT IN LOSS OF THEIR RIGHTS AGAINST THE CONTRACTOR AND/OR HIS SURETY. THE OWNER IS NOT RESPONSIBLE IN ANY MANNER TO A CLAIMANT FOR COLLECTION OF UNPAID BILLS, AND ACCEPTS NO SUCH RESPONSIBILITY BECAUSE OF ANY REPRESENTATIVE BY ANY AGENT OR EMPLOYEE

END OF SECTION

SECTION – 00 10 20

ALLOWANCES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions, Supplementary General Conditions and other Division 1 Project Manual Sections, apply to work of this Section.

1.2 SUMMARY

A. The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. These allowances shall cover the net cost of the materials and equipment delivered and unloaded at the site, and all applicable taxes. The contractor's handling costs on site, labor, installation, overhead, profit and other expenses contemplated for the original allowances shall be included in the Contractor's sum, and not in the allowance. If the cost, when determined, is more than or less than the allowance, the Contract sum shall be adjusted accordingly by Change Order, which will include additional a handling cost on the site, labor, installation cost, overhead, profit and other expenses resulting to the Contractor from any increase over the original allowance.

B. Unexpected balance for allowance sums shall revert to the owner in the final settlement of the contract.

1.3 CASH ALLOWANCES

A. The following CASH ALLOWANCES shall be included in the Base bid. These sums shall be reconciled per Article 3.8 of the general Conditions.

1. **Contingency Allowance**: The general contractor will establish a Contingency Allowance under the contract for discretionary use of any additional found scope of work to be approved by the Owner.

1.4 At Project closeout unused allowances will be credited to the Owner by means of Change Order.

PART 2 – PRODUCTS (Not applicable)

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with the related work.

3.3 SELECTION OF PRODUCT

A. Contractor to provide samples for selections and shop drawings indicating installation and notify Architect of any anticipated effect to the construction schedule and/or contract sum by the selection of product. On Notification of selection, by Architect, the Contractor will enter into a purchase agreement with supplier.

B. Architect will provide Contractor with required drawings designating product, model, finish and other information and change order showing cost and change in contract if any.

END OF SECTION

SECTION 00 10 27

APPLICATION FOR PAYMENT

PART 1 - GENERAL

1.1 RELATED SECTIONS
- A. 00 17 00 Contract Closeout Procedures

1.2 FORMAT
- A. Submit on AIA G702 - "Application and Certificate for Payment" and AIA G703 - "Continuation Sheet".

1.3 PREPARATION OF APPLICATIONS
- A. Type required information.
- B. Execute certification by signature of authorized officer.
- C. Use data on accepted Schedule of Values. Provide dollar value in each column for each line item for portion of the work performed and for stored products.
- D. List each authorized Change Order separately on continuation sheet, listing Change Order number and dollar amount as for and original item of the work.

1.4 SUBMITTAL PROCEDURES
- A. Submit 4 copies of each Application for Payment at times stipulated in Agreement.
- B. Submit a copy of each substantiating or companion document with each copy of Application unless otherwise specified.

1.5 STORED MATERIALS INSURANCE
- A. Include with each copy of Application for Payment a certificate from insurance company underwriting coverage protecting stored materials attesting to full coverage thereof.

PART 2 – PRODUCTS
N/A

PART 3 – EXECUTION
N/A

END OF SECTION

SECTION 00 10 28

CHANGE ORDER PROCEDURES/REQUESTS FOR INFORMATION

1.1 RELATED WORK SPECIFIED ELSEWHERE:
- A. Procedures for claims for additional costs:
- B. Conditions of the Contract.
- C. Application for Payment: Section 00 10 27

1.2 PRELIMINARY PROCEDURES - ARCHITECT:

A. Architect may initiate changes by submitting Change Order Directive to Contractor which includes:
1. Detailed description of Change, Products and location of change in Project.
2. Supplementary or revised Drawings and Specifications. Specific period of time during which the requested price will be considered valid.
3. Change Order Directive is for information only; it is not an instruction to stop work in progress, or to execute the change.

1.3 PRELIMINARY PROCEDURES - CONTRACTOR:

A. Contractor may initiate changes by submitting written notice to Architect which includes:
1. Description of proposed changes.
2. Statement of reason for making changes.
3. Statement of effect on Contract Sum and Contract Time.
4. Statement of effect on Work of separate contractors, if any.
5. Documentation supporting change in Contract Sum and Contract Time, as appropriate.
6. Any other pertinent data and information.

1.4 DOCUMENTATION OF CHANGE PROPOSALS:

A. Support each quotation with sufficient itemized data necessary for Architect to evaluate quotation, which may include:
1. Labor: Hourly breakdown.
2. Equipment: Unit price and quantity.
3. Products: unit price and quantity.
4. Fees: Taxes, insurance, bonds.
5. Credit for work deleted from Contract.
6. Justification for change in Contract Time, if any.

1.5 CONTRACTOR MAXIMUM OVERHEAD AND PROFIT:

- A. Changes involving additional cost to Contractor: net cost plus percentage as defined on Bid Form.
- B. Changes involving additional cost to Subcontractor: net cost plus ten percent (10%) to Subcontractor.
- C. Changes involving deductions: net cost.

1.6 PREPARATION OF CHANGE ORDERS:

- A. Form: AIA Document G701.
- B. Content: Change Order will describe changes in work, both additions and deletions, with attachments of revised Contract Documents to define details.

C. Basis: Content will be based on Change Request and Contractor's responsive Proposal, both as mutually agreed between Owner and Contractor.
D. Change Order will provide an accounting of adjustments in Contract Sum, and in Contract Time.
E. Execution: Architect will sign and date as verification of change in Contract Sum, and Contract Time as agreed to by Owner and by Contractor.
F. Owner and Contractor will sign and date to indicate agreement of terms therein.

1.7 COORDINATION:

A. During processing period for Proposal Request/Change Order, do not proceed with operations which would subsequently encumber work affected by modifications.

1.8 CORRELATION WITH CONTRACTOR'S SUBMITTALS:

A. Periodically revise Schedule of Values and Request for Payment forms to record each change as separate item of Work, and to record adjusted Contract Sum.
B. Periodically revise the Construction Schedule to reflect each change in Contract Time.
C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

END OF SECTION 00 10 28

SECTION 00 10 30

ALTERNATES

PART 1 – GENERAL

1.1 ALTERNATE BIDS:

A. In space provided on the proposal form, state amounts, both in words and figures, to be added to the base bid, in the event that described alternate bids are accepted. Include all variations in profit, overhead, bonds, insurance and similar rated items. Time of completion shall not be changed if any or alternate bids are accepted.
B. To be a valid bid, alternates must be bid. A "No Bid" or omission of bid on any alternate may cause the total proposal to be rejected.
C. Alternates, if accepted, will be accepted in numerical order as they appear in this section.

1.2 COORDINATION:

A. Immediately following award of contract, prepare and distribute to each party involved notification of status of each alternate. Indicate whether alternates have been accepted or rejected.
B. Include a complete description of alternates.
C. Coordinate other work related to alternates; modify or adjust adjacent work as required.
D. Ensure that any condition affected by each accepted alternate is adjusted as required and is fully integrated into work.

1.3 LIST OF ALTERNATES:

Alternate #1 – New built-in 42" deep floor to ceiling furniture storage shelving with some adjustable shelves.

Alternate #2 – Three (3) new tall 36" deep built-in storage units with heavy duty adjustable shelves for items storage.

Alternate #3 – New built-in stacked tall open wardrobe storage racks.

Alternate #4 – New 36"x24"x42" tall glide-out storage units with 1 ½" laminate work surface, 2-3" diameter grommets, 36" wide open knee space for seating midway each side of unit and power below open space stub up from foundation. Verify dimension to fit over storage units.

Alternate #5 – Four (4) relocated existing 31"x58"x78" tall secured storage units and new built-in 30" deep heavy shelves above.

Alternate #6 – Cushion backed LVT flooring throughout with classic rubber base.

The General Contractor may also establish some allowance items to permit the owner to choose levels of quality during the construction process. These allowances will be outlined in the Stipulated Sum Agreement Between Owner and Contractor.

PART 2 – PRODUCTS N/A
PART 3 - EXECUTION N/A

END OF SECTION

SECTION 00 10 42

MECHANICAL AND ELECTRICAL COORDINATION

PART 1 – GENERAL

3.1 PROVIDE COMPLETE OPERATING SYSTEMS:

A. Approximate location of switchboards, motor control center, transformers, feeders, branch circuits, lighting and power outlets, panels, fire alarm and detection outlets, etc., are indicated. However, drawings do not indicate complete and accurate detail locations of such outlets, conduit runs, etc., and exact location must be determined by actual measurement, and equipment/materials used.
B. Review such locations with Architect and Owner.
C. Choose equipment which properly fits into the physical space provided and shown on the Drawings, allowing ample room for access, servicing, removal and replacement of parts, and related operations.
D. Allow adequate space for clearances in accordance with applicable code requirements.
E. Physical dimensions and arrangements of equipment are subject to Architect's and Owner's review.
F. Submit Equipment Room layout drawings, fully detailed with sections to indicate elevation of piping and ductwork above finished floor line. Show major items of equipment (including light fixtures) on layout drawings and identify any items that may conflict or not fit.
G. Before Completing Equipment installation, verify layout in meeting with MEP consultants and owner's representatives on-site.

PART 2 – PRODUCTS

3.1 FLOOR PADS:

A. Locate and lay out for 4 inch high concrete pads (maintenance pads) for floor mounted equipment at mechanical room and mechanical equipment courtyard unless noted otherwise. Floor pads generally conform to the shape of each piece of equipment with minimum 3 inch margin at equipment supports but at a minimum as noted in MEP drawings and specifications.
B. Provide for installation of accessories required to be cast into floor pads.
C. Materials and Installation: Refer to Division 3 - Concrete.

PART 3 – EXECUTION

3.2 LOCATIONS:

A. Communicate with the Architect and secure acceptance of any outlet (light fixture, receptacle, switch, etc.) location about which there may be questionable coordination.
B. Remove and relocate outlets obviously placed in a location not suitable to the finished room or area when so directed by the Architect/Engineer.
C. Coordinate location of light fixtures with reflected ceiling plans.

3.3 In general, openings will be left in new work for passage of piping, ducts, conduits and cable trays as applicable.

3.4 Provide layout and drawings for review for bases and for installation of accessories required to be cast into bases.

3.5 Ensure compliance with the Texas Accessibility Standards. Contact Architect about location of all fixtures if there may be a question.

3.6 ACCESS DOORS:

A. Provide doors with accessible maneuvering clearance wherever continued access to concealed controls is required.

B. Use labeled doors as scheduled to match wall construction.

3.7 CONCEALMENT AND IDENTIFICATION:

A. Concealment: Conceal ductwork, piping electrical, distribution, and systems apparatus; exposed installations are acceptable only where detailed.
B. Identification: Identify systems equipment with permanent plates; tag valves with individual chain-attached plates which correspond to symbols on Project Record Documents.

3.8 EQUIPMENT LIST:

A. Before orders are placed, submit list of equipment and principal materials specified herein.
B. Include names of manufacturers, catalog numbers, and such other supplementary information as necessary for identification.
C. Submit this list in advance of detailed shop drawings and other data.

3.9 COOPERATION:

A. Cooperation with trades of adjacent, related or affected materials or operations is considered part of this Work.
B. Effect timely and accurate placing of Work and bring together, in proper and correct sequence, Work of such trades.
C. In some cases, mechanical/electrical work might be under separate contracts with the Owner or Owner's vendors. Contractor will coordinate and assist as necessary in these cases.

END OF SECTION

SECTION 00 10 45

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED WORK:

A. The general provisions of the contract, including General and Supplementary Conditions and other General Requirements sections, apply to the work specified in this section.

1.2 DESCRIPTION OF REQUIREMENTS:

A. Definition: “Cutting-and-Patching” is hereby defined to include but is not necessarily limited to the cutting and patching for nominally completed and previously existing work, in order to accommodate the coordination of work, or the installation of other work, or to uncover other work for access or inspection, or to obtain samples for testing, or for similar purposes; and is defined to exclude integral cutting-and-patching during the manufacturing, fabricating, erecting and installing process for individual units of work. Drilling the work to install fasteners and similar operations are excluded from the definition of cutting-and-patching.
B. Restoring or removing and replacing non-complying work is specified separately from cutting-and-patching, but may require cutting-and-patching operations as specified herein.
C. Refer to other sections of these specifications for specific cutting-and-patching requirements and limitations applicable to individual units of work.
D. Refer to the mechanical, electrical and plumbing sections, for additional requirements and limitations on the cutting-and-patching of mechanical and electrical work, respectively. The requirements of this section apply to mechanical and electrical work, unless otherwise indicated.
E. Contractor is required to cut and patch to original conditions were running new mechanical and electrical services or where performing demolition on certain portions of pavement requiring generally acceptable patching for transitions of surfaces including compliance with street standards where installing new drives and Texas Department of Licensing and Regulation standards.

1.3 Special project procedures: Section 00 11 00

1.4 Selective Demolition: Section 00 20 70

1.5 CONTRACTOR OPERATIONS:

A. Provide cutting, patching, and fitting, including attendant excavation and backfill, required to:
   1. Make components fit together properly.
   2. Uncover portions of the Work for installation of ill-timed work.
   3. Remove and replace defective work.
   4. Remove and replace work not conforming to requirements of Contract Documents.
   5. Remove samples of installed work as specified for testing.
   6. Provide penetrations of surfaces for installation of piping, electrical conduit, and control systems components, including sleeves, anchors, inserts and frames, including limitations expressed for structural components.

1.6 INSPECTION:

A. Inspect existing conditions including components subject to damage or to movement during cutting and patching.
B. After uncovering Work, inspect conditions affecting installation of Products, or performance of Work.
C. Report unsatisfactory or questionable conditions to Architect and Owner in writing; proceed with

Work thereafter only in accordance with further instructions from Architect and Owner.

1.7 PREPARATION:

A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work.
B. Provide devices and methods to protect other portions of Project from damage.
C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

1.8 PERFORMANCE:

A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
C. Refinish entire surfaces as necessary to leave an even finish which matches adjacent finishes.
D. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit.

END OF SECTION

SECTION 00 10 95

DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.1 INDUSTRY STANDARDS:

A. General: Applicable standards of construction industry have same force and effect (and are made a part of Contract Documents by reference) as if published copies were bound herewith.
B. Referenced Standards (referenced directly in Contract Documents or by governing regulations) have precedence over non-referenced standards which are recognized in industry for applicability to Work.
C. Non-Referenced Standards recognized in the construction industry are hereby defined, except as otherwise limited to have direct applicability to the Work herein, and will be so enforced.
D. Publication Dates: Where compliance with a standard is required, comply with standard in effect as of date of Contract Documents, unless reference is made to specific earlier date.
E. Copies of Standards: Provide where needed for proper performance of the Work; obtain directly from publication sources. Maintain at site for reference by concerned parties.

1.02 ABBREVIATIONS AND NAMES:

A. Where acronyms or abbreviations are used in Specifications, they are defined to mean the industry-recognized name of trade association, standards generating organization, governing authority or other entity applicable to provision.
B. The following acronyms or abbreviations as referenced in individual Sections are subject to change, and are believed to be, but are not assured to be, accurate and up-to-date as of date of Contract Documents:

AA	Aluminum Association
AAMA	American Architectural Manufacturers' Association
AASHTO	American Association of State Highway and Transportation Officials
ACE	Air Conditioning Engineers, Inc.
ACI	American Concrete Institute
ADA	American with Disabilities Act
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWI	Architectural Woodwork Institute
AWSC	American Welding Society Code
AWWA	American Water Works Association
BFPM	Beat to Fit, Paint to Match
BHA	Beaumont Housing Authority
BIA	Brick Institute of America
CBMA	Certified Ballast Manufacturers' Association
DHI	Door and Hardware Institute
ETL	Electrical Testing Laboratories
FM	Factory Mutual
FS	Federal Specification of Federal Standards
IES	Illuminating Engineering Society
HUD	Department of Housing and Urban Development
ML/SFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NBFU	National Bureau of Fire Underwriters

NBS	National Bureau of Standards
NEC	National Electric Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers' Association
NFC	National Fire Code
NFPA	National Fire Protection Association Officials
PCA	Portland Cement Association
PDCA	Painting and Decorating Contractors of America
PDI	Plumbing and Drainage Institute
RIS	Redwood Inspection Service
SDHPT	State Department of Highways and Public Transportation
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SMACNA	Sheet Metal and Air Conditioning National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
TAS	Texas Accessibility Standards
TDH	Texas Department of Health
TDLR	Texas Department of Licensing and Regulation
TNRCC	Texas Natural Resources Conservation Commission
USDA	United States Department of Agriculture
UL	Underwriter's Laboratories, Inc.
WWPA	Western Wood Products Association

1.03 ADDITIONAL DEFINITIONS:

A. As required: Methods that may be required to satisfactorily complete the Work.
B. Substrate: Surface or base over which another material is to be applied.
C. As Directed: Supplemental instructions within the scope of the Contract. (Make request to Architect for instruction in each case required.)
D. Architect: Architect identified in General Conditions and refers to his acting individually or through any of his representatives only when duly authorized to act for him.
E. Provide: To furnish and install, complete, operational and ready for use.
F. Approve: Where used in conjunction with Architect's response to submittals, requests, applications, inquiries, reports and claims by contractor, the term "approved" will be held to limitations of Architect's responsibilities and duties as specified in General and Supplementary Conditions. In no case will Architect's approval be interpreted as a Contractor’s release responsibilities to fulfill requirements of Contract Documents or acceptance of any Work.
G. Concealed: Hidden from sight as in chases, furred spaces, and above gypsum board ceilings; exposed materials are understood to be open to view.

END OF SECTION 00 10 95

SECTION 00 11 60

CONTRACTOR REQUIREMENTS

PART 1 - GENERAL

1.1 INTERPRETATION:

A. The following paragraphs contain requirements that apply to the overall accomplishment of the work. Where specified action is required by this section, it is the contractors responsibility to perform or to assign such requirement to subcontractor and see that it is performed.

1.2 RELATIONSHIP BETWEEN TRADES:

A. Require and be responsible for cooperation and coordination between various trades and subcontractors whose work is dependent upon one another. Schedule such work so as to prevent delays in dependent work and so that all related work will progress together. Fully inform each trade or subcontractor of the relation of his work to other work, and require each to make necessary provisions for the requirements of such other work. No additional compensation for extra work incurred through the lack of cooperation and coordination between various trades and subcontractors will be allowed.

1.3 PROTECTION:

A. Assume the responsibility for initiation and maintenance of protective requirements required including 6' chain link construction fence securing the entire construction site, warning signs, barricades at open trench and warnings per USHA open trench requirements, training and safety program with assigned safety coordinator on-site.

1.4 REPAIR OF DAMAGE:

A. Assume responsibility for any loss or damage caused by these operations or any trade to the work, or to materials, to adjacent property and existing structures and to persons, and make good any loss, damage or injury without cost to owner.

1.5 SECURITY:

A. Conform to requirements of public laws, ordinances and regulations and the requirements of insurance carriers concerning security to the site while work is in progress as well as when it has been suspended. Contractors are encouraged to provide temporary pole mounted security lighting during the course of construction.

1.6 DOCUMENTS AT THE SITE:

A. Maintain at the site, one reference copy of each approved shop drawing and of each drawing, specification, addenda, revision and other modification, in good order and marked by note to record each change made during construction on record prints. Drawings shall be clearly marked "RECORD PRINTS" and not used for construction purposes. Mechanical Record Drawings shall show actual CFM rating in each space. At the time of pre-final inspection, submit the record prints to the Architect. Also obtain, when directed or as necessary to properly execute the work, copies of literature, standards and other data referred to but not included in the specifications.
B. The record prints will be checked periodically by the Architect to determine that they are current. A certificate for payment will not be issued until record prints are made current as determined by the Architect.

C. Refer to Section 00 17 20 for additional record drawings requirements.

1.7 CONSTRUCTION LOADING:

A. Concrete slabs on grade, unless designated otherwise on the drawings, have not been designed for heavy loading. Do not subject such slabs on grade to excessive loading by shoring, storage of materials or operation of construction equipment unless adequately protected by planking. Maintenance of slabs in good condition is the responsibility of the Contractor, who shall remove all damaged areas of such slabs and replace them with new work at no cost to owner.

1.8 EXISTING UTILITIES:

A. Shut-downs for utility tie-ins shall be scheduled in order to minimize inconvenience to the owner. The contractor shall notify the owner and Architect in writing 10 days in advance of any anticipated shut-down. The Contractor provides adequate manpower on hand to assure that tie-ins can be completed on schedule. The shut-down shall be scheduled with the agreement of the owner and the contractor.

1.9 CONSTRUCTION SCHEDULING:

A. The work shall be conducted in such a way as to cause a minimum of interference with the owner's use of existing facilities during normal working hours.
B. Scheduling of work and access to site will be discussed during the Preconstruction Conference.

1.10 PROJECT OFFICE FACILITY:

A. Contractor to provide secured environmentally conditioned project office with table, chairs and rack for maintenance of the as-built drawings and monthly meeting to seat 12-14.
B. Contractor is encouraged to consider use of video security devices is issues of security become a consideration during the course of the construction.

END OF SECTION

SECTION 00 13 10

PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 FORMAT:

A. Prepare Schedules as a horizontal bar chart with separate bar for each major portion of the Work or operation.
B. Sequence of Listings: Schedule of Values - chronological order of start and completion of each item of work.
C. Scale and Spacing: To provide space for notations and revisions.
D. Sheet Size: 8 1/2x11, 11x17, 18x24 or 24x36 (Contractor's Option).

1.2 CONTENT:

A. Listings: Read from left to right, in ascending order for each activity. Identify each activity with applicable specifications section number.
B. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
C. Identify each item by major Specification section number.
D. Provide sub-schedules to define critical portions of entire Schedule as necessary.
E. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of following activities, if necessary.
F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, including, and dated reviewed submittals will be required from Architect. Show critical decision dates for selection of finishes.
G. Show dates for each specified test that is critical to scheduling compliance.

1.3 REVISIONS TO SCHEDULES:

A. Maintain schedules to record actual start and finish dates of completed activities. Indicate progress of each activity to date of revision and projected completion date of each activity.
B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect.

1.4 SUBMITTALS:

A. Submit initial Schedules within 15 days after date established in Notice to Proceed. After review, resubmit required revised data within 7 days.
B. Submit revised Progress Schedules with each Application for Payment.

1.5 DISTRIBUTION:

A. Distribute copies of reviewed Schedules to job site file, subcontractors, suppliers, and other concerned entities. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in Schedules.

PART 2 - PRODUCTS - N/A
PART 3 - EXECUTION - N/A

END OF SECTION

SECTION 00 13 40

SUBMITTALS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE:
- A. Definitions and additional responsibilities of parties are in the Conditions of the Contract.
- B. Submittal of subcontractor, supplier, and materials list.
- C. Submittals required for contract closeout.
- D. Submittals of required project record documents.

1.2 TRANSMITTAL LETTER:
- A. Contractor's name and job number.
- B. Date submittal was sent from Contractor's office.
- C. Description of submittal and number of copies submitted.
- D. Subcontractor's name, supplier's name, and engineer's name as applicable.
- E. Indicate deviations from the Contract Documents, if any, and reasons for deviations.

1.3 SUBMISSION REQUIREMENTS:
- A. Shop Drawings, Product Data, Samples, Certifications, Test Results:
  1. Make submittals promptly in accordance with Submittal Schedule, and in such sequence as to cause no delay in the Work or in the Work of any other Contractor. Copies will be reviewed and turned over to Owner's personnel; or they will be returned with comments for resubmission, if necessary.
  2. **CONTRACTOR MAY OPT TO SUMIT SOME DOCUMENTS IN ELECTRONIC FORM IN ORDEER TO EXPEDITE THE REVIEW PROCESS. PLEASE NOTE CERTAIN DISCIPLINES PREFER FULL SIZE SHEETS FOR CHECKING OF DETAILS AND AS THE RESULT CONTRACTOR IS ASKED TO REQUEST OPTION FOR ELECTRONIC SUBMITTAL BEFORE TRANSMITTING FOR REVIEW.**
- B. Progress Schedule: Submit within 15 days of Contract execution.
- C. RESUBMISSION REQUIREMENTS: Make any corrections for changes in the submittals required by the Architect/Engineer and resubmit until approved.
- D. Progress Schedule, Shop Drawings and Product Data:
  1. Revise initial drawings or data, and resubmit as specified for the initial submittal. Indicate any changes which have been made other than those requested by the Architect.
- E. Samples: Submit new samples as required for initial submittal.
- F. Certifications: Resubmit within ten (10) days.
- G. Operation/Maintenance Manual: Resubmit within ten (10) days.

PART 2 - CONTENTS OF SUBMITTALS

2.1 PROGRESS SCHEDULE:
- A. As per Section 00 13 10 - Progress Schedule.

2.2 SHOP DRAWINGS:
- A. Prepared by qualified detailer.
- B. Identify details by reference to Specification Section, sheet and detail members shown on Drawings.
- C. Content:
  1. Date of Submission and the date of any previous submission.
  2. Project title and number.
  3. Names of Contractor, supplier, manufacturer.
  4. Identification of the product.
  5. Field dimensions, clearly identified as such.
  6. Relations to adjacent or critical features of the Work or materials.
  7. Applicable standards, such as ASTM or Federal Specification Numbers.
  8. Identification of deviations from Contract Documents.

9. Identification of revisions on resubmittals.
10. An 8 inch x 3 inch blank space for Contractor and Architect stamps.

D. No extension of time will be granted for failure to have shop drawings submitted in ample time for review

2.3 PROJECT DATA:

A. Preparation: Manufacturer's printed data or catalog sheets showing illustrated cuts of items specified.

B. Content:
1. Clearly mark each copy to identify pertinent products or models.
2. Show performance characteristics and capacities.
3. Show dimensions and clearances required.
4. Show wiring or piping diagrams and controls.
5. Modify drawings and diagrams to delete information which is not applicable to Work of this Project.

C. Supplement standard information to provide information specifically applicable to Work of this Project, including:
1. Applicable standards, such as ASTM or Federal Specification number.
2. Identification of deviations from Contract.
3. Identification of revisions on resubmittals.

2.4 SAMPLE:

A. Office samples of sufficient size and quantity to clearly illustrate functional characteristics of the product, with integrally related parts and attachment devices, in full range of color, texture and pattern.

2.5 CERTIFICATIONS:

A. Definition: Certifications are manufacturer's testimonials prepared by him or by an independent testing agency which certify conformance with specified requirements.

B. Content: Identify product by reference to specification Section, and by reference to applicable Drawings. Clearly mark each copy to identify pertinent model, if more than one certification is required.

2.6 OPERATION/MAINTENANCE MANUAL:

A. Preparation:

B. Size: 8 1/2 inches x 11 inches.

C. Paper: White typed pages.

D. Test: Manufacturer's printed data, or neatly typewritten.

E. Drawings:
1. Provide reinforced punched binder tab, bind in with text.
2. Fold larger drawings to size of text pages.
3. Provide fly-leaf to each separate product, or each piece of operating equipment.
4. Provide typed description of product, and major component parts of equipment.

F. Provide indexed tabs.

G. Cover:

H. Identify each volume with typed or printed title “OPERATING AND MAINTENANCE INSTRUCTIONS", listing:
1. Title of Project.
2. Identity of separate sections as applicable.
3. Identity of general subject matter covered in the manual.

I. Binders: Commercial quality three-ring binders with durable and cleanable plastic covers.

J. Maximum Ring Size: 1 inch.

K. When multiple binders are used, correlate the data into related consistent groupings.

L. Minimum Content:
1. Subcontractor, supplier, and manufacturer list for each volume with name of responsible, principal, address, and telephone number.
2. Identification of each product by product name and identifying symbols as set forth in Contract Documents.

3. Local source of supply for parts and replacements.
4. Warranties and bonds as specified.
5. Shop drawings and product data as specified in individual Sections.
6. Include additional drawings as necessary to clearly illustrate relations of component parts of systems, including control and flow diagrams.
7. Written text as required to supplement product data for the installation which provides a logical sequence of instructions for each procedure.

2.7 MANUALS FOR EQUIPMENT AND SYSTEMS:

A. Description for unit and component parts:
   1. Function, normal operating characteristics, and limiting conditions.
   2. Performance curves, engineering data, and tests.
   3. Complete nomenclature and commercial number of replaceable parts.

B. Operating Procedures:
   1. Start-up, break-in, and routine and normal operating instructions.
   2. Regulation, control, stopping, shut-down, and emergency instructions.
   3. Summer and winter operating instructions.
   4. Special operating instructions.

C. Maintenance Procedures:
   1. Routine operations.
   2. Guide to "Trouble-shooting".
   3. Disassembly, repair, and reassembly.
   4. Alignment, adjusting, and checking.
   5. Lubrication schedule and list of required lubricants.
   6. Description of sequence of controls operation including as-installed control diagram.
   7. Manufacturer's parts list, illustrations and assembly drawings; indicate items recommended to be stocked as spare parts.
   8. As-installed color coded piping and wiring diagrams.
   9. Charts of valve tag numbers with location and function of each valve.
   10. Circuit directories of panel boards.

2.8 COLOR SELECTIONS SUBMITTALS:

A. Provide samples, chips, charts, and boards as required for Architect to prepare Color Schedule at least 3 weeks prior to critical decisions being necessary.

2.9 SUBMITTAL SCHEDULE:

A. Shop Drawings and Product Data: Submit direct prints for product items listed in individual Sections.
B. Samples: Quantity indicated in individual Section.
C. Certifications: 4 copies.
D. Operation/Maintenance Manual: 2 copies.
E. Manual for Equipment and Systems: 2 copies.
F. Color Selection Package: 1 copy.

2.10 DISTRIBUTION:

A. Distribute reproductions of Shop Drawings and copies of Product Data which carry the Architect Stamp to:
   1. Record Document file.
   2. Subcontractors.
   3. Supplier or Fabricator.

END OF SECTION

SECTION 00 13 70

SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 DESCRIPTION:
- A. Requirements for preparation and submission of Schedule of Values.

1.2 RELATED SECTIONS:
- A. 00 10 27 Application for Payment.

1.3 SUBMITTALS:
- A. Submit Schedule of Values as a part of first "Application and Certificate for Payment".
- B. Submit the number of copies Contractor requires plus 3 copies which will be retained by the Architect.
- C. Submit under Architect accepted transmittal letter.

1.4 INCLUSIONS:
- A. Provide a separate line listing for each Section listed on Project Manual Table of Contents.
- B. Provide a separate line listing for each subcontract to subjects listed on Project Manual Table of Contents.
- C. For items upon which progress payments for stored materials will be requested, list separately value for:
  1. All material, shipping, handling, storage, and related costs and taxes through time of storage; and,
  2. All handling, installation, and related costs and taxes subsequent of time of storage.
- D. Include directly proportional amount of Contractor's overhead and profit in each line listing.
- E. The sum of all values listed shall equal Contract Sum.

1.5 FORMAT:
- A. Type Schedule on AIA G703 "Continuation Sheet for Application and Certificate for Payment".

1.6 SUBSTANTIATING DATA:
- A. Upon request of Architect, furnish substantiating data justifying each line listing questioned.

PART 2 - PRODUCTS - N/A

PART 3 - EXECUTION - N/A

SECTION 00 14 00

QUALITY CONTROL

1.1 Requirements Included:
- A. General quality control.
- B. Mockups and field samples.
- C. Manufacturer's field services.
- D. Testing laboratory services.

1.2 Quality Control, General:
- A. Maintain quality control over suppliers, mfrs., products, services, site conditions, and workmanship, to produce work of specified quality.

1.3 Mockups and Field Samples:
- A. When required by individual specification sections, provide full-scale mockups or field samples at project site, at location acceptable to the Architect, in accordance with requirements of the specification section.
- B. Remove mockup or field sample and clear area when work of that section is complete, when approved by Architect.
- C. Acceptable in-place mockups may be retained in completed work.

1.4 Manufacturers' Field Services:
- A. When specified, require supplier or manufacturer to provide qualified personnel to observe field conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, as applicable, and to make appropriate recommendations.
- B. Representative shall submit written report to Architect listing observations and recommendations.

1.5 Testing Laboratory Services: (Reference Section 00 14 10) Testing and Laboratory Services Provided Under Separate Contract with Owner.
- A. Contractor shall cooperate with testing laboratory personnel; furnish tools, samples of materials, design mix, equipment, storage and assistance as requested.
  1. Notify Architect and testing laboratory 24 hours prior to expected time for operations requiring testing services.
  2. Make arrangements with testing laboratory and pay for additional samples and tests for contractor's convenience.

END OF SECTION

SECTION 00 14 50

TEMPORARY FACILITIES AND ACCESS

PART 1 - GENERAL

1.1 TEMPORARY CONSTRUCTION:
- A. Provide facilities for the use of employees, subcontractors, and other authorized personnel.
- B. Remove temporary installations and connections when no longer required or when directed by Architect.
- C. Repair damage caused by defective temporary systems; restore facilities used during construction to specified original condition.

1.2 FIELD OFFICE:
- A. Provide small storage shed for storage of plans/specifications/as-built drawings.

1.3 TELEPHONE:
- A. Provide temporary telephone for use by persons involved with project (cell acceptable).

1.4 TOILET:
- A. Provide exterior facility.
- B. Maintain facilities clean, sanitized and secured within the boundary of the required 6' security fence.

1.5 TEMPORARY POWER AND LIGHT:
- A. Contractor provide temporary electrical power and service to the building until such time permanent power is to be turned on for owner's service. All cost for power until building is turned over to owner to be covered under this contract.

1.6 TEMPORARY WATER :
- A. Connect to existing facilities.
- B. Free use of water is allowed.

1.7 VENTILATION:
- A. Provide ventilation of enclosed areas to cure materials to disperse humidity, and to prevent accumulations of dust, fumes, vapors, or gases.
- B. Prior to operation of permanent facilities for temporary purposes, verify that installation is approved for operation and that filters are in place. Coordinate conditions of use and equipment guarantees with owner.

1.8 TEMPORARY ENCLOSURES AND BARRIERS:
- A. Provide weather tight enclosures to protect Work from elements, and to retain temporary heat.
- B. Provide barriers as required to prevent public entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations.
- C. Provide 6' chain link fence around building construction site and lay-down area, with vehicular and pedestrian gates.
- D. Provide barricades and covered walkways as required by governing authorities for public rights-of-way.
- E. Provide barriers around trees and plants designated to remain.
- F. Protect against vehicular traffic, stored materials, dumping, chemically injurious materials, and ponding or continuously running water.
- G. Contractor must provide barrier around excavations during the day. No excavation, unless within the confines of the 6' chain link fenced construction barrier, may be left open overnight unless a guard is on duty throughout the night to prevent accidents.

H. Provide silt fence protection as required by the governing authority and State of Texas regulations and submit for approval a silt fence plan for approval by the city before starting any work on the site. Contractor must keep silt fence in good condition throughout the sequence of construction as required by the governing authority. Reference Civil Drawings.

1.9 PUMPS:

A. Provide and operate drainage and pumping equipment to maintain excavations and site free of standing water.

1.10 CONSTRUCTION AIDS:

A. Provide scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, and other equipment required to facilitate execution of the Work.

1.11 SECURITY:

A. When the Work or any portion thereof is suspended for a temporary period, secure and protect the area to prevent injury and loss.
B. Contractors are encouraged to provide security pole lighting through the construction process and video cameras should security become an issue that might delay completion of the project.

1.12 SIGNS

A. Omit job sign requirement per City of Beaumont instruction for cost savings.

1.13 SAFETY

A. The Contractor must assign a safety coordinator for the project site and maintain a safety manual throughout the sequence of construction.
B. The Contractor must comply with all OSHA and best application safety standards for the project including their personnel and all other subcontractors and suppliers that are permitted to enter the secured fenced area or utilizing construction vehicles or equipment.
C. The Contractor must immediately report to the Owner and Architect any and all injuries related to this project or occurring on this project site and submit a written report of incident, treatment and condition.

END OF SECTION

SECTION 00 16 30

PRODUCT SUBSTITUTIONS

PART 1 – GENERAL

1.1 Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the contractor after award of the contract are considered requests for "substitutions". The following are not considered substitutions:
   A. Substitutions requested during the bidding period, and accepted prior to award of contract.
   B. Revisions to Contract Documents requested by the owner or Architect.
   C. Specified options of products and construction methods included in Contract Documents.
   D. Compliance with governing regulations and orders issued by governing authorities.

1.2 Submittal: Requests for substitution will be considered if received within 60 days after commencement of the work. Requests received more than 60 days after commencement of the work may be considered or rejected at the discretion of the Architect.
   A. Submit 3 copies of each request for substitution in the form and in accordance with procedures for Change Order proposals.
   B. Identify the product, or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Document compliance with requirements for substitutions, and the following information as appropriate:
      1. Product data, including Drawings and descriptions of products, fabrication and installation procedures.
      2. Samples, where applicable or requested.
      3. A comparison of significant qualities of the proposed substitution with those specified.
      4. A list of changes or modifications needed to other parts of the work and to construction performed by the owner and separate contractors that will be necessary to accommodate the proposed substitution.
      5. A statement indicating the substitution's effect on the construction schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall contract time.
      6. Cost information, including a proposal of the net change, if any in the contract sum.
      7. Certification that the substitution is equal-to or better in every respect to that required by Contract Documents, and that it will perform adequately in application indicated. Include contractor's waiver of rights to additional payment or time that may be necessary because of the substitution's failure to perform adequately.

1.3 Architect's Action: Within one week of receipt of the request for substitution, the Architect may request additional information necessary for evaluation. Within 2 weeks of receipt of the request, or one week of receipt of additional information, whichever is later, the Architect will notify the contractor of acceptance or rejection. If a decision on use of a substitute cannot be made within the time allocated, use the product specified. Acceptance will be in the form of a Change Order.

1.4 Substitutions: The contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
   A. Extensive revisions to Contract Documents are not required.
   B. Proposed changes are in keeping with the general intent of Contract Document.
   C. The request is timely, fully documented and properly submitted.
   D. The request is directly related to an "or equal" clause or similar language in the Contract Documents.

E. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the work promptly or coordinate activities properly.
F. The specified product or method of construction cannot receive necessary approval by the governing authority, and the requested substitution can be approved.
G. A substantial advantage is offered the owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the owner may be required to bear. Additional responsibilities for the owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the owner or separate contractors, and similar considerations.
H. The specified product or method of construction cannot be provided in a manner that is compatible with other materials. The contractor certifies that the substitution will overcome the incompatibility.
I. The specified product or method of construction cannot be coordinated with other materials. The contractor certifies that the proposed substitution can be coordinated.
J. The specified product or method of construction cannot provide a warranty required by the Contract Documents. The contractor certifies that the proposed substitution provide the required warranty.
K. The contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 2 – PRODUCTS

PART 3 – EXECUTION

END OF SECTION

SECTION 00 17 00

PROJECT CLOSEOUT

PART I – GENERAL

3.1 RELATED DOCUMENTS:

A. The general provisions of the contract, including General and Supplementary Conditions and other General Requirements sections, apply to the work specified in this Section.

3.2 DESCRIPTION OF REQUIREMENTS:

A. Definitions: Closeout is hereby notified to include General Requirements near the end of contract time, in preparation for final acceptance, final payment, normal termination of contract, occupancy by owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Special Requirements for Mechanical and Electrical work are specified in Divisions 15 & 16 Series Sections, respectively. Time of closeout is directly related to "Substantial Completion".

B. Refer to Division 1 sections for final payment requirements and related provisions.

C. Refer to Division 1 sections for general submittal requirements.

3.3 PREREQUISITES TO SUBSTANTIAL COMPLETION:

A. General: Prior to requesting Architect's/ Engineer's Inspection for certification of Substantial Completion, as required by General Conditions (for either the entire work or portions thereof), complete the following and list known exceptions in request:

1. In progress payments, show either 100% completion for portion of work claimed as "Substantially Complete", or list incomplete items, value of incompletion, and reasons for being incomplete.
2. Advise owner of pending insurance change-over requirements.
3. Deliver tools, spare parts, extra stocks of materials, and similar physical items to owner.
4. Make final change-over of locks and transmit keys to owner, and advise owner's personnel to change-over in security provisions.
5. Complete start-up testing of systems, and instructions of owner's operating/ maintenance personnel. Discontinue (or change-over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
6. Complete final cleaning-up requirements.

B. Inspection Procedures: Upon receipt of contractor's request, Architect/Engineer will either proceed with inspection or advise contractor of prerequisites not fulfilled. Following initial inspection, Architect/Engineer will either prepare Certificate of Substantial Completion, or advise contractor of work that must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch-list" for final acceptance.

3.4 PREREQUISITES TO FINAL ACCEPTANCE:

A. General: Prior to requesting Architect's/ Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:

1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted, as specified in Division 1 sections. Include certificates of insurance for products and completed operations where required.
2. Submit updated final statement, accounting for additional (final) changes to the Contract Sum.
3. Submit certified copy of Architect's/Engineer's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect/Engineer.

4. Submit “as-built” record drawings, maintenance manuals. (Final project photographs, damage or settlement survey, property survey, and similar final record information, if necessary.)
5. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
6. Complete final cleaning-up requirements, including touch-up of marred surfaces.
7. Submit consent of surety.
8. Submit, if required, final liquidated damages settlement statement.
9. Certification of fire alarm system installation.
10. Building Official's “Certificate of Occupancy" and letter from Fire Marshall stating that he has inspected building and that it has been constructed in accordance with local Fire Code.

3.5 Reinspection Procedure: Upon receipt of contractor's notice that work has been completed, including punch-list, items resulting from earlier inspections, and accepting incomplete items delayed because of acceptable circumstances, Architect/Engineer will reinspect work. Upon completion of reinspection, Architect/Engineer will either prepare certificate for final acceptance or advise contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

3.6 RECORD DOCUMENT SUBMITTALS:

A. General: Specific requirement for record documents are indicated in individual sections of these specifications. Other requirements are indicated in General Conditions, with additional provisions indicated in Division 15 & 16-Series sections for Mechanical and Electrical work, respectively. General submittal requirements are indicated in the Division 1 sections. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistance location; provide access to record documents for Architect's/Engineer's reference during normal working hours.

B. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" conditions fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on contract drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related Change Order numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on cover of each set.

C. Maintenance Manuals: Organize maintenance-and-operating manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed (thumb-tabbed); examples: Elevators, Food Serving Equipment, Finish Floor Maintenance, and Roof Maintenance. Include emergency instructions, spare parts listing, warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy-duty 2", 3-ring vinyl covered binder, and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

PART II - PRODUCTS (Not Applicable)

PART III - EXECUTION

3.1 Closeout Procedures: Arrange for each installer of work requiring continuing maintenance (by owner) or operation, to meet with owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representatives where installers are not expert in the required procedures. Review maintenance

manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning and similar procedures and facilities of operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, and similar operations. Review maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

3.2 Listing of Instructions: Specifically, but not necessarily by way of limitation, provide instruction to owner's personnel on the following categories of work:

A. Refer to Division 15 & 16 Series sections for Mechanical and Electrical equipment instructions.

3.3 FINAL CLEANING:

A. General: Special cleaning or specific units of work is specified in sections of Divisions 2 through 16. General cleaning during progress of work is specified in General Conditions and as temporary services in the Division 1 sections. Provide final cleaning of the work, at time indicated, consisting of cleaning each surface or unit of work to normal "clean" condition expected for a first-class building cleaning and maintenance program. Comply with manufacturer's instructions for cleaning operations. The following are examples, but not by way of limitation, of cleaning levels required.

1. Remove labels which are not required as permanent labels.
2. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances which are noticeable as vision-obscuring materials. Replace broken glass.
3. Clean exposed exterior (new construction, except as otherwise provided in contract documents) and interior hard-surfaced finishes, including metals, masonry, concrete, painted surfaces, plastics, tile, wood, special coatings, and similar surfaces, to a dirt-free condition, free of dust, stains, films and similar noticeable distracting substances. Except as otherwise indicated, avoid disturbances of natural weathering of exterior surfaces. Restore reflective surfaces to original reflective condition.
4. Wipe surfaces of mechanical and electrical equipment clean, and similar equipment in addition to that specified in Divisions 15 and 16; remove excess lubrication and other substances.
5. Remove debris and surface dust from limited-access spaces.
6. Clean concrete floors in non-occupied spaces broom-clean.
7. Vacuum clean carpeted surfaces and similar soft surfaces.
8. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
9. Clean light fixtures and lamps so as to function with full efficiency.
10. Clean project site (yard and grounds), including landscape, development areas, of litter and foreign substances: Sweep paved areas to a broom-clean condition; remove stains, petrochemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even-textured surface.
11. Removal of Protection: Except as otherwise indicated or requested by Architect/Engineer, remove temporary protection devices and facilities which were installed during course of the work to protect previously completed work and existing covered walkways.

B. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at site, or bury debris or excess materials on owner's property, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from site and dispose of in a lawful manner.

3.4 CONTINUING INSPECTIONS:

A. General: Except as otherwise required by specific warranties, agreements to maintain, workmanship/maintenance bonds, and similar continuing commitments, comply with owner's request to participate in inspections at end of each time period of such continuing commitments. Participate in general inspection of the work approx. one year beyond date(s) of Substantial Completion.

END OF SECTION

SECTION 00 17 20

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 REQUIRED DOCUMENTS, ONE COPY:
- A. Project Manual.
- B. Drawings.
- C. Addenda.
- D. Reviewed Shop Drawings.
- E. Change Orders.
- F. Other Contract Modifications.
- G. Test Reports.
- H. Warranties.
- I. Color Samples (actual paint samples on board for each color with mix number/name)
- J. Store documents apart from documents used for construction.
- K. Maintain documents in clean, dry legible condition.
- L. Make documents available for inspection.

1.2 RECORDING:
- A. Label each document PROJECT RECORD in neat, large printed letters.
- B. Record information concurrently with construction progress; do not conceal Work until required information is recorded.
- C. Legibly mark Drawings and Shop Drawings to record deviations from Construction Documents including:
  1. Depths of various elements of foundation in relation to finished floor.
  2. Horizontal and vertical locations of underground utilities and appurtenances by reference to permanent surface improvements.
  3. Location of internal utilities and appurtenances concealed in construction by reference to visible and accessible features.
  4. Field changes of dimension and detail.
  5. Changes made in the field or by Change Order.
- D. Legibly mark each deviation from Section of Specifications and Addenda to record deviations from Construction Documents including:
  1. Manufacturer, trade name, catalog number, and supplier of each Product and item of equipment actually installed.
  2. Changes made in the field or by Change Order.

1.3 SUBMITTAL:
- A. At Contract Closeout, deliver record documents to Owner, with transmittal letter indicating:
  1. Date
  2. Project title and number
  3. Contractor's name and address
  4. Title and number of each record document
  5. Certification that each document as submitted is complete and accurate.
  6. Signature of Contractor or his authorized representative.

END OF SECTION

SECTION 00 17 30
OPERATION AND MAINTENANCE DATA

1.1 REQUIREMENTS INCLUDED:

A. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
B. Furnish any special tools provided by manufacturer for such maintenance and operation.
C. Instruct Owner's personnel in operation of equipment and systems.

1.2 RELATED REQUIREMENTS

A. Section 00 17 00: Contract Closeout Procedures

1.3 FORM OF SUBMITTALS

A. Prepare data in form of an instructional manual for use by Owner's personnel. Submit two copies of complete manual in final form.
B. Format:
   1. Size: 8 1/2 x 11 inches.
   2. Text: Manufacturer's printed data, or neatly typewritten.
   3. Drawings:
      a. Provide reinforced punched binder tab; bind in with text.
      b. Fold larger drawings to size of text pages.
   4. Provide fly-leaf for each separate product, or each piece of operating equipment.
      a. Provide typed description of product, and major component parts of equipment.
      b. Provide indexed tabs.
   5. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List the following:
      a. Title of project.
      b. Identity of separate structure as applicable.
      c. Identify of general subject matter covered in the manual.
   6. Binders:
      a. Commercial quality three-ring binders with durable and cleanable plastic covers.
      b. Maximum ring size: 1 inch.
      c. When multiple binders are used, correlate the data into related consistent groups.

1.4 CONTENT OF MANUAL

A. Neatly typewritten table of contents for each volume, arranged in systematic order.
   1. Contractor, name of responsible principal, address and telephone number.
   2. A list of each product required to be included, indexed to content of the volume.
   3. List, with 3 EACH product, name, address and telephone number of:
      a. Subcontractor or installer.
      b. Maintenance contractor, as appropriate.
      c. Identify area of responsibility of each.
      d. Local source of supply for parts and replacement.
   4. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
B. Product Data:
   1. Include only those sheets which are pertinent to the specific product.
   2. Annotate each sheet to:

        a. Clearly identify specific product or part installed.
        b. Clearly identify data applicable to installation.
        c. Delete references to inapplicable information.
C. Drawings:
    1. Supplement product data with drawings as necessary to clearly illustrate:
        a. Relations of component parts of equipment and systems.
        b. Control and flow diagrams.
        c. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
        d. Do not use Project Record Documents as maintenance drawings.
D. Written text, as required to supplement product data for the particular installation:
    1. Organize in consistent format under separate headings for different procedures.
    2. Provide logical sequence of instructions for each procedure.
    3. Copy of each warranty and service contract issued.
    4. Provide information sheet for Owner's personnel, indicating:
        a. Proper procedures in event of failure.
        b. Instances which might affect validity of warranties.
E. Other information required by pertinent Sections of the Project Manual.

1.5 INSTRUCTION OF OWNER'S PERSONNEL

A. Prior to final inspection of acceptance, fully instruct Owner's designated operating ad maintenance personnel in operation, adjustment and maintenance of products, equipment systems.
B. Operating and maintenance manual shall constitute the basis of instruction.
C. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

END OF SECTION

SECTION 00 17 40

WARRANTIES AND BONDS

PART 1 – GENERAL

1.1 Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the owner.

1.2 Special Warranties are written warranties required by or incorporated in Contract Documents, to extend time limits provided by standard warranties or to provide greater rights for the owner.

A. Refer to the General Conditions for terms of the contractor's special warranty of workmanship and materials.

1.3 Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the contractor.

1.4 Related Damages and Losses: When correcting warranted work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.

1.5 Reinstatement of Warranty: When work covered by a warranty has failed and been corrected, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

1.6 Replacement Cost: On determination that work covered by a warranty has failed, replace or rebuild the work to an acceptable condition complying with requirements of contract documents. The contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the owner has benefited from use of the work through part of its useful service life.

1.7 Owner's Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the owner can enforce such other duties, obligations, rights, or remedies.

1.8 Rejection of Warranties: The owner reserves the right to reject warranties and limit selections to products with warranties not in conflict with requirements of the Contract Documents.

1.9 The owner reserves the right to refuse to accept work where a special warranty or similar commitment is required, until evidence is presented that entities required to countersign commitments are willing to do so.

1.10 Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, submit written warranties on the Architect's request.

1.11 When a designated portion of the work is completed and occupied or used, by separate agreement with the contractor during the construction period, submit properly executed warranties to the Architect within fifteen days of completion of that designated portion of the work.

1.12 When a special warranty is to be executed by the contractor, or the contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the owner through the Architect for approval prior to final execution.

1.13 Refer to individual sections of Divisions 2 through 16 for specific content, and particular requirements for submittal of special warranties.

1.14 Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 1/2" by 11" paper.

1.15 Provide heavy paper dividers with celluloid covered tabs for each warranty. Mark the tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product, and the name, address, and telephone number of the installer.

1.16 Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the Project Title, or name, and the name of the contractor.

1.17 When operating and maintenance manuals are required for warranted construction, provide additional copies of each warranty, as necessary, for inclusion in each required manual.

1.18 WIND STORM CERTIFICATION CERTIFICATES: The contractor is responsible to work with the structural engineer and with material suppliers to assure that all required certificates for Windstorm 130 MPH are complied with, recorded with the state, and certificates presented in the close-out documents to the owner. One copy of windstorm certificates must be provided to the architect for records.

PART 2 – PRODUCTS

N/A

PART 3 – EXECUTION

NA

END OF SECTION

SECTION 02 36 10
TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes soil treatment for termite control.

1.2 SUBMITTALS

A. Product Data: For each product indicated, including EPA-Registered Label.

B. Product certificates.

C. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's record information, including the following as applicable:

1. Date and time of application.
2. Moisture content of soil before application.
3. Brand name and manufacturer of termiticide.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes, and rates of application used.
6. Areas of application.
7. Water source for application.

1.3 QUALITY ASSURANCE

A. Applicator Qualifications: A pest control operator who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment in jurisdiction where Project is located.

B. Regulatory Requirements: Formulate and apply termiticides, and label with a Federal registration number, to comply with EPA regulations and authorities having jurisdiction.

1.4 WARRANTY

A. Soil Termiticide Special Warranty: Manufacturer's standard form, signed by applicator and Contractor, certifying that applied soil termiticide treatment will prevent infestation of subterranean termites. If subterranean termite activity or damage is discovered within five years from date of Substantial Completion, re-treat soil and repair or replace damage caused by termite infestation.

PART 2 - PRODUCTS

2.1 TERMITE CONTROL

A. Soil Treatment: EPA-registered termiticide complying with requirements of authorities having jurisdiction, in a soluble or emulsible, concentrated formulation that dilutes with water or foaming agent. Use only soil treatment solutions that are not harmful to plants.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. AgrEvo Environmental Health, Inc.; a company of Hoechst and Schering, Berlin.
b. American Cyanamid Co.; Agricultural Products Group; Specialty Products Department.
c. Bayer Corp.; Garden & Professional Care.
d. DowElanco.
e. FMC Corp.; Pest Control Specialties.
f. Zeneca Professional Products.
g. Others as accepted within the region and state and performance standards such that the five year warranty can be granted and covered.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove all extraneous sources of wood cellulose and other edible materials such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil and around foundations.

3.2 SOIL TREATMENT APPLICATION

A. Apply soil treatment at the label volume and rate for the maximum termiticide concentration allowed for each specific use, according to the product's EPA-Registered Label.

1. Mix termiticide solution to a uniform consistency.
2. Apply to produce a continuous horizontal and vertical termiticide barrier or treated zone around and under building construction. Distribute the treatment evenly.
3. Slabs-on-Grade and Basement Slabs: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
4. Foundations: Adjacent soil including soil along entire inside perimeter of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating slab, and around interior column footers, piers, and chimney bases; and along entire outside perimeter, from grade to bottom of footing. Avoid soil washout around footings.
5. Crawlspaces: Soil under and adjacent to foundations. Treat adjacent areas including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
6. Masonry: Treat voids.
7. Penetrations: At expansion joints, control joints, and areas where slabs will be penetrated.

B. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

C. Protect termiticide solution, dispersed in treated soils and fills, from being diluted until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

D. Post warning signs in areas of application.

E. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application and provide written substantiation of date of re-application.

END OF SECTION 02 36 10

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART I – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.2 SUMMARY

A. Section specifies cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures and finishes

1.3 RELATED SECTIONS

A. Coordinate Work of Section with work of other sections, including Division 01 Sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 SUBMITTALS

A. Product Data: Submit Manufacturer's Technical Data, installation instructions and recommendations for each product. Include data substantiating that materials comply with specified requirements.

1. Product data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, joint systems, curing compounds and others as requested by Architect/Engineer.

B. Design Mixtures: For each concrete mixture.

C. Shop Drawings: Submit for reinforcement, prepared by Professional Engineer registered in the State of Texas for fabrication, bending and placement of concrete reinforcement. Comply with ACI SP-66(88), "ACI Detailing Manual" , showing bar schedules, stirrup spacing, diagrams of bent bars and arrangement of concrete reinforcement. Include special reinforcement required for openings through concrete structures.

D. Laboratory test reports for concrete materials and mix design test.

E. Materials Certificates in lieu of Material Laboratory Test Reports when permitted by Architect/Engineer. Materials Certificates shall be signed by Manufacturer and Contractor, certifying that each material item complies with or exceeds specified requirements, Provide certification from admixtures manufacturers that chloride content complies with specification requirements,

1.5 QUALITY ASSURANCE

A. This section outlines <u>minimum</u> standards and requirements. Refer to the Structural Drawings for additional requirements. In the event of conflict, information on Structural Drawings shall take precedence. Bring all conflicts and discrepancies between documents to the attention of the Architect and Engineer and do not work until such conflicts and discrepancies are clarified and corrected.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete and products and that complies with ASTM C 94/C 94M requirements for production facilities and equipments.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities"

C. ACI Publications: Comply with the following rules unless modified by requirements in the Contract Documents:

1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials"

D. Pre-Installation Conference: Conduct conference at Project site in accordance with Section 01 31 00,"Project Management and Coordination"

PART II - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet

D. Bar Supports: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic or pre-cast concrete according to CRSI's " Manual of Standard Practice"

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementituous materials, of the same type, brand and source, throughout the Project:

1. Portland Cement: ASTM C 150, Type I / II. Supplement with the following

(a) Fly Ash: ASTM C 618, Class F, unless noted otherwise, no more than 20% fly ash by weight

B. Normal-Weight Aggregates: ASTM C 33, graded, 1½" (38mm) and ¾" (19mm) nominal maximum coarse-aggregate size.

C. Water: ATM C 94/C 94M and potable.

D. Air-Entraining Admixture: ASTM C 260

E. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride

1. Water-Reducing Admixtures: ASTM C 494/C 494M, Type A
2. Retarding Admixture: ASTM C 494/C 494M, Type B
3. Water-Reducing and Retarding Admixtures: ASTM C 494/C 494M, Type D
4. High-Range, Water-Reducing Admixtures: ASTM C 494/C 494M, Type F
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II

2.4 VAPOR RETARDERS

A. Plastic Vapor Retarder: ASTM E 1745, Class A, or polyethylene sheet, ASTM D 4397, not less than 15 mils (0.381mm) thick. Include manufacturer's recommended adhesiveor pressure-sensitive joint tape.
B. Reference 072660 Below-Slab Vapor Barrier.

2.5 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yard (305g/sq.m) when dry

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: potable

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating

F. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, non-dissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering

G. Clear, Solvent-borne, Membrane-Forming Curing Compound: ASTM C 1315, Type 1, Class A

H. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A

I. <u>Contractor use caution to review curing methods and chemicals with manufacturer of floor finish material to prevent compatibility issues with surface adhesion or reactions to adhesives.</u>

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Join-Filler Strips: ASTM D 1751, asphalt-saturated cellulose fiber

2.7 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301

B. Proportion normal-weight concrete mixtures as follows:

1. Minimum Compressive Strength: 2500 psi at 28 days for footing; 3000 psi at 28 days for all other concrete
2. Maximum-Water-Cementitious Material Ratio: 0.50
3. Slump Limit: 4" (100mm) plus or minus 1"(25mm)
4. Air Content: 5.5 % plus or minus 1.5% at point of delivery for 1 ½" (38mm) nominal maximum aggregate size.
5. Air Content: No entrained air for troweled finished floors

2.8 FABRICATING REINFORCEMENTS

A. Fabricating steel reinforcement according to CRSI's " Manual of Standard Practice"

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch mix and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 ºF (30 and 32 ºC), reduce mixing and delivery time from 1.5 hours to 75 minutes; when air temperature is above 90 ºF (32 ºC), reduce mixing and delivery time to 60 minutes.

PART III – EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace and maintain formwork according to ACI 301 to support vertical, lateral, static and dynamic load and construction loads that might be applied until structure can support such loads

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation and position indicated within tolerance limits of ACI 117

C. Chamfer exterior corners and edges of permanently exposed concrete

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions and directions furnished with items to be embedded

3.3 VAPOR RETARDERS

A. Plastic Vapor Retarder: Place, protect and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6” (150mm) and seal with manufacturer’s recommended tape

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI’s “ Manual of Standard Practice” for placing reinforcement

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete

3.5

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect

C. Contraction joints in Slabs-on-Grade: Form weakened plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least ¼ of concrete thickness as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8” (3.2mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate grooving tool marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saw equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8” (3.2mm) wide joints into concrete when cutting action will not tear, abrade or otherwise damage surface and before concrete develops random contraction cracks

D. Isolation Joints in Slab-on-Grade: After removing formwork, install joint0filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams and other locations as indicated

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement and embedded items is complete and that required inspections have been performed

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301

C. Cold-Weather Placement: Comply with ACI 306.1

D. Hot-Weather Placement: Comply with ACI 301

3.7 FINISHED FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish or to be covered with a coating or covering material applied directly to concrete

C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix 1 part Portland cement to 1.5 parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours

3. Cork-Floated Finish: Wet concrete surfaces and apply stiff grout. Mix 1 part Portland cement and 1 part fine sand with a 1:1 mixture of bonding agent and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with cork float.

D. Related Unformed Surfaces: At top of walls, horizontal offsets and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.8 FINISHING FLOORS AND SLAB

A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms or rakes to produce a profile amplitude of 1/4” (6mm) in 1 direction.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Re-straighten, cut down high spots and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.

D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects and that would telegraph through applied coatings and floor coverings.

1. Apply trowel finish to surfaces indicated, exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint or another thin-film-finish coating system.

2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding 10' (3.05m) long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed ¼" (6mm)

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated and where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with fine broom.

1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, ramps and elsewhere as indicated.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 309.1 for cold weather protection and ACI 301 for hot weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding and bull-floating or darbying concrete, but before float finishing.

C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in the widest practicable width, with sides and ends lapped at least 12" (300mm) and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

   (a) After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with binding of floor covering used on Project.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.11 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports

1. Testing Services: Tests shall be performed according to ACI 301

END OF SECTION

SECTION 03 35 00
SEALED CONCRETE

PART I – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.2 SUMMARY

A. Section includes furnishings and applying sealer on interior exposed concrete where indicated on Drawings

1.3 RELATED SECTIONS

A. Coordinate Work of Section with work of other sections, including Division 01 Sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials (AASHTO)

1. M 148, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

B. ASTM International (ASTM)

1. C 309, Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
2. C 1315, Standard Specification for Liquid Membrane-Forming Compounds having Special Properties for Curing and Sealing Concrete

1.5 SUBMITTALS

A. Product Data: Provide manufacturer's product data describing materials, recommended application procedures and coverage rates

B. Certificates: Material certificates signed by manufacturer certifying that concrete floor sealer complies with requirements specified herein

1.6 QUALITY ASSURANCE

A. Single Source Responsibility: Obtain materials from a single source manufacturer.

B. Installed Qualifications: Experienced installer or applicator specialized in applying floor sealers of type similar to that required for this Project and who is acceptable to manufacturer.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels containing brand name and directions for storage and mixing with other components.

B. Store materials to comply with manufacturer's directions to prevent deterioration from moisture, heat, cold, direct sunlight or other detrimental effects.

1.8 PROJECT CONDITIONS

A. Environmental Conditions: Comply with manufacturer's directions for maintenance of ambient and substrate temperature, moisture, humidity, ventilation and other conditions required executing and protecting work.

PART II - PRODUCTS

2.1 APPROVED PRODUCTS/MANUFACTURERS

A. Specification are based on PROSOCO Consolideck LSGuard Glossy Sealer heat burnished after application.

2.2 DESCRIPTIONS

A. Clear interior application sealer for applicable spaces eliminating the need for waxing.

B. Provides improved resistance to rain, sun, freezing temperatures, most acids and industrial chemicals, petroleum, deicing salts, cleaning agents(except aromatic solvents) diluted caustics and other pollutants.

2.3 FEATURES AND BENEFITS

A. Provide ready-to-use, non-yellowing, water-based compound that seals and protects concrete in one quick easy application

B. Dries quickly on new concrete to provide a clear, tough, easy –to-clean sheen finish

C. Applicable for use on new, old, interior, exterior, horizontal and vertical concrete surfaces.

D. Offers improved resistance to most chemicals, petroleum, abrasives and mortar droppings.

2.4 PACKAGING

A. Available in 1 and 5 pails for 55 gallon drums as required

2.5 COVERAGE

A. As required by manufacturer.

PART III – EXECUTION

3.1 PREPARATION

A. Surface preparation is extremely important. Concrete must always be clean and dry with all stains, oil, grease, dust and dirt removed prior to application. If not, they will be amplified by the transparent sheen finish. CAUTION: If a liquid compound other than the one specified has been used, do not apply specified sealer until all traces of the compound have been completely removed and the surface is clean and dry. Apply sealer

when the surface water has disappeared and the concrete surface will not be marred by walking workmen

3.2 MIXING

A. Mix in accordance with manufacturer's instructions. For optimum performance, gentle mixing or agitation is recommended. CAUTION: TO AVOID FOAMING, DO NOT MIX EXCESSIVELY.

3.3 APPLICATION

A. Apply coat/coatings required by the manufacturer including burnishing after application.

3.4 DRYING TIME

A. Sealer dries quickly. Drying times may be extended depending on application rate, temperature, humidity and project conditions.

3.5 CLEANUP AND PROTECTION

A. Restrict foot traffic for at least 4 hours. 12 hours if preferable.

B. Clean sealed concrete floor just prior to Owner acceptance

END OF SECTION

SECTION 06 20 00
ROUGH CARPENTRY

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Definition: Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as other indicated. Types of work in this section include rough carpentry for:
   1. All rough lumber framing including wood studs, joist, rafters, bridging, knee walls, or otherwise required to complete structural framing in compliance with applicable codes
   2. Wood grounds, nailers and blocking.
   3. ¾" exterior exposure CDX plywood sheathing.
   4. ¾" exterior exposure paint grade plywood for soffit with knot holes filled tight.
   5. Treaded pine where noted and at contact with concrete or masonry.
   6. 1x Hardi-Trim for exterior trim applications.
   7. 1x Paint Grade trim for interior applications.

B. AWI Architectural Woodwork Quality Standards, Eighth Edition, 2003.

C. Vapor Barriers: Section 07190

D. Texas Department of Insurance: Standards for Windstorm Design for applicable nailing patterns for Inland 1 (130 mph) and various certified exposures.

E. Contractor must contract with and work with design engineer for inspection and certification of the building for windstorm providing the owner with a recorded windstorm certificate at the completion of the project in the O&M Manual.

1.2 PROJECT CONDITIONS:

A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachments of other work.

B. Reference structural drawings and architectural drawings for wall, ceiling and roof framing configurations and special conditions conforming to dimensions indicated. Notify the architect immediately if any discrepancy is found.

C. Do not start finish trim work until all blocking is in-place and rough framing is square.

D. Do not start any roof framing, sheathing or trim applications until a pre-framing meeting has been held with the Windstorm Inspector to confirm nailing patterns at all required exposure points.

PART 2 – PRODUCTS

2.1 LUMBER, GENERAL:

A. Lumber Standards: Manufacturer lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

B. Grade Stamps: Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading agency, grade, species, moisture content at time of surfacing and mill.

C. For exposed lumber, apply grade stamps to ends or back of each piece, or omit grade stamps entirely and issue certificate of grade compliance from inspection agency in line of grade stamp.

D. Nominal sizes are indicated, except as shown by detail dimension. Provide actual sizes as required by PS 20, for moisture content specified for each use. Provide dressed lumber, S4S, unless otherwise indicated.

E. Provide seasoned lumber with 19% maximum moisture content at time of dressing and shipment for sizes 2” or less in nominal thickness.

2.2 DIMENSION LUMBER:

A. For Structural framing (2” to 4” thick, 5” and wider), provide the following grade and species. (pressure treated for porch framing replacement):
   1. Select structural grade.
   2. No. 2 grade.
   3. Any species of specified grade.
   4. Douglas Fir graded under WCLIP or WWPA Rules.
   5. Southern Pine graded under SPIB rules.

2.3 BOARDS:

A. Exposed Boards: Where boards will be exposed in the finished work, provide the following:
   1. Moisture Content: 19% maximum, “S-DRY”.
B. Concealed Boards: Where boards will be concealed by other work, provide lumber of 19% maximum moisture content (S-DRY).
C. *Hardie* fascia and drip components.
D. Paint Grade white pine or southern yellow pine for all interior trim and finish work on interior including wood base, door and window trim, and capping of exposed beams.

2.4 MISCELLANEOUS LUMBER:

A. Provide wood for support or attachment of other work including cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members. Provide lumber of sizes indicated, worked into shapes shown.
B. Oriented Strand Board Sheathing: Provide OSB exterior grade sheathing thickness as called on drawings and installed per manufacturer’s recommendations protecting from weather exposure by installation of vapor barrier and caulking and noted.
C. Plywood exterior grade for roof sheathing and where scheduled

2.5 MISCELLANEOUS MATERIALS:

A. Fasteners and Anchorages: Provide size, type, material, and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers, and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.

2.6 WOOD TREATMENT BY PRESSURE PROCESS:

A. Preservative Treatment: Where lumber or plywood is indicated as “Treated”, or is specified herein to be treated, comply with applicable requirements of AWPA Quality mark Requirements.
B. Pressure-treat above-ground items with borne preservatives to comply with AWPB LP-2. After treatment, kiln-dry lumber and plywood to a maximum moisture content, of 15%. Treat indicated items and the following:
   1. Wood cants, nailers, curbs, blocking, furring, stripping, and similar

2.7 SPECIAL ANCHORS AND STRAPPING FOR WINDSTORM COMPLIANCE: To be discussed during mandatory pre-framing conference review with Windstorm Inspector.

A. Provide all anchors and strapping as required for installation and compliance with State of Texas Windstorm Requirements but not limited to the following items:
   1. Anchor bolts

2. Column anchors
3. Stud and plate connectors
4. Plate to rafter/joist connections
5. Plywood roof deck clips
6. Special nailing units
7. Diagonal metal wall strapping (may possibly be omitted with plywood sheathed exteriors)

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL:

A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
B. Confirm acceptable nails/screws for application of roof sheathing and trim.
C. Set carpentry work to required levels and lines, with members plumb and true to line and cut and fitted.
D. Securely attach carpentry work to substrate by anchoring and fastening as shown and as required by recognized standards.
E. Countersink nail heads on exposed carpentry work and fill holes.
   1. Use common wire nails, except as otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.
F. Install all required windstorm strapping and anchors.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS: Provide wherever shown and where required for screeding or attachment of all other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.

A. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surface, unless otherwise indicated. Where possible, anchor to formwork before concrete placement.

3.3 WOOD FURRING:

A. Install plumb and level for closure strips at edges and openings. Shim with wood as required for tolerance of finished work.

3.4 WOOD FRAMING, GENERAL:

A. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of “Manual for House Framing” of National Forest Products Association (N.F.P.A.). Do not splice structural members between supports.
B. Anchors and nail as shown, and to comply with “Recommended Nailing Schedule” of “Manual for House Framing” and “National Design Specification for Wood Construction” published by N.F.P.A.

3.5 METAL FLASHING AND DRIPS:
A. Provide galvanized flashing and drips pieces at window heads and sills as noted on drawings.

3.6 FINISH INTERIOR TRIM:

A. Inspect and cull material which does not comply with the grade qualification.
B. Pre-sand all finish trim prior to installation.
C. Turn all surface knots to back side.
D. Utilize full lengths for all applications
E. All cuts shall be clean and sanded before making application.
F. All nails shall be blind nailed on the toe end and countersunk where exposed for a clean finish.

END OF SECTION

SECTION 06 40 20
INTERIOR ARCHITECTURAL WOODWORK

1.1 PART 1 - GENERAL
- A. RELATED DOCUMENTS
- B. Drawings and general provisions of the Contract, including General Conditions, Supplementary General Conditions and other Division 1 Project Manual Sections, apply to work of this Section.

1.2 SUMMARY
- A. This Section includes laminated casework units, complete with countertops and accessories.

1.3 Related Sections: The following Sections contain requirements that relate to this Section:
- A. Installation and service fittings are specified under mechanical work of Division 15 and electrical work of Division 16. This Contractor shall provide all openings and cut-outs in his equipment as required for the installation of these items.

1.4 SUBMITTALS
- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Shop drawings for laminated plastic casework and fittings showing plan layout, elevations, ends, cross-sections, service run spaces.
  1. Include details and location of anchorages and fitting to floors, walls, and base, including required blocking or back-blocking.
  2. Include layout of units with relation to surrounding walls, doors, windows, and other building components.
- C. Lock schedule for assignment of locking schemes.
  1. Coordinate shop drawings with other work involved.
  2. Include manufacturer's recommendations for blocking and securing of laminated casework units and fittings.
- D. Samples for verification purposes of each type of specified finish, including top material. Provide in minimum 6-inch by 6-inch sizes. Samples will be reviewed by Architect for color, texture, and pattern only. Compliance with other specified requirements is exclusive responsibility of Contractor.
  1. One full-size sample of finished base cabinet unit complete with hardware, doors, drawers, and countertop.
  2. Acceptable sample units will be used for comparison inspections at Project. Unless otherwise directed, acceptable sample units may be incorporated in work. Notify Architect of their exact locations. If not incorporated in work, retain acceptable sample units in building until completion of work and remove sample units from premises when directed by Architect.

1.5 QUALITY ASSURANCE
- A. Single Source Responsibility: Provide laminated casework with tops manufactured or furnished by same company for single responsibility.

1.6 DELIVERY, STORAGE, AND HANDLING
- A. Deliver laminated plastic casework only after wet operations in building are completed.
- B. Store completed casework in a ventilated place, protected from the weather, with relative humidity of 50 percent or less at 70 deg F (22 deg C).
- C. Protect finished surfaces from soiling and damage during handling and installation. Keep covered with polyethylene film or other protective covering.

PART 2 – PRODUCTS

2.1 LAMINATED PLASTIC CASEWORK

A. General: All parts shall be factory pre-finished with overlap type doors and drawers. Body panel joints shall be assembled with concealed hardware. Exposed ends shall be flush construction and shall match fronts. Backs of cabinets shall be housed into partitions, top and bottom.

B. All laminated plastic casework shall be of laminated plastic construction except as otherwise specified and shown on the drawings.

C. Doors: Hinged doors shall have minimum 3/4 inch core, veneered both sides with high pressure plastic laminate.

D. Backs: Backs shall be minimum 3/8 inch core.

E. Shelves: In cabinets 36 inch wide or less, shelves shall have 3/4 inch cores minimum. In cabinets more than 36 inch wide, shelves shall have 1 inch cores or shall have additional supports in the center. All shelves shall be mounted on adjustable supports, or on K&V 346 metal shelf supports inserted in drilled holes at 1-1/4 inch o.c. **Route bottom of shelves to receive standards to prevent slipping of shelves on supports.**

F. Recessed Toe Space: All base cabinets shall have recessed toe panels. All portions of cabinets in contact with floor shall be sealed to prevent absorption of moisture.

G. Table Frames, Rails, Aprons, and Legs: Shall be kiln dried hardwood or 3/4 inch plywood surfaces with plastic laminate. Frames shall be rigidly assembled with metal corner braces. Legs shall be 2-1/2 inch x 2-1/2 inch securely bolted to the frames, and provided with rubber shoes which shall fit the legs and conceal shims, when required.

H. Definitions: The following definitions apply to laminated plastic casework units:

1. Exposed portions of casework include surfaces visible when doors and drawers are closed. Bottoms of cases more than 4'-0" above floor shall be considered as exposed. Visible members in open cases or behind glass doors also shall be considered as exposed portions. Back face of doors.
2. Semi exposed portions of casework includes those members behind opaque doors, such as shelves, divisions, interior faces of ends, case back, drawer sides, backs and bottoms. Tops of cases 6'-6" or more above floor shall be considered semi exposed.
3. Concealed portions of casework include sleepers, web frames, dust panels, and other surfaces not usually visible after installation.

2.2 Exposed Materials: Comply with the following:

1. Edging: All exposed edges of doors, drawers, panels, shelves, tops, etc., shall be self-edged with 1/32 inch plastic laminate or protected with a resilient plastic "T" molding.
2. Plastic Laminate for casework shall be vertical surfacing grade, .032-inch-thick, high pressure melamine laminate. The backing shall be melamine impregnated laminate in a color matching the fronts or neutral color, suede finish, .020-inch-thick. Back face of doors shall be vertical surfacing grade, .032 inch thick, high pressure melamine plastic.

2.3 Semi exposed Materials: Comply with the following:

1. Casework interiors shall be melamine impregnated laminate in color matching the fronts or neutral color, suede finish .020-inch-thick.

2.4 Concealed Members: Comply with the following:

1. The unexposed surfaces of all tops, bottoms and backs shall be covered with a balancing sheet of phenolic moisture - resistant backing material not less than 0.020 inch thick.
2. Solid Lumber or Plywood: Any species, with no defects affecting strength or utility. Exterior glue for plywood.
3. Particleboard: ANSI A208.1, minimum 45 lb./cu. ft. density, Grade 1-M-2 or better.
4. Hardboard: ANSI/AHA A135.4, Class 1, tempered.

2.5 CASEWORK HARDWARE AND ACCESSORIES

A. Hardware, General: Provide manufacturer's standard satin chrome finish, commercial quality, heavy-duty hardware complying with requirements indicated for each type.

B. Hinges: Grass Institutional 270 flush overlay. Provide one pair for doors less than 4 feet high, 1-1/2 pair for doors 4 feet to 6 feet and two pair for doors up to 7 feet high.

C. Pulls: Solid metal brushed SS wire pulls, mounted with 2 screws fastened from back.

D. Door Catches: Nylon-roller spring catch or dual self-aligning, permanent magnet catch. Provide 2 catches on doors over 4 feet high.

E. Drawers: Grass Zargen drawer system.

F. Filler Strips: Provide where required for closing space between cabinets and walls and ceilings, of same material and finish as cabinets.

G. Cabinet Base Molding: Cove toe rubber base, 4 inches high. Provide on exposed sides and fronts of floor-mounted cabinets.

H. Adjustable Shelf Supports: Hafele HA282.04.739 (M) nickel plated. **(all shelves routed to receive metal support)**

I. Cable Grommets: Doug Mockett & Company SG Series 1 ¾" hole plastic color to be selected.

2.6 TOPS AND ACCESSORIES

A. Tops, Splash Rim: Provide smooth, clean exposed tops and edges in uniform plane free of defects. Make exposed edges and corners uniformly rounded.

B. Top Thickness: 1 1/8" thickness, with tolerance not exceeding plus or minus 1/32 inch. Provide front and end overhand of 1 inch over base cabinets. **Where counter tops are cut out to receive sinks, they shall be constructed of plywood.**

C. Plastic Laminate: Provide plastic laminate sheet with finish as scheduled, complying with NEMA LD-3 for grade indicated.

1. For flat tops use GP-50 (0.050-inch nominal thickness).
2. Shop-bond laminate with fully waterproof glue to 3/4-inch-thick sub-top of hardwood-faced plywood, medium-density-overlaid plywood, or phenolic-resin-bonded particleboard. Smooth sand surfaces to which plastic laminate is to be bonded.
3. Apply standard phenolic backing sheet to back of panels. Build up exposed edges of tops to 1-inch thickness. Self-edge exposed edges of top, splash, and openings with same plastic laminate used for tops.

2.7 MECHANICAL SERVICE FITTINGS AND SINKS: Furnished and installed by Division 15.

2.8 ELECTRICAL SERVICE FITTINGS: Furnished and installed by Division 16.

PART 3 - EXECUTION

3.1 CASEWORK INSTALLATION

A. Install plumb, level, true and aligned with no distortions. Shim as required, using concealed shims. Where laminated plastic casework abuts other finished work, scribe and apply filler strips for accurate fit with fasteners concealed where practicable.

B. Base Cabinets: Set cabinets straight, plumb, and level. Adjust sub-tops within 1/16 inch of a single plane. Fasten each individual cabinet to floor at toe space with fasteners spaced 24 inches on center. Bolt continuous cabinets together. Secure individual cabinets with not less than 2 fasteners into floor where they do not adjoin other cabinets.
   1. Where required, assemble units into one integral unit with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch.
C. Wall Cabinets: Securely fasten to solid supporting material and not to plaster, lath, or wallboard. Anchor, adjust, and align wall cabinets as specified for base cabinets.
D. Install hardware uniformly and precisely after final finishing is complete. Set hinges snug and flat in mortises unless otherwise indicated. Turn screws to flat seat. Adjust and align hardware so that moving parts operate freely and contact points meet accurately. Allow for final field adjustment after installation.

E. Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.2 INSTALLATION OF TOPS

A. Field Jointing: Where practicable, make in same manner as factory jointing using dowels, splines, adhesives, and fasteners recommended by manufacturer. Locate field joints as shown on accepted shop drawings, factory-prepared so there is no jobsite processing of top and edge surfaces.
B. Fastenings: Use concealed clamping devices for field joints located within 6 inches of front, at back edges, and at intervals not exceeding 24 inches. Tighten in accordance with manufacturer's instructions to exert constant, heavy clamping pressure at joints.
   1. Secure tops to cabinets with "Z"-type fasteners or equivalent, using 2 or more fasteners at each front, end, and back.
C. Abut top and edge surfaces in one true plane, with internal supports placed to prevent any deflection. Provide flush hairline joints in top units using clamping devices.
D. Provide holes and cutouts as required for mechanical and electrical service fittings and sinks.
E. Carefully dress joints smooth, remove any surface scratches, clean and polish entire surface.
F. Provide scribe moldings for closures at junctures of top, curb, and splash with walls as recommended by manufacturer for materials involved.

3.3 INSTALLATION OF ACCESSORIES

A. Install accessories in accordance with approved location drawings and manufacturer's installation recommendations. Turn screws to a flat seat; do not drive. Adjust moving parts to operate freely and smoothly without binding.

3.4 CLEANING AND PROTECTION

A. Repair or remove and replace defective work as directed upon completion of installation.
B. Clean factory- and shop-finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as acceptable to Architect.
C. Protection: Provide 6-mil plastic or other suitable water-resistant covering over countertop surfaces. Tape to underside of countertop at minimum of 4 feet on center. Advise Contractor of procedures and precautions for subsequent protection of installed laminated plastic casework and fittings from damage by work of other trades.

END OF SECTION 06402

SECTION 07 31 13

FIBERGLASS COMPOSITION SHINGLES

PART 1 - GENERAL:

1.1 Related Documents: Drawings and general provision of Contract and Supplementary Conditions.

1.2 Description of Work:

A. **Install fiberglass composition shingles system over ¾" plywood deck in compliance with TDI requirements noting engineers drawings for nailing patterns**.

1.3 Quality Assurance:

A. Manufacturer standards for this system must be followed carefully to comply with performance requirements.

B. System must be certified to comply with Texas Windstorm Insurance Program as indicated on structural drawings. All certification must be provided to the owner at the end of the project in the close-out project manual.

C. Contractor to provide windstorm certification from engineer end of project.

1.4 Related Sections:

A. Submittals: With manufacturer's standard details and specifications.

B. Manufacturer's Standard Installation Instructions: Provide the manufacturer's standard installation instructions for review in preparation for the installation of the system.

1.5 Delivery Storage and Handling:

A. Deliver materials to site in protective wrap until ready to install.

PART 2 - PRODUCTS:

2.1 Acceptable Manufacturers: One of the following

A. GAF Timberline Natural Shadow Shakewood Shingle

B. Owens Corning Oakridge Laminated Shingle

C. Other pre-approved manufacturers

2.2 Materials:

A. Underlayment: Provide and install 30lb. total weight underlayment in compliance with Texas windstorm Inland II 110 mph standards and to comply for certification of the installation. Utilize nailing system approved by manufacturer and this agency.

B. Ice and Water Shield or equal self-adhesive liner at ridge, valleys, eaves and wall flashing locations.

C. Shingles: Provide 20 year singles comprised of glass fiber reinforcing mat base layer coated with asphalt which contains mineral fillers for waterproof condition.

D. Shingle Profile: Various shingle profiles will be accepted subject to the 20 year warranty and windstorm requirements.

E. Limited lifetime warranty.

PART 3 - EXECUTION:

3.1 Installation:

A. Install underlayment and composition shingles carefully assuring alignment for continuous parallel run from bottom eave line.

B. Install peel and stick barrier membrane at all valleys, eaves and wall flashing lapped as required by manufacturer.

C. All installation procedures to comply with manufacturer's strict guidelines for warranty compliance. Any failure by the contractor/subcontractor to install correctly will require a complete re-installation with expense of removal, materials and installation to be covered by the contractor/subcontractor.

D. Install shingles, edges, galvanized drip strip and vent cap in compliance with Texas Windstorm and engineer's requirements
E. Provide State Insurance Storm Certification to owner in close-out document and project manual.

END OF SECTION

SECTION 07 21 00
BUILDING INSULATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section includes the following:

1. Cavity wall insulation
2. Concealed building insulation non-faced
3. Acoustical faced insulation
4. Roof rigid insulation by metal roof installer.

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated

B. Samples Verification: Full-size units for each type of exposed insulation indicated.

C. Products Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulation products.

D. Research/Evaluation Reports: For plastic insulation.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of building insulation through one source.

B. Provide continuity of insulation at building insulation enclosure elements.

C. Fire-Test Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspection agency.

1. Surface-Burning Characteristics: ASTM E 84.
2. Fire-Resistance Ratings: ASTM E 119.
3. Combustion Characteristics: ASTM E 136.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

B. Protect plastic insulation as follows:

1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.

2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site before installation time.

3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following for each type of insulation:

1. Polyisocyanurate Foam Core with Reflective/Radiant Barrier Insulation:

(a) Dow Chemical Company
(b) Other as approved by architect

2. Glass-Fiber Insulation:

(a) CertainTeed Corporation
(b) Guardian Building Products
(c) Johns Manville
(d) Knauf Fiber Glass
(e) Owens Corning

3. Faced Acoustical Insulation:
(a) Armstrong Sonobatt

2.2 INSULATING MATERIALS, GENERAL

A. Provide insulating materials that comply with requirements and with referenced standards.

1. Preformed Units: Sizes to fit applications indicated; selected from manufacturer's standard thicknesses, widths, and lengths.

2.3 BOARD INSULATION

A. Polyisocyanurate Foam Core with Reflective/ Radiant Barrier Insulation

1. Type: Install insulating sheathing with radiant barrier aluminum foil facing one side
2. Complies with ASTM C 1289 Type 1, Class 2. Meets IBC requirements for foam plastic insulation. See ICC-ES-NER-616. FM specification tested.
3. Thickness: 1 inch
4. Location: Double wythe exterior masonry walls.

5. Approved Product: “TUFF-R” insulation manufactured by Dow Chemical Company, or Architect approved equivalent.

2.4 BATT AND BLANKET INSULATION

A. All metal stud walls: Thickness to fit wall thickness.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrate and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and for other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of substance harmful to insulation and vapor retarders, if any, including removing projections capable of interfering with insulation attachment.

3.3 INSTALLATION, GENERAL

A. Comply with insulation manufacturer’s written instructions applicable to products and application indicated.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.

C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement. Do not compress insulation.

D. Water Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.

E. Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF BOARD INSULATION

A. Install insulating sheathing with radiant barrier aluminum foil facing to exterior.

B. Install on exterior face of interior wythe of CMU in accordance with manufacturer’s written instructions where called for in the Drawings.

3.5 INSTALLATION OF BATT AND BLANKET INSULATION

A. Install batt insulation in all exterior stud walls, all interior stud walls above all gypsum board ceilings, and above all acoustical ceiling tiles.

B. Install batt insulation after all plumbing, electrical, and other trade work has been completed. Completely fill all voids and cavities.

C. All batts above lay-in ceilings shall be installed after all work is completed in the area.

D. All batts shall be laid flat and butted tightly against each other.

E. Install all roof insulation taut with no sagging. Tape all joints for a watertight and consistent finish.

3.6 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other caused. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION

SECTION 07 25 00 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Commercial weather barrier assemblies.
2. Flexible flashing.
3. Weather barrier flashing.
4. Fluid-applied flashing.
5. Weather barrier accessories.
6. Drainage material.

B. Related Requirements:

1. Section 042000 "Unit Masonry" for masonry ties and flashing installation.
2. Section 042613 "Masonry Veneer" for masonry ties and flashing installation.

1.3 DEFINITIONS

A. Weather Barrier: A combination of materials and accessories that do the following:

1. Prevents the accumulation of water as a water-resistive barrier.
2. Minimizes the air leakage into or out of the building envelope as a continuous air barrier.
3. Provides sufficient water vapor transmission to enable drying as a vapor-permeable membrane.

B. Water-Resistive Barrier: A combination of materials and accessories that prevent the accumulation of water within the wall assembly per International Building Code

C. Continuous Air Barrier: The combination of interconnected materials, assemblies, and sealed joints and components of the building envelope that minimize air leakage into or out of the building envelope per ASHRAE 90.1 section 5.4.3.1.

D. Vapor Diffusion: A slow movement of individual water vapor molecules from regions of higher to lower water vapor concentration (higher to lower vapor pressure).

E. Vapor Permeable Membrane: The property of having a water-vapor permeance rating of 10 perms (575 ng/Pa x s x sq. m) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96 per definition in International Building Code. Vapor permeable material permits the passage of moisture vapor through vapor diffusion.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project Site.

1. **Meet with Contractor, Architect, Manufacturer's Certified Installer and manufactuerer field representative prior to any installation of weather barrier.**
2. Review methods and procedures related to weather barrier installation, including manufacturer's written instructions.
3. Review and finalize construction, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine substrate conditions and finishes for compliance with requirements.
5. Review flashings, special weather barrier details, weather barrier penetrations, and condition of other construction that affects weather barrier.
6. Review weather barrier manufacturer's Project Registration and Observation process.
7. Review Construction Indoor Air Quality Management Plan "Moisture Protection for Absorbent Materials."
8. Review temporary protection requirements for weather barrier during and after installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For weather barrier, include data on air and water-vapor permeance based on testing in accordance with referenced standards.

B. Sustainable Design Submittals:

1. Test Reports: Envelope testing and verification of the following:
   a. Air Infiltration Test.

2. Product Data: Including the following information:

   a. Provide Health Product Declarations (HPDs) or list of weather barrier ingredients by name and Chemical Abstract Service (CAS) registry number or Proprietary Ingredients hazards associated with LT-1/LT-P1 down to 0.1 percent (1000 ppm).
   b. Provide Environmental Product Declarations (EPD's)
   c. Provide SDS (formerly MSDS), third-party certifications, or product technical data confirming that systems meet or exceed emissions guidelines for volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), as follows:

C. Shop Drawings: Show details of weather barrier at terminations, openings, and penetrations. Show details of flexible flashing applications.

D. Preconstruction Mockup:

1. A preconstruction mock-up must be built to assure installer understands layer application procedures and for review/approval by the manufacturer's field representative. Mock-up must demonstrate various wall/window/trim/flashing applications.

1.6 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For all applicable products.

B. Manufacturer's Instructions: For installation of each product specified.

C. Qualification Data: For Installer.

D. Reports: Field test and inspection reports.

E. Installer's weather barrier manufacturer-training certificate.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is certified by weather barrier system manufacturer to install manufacturer's product.

B. Mockups: Build mockups to set quality standards for materials and execution.

1. Build integrated mockups of exterior wall assembly approximate 15**0 sq. ft.**, incorporating backup wall construction, external cladding, window, storefront, door frame and sill, insulation, ties and other penetrations, and flashing to demonstrate surface preparation, crack and joint treatment, application of weather barriers, and sealing of gaps, terminations, and penetrations of air-barrier assembly.

   a. Include junction with building corner condition, foundation wall intersection, fenestration and wall interface.
   b. If Architect determines mockups do not comply with requirements, reconstruct mockups and apply weather barrier until mockups are approved.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

C. Manufacturer's Field Service: Register project with weather barrier manufacturer prior to installation of weather barrier and comply with weather barrier manufacturer's Project registration and observation process.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Do not store near heat source or open flame.

1.9 WARRANTY

A. Manufacturer's Product Warranty: To repair or replace weather barrier product that fails in materials within specified warranty period.

1. Warranty Period: 10 years from date of purchase.

B. Manufacturer's Product and Labor Warranty: Manufacturer agrees to repair or replace weather barrier that fails in materials within specified warranty period, including removal and replacement of affected construction up to manufacturer’s limits.

1. Warranty Period: 10 years from date of purchase.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain weather barrier assembly components, including weather barrier flashing, from same manufacturer as weather barrier or manufacturer approved by weather barrier manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Installed weather barrier and accessories shall withstand specified wind pressures, liquid water penetration, and water vapor pressures, without failure due to defective manufacture of products.

B. High-Performance Installations:

1. For installation with one of the following building envelope performance or structural characteristics:

a. Exceeding 65 mph equivalent structural load.
b. Exceeding 15 mph equivalent wind-driven rainwater infiltration.

2.3 WEATHER BARRIER

A. Commercial Building Wrap: ASTM E 2357 passed, ABAA (Air Barrier Association of America) evaluated air barrier assembly, and assembly water resistance per ASTM E 331; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested in accordance with ASTM E 84; UV stabilized for nine-month exposure; and acceptable to authorities having jurisdiction.

1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Commercial Wrap®and Tyvek® CommercialWrap® D where exterior finish is in direct contact with membrane:

2. Retain one or more of three "System Description" Subparagraphs below. Multiple systems may be required depending on exterior finish systems used. If specifying more than one system, be sure to clearly indicate location and extent of each system on Drawings.

3. System Description, Single-Layer Weather Barrier: Single-layer weather barrier, including flashing and sealing of penetrations and seams.

4. System Description, Single-Layer Drainable: Single-layer weather barrier with integral drainage, including flashing and sealing of penetrations and seams.

5. Water-Vapor Permeance: Not less than 23 perms (1300 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Desiccant Method (Procedure A) or not less than 28 perms (1600

6. Weather barrier system to have a VOC content of 30 g/L or less.

2.4 WEATHER BARRIER FLASHING

A. Conformable Weather Barrier Flashing: Composite flashing material composed of micro-creped, polyethylene laminate with a 100 percent butyl-based adhesive layer; AAMA 711 Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for 7 days.

1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; FlexWrap™ NF. Strip flashing is flexible and has butyl adhesive on one side for StraightFlash™, which is typically used at jambs and heads of rectangular windows. StraightFlash™ VF (versatile flange) has butyl adhesive on portions of two sides of flashing and is typically used at brick-mold windows and doors.

B. Strip Flashing: Composite flashing material composed of spunbonded polyethylene laminate with 100 percent butyl-based, dual-sided, adhesive layer; AAMA 711, Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for 7 days.

1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; StraightFlash.

2.5 FLUID-APPLIED FLASHING

A. Fluid-Applied Flashing: Trowel or brush applied, non-water soluble, single component, silyl terminated polyether technology (STPE), vapor permeable, flashing material.

1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Fluid Applied Flashing & Joint Compound+.

2.6 WEATHER BARRIER ACCESSORIES

A. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by weather barrier manufacturer for sealing joints and penetrations in commercial building wrap.

1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Tape.

B. Closed-Cell Polyurethane Foam Insulation: Low pressure, low expansion, single component polyurethane foam, with maximum flame-spread and smoke-developed indexes of 15 and 25, respectively, per ASTM E 84.

1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; DuPont™ Window & Door Foam.

C. Fasteners with Self-Gasketing Washers: Commercial building wrap manufacturer's recommended pneumatically or hand-applied fasteners with **2-inch** diameter, high-density polyethylene cap washers with UV inhibitors.

1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Wrap Caps.

D. Primer for Flashings: Synthetic rubber-based product; spray applied. Strengthen adhesive bond at low temperature applications between weather products such as self-adhered flashing products, commercial building wraps, and common building sheathing materials.

1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company, DuPont™ Adhesive Primer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements.

B. Verify that substrate and surface conditions are in accordance with commercial weather barrier manufacturer recommendations prior to installation.

1. Verify that rough sill framing for doors and windows is sloped downwards towards the exterior and is level across width of the opening.

C. Verify that surfaces to receive weather barrier flashing are clean, dry, and free of frost.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Direct water onto an acceptable weather barrier drainage plane with an unobstructed path to exterior of wall.

1. Provide a drainage path for water intrusion through window and door attachment system that collects at window and door sills and directs water to the exterior or weather barrier.

3.3 COMMERCIAL BUILDING WRAP INSTALLATION

A. General: Comply with weather barrier manufacturer's written instructions and warranty requirements.

B. Cover exposed exterior surface of sheathing with weather barrier securely fastened to framing immediately after sheathing is installed.

1. Maintain continuity of air and water barrier assemblies.
2. Start weather barrier installation at a building corner, leaving 12 inches (300 mm) of weather barrier extended beyond corner to overlap.
3. Install weather barrier horizontally starting at lower portion of wall surface.
4. Provide minimum 6 inches (150 mm) overlap at horizontal- and vertical-wrap seams in a shingle manner to maintain continuous downward drainage plane and air and water barrier.

C. Seams: Seal seams with building wrap tape per manufacturer's recommended installation instructions.

1. Shiplap horizontal seams in weather barrier to facilitate proper drainage.

D. Fasteners: Use weather barrier manufacturer’s recommended fasteners to secure weather barrier and install fasteners according weather barrier manufacturer’s installation guidelines.

1. Do not use temporary fasteners to permanently attach weather barrier.
2. Do not place fasteners with gasketing washers where weather barrier flashing will be installed.
3. Install fasteners with gasketing washers through flashing where recommended by manufacturer.

E. Openings: Completely cover openings with weather barrier, then cut weather barrier membrane to openings according to weather barrier manufacturer's installation guidelines.

1. Provide head and jamb flaps and seam overlaps to maintain continuous drainage.
2. Repair damage to weather barrier using method recommended by weather barrier manufacturer.
3. Install flashing according to weather barrier manufacturer's installation guidelines.

3.4 WEATHER BARRIER FLASHING INSTALLATION

A. Installation: Remove wrinkles and bubbles, reposition weather barrier as necessary to produce a uniform, smooth surface.

1. Ensure that ambient and substrate surface temperatures are acceptable in accordance with manufacturer instructions and recommendations.
2. Wipe surfaces to remove moisture, dirt, grease and other debris that could interfere with adhesion.
3. Apply weather barrier manufacturer’s recommended primer over concrete, masonry, and glass-mat gypsum wall sheathing substrates to receive weather barrier flashing.
4. Lap weather barrier flashing a minimum of 2 inches onto weather barrier.
5. Apply pressure over entire surface using roller or firm hand pressure

B. Rough Openings: Shiplap flashing with weather barrier in a shingle manner to maintain a continuous downward drainage plane and air and water barrier in accordance with manufacturer’s written instructions.

1. Apply **6-inch** wide conformable weather barrier flashing at door and window sills.
2. Ensure that sill flashing does not slope to the interior.
3. Install backer rod in joint between frame of opening product and flashed rough opening on the interior.
4. Apply sealant or closed-cell polyurethane foam insulation around entire opening/fenestration product to create air seal around interior perimeter of window openings in accordance with weather barrier manufacturer’s instructions.
5. Around door and window openings, apply butyl-based flashing to flaps of weather barrier.
6. Use strip flashing with wrap cap screws to secure head flap of the windows.

C. Penetrations: Apply weather barrier manufacturer's recommended weather barrier flashing patches behind fastening plates, such as brick-tie base plates, metal-flashing clips, and metal channels.

1. Seal weather barrier around each penetration with weather barrier manufacturer's recommended self-adhered flashing product or sealant. Integrate products with flanges into the weather barrier.

D. Terminations: Provide minimum 2 inches (50 mm) overlap using strip flashing on adjoining roof and base of wall systems to maintain continuous downward drainage plane.

1. Secure weather barrier with fasteners and weather-barrier flashing.

3.5 FLUID-APPLIED FLASHING INSTALLATION

A. General: Before installing fluid-applied flashing, do the following:

1. Ensure drainage path is not blocked or disrupted. Do not install on walls that do not feature a continuous path for moisture drainage. Blocked or disrupted paths for drainage can result in excess moisture buildup in wall cavity. Do not install below grade.
2. Remove surface dust, dirt, and loose mortar.
3. Verify that surface is free of grease and other contaminants and that surface is smooth.
4. Fill joints in concrete masonry units, and voids in cast-in-place concrete with trowel-applied fluid-applied flashing to ensure surface is flush and smooth.
5. Allow masonry mortar and cast-in-place concrete a minimum of 24 hours to cure before installing fluid-applied flashing.

B. Fluid-Applied Flashing Installation: Using a trowel or brush, apply fluid-applied flashing around perimeter of window and door openings to a minimum thickness of 25 mils (0.635 mm).

1. Extend flashing a minimum of 2 inches onto exterior face of adjacent surface.
2. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.
3. Joint Applications: Using a trowel or a brush, fill cracks and voids up to 1/4 inch (6 mm) in width.

    a. For joints and cracks between 1/4 and 1/2 inch wide, cover first with mesh tape.
    b. For joints and cracks between 1/2 and 1 inch wide, cover first with butyl-based strip flashing.
    c. Apply a bead, then trowel smooth.
    d. Seam coverage should be a minimum of 2 inches wide and 15 to 20 mils thick.
    e. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.

3.6 DRAINAGE MATERIAL INSTALLATION

A. Install drainage material with grooves or channels running vertically in compliance with manufacturer's written instructions.

3.7 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to train installers and observe subject test-wall areas and installations.

B. Prepare inspection reports.

3.8 CLEANING

A. Immediately remove release paper and scrap from work area and dispose of material in contractor’s approved disposal unit.

3.9 PROTECTION

A. Protect installed weather barrier from the following:

1. Damage from cladding, structure, or a component of the structure (e.g., window, door, or wall system).
2. Contamination from building site chemicals, premature deterioration of building materials, or nonstandard use or application of products.
3. Foreign objects or agents, including the use of materials incompatible with weather barrier products.
4. UV exposure in excess of products' stated limits.

END OF SECTION 07 25 00

SECTION 07 26 60
BELOW-SLAB VAPOR BARRIER

PART I – GENERAL

1.1 SUMMARY

A. Products supplied under this section: Vapor barrier, seam tape, and mastic for installation under concrete slabs.

1.2 RELATED SECTIONS

A. Section 03 30 00 Cast-in-Place Concrete
B. Section 07 26 00 Vapor Retarders

1.3 REFERENCES

A. American Society for Testing Materials (ASTM):

1. ASTM E 1745-09 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs.

2. ASTM E 154-99 (2005) Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

3. ASTM E 96-05 Standard Test Methods for Water Vapor Transmission of Materials.

4. ASTM F 1249-06 Standard Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor.

5. ASTM E 1643-09 Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

B. American Concrete Institute (ACI):

1. ACI 302.2R-06 Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials.

1.4 SUBMITTALS

A. Quality control/assurance

1. Summary of test results as per paragraph 8.3 of ASTM E 1745.
2. Manufacturer's samples, literature.
3. Manufacturer's installation instructions for placement, seaming and penetration repair instructions.

PART II - PRODUCTS

2.1 MATERIALS

A. Vapor barrier must have all of the following qualities:

1. Permeance of less than 0.01 Perms [grains/($ft^2 \cdot hr \cdot inHg$)] as tested in accordance with ASTM E 1745 Section 7

2. Other performance criteria:

   (a) Strength: ASTM E 1745 Class A
   (b) Thickness: 15 mils minimum

B. Vapor barrier products:

1. Basis of Design: Stego Wrap Vapor Barrier (15-mil) by Stego Industries LLC, (877) 464-7834
2. W.R. Meadows, Permanator 15-mil.
3. Husky Yellow Guard 15 Mil Vapor barrier by Poly-America, Grand Prairie, Texas 75051 (972) 337-7430

2.2 ACCESSORIES

A. Seam Tape: Stego Tape by Stego Industries LLC, (877) 464-7834
B. Vapor-Proofing Mastic: Stego Mastic by Stego Industries LLC, (877) 464-7834

PART III – EXECUTION

3.1 PREPARATION

A. Ensure that base material is approved by Architect or Geotechnical Engineer
   1. Level and compact base material.

3.2 INSTALLATION

A. Install vapor barrier in accordance with manufacturer's instructions and ASTM E 1643

1. Unroll vapor barrier with the longest dimension parallel with the direction of the concrete placement.

2. Lap vapor barrier over footings and/or seal to foundation walls

3. Overlap joints 6 inches and seal with manufacturer's tape

4. Seal all penetrations (including pipes) per manufacturer's instructions

5. No penetration of the vapor barrier is allowed except for reinforcing steel and permanent utilities

6. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all sides with tape

END OF SECTION

SECTION 07 62 00 – SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.1 RELATED DOCUMENTS
- A. Drawings and general provisions of the Contract, including General Supplementary Conditions, apply to this Section.
- B. Section 04 20 00 – Unit Masonry
- C. Section 06 10 00 – Rough Carpentry
- D. Section 07 61 00 – Sheet Metal Roofing
- E. Section 07 92 00 – Joint Sealants

1.2 SUMMARY
- A. Section includes, but is not limited to the following sheet metal flashing and trim:
  1. Flashing at penetrations in roofing.
  2. Metal flashing, counter flashing and reglets.
  3. Gutters and Downspouts.
  4. Splash Blocks.
  5. Continuous Drips.
  6. Miscellaneous Sheet Metal Items
  7. Special formed transition and closure pieces.

1.3 PERFORMANCE REQUIREMENTS
- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Fabricate and install roof edge flashing and copings capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49.
- C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing components, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

  1. Temperature Change (Range): 120°F, ambient: 180°F, material surfaces.

- D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

1.4 SUBMITTALS
- A. Manufacturer's Acknowledgement Letter: Follow Section 01 33 00 – Submittal Procedures.
- B. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- C. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop-and-filled assembled works. Include the following:

  1. Identify material, thickness, weight, and finish for each item and location in Project.
  2. Details of forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
  3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachment to adjoining work.

4. Details of expansion joint covers, including showing direction of expansion and contraction.

D. Samples for Initial Selection: For each type of sheet metal flashing and trim indicated with factory-applied color finishes.

1. Include similar samples of trim and accessories involving color selection.

E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Flashing: 12” long. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim: 12” long, Include fasteners and other exposed accessories
3. Accessories: Full-size sample.

1.5 QUALITY ASSURANCE

A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA’s Architectural Sheet Metal Manual”. Conform to dimensions and profiles shown unless more stringent requirements are indicated.
B. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Section 01 31 00 – Project Management and Coordination

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
B. Unload store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

1.7 COORDINATION

A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and non-corrosive installation.

PART 2 – PRODUCTS

2.1 MATERIALS

A. All flashing, counterflashing, scuppers, etc., shall be 24 gauge, except where otherwise indicated. All exposed flashing to have Kynar 500 or Hylar 5000 coating to match adjacent panel on roof surfaces as selected, or to have galvanized finish where hidden from view.
B. Solder for Sheet Metal: Except as otherwise indicated or recommended by metal manufacturer, provide 50/50 tin/lead (ASTM B 32) for tinning and soldering joints; use rosin flux.
C. All rake trim, fascias, gutters and downspouts, shall be gauge 24 gauge steel. All exposed surfaces shall have Kynar 500 or Hylar 5000 color coated finish or galvanized finish to match adjacent roof panels or other color as determined by the Architect. Provide and install all necessary hangers, straps, closers, etc., to provide complete job. Face of gutter, shall have same molded form as end wall rake trim to present a uniform trim around building.

D. Caulking (Sealant) Material: Refer to Section 07 92 00 – Joints Sealants for material to be used.

2.2 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, welding rods, protective coatings, underlayment, separators, and other miscellaneous items as required for complete water tight sheet metal flashing and trim installation.
B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application, and metal.
C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

    1. Fabricate non-moving seams in accessories with flat lock seams.
    2. Tin edges to be seamed, form seams, and solder.

D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
E. Nails, Screws and Rivets: Zinc coated
F. Roofing Cement: FS-SS-C-153 Type I (Asphaltic). (If applicable)
G. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
H. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
I. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, non-corrosive metal.

    1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" and FMG Loss Prevention Data Sheet 1-49 for application but not less than thickness of metal being secured.

J. Isolation Material: Where dissimilar materials make contact, provide isolation membrane or coating in between.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrate, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of work.

    1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install sheet metal roof flashing and trim to comply with performance requirements and SMACNA's "Architectural Sheet Metal Manual". Provide concealed fasteners where possible, set units true to line, and level is indicated. Install work with laps, joints, and seams that will be permanently watertight.
B. Manufacturer's Recommendations: Except as otherwise shown or specified comply with recommendations and instructions of the manufacturer of the sheet metal being installed.

C. Separate dissimilar metals from each other by painting each metal surface in the area of contact with a heavy application of bituminous coating, or by other permanent separation as recommended by the manufacturers of the dissimilar metals.

D. Take necessary precautions to permanently prevent electrolytic reaction between any materials furnished under this Section.

E. Provide for thermal expansion of running trim, flashing, expansion joints and other items exposed for more than 15 feet-0 inch continuous length. Maintain a watertight installation at expansion seams. Locate expansion seams as shown or, if not shown, at the following maximum spacings for each general flashing use:

1. Flashing, Expansion Joints, and Trim: At 10'-0" intervals, and 2 feet-0 inches each side of corners and intersections.

F. Fabricate and install work with lines and corners exposed units true and accurate. Form exposed faces flat and free of buckles, excessive waves and avoidable tool marks, considering the temper and reflectivity of the metal. Provide uniform neat seams with minimum exposure of solder, welds, and sealant. Except as otherwise shown, fold back the sheet metal to form a hem on the concealed side of the exposed edges.

G. Conceal fasteners and expansion provisions wherever possible in exposed work, and locate so as to minimize the possibility of leakage. Cover and seal work as required for a watertight installation.

H. Provide cleat-type anchorages for metal flashing and trim whenever practical arranged to receive stresses from building movement and thermal expansions.

I. Anchor units in places shown and as recommended by the accessory manufacturer, by nailing, bolting, screwing or welding to the substrate for secure support and attachment. Anchorage by adhesion alone to the substrate is adequate for only miscellaneous accessories of small size.

J. Backup and Cover Plates: Provide 16 inch wide back-up and cover plates at joints of all gutters, flashing and counter-flashing, Install flashing with 1/8 inch clearance bedding in full bed of mastic and riveted in place.

K. Sheet metal contractor to furnish and install sheet metal work called for in this Section and its component parts to make a complete job.

L. Coordinate with work by masonry, roofing, flashing, caulking, and wall waterproofing contractors so that together these trades will provide 100% coverage against leaks and dampness.

M. Refer to Drawings for details.

3.3 MISCELLANEOUS FLASHING INSTALLATION

A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

3.4 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substrates that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.

D. Replace sheet metal flashing and trim that have been damaged or treat have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 08 21 10

WOOD DOORS
(Solid Core Paint Grade Doors)

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE:
- A. Submittal procedures: Section 01300.
- B. Steel frames Section 08210
- C. Builder's hardware: Section 08700.
- D. Glass and Glazing Section 08800

1.2 REFERENCES:
- A. AWI, Guide Specifications and Quality Certification Program.
- B. Section 1300 Flush, Solid, and Hollow Core Doors.
- C. ANSI/NWMA, Industry Standard for Wood Flush Doors.

1.3 SCOPE:
- A. Provide solid core paint grade wood veneer door as indicated on drawings. Masonite solid core paint grade doors may also be acceptable.

1.4 SUBMITTALS:
- A. Shop Drawings: Indicate basic construction, jointing method, hardware locations, cut-out locations, and door schedule.
- B. Product Data: Manufacturer's printed descriptive literature and maintenance information.

1.5 WARRANTY:
- A. Provide for replacing including cost of rehanging and refinishing at no cost to Owner, wood doors exhibiting defects in materials or workmanship including warp and de-lamination.

PART 2 - PRODUCT

2.1 FLUSH INTERIOR SOLID CORE WOOD DOORS
- A. Manufacturer: The following manufactured or pre-approved equal:
  1. Algoma Hardwoods, Inc.
  2. Buell Door Company
  3. Cal-Wood Door Div., Timberland Industries, Inc.
  4. Curries
  5. Eggers Industries, Architectural Door Division
  6. Glen-Mar Door Mfg. Co.
  7. Ipik Door Co., Inc.
  8. VT Industries
  9. Weyerhauser Company
  10. Western Oregon Door, Inc.
- B. Flush Interior Doors: 1-3/4 inches thick; 30 pound density solid particleboard construction with paint grade wood veneer finish.

2.2 FABRICATION:
- A. Provide doors with minimum 1/4 inch thick edge strips.
- B. Bevel lock and strike edge of single acting doors 1/8 inch in 2 inches.
- C. Prepare doors to receive hardware - refer to Section 08700 for hardware requirements.

2.3 PREFITTING AND PREPARATION FOR HARDWARE:
- A. Prefit and premachine wood doors at factory.
- B. Comply with tolerance requirements of AWI for prefitting.
- C. Machine doors for hardware requiring cutting of doors.

D. Comply with final hardware schedules, with door frame shop drawings and templates as required for proper fit of doors and hardware.
E. Take accurate field measurements of hardware mortises in metal frames to verify dimensions and alignment before proceeding with machining in factory.

PART 3 - EXECUTION

3.1 INSTALLATION:
A. Condition doors to average prevailing humidity prior to installing.
B. Install wood doors plumb and square, and with maximum diagonal distortion of 1/8 inch.
C. Align and fit doors in frames with uniform clearances and bevels.
D. Trim stiles and rails within limits set by manufacturer.
E. For field-fit doors, machine for hardware; seal cut surfaces after fitting and machining.
F. For prefit doors, fit to frames and machine to whatever extent not worked at factory.
G. Seal tops and bottoms of cut doors with pigmented paint finish preventing moisture absorption.

3.2 CLEARANCES:
A. Jambs and Head: 1/8 inch.
B. Meeting Stiles: 1/16 inch per leaf.
C. Bottom: 1/4 inch to threshold or floor covering; 3/4 inch without floor covering.
D. Adjustment: Replace or rehang doors which are hingebound and do not swing or operate freely.
E. Refinish or replace doors damaged during installation, as directed by Architect.

3.3 CLEANING AND PROTECTION:
A. Protect all doors and door surfaces from construction damage.
B. Clean surfaces as recommended by door manufacturer.
C. Chipping of laminate surface is cause for complete replacement of door units.

END OF SECTION 08210

SECTION 08 71 00

DOOR HARDWARE
(Confirm to Match Existing in Building)

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section includes purchasing of door hardware from an assigned hardware allowance, furnishing and installing of door hardware, thresholds, weatherstripping and seals.
B. Purchasing of door hardware will follow owner/architect/contractor review of hardware and issuance of approved specification for bidding of hardware from the allowance.
C. Purchase of door hardware from the allowance will be authorized by change order to procure from the allowance that has been approved by the owner.

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1. Related Sections include the following:
   (a) Division 08 Section 08 14 16, “Flush Wood Doors.”

1.4 PERFORMANCE REQUIREMENTS

A. Furnish and install each door hardware item to provide proper operation and required function of every unit without binding or failure.

1. Exterior Door Opening Force: At exterior doors and fire-rated doors, adjust hardware opening force in small increments above the opening force required for interior non-fire-rated doors to close and latch the door.
2. Close Sweep Adjustment: Adjust closer sweep period so that from a 70 degree open position, door will take at least 3 seconds to move to a point 3” from latch, measured to leading edge of door.

1.5 SUBMITTALS

A. Submit manufacturer’s technical product data for each item of hardware. Final Hardware Schedule Content: Based on hardware indicated, organize schedule into vertical format “hardware sets” indicating complete designations of every item required for each door or opening. Use specification heading numbers with any variations suffixed a, b, etc.

B. Coordinate hardware with doors, frames and related work to ensure proper size thickness, hand, function and finish of hardware. If requested by Architect, submit one sample of each type of exposed hardware unit, finished as required, and tagged with full description for coordination with schedule. Submit data and schedule at earliest possible date, particularly where acceptance of

schedule must precede fabrication of other work (e.g. hollow metal frames) that is critical to the Project construction schedule.

1. Type, style, function, size and finish of each hardware item.
2. Name and manufacturer of each item.
3. Fastenings and other pertinent information.
4. Hardware set location cross-referenced to both Drawing floor plan and door schedule indications.
5. Explanation of all abbreviations, symbols and codes in schedule.
6. Mounting locations for hardware.
7. Door and frame sizes and materials.

C. Coordinate keying instructions, and keying information with the Owner. Deliver all keys and key control box to the Owner at address provided on Schlage Primus Face Sheet.

1.6 QUALITY ASSURANCE

A. Supplier Qualifications: A recognized finish hardware supplier who has been furnishing hardware in the Project's vicinity for a period of not less than 2 years, and who is, or employs, an experienced hardware consultant (AHC) who is available, at reasonable times during the course of the Work, for consultation about Project's hardware requirements, to Owner, Architect and Contractor.

B. Coordination and Schedules: Hardware units and usage specified in Part 2 of this Section and scheduled on the Drawings establish quality, quantity, function and finish required for each door opening. Review, coordinate and confirm that hardware specified for each opening is the proper function. In case of controversy, make appropriate notations of proposed changes from specified requirements on supplier's hardware schedule and request written clarification from the Architect prior to proceeding.

C. Fire-Rated Openings: Provide door hardware for fire-rated openings that comply with NFPA Standards No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and tested by UL or Warnock Hersey for given type/size opening and degree of label. Provide proper latching hardware, door closers, approved-bearing hinges and seals, whether listed in the Hardware Schedule or not. All hardware shall comply with standards UBC 702 (1997) and UL 10C.

1. Where emergency exit devices are required on fire-rated doors (with supplementary marking on doors' UL labels indicating "Fire Door to be equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".

1.7 DELIVERY, STORAGE AND HANDLING

A. Tag each item or package separately with identification related to final hardware schedule, and include basic installation instructions with each item or package.

B. Packaging of door hardware is the responsibility of supplier. As material is received by hardware supplier from various manufacturers, sort and repackage in containers clearly marked with appropriate hardware set numbers of approved hardware schedule. Two or more identical sets may be packed in same container.

C. Inventory door hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

D. Deliver individually packaged door hardware items promptly to place of installation (shop or Project site).

E. Provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items that are not immediately replaceable, so that completion of the Work will not be delayed by hardware losses both before and after installation.

1.8 WARRANTY

A. Special warranties:

1. Door closers: REINSTALLING EXISTING CLOSERS
2. Exit Devices: REINSTALLING EXSITING DEVICES
3. Locks: REINSTALLING EXISTING LOCKS
4. Cylinders: REINSTALLING EXISTINGI CYLINDERS

1.9 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

B. Parts kits: Furnish manufacturer's standard parts kits for locksets, exit devices and door closers.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. General: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws. With each hardware item, furnish machine screws for installation into steel, and provide threaded to the head wood screws for installation into wood; all-purpose threads are not acceptable. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed screws to match the hardware finish. Provide concealed fasteners for hardware units that are exposed when the door is closed, except to the extent no standard units of the type specified are available with concealed fasteners. Provide through bolts for closer installation.

2.2 HARDWARE SCHEDULE, UNITS AND USAGE:

A. Existing exterior door hardware to be re-installed and additional hurricane latch devices added as required for windstorm compliance.
B. Provide new ADA compliant storage room locksets at two new doors to match existing in building keyed to the same keyway at existing locksets in building.

2.3 KEYING REQUIREMENTS

A. Keys and Keying:

1. The cost and combination of the final cores must be a part of the Hardware Allowance. Coordinate keying sequence with the Owner. Cores are to be delivered to the Owner and the Owner will install the permanent cores after the Substantial Completion Certificate is issued.

PART 3 – EXECUTION

3.1 PREPARATION

A. Mount hardware units at height indicated in “Recommended Locations for Builders Hardware for Custom Steel Doors and Frames” by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations and except as otherwise directed by Architect. Reinforce the attachment substrate for secure installation and adjust for proper operation. Provide clean, properly sized mortises and drilled holes for all mortised and surface applied finish hardware.

3.2 INSTALLATION

A. General: Install each hardware item in compliance with the manufacturer’s instructions and recommendations.

B. Do not install surface-mounted items until finishes have been completed on the substrate. Before painter’s finish is applied, remove all finish hardware, except prime painted items. After finish coats are dry, permanently replace and readjust finish hardware for proper operation.

C. Set units level, plumb, and true to line and location.

D. Cut and fit threshold and floor covers to profile of doorframes, with mitered corners and hairline joints. Join units with concealed welds or concealed mechanical joints. Cut smooth openings for bolts and similar items, if any. Screw thresholds to substrate with No. 10 or larger stainless steel screws.

E. Set up Pre-installation, Post installation meeting and final punch list with manufacturer’s agent and hardware installer.

3.3 ADJUSTMENT

A. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units that cannot be adjusted and lubricated to operate freely and smoothly as intended for the application made.

END OF SECTION

SECTION 08 80 00
GLAZING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section includes glazing for the following products and applications, including those specified in other Sections where glazing requirements are specified by reference to this Section:

1. Exterior glazed entrances TDI compliant.
2. Storefront framing TDI compliant.

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide glazing systems capable of withstanding normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, and installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Glass Design: Glass thickness designations indicated are minimums and are for detailing only. Confirm glass thickness by analyzing Project loads and in-service conditions. Provide glass lites in the thickness designations indicated for various size openings, but not less than thicknesses and in strengths (annealed or heat treated) required to meet or exceed the following criteria:

1. Glass Thicknesses: Select minimum glass thicknesses to comply with ASRM E 1300. according to the following requirements:

a. Specified Design Wind Loads: As indicated.

C. Thermal Movements: Provide glazing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures acting on glass framing members and glazing components. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient 180 deg F, material surfaces.

D. Thermal and Optical Performance Properties: Provide glass with performance properties specified based on manufacturer's published test data, as determined according to procedures indicated below:

1. For monolithic-glass lites, properties are based on units with lites of thickness indicated.

1.5 SUBMITTALS

A. Product Data: For each glass product and glazing material indicated.

B. Samples: For the following products, in the form of 12-inch square Samples for glass and 12-inch long Samples for sealants. Install sealant Samples between two strips of material representative in color of the adjoining framing system.

C. Samples: For the following products, in the form of 12-inch square Samples.

1. For each color (except black) of exposed glazing sealant indicated.
2. Window tint film.

D. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.

E. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements.

F. Qualification Data: For installers.

G. Preconstruction Adhesion and Compatibility Test reports: From glazing sealant manufacturer indicating glazing sealants were tested for adhesion to glass and glazing channel substrates and for compatibility with glass and other glazing materials.

H. Product Test Reports: For each of the following types of glazing products:

1. Glazing sealants.
2. Glazing gaskets.

I. Warranties: As specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

B. Source Limitations for Glass: Obtain the following through one source from a single manufacturer for each glass type: Clear float glass

C. Source Limitations For Glazing Accessories: Obtain glazing accessories through one source from a single manufacturer for each product and installation method indicated.

D. Elastomeric Glazing Sealant Product Testing: Obtain sealant test results for product test reports in "Submittals" Article from a qualified testing agency based on testing current sealant formulations within a 36-month period.

1. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated, as documented according to ASTM E 548.
2. Test elastomeric glazing sealants for compliance with requirements specified by reference to ASTM C 920, and where applicable, to other standard test methods.

E. Preconstruction Adhesion and Compatibility Testing: Submit to elastomeric glazing sealant manufacturers, for testing indicated below, samples of each glazing material type, tape sealant, gasket accessory, and glass-framing member that will contact or affect elastomeric glazing sealants:

1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of glazing sealant to glass, tape sealants, gaskets, and glazing channel substrates.
2. Submit not fewer than eight (8) pieces of each type of material, including joint substrates, shims, joint0sealant backings, secondary seals, and miscellaneous materials.
3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
4. For materials failing tests, obtain joint sealant manufacturer's written instructions for corrective measures, including the use of specially formulated primers.
5. Testing will not be required if joint sealant manufacturers submit joint preparation data that are based on previous testing of current sealant products for adhesion to, and compatibility.

F. Safety Glazing Products: Comply with testing requirements in 16 CFR 1201.

1. Subject to compliance with requirements, obtain safety glazing products permanently marked with certification label of the Safety Glazing Certification Council or another certification agency acceptable to authorities having jurisdiction.
2. Where glazing units, including kind FT glass are specified in Part 2 articles for glazing lites more than 9 sq. ft. in exposed surface area of one side, provide glazing products that comply with Category II materials, for lites 9 sq. ft. or less in exposed surface area of one side, provide glazing products that comply with Category I or II materials, except for hazardous locations where Category II materials are required by 16 CFR 11201 and regulations of authorities having jurisdiction.

G. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below, unless more stringent requirements are indicated. Refer to these publications for glazing terms not otherwise defined in this Section or in reference standards.

1. GANA Publications: GANA's "Glazing Manual".

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions and as needed to prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer's warranty against becoming unserviceable or causing an objectionable appearance resulting from either defective or non-conforming materials and workmanship only applies to new products installed.

B. Defects include, but are not limited to:

1. Faulty, improper or inadequate attachment or installation.
2. Chipped edges, broken or scratched mirrors.
3. Distortion or waves.
4. Watertightness of glazed systems, including aluminum framing systems, storefront, and window systems applicable to Project.
   a. Warranty Period: Five (5) years from date of Substantial Completion.
5. Vacuum seal of dual lite insulated units spoil failure:
   a. Warranty Period: Ten (10) years from date of Substantial Completion.

1.10 CERTIFICATION REQUIREMENTS

A. Fire rated glazing will be required to have been tested in the specific frame/door system being installed for this project. Testing data will be required.

B. Window glazing to comply with TDI Texas Department of Licensing and Regulation and have been tested in the applicable framing/door systems. Certification will be required to be provided to the contractor as part of the overall building certification by TDI.

PART 2 – PRODUCTS

2.1 GLASS PRODUCTS

A. Annealed Float Glass: ASTM C 1036 Type I (Transparent Flat Glass), Quality-Q3; of class indicated.

B. Heat Treated Float Glass: ASTM C 1048; Type I (Transparent Flat Glass); Quality-Q3; of class, kind, and condition indicated.

1. Fabrication Process: By Horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed, unless otherwise indicated.

C. Insulating-Low E- Tinted, General: Factory-assembled units consisting of sealed lites of glass separated by a dehydrated interspace, and complying with ASTM E 774 for Class CBA units and with requirements specified in this Article and in Part 2 "Insulating-Glass Units" Article.

1. Provide outer laminated and tinted lite with Low-E film second surface. Verify tinting with owner/architect.
2. Provide tempered interior lite where required by code.
3. Entire glass assembly must have been tested and carry TDI certification for this specific window framing system tested for Inland II.
4. Sealing System: Dual seal, with primary and secondary sealants as follows:

   (a) Polyisobutylene and silicone

5. Spacer Specifications: Manufacturer's standard spacer material and construction complying with the following requirements:

(a) Spacer Material: Aluminum with mill or clear anodic finish.
(b) Desiccant: Molecular sieve or silica gel, or blend of both
(c) Corner Construction: Manufacturer's Standard corner construction.

D. FireLite Fire-Rated Glass Ceramic. 3/16" thick fire-rated to door NFPA requirements vision and other glass tested for particular door and steel glass frame

2.2 GLAZING GASKETS

A. Dense Compression Gaskets: Molded or extruded gaskets of materials indicated below, complying with standards referenced with name of elastomer indicated below, and of profile and hardness required to maintain watertight seal:

1. EPDM, ASTM C 864

B. Soft Compression Gaskets: Extruded or molded, closed-cell, integral-skinned gaskets of material indicated below; complying with ASTM C 509, Type II, black; and of profile and hardness required to maintain watertight seal:

1. EPDM.

C. Lock-Strip Gaskets: Neoprene extrusions in size and shape indicated, fabricated into frames with molded corner units and zipper lock-strips, complying with ASTM C 542, black.

2.3 GLAZING SEALANTS

A. General: Provide products of type indicated, complying with the following requirements:
1. Compatibility: Select glazing sealants that are compatible with one another and with other materials they will contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturer's written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Impact Resistant Tinted Low-E Glass: Provide composite impact resistant glazing combination with Low-E and tinted units designed and tested in the framing system for this project to withstand 130 mph and certified with the Texas Department of Insurance. Certification documents must be provided to the contract for submittal to the engineer for windstorm certification of the building. Verify tint shading with Owner/Architect through sample on-site.

C. Elastomeric Glazing Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.

1. Neutral-Curing Silicone Glazing Sealants:

(a) Available Products:

1) Dow Corning Corporation; 791
2) Dow Corning Corporation; 705
3) GE Silicones; SilPruf NB SCS9000
4) GE Silicones; UltraPruf II SCS2900
5) Pecora Corporation; 865
6) Pecora Corporation; 895
7) Pecora Corporation; 898

(b) Type and Grade: S (single component) and NS (non-sag).
(c) Class: 50
(d) Uses Related to Exposure: NT (non-traffic)
(e) Uses Related to Glazing Substrates: M, G, A, and as applicable to glazing substrates indicated, O.

2.4 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with references glazing standard, requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installations.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions with a Shore, Type A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking)

F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.5 FABRICATION AND GLAZING UNITS

A. Fabricate glazing units in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and by complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine framing glazing, with Installer present, for compliance with the following:
1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep system.
3. Minimum required face or edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrate.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Glazing channel dimensions, as indicated on Drawings, provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thickness, with reasonable tolerances. Adjust as required by Project conditions during installation.

C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is a glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.

D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction sealant-substrate testing.

E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

G. Provide spacers for glass lites where length plus width is larger than 50 inches as follows:

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

I. Set glass in each series with uniform pattern, draw, bow, and similar characteristics.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.4 GASKET GLAZING (DRY)

A. Fabricate compression gaskets in lengths recommended by gasket manufacturer to fit exact openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Center glass lites in openings on setting blocks and press firmly against soft compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward center of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Install gaskets so they protrude past face of glazing stops.

3.5 LOCK-STRIP GASKET GLAZING

A. Comply with ASTM C 716 and gasket manufacturer's written instructions. Provide supplementary wet seal and weep system, unless otherwise indicated.

3.6 CLEANING AND PROTECTION

A. Protect exterior glass and window tint film from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove non-permanent labels, and clean surfaces.\

B. Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended by glass manufacturer.

C. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for build-up of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.

D. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

E. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that established date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

END OF SECTION

SECTION 09 25 00
GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Interior gypsum wallboard.
2. Gypsum/fiberglass cavity wall sheathing
3. Edge trim.

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 DEFINITIONS

A. Gypsum Board Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.5 SUBMITTALS

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

1. Include manufacturers' product data for adhesives used to laminate gypsum board panels to substrates.

B. Shop Drawings: Show locations, fabrication and installation of control and expansion joints, including plans, elevations, sections, details of components and attachments to other units of Work.

C. Samples: For the following products:

1. Trim Accessories: Full-size sample in 12-inch-long length for each trim accessory indicated.

D. Certifications: For each gypsum board material and accessory indicated.

1.6 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory."

B. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

1. STC-Rated Assemblies: Indicated by design designations from GA-600, “Fire Resistance Design Manual.”

C. Drywall/Steel Framed Systems Standards: Comply with the recommendations of United States Gypsum Company Systems Folder SA-923, Latest edition except where more stringent requirements are indicated in the contract documents.

D. Application and Finishing of Gypsum Wall Board: Comply with Gypsum Association publications GA-201, GA-216 and these specifications.

E. Gypsum Board Finish Levels: Finish gypsum board walls and ceilings to levels indicated below and according to ASTM C 840. Refer to finish schedule for ceiling types, tile finishes and paint sheen.

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Walls and ceilings that are substrate for tile.
3. Level 3: Behind open jointed wall panel systems.
4. Level 4: Walls and ceilings to receive Flat or Eggshell paint finish over orange-peel approved sample.

F. Gypsum Board Finish Mockups: Before finishing gypsum board assemblies, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and qualities of materials and execution.

1. Install mockups for the following applications:

(a) Surfaces with texture finishes.
(b) Surfaces indicated to receive non-textured paint finishes.
(c) Surfaces indicated to receive textured paint finishes.

2. Simulate finished lighting conditions for review of mockups.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing name and identification of manufacturer or supplier.

B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes. Stack gypsum panels flat to prevent sagging.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer’s written recommendations, whichever are more stringent.

PART 2 – PRODUCTS
2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Steel Framing and Furring:

   (a) Clark Steel Framing Systems.
   (b) Consolidated Systems, Inc.
   (c) Dale Industries, Inc. – Dale/Incor.
   (d) Dietrich Industries, Inc.
   (e) MarinoWare; Division of Ware Ind.
   (f) National Gypsum Company
   (g) Scafco Corporation.
   (h) Unimast, Inc.
   (i) Western Metal Lath & Steel Framing Systems.

2. Gypsum Board and Related Products:

   (a) Certainteed Gypsum, Inc.
   (b) Georgia-Pacific Gypsum LLC.
   (c) National Gypsum Company
   (d) United States Gypsum Co. (USG)

3. Gypsum Board Trim Products:

   (a) Fry Reglet Corp.
   (b) Gordon, Inc., Interior Specialties Division.
   (c) MM Systems Corporation.
   (d) Pittcon.

4. Gypsum-Fiberglass Cavity Wall Sheathing:

   (a) Georgia-Pacific DensGlass
   (b) CertainTeed GlasRoc Sheathing
   (c) USG Securock Glass-Mat Sheathing

2.2 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

A. Components, General: Comply with ASTM C 754 for conditions indicated.

B. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (16 ga) diameter wire or double strand of 0.0475-inch- (18ga.) diameter wire.

C. Hanger Attachments to Concrete: As follows:

1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching hanger wires and capable of sustaining, without failure, a load equal to 3 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.

   (a) Cast-in-place anchor, designed for attachment to concrete forms.
   (b) Post-installed, chemical anchor.
   (c) Post-installed, expansion anchor.

2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other devices for attaching hangers of type indicated, and

capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by a qualified independent testing agency.

D. Hangers: As follows:

1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (8ga.) diameter.
2. Rod Hangers: ASTM A 510, mild carbon steel.

   (a) Diameter: 1/4-inch
   (b) Protective Coating: ASTM A 153/A 153M, hot-dip galvanized.

E. Carrying Channels: Cold-rolled, commercial–steel sheet with a base metal thickness of 0.0538 inch (17ga.), a minimum 1/2-inch-wide flange, with manufacturer's standard corrosion-resistant zinc coating at interior locations and with ASTM A 653/A 653M, G40, hot-dip galvanized at exterior locations.

1. Depth: 2 inches, unless noted otherwise.

F. Furring Channels (Furring Members): Commercial-steel sheet with manufacturer's standard corrosion-resistant zinc coating, unless noted otherwise.

1. Cold Rolled Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch-wide flange, 3/4 inch deep.
2. Steel Studs: ASTM C 645.

   (a) Minimum Base Metal Thickness: 0.0179 inch.
   (b) Depth: 3-5/8 inches, unless noted otherwise.

3. Hat-shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.

   (a) Minimum Base Metal Thickness: 0.0179 inch.

4. Resilient Furring Channels: 1/2-inch-deep members designed to reduce sound transmission.

   (a) Configuration: Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs.

G. Grid Suspension System for Interior Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

   (a) Armstrong World Industries, Inc.; Furring Systems/Dry Wall.
   (b) USG Interiors, Inc.; Drywall Suspension System.
   (c) Chicago Metallic 640 Drywall Suspension Systems (for Interior Applications Only)

2.3 STEEL PARTITION AND SOFFIT FRAMING

A. Components, General: As follows:

1. Comply with ASTM C 754 for conditions indicated.

2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with manufacturer's standard corrosion-resistant zinc coating.

B. Steel Studs and Runners: ASTM C 645.

1. Minimum Base Metal Thickness: 0.0179 inch.
2. Depth: As indicated.

C. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch-deep flanges.

D. Proprietary Deflection Track: Steel sheet top runner manufactured to prevent cracking of gypsum board applied to interior partitions resulting from deflection of structure above; in thickness indicated for studs and in width to accommodate depth of studs.

1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

(a) Delta Star, Inc., Superior Metal Trim; Superior Flex Track System (SFT)
(b) Metal-Lite, Inc.; Slotted Track.

E. Proprietary Firestop Track: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

(a) Fire Trak Corp.; Fire Trak attached to studs with Fire Trak Slip Clip.
(b) Metal-Lite, Inc.; The System

F. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Minimum Base Metal Thickness: 0.0179 inch.

G. Cold-Rolled Channel Bridging: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flange.

1. Depth: 1-1/2 inches.
2. Clip Angle: 1-1/2 by 1-1/2 inch, 0.068-inch- thick, galvanized steel.

H. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Minimum Base Metal Thickness: 0.0179 inch.
2. Depth: 7/8 Inch.

I. Resilient Furring Channels: 1/2 –inch-deep, steel sheet members designed to reduce sound transmission.

J. Cold-Rolled Furring Channels: 0.0538-inch bare steel thickness, with minimum 1/2 –inch-wide flange.

1. Depth: 3/4 inch.
2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of 0.0312 inch.

3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-diameter wire, or double strand of 0.0475-inch-diameter wire.

K. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8 inch, minimum bare metal thickness of 0.0179 inch, and depth required to fit insulation thickness indicated.

L. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

2.4 INTERIOR GYPSUM WALLBOARD

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

B. Gypsum Wallboard: ASTM C 36.

1. Type X:

(a) Thickness: 5/8 inch.
(b) Long Edges: Tapered and featured (rounded or beveled) for prefilling.
(c) Location: As indicated.

C. Proprietary, Fire-Rated, Glass-Mat Faced Gypsum Backing Board: ASTM C1178.

1. Type X

(a) Thickness: 5/8 inch.
(b) Edges: Square.
(c) Surfacing: Coated glass mat on face, back, and long edges.
(d) Mold Resistance (ASTM D3273): Not less than 10, in a test as manufactured.
(e) Permeance (ASTM E96): Not more than 1.0 perms when tiled.
(f) Robinson Floor Test Rating (ASTM C627): Light commercial.
(g) Available Product:
(a) Dens-Shield Fireguard Type X; Georgia-Pacific
(b) CertainTeed GlasRoc Sheathing
(c) USG Securock Glass-Mat Sheathing

2.5 TRIM ACCESSORIES

A. Interior trim, Typical: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, or paper-faced galvanized steel sheet.
2. Shapes:

(a) Cornerbead: Use at outside corners.
(b) Bullnose Bead: Use at outside corners.
(c) LC-Bead (J-Bead): Use at exposed panel edges.
(d) L-Bead: Use where indicated.
(e) U-Bead: Use where indicated.
(f) Expansion (Control) Joint: Use where indicated.
(g) Curved-edge Cornerbead: With notched or flexible flanges; use at curved openings.

B. Interior Trim, Special: Extruded accessories of profiles and dimensions indicated.

1. Material: Aluminum, prepainted.
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   (a) Hanging Track.
   (b) Wall Reveals.
   (c) Wall/Ceiling Reveal.
   (d) Fabric Tuck Reveal.
   (e) Ceiling Trim.
   (f) Ceiling Transition.
   (g) Partition Closure.

3. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   (a) Fry Reglet Corp.
   (b) Gordon, Interior Specialties Division.
   (c) MM Systems Corporation.
   (d) Pittcon.

4. Aluminum: Alloy and temper with not less than the strength and durability properties of ASTM B 221, alloy 6063-T5.
5. Finish: As scheduled or specified above.

2.6 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

1. Interior Gypsum Wallboard: Paper.
2. Exterior Gypsum Soffit Board: Paper.
3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
4. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

   (a) Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping and setting-type, sandable topping compounds.

E. Joint Compound for Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Use setting-type taping and setting-type sandable topping compounds.
2. Glass-Mat, Water-Resistant Backing Panel: As recommended by manufacturer.

2.7 ACOUSTICAL SEALANT

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Acoustical Sealant for Exposed and Concealed Joints:

(a) Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
(b) United States Gypsum Co.; SHEETROCK Acoustical Sealant.

2. Acoustical Sealant for Concealed Joints:

(a) Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.
(b) Pecora Corp.; BA-98.
(c) Tremco, Inc,; Tremco Acoustical Sealant.

B. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

C. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

2.8 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

C. Fastening Adhesive:

1. Wood: ASTM C 557.
2. Steel: Adhesive recommended for attaching panels to steel framing.

D. Steel Drill Screws; ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

E. Isolation Strip at Exterior Walls:

1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No.15 asphalt felt) nonperforated.
2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.

F. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

G. Thermal Insulation: As specified in Division 07 Section “Building Insulation.”

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.

1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLING STEEL FRAMING, GENERAL

A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.

B. Install supplementary framing, blocking and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings or similar construction. Comply with details indicated and with gypsum board manufacturer’s written recommendations or, if none available, with United States Gypsum’s “Gypsum Construction Handbook.”

C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.

1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.

(a) Use deep-leg deflection track where indicated.
(b) Use proprietary deflection track where indicated.
(c) Use proprietary firestop track where indicated.

D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

3.4 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

A. Suspend ceiling hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
4. Secure angle hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
6. Do not attach hangers to steel deck tabs.
7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
8. Do not connect or suspend steel framing from ducts, pipes or conduit.

B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.

C. Sway-brace suspended steel framing with hangers used for support.

D. For exterior soffits, install cross bracing and framing to resist wind uplift.

E. Wire-tie furring channels to supports, as required to comply with requirements for assemblies indicated.

F. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.

1. Wire Hangers: 48 inches o.c.
2. Carrying Channels (Main Runners): 48 inches o.c.
3. Furring Channels (Furring Members): 16 inches o.c.

G. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

3.5 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

A. Install tracks (runners) at floors, ceilings and structural walls and columns where gypsum board assemblies abut other construction.

1. Where studs are installed directly against exterior walls, install foam-gasket isolation strip between studs and wall.

B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch from the plane formed by the faces of adjacent framing.

C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

1. Cut studs 1/2 inch short of full height to provide perimeter relief.
2. For fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.

   (a) Terminate partition framing at suspended ceilings where indicated.

D. Install steel studs and furring at the following spacings:

1. Single-Layer Construction: 16 inches o.c., unless otherwise indicated.
2. Multilayer Construction: 16 inches o.c., unless otherwise indicated.
3. Cementitious Backer Units: 16 inches o.c., unless otherwise indicated.

E. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.

F. Curved Partitions:

1. Cut top and bottom track (runners) through leg and web at 2-inch intervals for arc length. In cutting lengths of track, allow for uncut straight lengths of not less than 12 inches at ends of arc.
2. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
3. Support outside (cut) leg of track by clinching steel sheet strip, 1-inch-hgih-by- thickness of track metal, to inside of cut legs using metal lock fasteners.
4. Begin and end each arc with a stud, and space intermediate studs equally along arcs at stud spacing recommended in writing by gypsum board manufacturer for radii indicated. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches o.c.

G. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Install two studs at each jamb, unless otherwise indicated.
2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint.
3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

H. Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

I. Z-Furring Members:

1. Erect insulation vertically and hold in place with Z-furring members spaced 24 inches o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches from corner and cut insulation to fit.
4. Until gypsum board is installed, hold insulation in place with 10-inch staples fabricated from 0.0625-inch-diameter, tie wire and inserted through slot in web of member.

3.6 APPLYING AND FINISHING PANELS, GENERAL

A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.

B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

G. Attach gypsum panels to framing provided at openings and cutouts.

H. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.

I. Form control and expansion joints with space between edges of adjoining gypsum panels.

J. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes and conduits.
3. Where partitions intersect open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4 to 3/8-inch-wide joints to install sealant.

K. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

L. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install gypsum panels over wood framing, with floating internal corner construction.

M. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.

N. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.

1. Space screws a maximum of 12 inches o.c. for vertical applications.

O. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.

3.7 PANEL APPLICATION METHODS

A. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

(a) Stagger abutting end joints not less than one framing member in alternate courses of board.
(b) At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
(c) On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

B. Multilayer Application on Ceilings: Apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one (1) framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly

C. Multilayer Application on Partitions/Walls: Apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.

1. Z-Furring Members: Apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.

D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

E. Multi-Layer Fastening Methods: Fasten base layers and face layers separately to supports with screws.

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

G. Curved Surfaces:

1. Install panels horizontally and unbroken, to the extent possible, across curved surface plus 12-inch-long straight sections at ends of curves and tangent to them.
2. Wet gypsum panels on surfaces that will become compressed where curve radius prevents using dry panels. Comply with gypsum board manufacturer's written recommendations for curve radii, wetting methods, stacking panels after wetting, and other preparations that precede installing wetted gypsum panels.
3. On convex sides of partitions, begin installation at one end of curved surface and fasten gypsum panels to studs as they are wrapped around curve. On concave side, start fastening panels to stud at center of curve and work outward to panel ends. Fasten panels to framing with screws spaced 12 inches o.c.
4. For double-layer construction, fasten base layer to studs with screws 16 inches o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches o.c.
5. Allow wetted gypsum panels to dry before applying joint treatment.
6. Provide control joints as recommended by manufacturer, or as shown on drawings.

3.8 INSTALLING GYPSUM-FIBERGLASS CAVITY SHEATHING

A. Cavity Sheathing must be installed in accordance with the instructions in this brochure, Gypsum Association document GA-253 and ASTM C 1280. Cavity Sheathing can be attached parallel or perpendicular to wood or metal framing. Use appropriate board orientation for specific fire assemblies and shear wall applications within this document, other reference documents or as required by designing authority. The framing width shall not be less than 1-1/2" (38 mm) wide for wood framing and 1-1/4" (32 mm) for steel framing. Framing members shall not vary more than 1/8" (3 mm) from the plane of the faces of adjacent framing.
B. Fasteners should be driven flush with the panel surface (not countersunk) and into the framing system. Locate fasteners at least 3/8" (9 mm) from the ends and edges of the sheathing. Nails or screws, as listed in the fastener chart, may be used to attach Cavity Sheathing to framing. When a pneumatic fastening system into metal is specified to attach Cavity Glass Sheathing, consult with manufacturer for application specifications and shear resistance data. Cavity Sheathing is not to be used as a base for nailing or other fastening.
C. Install Cavity Sheathing with end joints staggered on horizontal applications. Ends and edges of the sheathing should fit tightly. Cavity Sheathing panels shall not be less than 7" (178 mm) from the finish grade in fully weather and water protected siding systems, and not less than 12 (305 mm) from the ground for properly drained and ventilated crawl spaces.
D. Consult with manufacturer for control joint recommendations.

3.9 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints at locations indicated on Drawings.

3.10 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:

1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for tile and where indicated.
3. Level 3: Embed tape and apply separate first and fill coats of joint compound to tape, fasteners, and trim flanges where indicated.
4. Level 4: Embed tape and apply separate first, fill and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.

3.11 FIELD QUALITY CONTROL

A. Above-Ceiling Observation: Architect will conduct an above-ceiling observation before installing gypsum board ceilings and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.

1. Notify Architect seven days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
2. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:

(a) Installation of 80 percent of lighting fixtures, powered for operation.
(b) Installation, insulation, and leak and pressure testing of water piping systems.
(c) Installation of air-duct systems.
(d) Installation of air devices.
(e) Installation of mechanical system control-air tubing.
(f) Installation of ceiling support framing.

END OF SECTION

SECTION 09 65 00
RESILIENT FLOORING AND BASE
(6" COVED RUBBER BASE)

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Supplementary Conditions and other Division 1 Project Manual Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Resilient (rubber) base adhesive attached in locations indicated on Drawings.

1.3 QUALITY ASSURANCE

A. Manufacturer: Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives sealants and leveling compounds.

1.4 SUBMITTALS

A. Product Data:
   1. Manufacturer's specifications and other data needed to prove compliance with specified requirements.
   2. Manufacturer's installation instructions.
B. Samples: Actual sample of each specified material.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

1. Manufacturers named are basis of Specification. Other manufacturers must have a minimum of 5 years of experience manufacturing products meeting or exceeding the specifications and comply with Division 01 requirements regarding substitutions to be considered.

2.2 MATERIALS

A. Rubber Base:
   1. Approved Manufacturer:
      (a) Roppe, Johnsonite.
   2. Flooring accessories shown in the finish schedule or listed herein as cove base or wall base, shall be 1/8" thick extruded rubber cove base. It shall be constructed of first-quality material properly vulcanized, and shall be smooth and free from imperfections which detract from its appearance. All cove base shall be 1/8" thick x 4 inches high, in lengths of 120"
   3. Verify color selection.
   4. Adhesives: Manufacturer recommended.

2.3 EXTRA STOCK

A. Deliver to the Owner for his use. Furnish from same manufactured lot as materials installed. Enclosed in protective packaging and appropriately labeled:
   1. 10' full length or more rubber base.

PART 3 – EXECUTION

3.1 INSTALLATION

A. General:

1. Install materials only after finishing operation, including painting, have been completed and after permanent heating and cooling system is operating.
2. Verify that the moisture content of concrete slabs, building air temperature, and relative humidity are within the limits recommended by the manufacturers of the materials used.

B. Installing Base:

1. Install base where shown on the Drawings in accordance with manufacturer's instructions.
2. Use factory preformed exterior corners, and factory preformed or job-mitered interior corners.
3. Install base to casework and other permanent fixtures in rooms as required. Install in practicable lengths.

3.2 CLEANING AND PROTECTING

A. Remove excess adhesive and other blemishes from exposed surfaces, using neutral cleaner recommended by the manufacturer of the resilient materials.

END OF SECTION

SECTION 09 91 00

PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior and Exterior paint and coatings systems including surface preparation.

1.2 SUBMITTALS

A. Product Data: For each paint system indicated, including.
1. Product characteristics.
2. Surface preparation instructions and recommendations.
3. Primer requirements and finish specification.
4. Storage and handling requirements and recommendations.
5. Application methods.
6. Cautions for storage, handling and installation.

B. Selection Samples: Submit a complete set of color chips that represent the full range of manufacturer's products, colors and sheens available.

C. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Paint exposed surfaces. If a color of finish, or a surface is not specifically mentioned, Architect will select from standard products, colors and sheens available.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels unless indicated.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1. Finish surfaces for verification of products, colors and sheens.
2. Finish area designated by Architect.
3. Provide samples that designate primer and finish coats.
4. Do not proceed with remaining work until the Architect approves the mock-up.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information.
1. Product name, and type (description).
2. Application and use instructions.
3. Surface preparation.
4. VOC content.
5. Environmental handling.
6. Batch date.
7. Color number.

B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.

D. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.5 PROJECT CONDITIONS

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

1.6 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.

B. Furnish Owner with an additional one percent of each material and color, but not less than 1 gal (3.8 l) or 1 case, as appropriate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer:
1. Sherwin-Williams (Specified)
2. PPG

2.2 APPLICATIONS/SCOPE

A. Interior Paints and Coatings:
1. Metal: Aluminum, galvanized steel.

B. Interior High Performance Paints and Coatings:
1. Concrete: Poured, precast, tilt-up, cast-in-place, cement board.
2. Non-Ferrous Metal: Galvanized steel and aluminum.
3. Metal Ferrous: Ceilings, structural steel, joists, trusses, beams, and similar items including dryfall coatings.
4. Wood: Walls, ceilings, doors, trim, cabinet work, and similar items.
5. Drywall: Drywall board, Gypsum board

2.3 PAINT MATERIALS - GENERAL

A. Paints and Coatings:
1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color. Or follow manufactures product instructions for optimal color conformance.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use

primer categorized as "best" by the manufacturer.

C. Coating Application Accessories: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required, per manufacturer's specifications.

D. Color: Refer to Finish Schedule for paint colors, and as selected.

2.4 INTERIOR PAINT SYSTEMS

A. METAL: Aluminum, Galvanized.
1. Latex Systems:
a. Gloss Finish High Performance:
1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry).
2) 2nd Coat: S-W Pro Industrial DTM Acrylic Gloss, B66 Series.
3) 3rd Coat: S-W Pro Industrial DTM Acrylic Gloss, B66 Series (6-10 mils wet, 2.5-4.0 mils dry per coat).

B. METAL - (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous and Ornamental Iron, Structural Iron, Ferrous Metal)
1. Alkyd Systems (Dryfall):
a. Flat Finish:
1) 1st Coat: S-W Pro Kem Bond HS
2) 2nd Coat: S-W Dry Fall Alkyd
3) 3rd Coat: S-W Dry Fall Alkyd

C. DRYWALL - (Walls, Ceilings, Gypsum Board and similar items)
1. Latex Systems:
a. Eg-Shel / Satin Finish:(walls)
1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series.
3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-2600 Series (4 mils wet, 1.7 mils dry per coat).
b. Flat Finish: (ceilings)
1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series.
3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series (4 mils wet, 1.6 mils dry per coat).
c. Flat Finish: (walls)
1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series.
3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Flat, B30-2600 Series (4 mils wet, 1.6 mils dry per coat).

2. Epoxy Systems (Water Based):
a. Eg-Shel/Low Luster Finish: (Walls, Ceilings)
1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
2) 2nd Coat: S-W Pro Industrial Pre-Catalyzed Waterbased Epoxy, K45-Series.
3) 3rd Coat: S-W Pro Industrial Pre-Catalyzed Waterbased Epoxy, K45-Series (4 mils wet, 1.5 mils dry per coat).

2.5 EXTERIOR PAINT SYSTEMS

A. METAL - (Existing wall panels, Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous and Ornamental Iron, Structural Iron, Ferrous Metal).
   1. Alkyd Systems (Water based):
      a. Semi-Gloss Finish:
         1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0-10.0 mils wet, 1.8-3.6 mils dry).
         2) 2nd Coat: S-W Pro Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series.
         3) 3rd Coat: S-W Pro Industrial Water Based Alkyd Urethane Enamel Semi-Gloss, B53-1150 Series (4.0-5.0 mils wet, 1.4 - 1.7 mils dry per coat).

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

B. Proceed with work only after conditions have been corrected and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

C. Previously Painted Surfaces: Verify that existing painted surfaces do not contain lead based paints, notify Architect immediately if lead based paints are encountered.

3.2 SURFACE PREPARATION

A. General: Surfaces shall be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
   1. Prior to attempting to remove mildew, it is recommended to test any cleaner on a small, inconspicuous area prior to use. Bleach and bleaching type cleaners may damage or discolor existing paint films. Bleach alternative cleaning solutions are advised.
   2. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.
   3. Remove items including but not limited to thermostats, electrical outlets, switch covers and similar items prior to painting. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
   4. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50 degrees F (10 degrees C), unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50 degrees F (10 degrees F) or higher to use low temperature products.

B. Aluminum: Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP1, Solvent Cleaning.

C. Block (Cinder and Concrete): Remove all loose mortar and foreign material. Surface must be free of laitance, concrete dust, dirt, form release agents, moisture curing membranes, loose

cement, and hardeners. Concrete and mortar must be cured at least 30 days at 75 degrees F (24 degrees C). The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments. On tilt-up and poured-in-place concrete, commercial detergents and abrasive blasting may be necessary to prepare the surface. Fill bug holes, air pockets, and other voids with a cement patching compound.

D. Concrete, SSPC-SP13 or NACE 6: This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems. The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, precast slabs, masonry walls, and shotcrete surfaces. An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete, and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.

E. Cement Composition Siding/Panels: Remove all surface contamination by washing with an appropriate cleaner, rinse thoroughly and allow to dry. Existing peeled or checked paint should be scraped and sanded to a sound surface. Pressure clean, if needed, with a minimum of 2100 psi pressure to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, and peeling or defective coatings. Allow the surface to dry thoroughly. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments.

F. Copper and Stainless Steel: Remove all oil, grease, dirt, oxide and other foreign material by cleaning per SSPC-SP 2, Hand Tool Cleaning.

G. Exterior Composition Board (Hardboard): Some composition boards may exude a waxy material that must be removed with a solvent prior to coating. Whether factory primed or unprimed, exterior composition board siding (hardboard) must be cleaned thoroughly and primed with an alkyd primer.

H. Drywall - Exterior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting. Exterior surfaces must be spackled with exterior grade compounds.

I. Drywall - Interior: Must be clean and dry. All nail heads must be set and spackled. Joints must be taped and covered with a joint compound. Spackled nail heads and tape joints must be sanded smooth and all dust removed prior to painting.

J. Galvanized Metal: Clean per SSPC-SP1 using detergent and water or a degreasing cleaner to remove greases and oils. Apply a test area, priming as required. Allow the coating to dry at least one week before testing. If adhesion is poor, Brush Blast per SSPC-SP16 is necessary to remove these treatments.

K. Plaster: Must be allowed to dry thoroughly for at least 30 days before painting, unless the products are designed to be used in high pH environments. Room must be ventilated while drying; in cold, damp weather, rooms must be heated. Damaged areas must be repaired with an appropriate patching material. Bare plaster must be cured and hard. Textured, soft, porous, or powdery plaster should be treated with a solution of 1 pint household vinegar to 1 gallon of water. Repeat until the surface is hard, rinse with clear water and allow to dry.

L. Steel: Structural, Plate, And Similar Items: Should be cleaned by one or more of the surface preparations described below. These methods are used throughout the world for describing methods for cleaning structural steel. Visual standards are available through the Society of Protective Coatings. A brief description of these standards together with numbers by which

they can be specified follow.

1. Solvent Cleaning, SSPC-SP1: Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants. Solvent cleaning does not remove rust or mill scale. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
2. Hand Tool Cleaning, SSPC-SP2: Hand Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before hand tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
3. Power Tool Cleaning, SSPC-SP3: Power Tool Cleaning removes all loose mill scale, loose rust, and other detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Before power tool cleaning, remove visible oil, grease, soluble welding residues, and salts by the methods outlined in SSPC-SP1.
4. White Metal Blast Cleaning, SSPC-SP5 or NACE 1: A White Metal Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
5. Commercial Blast Cleaning, SSPC-SP6 or NACE 3: A Commercial Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 33 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
6. Brush-Off Blast Cleaning, SSPC-SP7 or NACE 4: A Brush-Off Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose paint. Tightly adherent mill scale, rust, and paint may remain on the surface. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP 1 or other agreed upon methods.
7. Power Tool Cleaning to Bare Metal, SSPC-SP11: Metallic surfaces that are prepared according to this specification, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxide corrosion products, and other foreign matter. Slight residues of rust and paint may be left in the lower portions of pits if the original surface is pitted. Prior to power tool surface preparation, remove visible deposits of oil or grease by any of the methods specified in SSPC-SP1, Solvent Cleaning, or other agreed upon methods.
8. Near-White Blast Cleaning, SSPC-SP10 or NACE 2: A Near White Blast Cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except for staining. Staining shall be limited to no more than 5 percent of each square inch of surface area and may consist of light shadows, slight streaks, or minor discoloration caused by stains of rust, stains of mill scale, or stains of previously applied paint. Before blast cleaning, visible deposits of oil or grease shall be removed by any of the methods specified in SSPC-SP1 or other agreed upon methods.
9. High- and Ultra-High Pressure Water Jetting for Steel and Other Hard Materials: SSPC-SP12 or NACE 5: This standard provides requirements for the use of high- and ultra-high pressure water jetting to achieve various degrees of surface cleanliness. This standard is limited in scope to the use of water only without the addition of solid particles in the stream.
10. Water Blasting, SSPC-SP12/NACE No. 5: Removal of oil grease dirt, loose rust, loose

mill scale, and loose paint by water at pressures of 2,000 to 2,500 psi at a flow of 4 to 14 gallons per minute.

M. Vinyl Siding, Architectural Plastics, EIFS and Fiberglass: Clean vinyl siding thoroughly by scrubbing with a warm, soapy water solution. Rinse thoroughly. Do not paint vinyl siding with any color darker than the original color, unless the paint system features Sherwin-Williams VinylSafe technology. Painting with darker colors that are not Sherwin-Williams VinylSafe may cause siding to warp. Follow all painting guidelines of the vinyl manufacturer when painting. Only paint properly installed vinyl siding. Deviating from the manufacturer's painting guidelines may cause the warranty to be voided.

N. Stucco: Must be clean and free of any loose stucco. If recommended procedures for applying stucco are followed, and normal drying conditions prevail, the surface may be painted in 30 days. The pH of the surface should be between 6 and 9, unless the products are designed to be used in high pH environments such as Loxon.

O. Wood: Must be clean and dry. Prime and paint as soon as possible. Knots and pitch streaks must be scraped, sanded, and spot primed before a full priming coat is applied. Patch all nail holes and imperfections with a wood filler or putty and sand smooth.

3.3 INSTALLATION

A. Apply all coatings and materials with the manufacturer's specifications in mind. Mix and thin coatings according to manufacturer's recommendations.

B. Do not apply to wet or damp surfaces. Wait at least 30 days before applying to new concrete or masonry. Or follow manufacturer's procedures to apply appropriate coatings prior to 30 days. Test new concrete for moisture content. Wait until wood is fully dry after rain or morning fog or dew.

C. Apply coatings using methods recommended by manufacturer.

D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.

E. Apply coatings at spreading rate required to achieve the manufacturers recommended dry film thickness.

F. Regardless of number of coats specified, apply as many coats as necessary for complete hide, and uniform appearance.

G. Inspection: The coated surface must be inspected and approved by the Architect just prior to the application of each coat.

3.4 PROTECTION

A. Protect finished coatings from damage until completion of project.

B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

END OF SECTION

SECTION 10 14 00
SIGNAGE

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to the Section.

1.2 SUMMARY

A. Section includes interior signage, including:

1. Framed sandblasted micarta interior signage for TDLR required exit (2 required) with braille and raised text size per TDLR

Exit

2. Donor recognition signage ¾" metallic finish letters to match existing recognition signage throughout museum. Reference interior elevation for wording and size.

Chambers Foundation
Education Addition

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 DEFINITIONS

A. ADA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "American with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines".

1.5 SUBMITTALS

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

B. Shop Drawings: Show fabrication and installation details for signs.

C. Show sign mounting heights, location of supplementary supports to be provided by others, and accessories.

D. Samples: For each type and for each and texture required.

1.6 QUALITY ASSURANCE

A. Regulatory requirements: Comply with applicable provision in ADA accessibility Guidelines and Texas Accessibility Standards (TAS).

PART 2 – PRODUCTS

2.1 MATERIALS

A. Interior Donor Recognition Signage

1. The project shall include cast letters in size, style and finish as shown and described on the interior elevations and same finish as existing recognition donor lettering throughout building.

B. Other Materials: Provide other materials, not specifically described, but required for a complete and proper installation.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Adhere to 5/8" Type X gypsum board.

B. Coordinate installation for each substrate to be anchored into including:
C. Install sign level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.

END OF SECTION

SECTION 10 52 00
FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to the Section.

1.2 SUMMARY

A. Section includes:

1. Fire Extinguishers, cabinets, and accessories where indicated on Drawings

1.3 RELATED SECTIONS

A. Coordinate Work of this Section with work of other sections, including Division 01 Sections, as required to properly execute the work and as necessary to maintain satisfactory progress of the work.

1.4 QAULITY ASSURANCE

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, “Standards for Portable Fire Extinguishers”.

B. Provide portable fire extinguishers with comply with UL standards and are labeled by UL.

C. Provide portable fire extinguishers and cabinets by one manufacturer, unless otherwise acceptable by Architect.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions for all fire extinguishers and cabinets required.

B. Shop Drawings: For fire extinguisher cabinets include rough-in dimensions and details showing mounting methods, relationships to surrounding construction door hardware cabinet type and materials trim style and door construction style, and materials.

C. Samples: Where color selections are required include color chart showing full range of manufacturer’s standard colors and designs available.

PART 2 – PRODUCTS

2.1 FIRE EXTINGUISHER CABIENTS

A. All recessed and semi recessed cabinets for installation in conditioned spaces and apparatus bays shall have box constructed entirely of pre-painted steel with steel door and trim.

B. Painted steel cabinet doors and trim. Painted on-site as required.

C. Number/Location: As indicated on Drawings. City of Beaumont, Texas Fire Marshall shall have final approval of locations.

D. Approved Products/Manufacturer as manufactured by Larsen Mfg. Co., www.larsenmfg.com, (763) 571-1181, or equivalent product by J.L. Industries, or Architect approved equivalent.

2.2 FIRE EXTINGUISHERS

A. Units to contain specially fluidized and siliconized ammonium phosphate powder to smother and break the chain reaction of Class B fires, to fuse and insulate Class A fires, and to act as a non-conductor of electricity, for effectiveness on Class C fires.

B. Rating 4A-60B: C multi-purpose dry chemical.

C. Number/Location: As indicated on Drawings. City of Beaumont, Texas Fire Marshall shall have final approval of locations.

D. Approved Product/Manufacturers: MP-10 as manufactured by Larsen Mfg. Co., www.larsenmfg.com, (763) 571-1181, of equivalent product by J.L. Industries, or Architect approved equivalent.

2.3 MOUNTING UPPER-LOWER BRACKETS

A. Provide manufacturer's standard bracket designed to prevent accentual dislodgement of extinguisher, of proper size for type and capacity of extinguisher indicated, in manufacturer's standard plated finish.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify that dimensions are correct and project conditions are suitable for installation.

B. Examine support and opening, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting corrected.

C. Notify Architect in writing of unsatisfactory conditions prior installation. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install items included in this Section in locations and heights indicated on drawings, or at heights complying with applicable regulations of governing authorities.

B. Securely fasten cabinet to substrate construction, square and plumb, to comply with manufacturer's instructions.

END OF SECTION

DIVISION 22000 - PLUMBING

SECTION 22000 - PLUMBING

2210. SCOPE OF THE WORK INCLUDED IN THIS SECTION:

A. The complete installation of floor drain, waste and vent piping at mechanical room. - all from the point indicated on the drawings to all fixtures, trenching and backfilling for piping in this section, and fixtures, incidentals, and equipment described in this section.

B. The furnishing of all labor, materials, equipment, tools, cranes, hoists, scaffolding, supports, etc. necessary or incidental to the accomplishment of the work described herein and/or shown on the accompanying drawings.

C. Furnishing detailed information, including dimensional drawings and specifications on all equipment, fixtures, piping, etc. to be furnished and/or installed.

D. All work in this section shall conform to the minimum requirements of the Current Edition of the International Building Code and Energy Code. However, give precedence to the plans and specifications whenever they require higher standards than those required by the rules and regulations above. The International Building Code will govern in case of any direct conflict between this code and the plans and specifications. Any changes necessary in the work indicated on the plans or in the specifications that must be made in order for the work to conform to this plumbing code shall be made at no additional cost to the Owner.

E. Includes extensive cooperation with mechanical contractor, electrical contractor, and others where plumbing work serves units furnished under separate trades and contract.

F. The complete installation of a sewage disposal to existing building's sewer connections.

G. The contractor is responsible to connect water and sewer system into the existing building's water supply through the attic and connect to the existing exterior waste lines.

H. Contractor to provide marked shop drawings indicating routing of lines and installation of clean-outs as is standard to the profession to assure the owner can service issues with blocked lines. Floor or exterior clean-outs preferred.

2220. WORK NOT INCLUDED IN THIS SECTION:

A. All electrical wiring, including connection of electric services to controls and equipment which are furnished under this section of the specifications.

B. The furnishing of certain items of equipment to which the piping work covered in this section is to be extended and connected.

C. Finish Painting, except as specified elsewhere in this section.

D. Site grading and preparation.

E. Wall floor, and ceiling openings, including masonry lintels and the setting of pipe sleeves required for the passage of piping through these openings. NOTE: Pipe sleeves to be furnished under this section.

F. As required by the newly adopted energy code, the plumber must coordinate exterior wall penetrations with the owner to assure that the drainable moisture and air barrier is sealed at all penetration points upon completion of plumbing work.

2230. DRAWINGS:
The approximate locations of all equipment are indicated on the architectural floor plan, enlarged plans and interior elevations. Attention must be given mechanical drawings. These drawings do not intend to give the complete and accurate and precise details in regard to locations, etc. Exact locations are to be determined by reference to the general building plans and by actual measurements at the building, and will in all cases, be subject to approval of the Architect.

2240. COMPLETE FUNCTIONING OF THE WORK:
All labor, materials, apparatus and appliances which may be fairly implied as essential to the complete functioning of the plumbing systems described herein and shown on the drawings shall be furnished and installed whether specifically mentioned in these specifications, or shown in the drawings or not. In case of doubt as to the work intended by the drawings or specifications, or in event of need for amplification or clarification thereof, the contractor shall call upon the Architect for supplementary instructions or drawings.

2250. EXAMINATION OF THE SITE:
Examine the actual site and compare with the drawings and specifications. Ascertain and check locations of any existing obstructions which may affect the work. Failure to determine conditions will not be considered cause for granting additional compensation.

2260. EXCAVATING AND BACKFILLING:
The work in this section shall include all necessary trenching, excavating, cutting of paving, sidewalks, curbs, etc. and do all backfilling and repairing of streets, sidewalks, etc. as necessary for the proper execution of this work, removing all dirt and debris out of and away from the building as directed by the Architect. All concrete and paving repairs shall be made to replace the items cut to equal or better condition than before the work was started. All backfilling shall be done in strict accordance with the requirements noted in the Site Work Division herein. Refer to Detail Sheet M107 herein for installation of underground piping.

2270. TESTS:

A. Waste Piping:
   1. Test all waste piping by plugging inlets and outlets in each separate system, then filling with water to the level of the highest vent.
   2. Replace cracked or broken pipe or fittings with new units.
   3. Caulk lead joints until tight and replace any leaking neoprene joint gaskets.

B. Water Piping: Piping below grade and below floor slab to be capped above floor line and after the concrete thrust blocking is placed at the required under floor fittings and backfill placed between fittings (leave all fittings and couplings exposed to view for inspection), then test piping with either 25 psig. air pressure or 125 psig. hydrostatic pressure, which shall be allowed to stand a minimum of 24 hours in piing without pressure loss. Remove and replace any leaky fittings and joints. After piping is covered and floor slab is poured, piping to be tested again in same manner in presence

of Architect. After all water piping completely installed, test with 100 psig. hydrostatic pressure. Any leaky piping shall be removed and replaced.

C. All tests to be performed in the presence of Architect's representative.

D. All expense involved in the replacement of any leaky piping, including any cutting and patching of work under other sections of these specifications, shall be considered as part of the work included in this section.

2280. SUBMITTAL DATA AND SHOP DRAWINGS:

A. Within twenty (20) days after a contract is awarded for this work, the contractor shall submit to the Architect for approval, detailed shop drawings, control wiring diagrams, equipment drawings, engineering information, detailed specifications and description, and other pertinent data on all items of equipment and material the contractor intends to install. Show line sizes, clean outs, sleeves through beams, etc.

B. Three (3) complete sets of drawings and/or data noted in A. above shall be submitted to the Architect for approval and, if corrections are required, re-submit showing corrections, and continue to re-submit until approval by the Architect is obtained. After satisfactory review by the Architect, one approved copy will be returned to the Contractor.

2290. WATER SERVICE AND PIPING: Connect to the existing water service lines with a separate shut-off valve confirming that the two additional toilets and sinks can be properly operated with the current supply line size and pressure.

B. System of hot and cold water piping: Cold water and hot water pipes throughout the building shall be soft drawn copper water tube, <u>continuous</u> without joints run insulated ceiling joist down to service points. All piping shall be attached with wrought sweat fittings of the same manufacturer as the pipe, utilizing 95-5 wire solder and non-corrosive flux. All hot and cold water lines to be wrap insulated with tight fittings to protect system when power is off at this building during cold inclement weather.

C. Connections to valves, fixtures and equipment: Lengths of red brass pipe and threaded ends and copper to I.P.S. adapters shall be employed to the end that there shall be no ferrous pipe in any piping system.

D. Provide chrome plated brass escutcheons where piping passes through finished floors, walls, partitions and ceilings.

E. Extend water lines to all devices requiring same including final connections. Include shut-off or stop valves at each fixture.

F. The location of all fixtures and equipment shall be made by reference to templates and setting drawings furnished by the Equipment Supplier. Verify all fixtures with Owner.

G. Install an <u>air chamber</u> at the top of each riser and on each branch supplying hot or cold water to <u>each</u> plumbing fixture. Each air chamber shall be the same size at its branch or its riser and shall be an 18 inch unit or a pre-engineered unit.

H. Copper water pipe below the concrete slab shall be without joints.

I. All equipment and fixtures shall be installed as per manufacturer’s instructions which shall be furnished with same.

J. Lines will be flushed, tested, and sterilized as required by the City of Beaumont Plumbing Code before Substantial Completion.

K. **All piping in walls and attic to be insulated with fully wrapped components to prevent freezing during power outages.**

2291. SANITARY DRAIN, WASTE AND VENT PIPING:

A. Furnish and install all sanitary drain, waste and vent piping as shown, noted or required to extend fixture drains to tie ion with Owner's sanitary waste service including required clean-outs.

B. All sanitary drain, waste and vent piping installed under this contract shall be type DWV schedule 40 unplasticized polyvinyl chloride (PVC) pipe and drainage fittings with solvent cement welded or rubber gasketed connections. All PVC gravity DWV piping shall conform to ASTM Specification D-3-34, Type PSM PVC piping and fittings.

C. For all straight runs of piping underground outside of building or below ground floor slab, furnish and install line size approved PVC expansion joints on 20 ft. centers, or less, to allow for expansion and contraction of piping. Where piping is joined with twin gasket couplings, consisting of a body of extruded stock, internally machined, and furnished with two rubber gaskets, or where each 20 ft. joint of pipe has a bell and spigot connection with rubber gasket to allow for piping expansion or contraction, either of these coupling methods will be considered as approved expansion joints. Where manufactured expansion joints are installed in PVC DWV piping, they shall be similar or equal to Charlotte Plastics Part #133 full line size expansion joints. Refer to drawings for locations where expansion joints <u>must</u> be located. Provide poured concrete thrustblocking as noted in Par. 1510. above for PVC water piping.

D. All sanitary drainage and waste piping must be pitched uniformly down in the direction of flow in strict accordance with Southern Standard Plumbing Code requirements. For the following sizes of piping, pitch them down in direction of flow as follows:

2-1/2" and smaller pipe - 1/4" per ft. - min.
3" thru 6" pipe - 1/8" per ft. - min.

Contractor is cautioned to note that sleeves must be placed in concrete beams below the floor for passage of pipes thru these beams. The <u>top</u> of these sleeves must be at least 12" below the finished floor slab and the <u>bottom</u> of these sleeves must be at least 12" <u>above</u> the <u>bottom</u> of these concrete beams. Clearance between outside of sewage pipe and inside of sleeve to be 3/8" minimum.

E. Floor cleanouts inside building to be Zurn #Z-1326 "Supremo" lead seal cleanout with nickel bronze access cover. Wall cleanouts noted on plans inside building to be Zurn #Z-1305-1 or #Z-1320 with nickel bronze cover. In outside lawn areas or concrete walkways install brass cleanout plugs protected with cast iron boxes complete with easily removable covers with top set flush with finished grade or walkway in concrete pads as detailed on the drawings or herein. Equal cleanouts manufactured by Josam, Jay R. Smith, or Wade will also be acceptable.

F. All vent piping flashing to be furnished under this section but set under the work included under the work in another section herein. Vent piping through roof must be consolidated to minimize roof penetrations or **<u>preferably, due to high roof eave line, consider code approved through exterior wall vent to avoid rood penetrations</u>**.

G. Install all sanitary drain, waste and vent piping concealed from view below floors or grade, above ceilings, inside walls, or inside plumbing chases. This does not apply to

overhead piping in rooms not having suspended ceilings nor to chrome plated traps and piping to wall for wall mounted lavatories.

H. Support piping as noted elsewhere herein.

I. Provide Zurn Self Priming Floor Drain in restrooms with back water valve in all cases.

2292. PIPE HANGERS AND SUPPORTS:

A. Horizontal piping above ceiling shall be supported top edges of ceiling or floor joist using 3/4" wide x 20 gauge galvanized steel pipe support straps with both ends of each strap secured to the upper portion of a wood joist or rafter or 2" x 4" wood blocking to be placed and secured between two adjacent joist or rafters. Use framing nails or screws to secure pipe strapping to wood joists or blocking and to secure blocking to joists. In lieu of pipe straps noted above contractor may, at his option, provide Grinnel Fig. 231, or approved equal, galvanized tin clip pipe supports secured to bottom of wood joists or rafters with 3/4" minimum length cadmium plated steel wood screws. Reminder all hot and cold water supply piping in walls and insulated ceilings to be wrapped with rigid insulation to prevent freeze damage during winter power outages.

B. Vertical piping near wood framing members in walls shall be secured with galvanized tin clip supports secured as noted above.

C. For insulated piping, all pipe supports to be placed on the outside of the insulation and an insulation saddle provided to protect the insulation. All pipe in walls and attic to be insulated.

D. All horizontal and vertical pipes throughout the building, including all pipes in chases and above or below ceilings, are to be thoroughly and substantially supported as described herein.

E. All piping must have supports placed on not more than 4'-0" centers and a support must be installed within 6" of each vertical pipe riser on all horizontal piping.

F. The use of nails or wire supports for piping will not be permitted.

2293. PIPE SLEEVES:

A. Provide a pipe sleeve for each water pipe that extends up through any poured concrete slab for this building. Each sleeve shall be either hard copper tubing, PVC, ABS, or cast iron soil pipe, and shall extend up 1" above the floor slab and down 2" below the floor slab.

B. The inside diameter of all sleeves to be at least 3/8" larger than the O.D. of pipe, or pipe insulation, passing thru the sleeve.

C. Pipes thru sleeves in ground floor slab to have annular space between pipe and sleeves filled with a non-hardening asphaltic waterproof cement.

D. No pipes of any kind shall pass through any footings of any of this building except with permission of Architect. Where permission is granted the Architect shall show the Contractor the exact spot or elevation in the footing where the pipe sleeve is to be placed. After sleeve is placed, but before footing is poured, it must be checked by the Architect. This requirement also applies to any reinforced concrete beam, either above or below floor.

2294. ESCUTCHEONS:

A. Location: On all exposed lines in finished areas where passing through walls, floors, or ceilings.
B. Material: Chrome plated Brass.
C. Sized to fit snugly around pipe and tight against wall, floor or ceiling where installed. Verify with Architect if you have any questions.

2295. FOUNDATIONS:
Under this section furnish and install all foundations and supports required for installing the equipment to be provided under the work in this section of the specifications, unless noted otherwise. All steel required shall be furnished and installed as part of the work of this section, unless it is shown and specified on the structural drawings as part of the building.

2296. THERMAL INSULATION FOR PIPING:
A. All concealed hot and cold water piping in walls or between attic joist shall be insulated with 1/2" thick Guston-Bacon "Snap-On", Johns-Manville "Micro-Lok" or fiber glass molded fiberglass pipe insulation with a factory kraft paper and aluminum foil laminated jacket sealed with an adhesive furnished by the mfgr. for this purpose. Apply an additional 4" wide vapor barrier strip over butt joints which is sealed with the same type adhesive. Valves and fittings to be insulated with factory made two (2) piece prefabricated fitting and valve covers of same material and density as pipe insulations.
B. All hot and cold water piping, valves, and fittings in exterior walls and above ceilings shall be insulated with 1" thick, self-extinguishing, sectional, polystyrene pipe insulation as mfg. by Manville, Styro-Fabricators, Inc., or approved equal, insulation in the manner noted below. This insulation to be furnished with a factory applied aluminum foil and kraft paper laminated jacket with a 0.02 Perm rating. Butt joint strips of same material to be applied over each butt joint. Continuously seal vapor barrier jacket laps and butt joint strips with Armstrong's 520 adhesive. Apply adhesive only to dry and clean surfaces. Apply adhesive only as recommended by manufacturer. For fittings, **which includes valves and other piping accessories**, contractor may install fitting covers of either skillfully mitered segments of this same pipe insulation or fabricated using board form polystyrene insulation, or use commercially available molded polystyrene board stock. Fitting covers to be 1" thick.
C. Apply insulation only over clean, dry pipe or fitting surfaces.
D. Install pipe covering protection as described above.

2297. DIELECTRIC UNIONS:
Furnish and install, at each location where dissimilar metal pipes are joined, a full line size Epco dielectric union.

2298. DRAIN PIPING:
All drain piping extending from equipment to floor drains that is used to occasionally or periodically drain water from the equipment (including pressure relief valves, drain valves, etc.) shall be installed using type "M" or "DWV" hard copper piping installed as described

elsewhere herein. The overflow condenser unit for the attic air handler and water heater shall be directed to the soffit centered in the window of the general manager's office.

2299. CLEAN UP:

A. Site: Remove from the site all unused material equipment, waste, and rubbish.

B. Units: Leave units of equipment free of tags, stamps, and marking except name plates.

1520. CLEANING AND TESTING:

A. After completing this installation, the Contractor shall thoroughly clean all components of his work that are sight exposed within Mechanical Rooms and elsewhere within or out-side the building. This cleaning shall be done in preparation of final painting. Any equipment having factory painted finish shall be touched up using paint of the same type and color, under this section. If the factory finish is marred in the installation of the equipment, the finish painting of other components, such as piping and insulation, shall be done under Painting Section 09900 unless noted otherwise herein.

B. All items of equipment and fixtures shall be tested and proven free of all mechanical defects.

C. The Contractor shall also make such other tests as may be required to demonstrate that all equipment performance comply with the specification requirements.

1521. PLUMBING FIXTURES:

A. The work in this section shall include the furnishing and installing of all plumbing fixtures, unless noted otherwise, and/or the connection to or roughing in of plumbing services for fixtures furnished under other sections herein or furnished by the Owner, all as noted in fixture schedule in this section. Fixture colors to white.

B. Kohler and Zurn catalogs are used as the basis of most fixture selections for those fixtures to be furnished under the work included in this section. However, fixtures equal in quality and performance characteristics that are manufactured by Eljer, Crane, American-Standard, Wade, Josam or Jay R. Smith will also be acceptable, provided they are approved by the Owner and the Architect.

C. Plumbing fixtures are not scheduled on plans but are shown by customary symbols, and Contractor will be expected to carefully check plans and furnish complete everything indicated.

D. Note that <u>each</u> and <u>every</u> fixture requiring water service shall be furnished with individual stop valves.

E. All fixtures shall be secured to walls and/or floors with toggle bolts or chair carriers. <u>No wood plugs</u> are to be used. These will be inspected before covering wall.

F. Locate all fixtures accurately for spacing and height. Have Architect's representative check and verify center to center location of all fixtures after roughing-in and before placing on concrete slab. Refer to plans or elsewhere herein for wall-mounted fixture rim heights above floor. If the rim mounting height is not noted for any wall-mounted fixture, obtain the desired height before roughing in for fixture.

G. Plumbing Fixture Schedule:

1. **<u>Kohler K-3493-5</u>** Highline Presure Lite elongated 1.4 gpf toilet with trip lever left side of toilet facing fixture. Provide shut-off valve at wall and water supply line.

2. **Kohler K-2030-0** Greenwich 20-3/4” x 188-1/4” rectangular wall mount single bowl bathroom sink with trap installed for required TDLR clearance and with protective wrap as required by TDLR. Provide TDLR compliant faucet and fittings.

3. **Zurn Z1305** ¾” x 10” Ecolotrol Encased, Non-Freeze Wall Hydrant with keyed access.

4. Optional unit electric water heater in attic of new addition with safety pan and overflow directed to exterior soffit at general manager’s office.

DIVISION 23000 - MECHANICAL

2300. HEATING, VENTILATING & AIR CONDITIONING

2310 SCOPE OF THE WORK INCLUDED IN THIS SECTION:

A. The work in this section shall include the furnishing of all labor, materials, and equipment necessary for the complete installation of a summer-winter air conditioning system.

B. This work includes furnishing and installing split system compressor and coil, ductwork, grilles, ceiling diffusers, electrostatic filters, programmable setback thermostats, and other items required to provide a complete, integrated and operating system.

C. Air conditioning subcontractor shall design system and prepare, drawings and specifications and submit to Architectural Alliance, Inc., for review.

D. Provide foundations and/or support for all equipment and material provided under this section, unless such foundations and/or supports are shown or noted on either architectural or structural drawings for this building or noted otherwise herein. Units to be anchored to foundations to comply with wind storm requirements.

E. Provide complete literature and engineering data on all items of equipment and appurtenances for this system to the Architect for review prior to installation.

F. With submission of bid, Contractor shall give written notice to the Architect of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules; any necessary items or work omitted. In the absence of such written notice, it is mutually agreed that the Contractor has included the cost of all required items in his proposal, and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.

G. All work to comply with International Building and Energy Code.

2320 HEATING AND AIR CONDITIONING SYSTEM:

A. System shall have (1) primary zone (equipment) as shown on drawings. Verify location of thermostat with Owner/Architect.

B. Air conditioning shall be provided by high efficiency variable speed fan/coil and variable compressor combination with highest possible efficiency available.

C. Heating shall be provided by high efficient Trane or Carrier gas heater.

D. Each fan-coil unit shall have a filter frame, with washable scrim. Filter rack to be accessible at the air handling unit in the mechanical room.

E. Furnish and install supply and return air ducts constructed of 2" thick aluminum cased 3#/cu. ft. density fiberglass. All ductwork shall be fabricated in accordance with SMACNA Standards. Install "Air turns" in all "square" duct elbows. Install straightening vanes at all points where duct boots or branch ducts connect to other ducts. Note on drawings submitted to Architect. Flex ductwork permitted in short runs less than 8'.

F. Furnish and install all metal wall, ceiling grilles, registers, and diffusers. All items described to be all-aluminum construction. All diffusers to be "Agitair" type RCB or Krueger "SH" Series with "Ultrathro" and style 21 frame with opposed blade dampers. (White Finish).

G. Refrigerant Piping - Furnish and install Type "L" soft drawn copper refrigerant piping interconnect each outdoor unit with indoor fan-coil unit it serves. Use "Silfos" for connections. Extend from outdoor unit to building exterior wall, thru exterior wall

approximately 6" above inside floor, in exterior wall, then to fan-coil unit. Pipe sizes and accessories as recommended by equipment manufacturer. Pressure test piping @ 200 psig. for 12 hours minimum, then evacuate to a maximum of 5000 microns absolute pressure. Provide appropriate refrigerant. Insulate all refrigerant and suction piping with 3/4" minimum thick Armstrong FR/Armaflex insulation applied in accordance with mfgr. Recommendations.

2330 SYSTEM DESIGN:

A. Subcontractor shall design a complete heating and air conditioning system. Plans and Specifications showing equipment, duct sizes, grilles, and CFM requirements for each room shall be furnished by supplier to Architect two weeks following contract agreement with Owner.

B. System shall be designed to meet the following general standards.
   1. Summer outside temperature 95°F. dry bulb and 80°F. wet bulb.
   2. Summer inside temperature 75°F. dry bulb and 50% R.H.
   3. Winter outside temperature 20°F. dry bulb.
   4. Winter inside temperature 75°F. dry bulb.
   5. Summer design conditions shall include total watts shown on lighting plan, equipment, and two people per room except as follows:
      a) WORKSTATION - 1 person.

C. Electrical heating shall be the highest efficient generally available.

D. Entire system including ductwork, diffusers, return air, dampers, etc. to be in compliance with all applicable commercial codes.

E. Design calculations to be presented to Architect for review.

G. Air conditioning supplier to coordinate duct sizes with framing contractor and Architect if conditions require a design other than that suggested on Framing Plan. All framing will be coordinated with framers, electricians, plumbers and air conditioning contractors by General Contractor.

2340 CLEAN UP:

A. After systems are installed, clean all components for final painting, touch-up or re-paint damaged or rusted factory painted surfaces, test equipment to insure no mechanical defects or objectionable noise characteristics, adjust and balance system to quantities noted on design plans.

B. Provide Owner with typewritten operating and maintenance instructions and all other equipment services and installation information requested.

C. All electrical service, wiring, and conduit required for HVAC system to be provided under Electrical subcontractor.

D. Provide new clean filters and clean all coils since system will be in operation during the construction phase.

2350 CODES, REGULATIONS & PERMITS:

A. Comply with the rules and regulations as set forth in the latest editions of the following works, including any supplement thereto that may be in effect:
   1) International Building Code, Texas Building Code, of which the Standard Mechanical Code is a part, and all applicable local ordinances and state statutes.
   2) All federal laws, codes and ordinances, including OSHA requirements.

B. Where laws, codes or ordinances conflict with the drawings and/or specifications, then

the laws, codes or ordinances govern.

C. In cases where the contract documents exceed in quantity or quality of material or labor, contract documents shall be followed.

D. In case of conflict, submit request for direction before proceeding.

E. Condenser to be anchored to concrete pads as per windstorm requirements.

DIVISION 26000 - ELECTRICAL

26000 - ELECTRICAL

2610. SCOPE OF WORK INCLUDED IN THIS DIVISION:

A. Includes the complete installation of power and light systems described in the specifications and shown on the drawings.

B. Upgrade existing incoming service and panel as required for the added load and preparation to the owner to add and transfer switch and generator shortly after completion of this project.

C. It is the intention of the specifications and drawings to call for finished work, tested, and ready for operation.

D. Any apparatus, appliance, material or work not shown on drawings but mentioned in the specifications, or vice-versa, or any incidental accessories necessary to make the work complete and perfect in all respects and ready for operation, even if not specifically specified, shall be furnished, delivered, and installed by the Contractor without additional expense to the Owner.

E. The furnishing and installation of all safety switches, circuit breakers, simple switches, wire, pull boxes, outlet boxes, conduit and other components necessary to complete interconnecting wiring of equipment and systems to include telephone and technology wiring and outlets. Owner to provide name and contact for technology wiring connections to existing server and phone system.

F. Setting all the items described in this section.

G. Electrical service, connections, accessories, and control wiring, unless noted otherwise herein or on the drawings, to complete the installation of items of equipment to be furnished under other divisions of these specifications or by the Owner. Contractor shall carefully study the existing service, entire plans and specifications to determine these requirements, and shall determine both load and equipment required to complete this new addition to existing facilities.

H. Power to the new addition will be fed from upgraded service panel through the existing building to a sub-panel as shown on the floor plan and lighting/power plan.

I. The furnishing of all labor, materials, equipment, tools, hoists, scaffolding, supports, etc. necessary or incidental to the accomplishment of the work described herein and/or shown on the accompanying drawings.

J. Ditching and backfilling for underground conduit.

K. With submission of bid, Contractor shall give written notice to the Architect of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules; any necessary items or work omitted. In the absence of such written notice, it is mutually agreed the Contractor has included the cost of all required items in his proposal, and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.

L. **Provide NFPA Fire Alarm System and room strobes compliant with TDLR**.

2615. GENERAL PROVISIONS: This job is to be a non-metallic cable wiring system. Wires must be of such size as to properly carry the current. This contract shall include all that is necessary for the complete and proper operation of lights, fan, signal, switches and other convenient outlets, etc., as shown by symbols on floor plan, other drawings or as specified hereinafter.

On completion of the work it shall be thoroughly tested and left in perfect working condition.

2620. CODES AND PERMITS: Work, material, and equipment shall comply with requirements of the latest edition of the National Electrical Code, with interim amendments thereto, and to State of Local code and ordinances as apply, as well as the code of the City of Beaumont, Texas. All materials approved by Underwriters Lab, Inc.

2625. SERVICE: Electrical and telephone service must connect to existing service locations with services and panels upgraded as required including set-up to facilitate the owner's installation of a main automatic transfer panel and new generator after the completion of the project.

2630. WIRE:
A. Wiring as required by code and N.E.C. Article 336.
B. All shall bear the Underwriter's seal.

2635. OUTLET BOXES: Outlet boxes shall be fiberglass, with galvanized ceiling boxes, furnish fixture studs with ceiling boxes.

2640. TELEPHONE/TECHNOLOGY OUTLETS AND TELEVISION OUTLETS:
A. Furnish and install from the point of service entry to the telephone and television locations shown on the plans. All telephone line and television are to be underground on site.
B. Furnish and install all systems or empty conduit and boxes for the installation of telephone and data wiring.

2645 AIR CONDITIONING EQUIPMENT: The air conditioning contractor will furnish and the electrical contractor will install and connect the control devices, including thermostats, etc., and make final connection for same. Electrical to include the cost for the power and panels for all air conditioning equipment (condenser, air handler and electrical resistant heating. Electricians must have general contractors provide these load requirements during the bidding process.

2650 BATHROOM EXHAUST VENTS AS SCHEDULED ON DRAWINGS
A. Provide Broan QTXE110S 110 CFM quiet exhaust fan with ducting to exterior soffit by mechanical contractor.

2655. LIGHTING:
A. Provide and properly install fixtures for every lighting outlet shown.
B. Mounting heights as noted, except for flush or surface mounted fixtures.

C. All fixtures complete with new lamps.

D. Verify application of each fixture unit and ascertain properties of adaptability before ordering.

E. Support fixtures and equipment as follows:

1. All recessed fixtures to be furnished with plaster frames and/or other required mounting parts.
2. For fixtures ceiling mounted on sheetrock or plaster ceilings, they shall be supported by fixture mounted system designed for installation in wood framing between floor or ceiling joist or between wall studs.
3. For ceiling surface light fixtures, provide an outlet box which is secured to wood blocking above ceiling that is secured to ceiling joists.
4. Wall electrical outlet boxes to be secured in masonry walls by means of grout and in stud walls by means of screws securing box to either the studs or wood blocking between studs.

F. All parts and edges of fixtures, as fixtures are viewed before installation and with diffusers removed, shall be painted after fabrication.

G. **REFERENCE DRAWINGS FOR EACH LIGHT FIXURE APPLICATION WITH FINAL LIGHTING FIXTURE SCHEDULE.**

K. Accessories:

1. Contractor shall furnish and install, with no additional cost to the Owner, all accessories as noted or required to install and make workable all lighting fixtures and related items contained in this section of the specifications or on the drawings.

L. Lamps:

1. All fixtures complete with lamps of type specified.

2660. CONNECTIONS TO EQUIPMENT FURNISHED BY OTHERS:
The contractor shall make final electrical connections to all electrically operated equipment indicated on the drawings, except as noted. Verify with Owner.

2665. CIRCUIT BREAKER PANELBOARDS:

A. Contractor shall furnish new sub-panelboards where shown on the plans extending to updated service panel through the attic of the existing building. All panelboards shall be provided with cover and door. Cover shall be equipped with keyed locks.

B. Each panelboard to be provided with type-written directory of circuits.

C. Panelboards shall be similar and equal to Square DNQO.

D. Contractor to verify electrical characteristics of all equipment.

2670. WIRING DEVICES: All exposed units to be color as selected by owner/architect white or beige in color. Verify with Owner

A. Install wall switches no higher than 4'-0" above floor and on the strike side of the door. Single pole switch handles shall be down when the circuit is open. Receptacles and telephone outlets shall be installed 18" above the floor unless otherwise noted on drawings in base board in rooms.

F. Use a gang plate in every case where more than one switch is indicated at the same location.

2675. SPECIAL PURPOSE OUTLETS:

A. Special Purpose Outlets Schedule:

1. Contractor shall refer to the several sections of design drawings, both architectural and electrical and mechanical to verify requirements for each of the special purpose outlet connections hereinafter described.
2. Each special purpose outlet shall be served with proper outlet box, switch or other service disconnect means as required by the particular device.
3. All connections shall be complete for full function and operation required.
4. In the instances of equipment to be furnished under other sections it will be necessary to refer to rough-in requirements of specific units of equipment to determine the exact location and orientation or termination of certain units. For items of equipment furnished by Owner that will require electrical work, request and obtain adequate information showing requirements prior to rough-in for this equipment.