

AGREEMENT
BETWEEN
THE BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY
SYSTEM
AND
BE&K BUILDING GROUP, LLC,
CONSTRUCTION MANAGER-AT-RISK

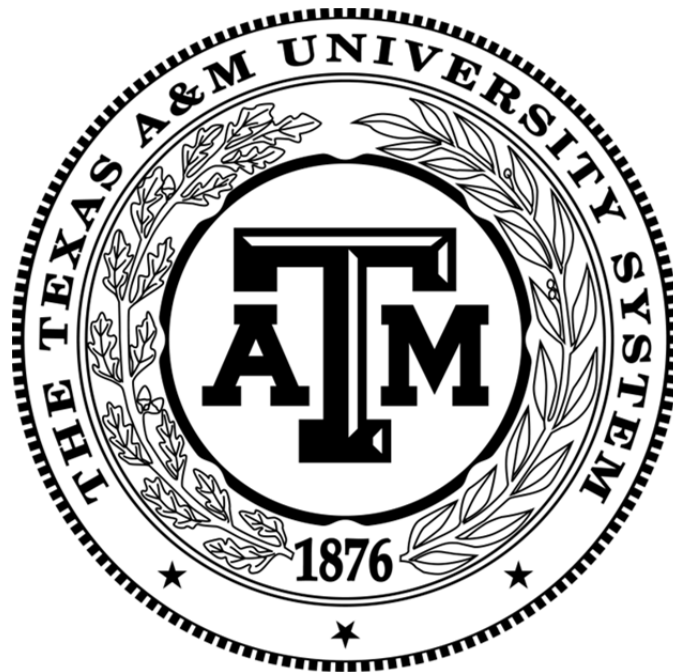


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THE BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY
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CONSTRUCTION MANAGER-AT-RISK**

This Agreement is effective as of August 18, 2016 (the “Effective Date”), by and between the **BOARD OF REGENTS OF THE TEXAS A&M UNIVERSITY SYSTEM** (“Owner”) and BE&K Building Group, LLC, Construction Manager at Risk (“Contractor”) for the: Applied Science Building construction project (the “Project”). The parties acknowledge that Stantec Architecture shall serve as the architect/engineer (hereafter “A/E”).

Owner intends to construct the Project at Tarleton State University, Stephenville, Texas, within a construction cost limit of **Forty Million, Five Hundred Twenty-Five Thousand and no/100 dollars (\$40,525,000.00)**. This sum is referred to as the Amount Available for the Construction Contract (“AACC”), which is further defined in Paragraph 2.1

Owner and Contractor agree as follows:

**ARTICLE 1
SCOPE OF WORK**

Contractor has overall responsibility for and shall provide complete Pre-Construction Phase and Construction Phase Services (the “Work”) and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with the terms of this Agreement.

**ARTICLE 2
DEFINITIONS**

The terms, words and phrases used in this Agreement have the meanings given in the Uniform General and Supplementary Conditions for The Texas A&M University System and as follows:

2.1 **“Amount Available for the Construction Contract” or “AACC”** means the maximum monetary amount budgeted by Owner for all Construction Phase services, materials, labor and other work required of Contractor for completion of the Work in accordance with this Agreement. The AACC includes, without limitation, the General Conditions Costs, the Cost of the Work, the Construction Phase Fee, and Contractor’s Contingency. The AACC may be adjusted by the Owner for changes in the scope of the Project before or after acceptance of the Guaranteed Maximum Price Proposal. The AACC does not include Contractor’s Pre-Construction Phase Fee. The Final Amount Available for the Construction Contract is the AACC after the Project has been approved by The Texas A&M University System Board of Regents.

2.2 **“A/E” or “Architect/Engineer”** refers to the professional firm employed by Owner as

2.2 “**A/E**” or “**Architect/Engineer**” refers to the professional firm employed by Owner as architect/engineer of record for the Project, and its consultants.

2.3 “**Building Information Modeling**” or “**BIM**” is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its life-cycle from inception onward. A basic premise of BIM is collaboration by different stakeholders at different phases of the life cycle of a facility to insert, extract, update or modify information in the BIM process to support and reflect the roles of that stakeholder. The BIM is a shared digital representation founded on open standards for interoperability.

2.4 “**Contract Documents**” means this Agreement and all exhibits and attachments listed, contained or referenced in this Agreement specifically including the Uniform General and Supplementary Conditions; Special Conditions and Owner’s Specifications; the Drawings, Specifications, details and other documents developed by A/E or Owner’s consultants, if any, and accepted by Owner which describe the Project; all Addenda issued prior to the Effective Date of this Agreement; the Guaranteed Maximum Price Proposal when accepted by Owner and executed by the parties; all Change Orders issued after the Effective Date of this Agreement; and the HUB Subcontracting Plan submitted by Contractor. These Contract Documents form the entire and integrated contract between Owner and Contractor and supersede all prior negotiations, representations or agreements, written or oral.

2.5 “**Contractor’s Contingency**” has the meaning set forth in Paragraph 11.3.

2.6 “**Construction Documents**” means, collectively, the Uniform General and Supplementary Conditions; Owner’s Special Conditions and Specifications; and the Drawings, Specifications, details, Change Orders and other documents prepared by A/E, its consultants, and by Owner’s consultants, that describe the scope and quality of the Project and the materials, supplies, equipment, systems and other elements that are required for construction of the Project that are accepted by Owner.

2.7 “**Construction Phase Fee**” means the amount set forth in Paragraph 3 of Exhibit “A” attached to this Agreement.

2.8 “**Construction Phase Services**” means the coordination, implementation and execution of the Work required by this Agreement, which are further defined in Article 8.

2.9 “**Cost of the Work**” means those costs described in Paragraph 11.2.

2.10 “**Direct Construction Cost**” shall have the meaning set forth in Article 11.

2.11 “**Estimated Construction Cost**” or “**ECC**” means the amount calculated by Contractor for the total cost of all elements of the Work based on this Agreement available at the time(s) that the ECC is prepared. The ECC shall be based on current market rates with reasonable allowance for overhead, profit and price escalation and shall include and consider, without limitation, all alternates and contingencies, designed and specified by A/E and the cost of labor and materials necessary for installation of Owner furnished equipment. The ECC shall include all the cost elements included in the AACC, as defined above, and shall represent Contractor’s best current estimate of the Guaranteed Maximum Price it will propose for the Project based on

the information then available. The ECC shall not include Contractor's Pre-Construction Phase Fee, A/E's Fees, the cost of the land and rights-of-way, or any other costs that are the direct responsibility of Owner.

2.12 **"Guaranteed Maximum Price"** or **"GMP"** means the amount proposed by Contractor and accepted by Owner as the maximum cost to Owner for construction of the Project in accordance with this Agreement. The GMP includes Contractor's Construction Phase Fee, the General Conditions Cost, the Cost of the Work, and Contractor's Contingency amount.

2.13 **"General Conditions Cost"** means costs incurred and minor work performed by Contractor without the need for competitive bids/proposals. The allowable General Conditions items are limited in Paragraph 11.1 and are further described on Exhibit "D". The maximum allowable General Conditions Cost payable to Contractor during the Construction Phase of the Project is set out in Exhibit "A" attached to this Agreement.

2.14 **"Monthly Salary Rate"** means the amount agreed to by Owner that can be used on Applications for Payment throughout the Construction Phase to account for the monthly salary costs of Contractor's salaried personnel assigned to the Project. A Monthly Salary Rate must be established for each salaried person and must be approved in writing by Owner in advance of any Application for Payment for that person. The Monthly Salary Rate is for convenience only and any payments made for Contractor's personnel are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by Contractor for services performed. The initial Monthly Salary Rate is included in Exhibit "G" attached to this Agreement.

2.15 **"Owner's Specifications"** means the construction and contract administration requirements and standards detailed in Exhibit "C" attached to this Agreement, consisting of Division 1 of the Specifications.

2.16 **"Pre-Construction Phase Fee"** means the amount set forth in Paragraph 2 of Exhibit "A" attached to this Agreement.

2.17 **"Pre-Construction Phase Services"** means the participation, documentation and execution of Contractor's Pre-Construction Phase deliverables as required by this Agreement and further defined in Article 5.

2.18 **"Program Manager"** refers to the professional management firm selected by the Owner as the Owner's representative for the Project, and its employees and consultants.

2.19 **"Project Team"** means Owner, Contractor, A/E and consultants, any separate Contractors employed by Owner, and others employed for the purpose of programming, design, and construction of the Project. The members of the Project Team will be designated in writing by Owner and may be modified from time to time in writing by Owner.

2.20 **"Reimbursable Services"** are the services specifically identified in Paragraph 10.2.2 that are provided by the Contractor in conjunction with the delivery of Pre-Construction Services under this Agreement.

2.21 **"Subcontractor"** means a person or entity who has an agreement with Contractor to perform any portion of the Work. The term Subcontractor does not include A/E or any person or

entity hired directly by Owner.

2.22 **“Work”** means the provision of all construction services, labor, materials, supplies, and equipment that are required of Contractor to complete the Project in strict accordance with the requirements of this Agreement. Work includes, but is not limited to, the Construction Phase Services, additional work required by Change Orders, and any other work reasonably inferable from this Agreement. The term “reasonably inferable” takes into consideration the understanding of the parties that some details necessary for completion of the Work may not be shown on the Drawings or included in the Specifications, but they are a requirement of the Work if they are a usual and customary component of the Work or otherwise necessary for complete installation and operation of the Work.

2.23 **“Work Progress Schedule”** or **“WPS”** shall have the meaning given in Paragraph 5.3.1.

2.24 **“Worker Wage Rate”** means the actual hourly wage of non-salaried persons performing work on the Project plus allowable employer contributions as established on the Worker Wage Rate Form required by the Construction Documents. The Worker Wage Rate must be reasonable and customary for their industry, must equal or exceed the prevailing wage established by Owner and must be approved in writing by Owner in advance of any Application for Payment. All payments for non-salaried personnel working on the Project are subject to audit to determine the actual cost of the wages and allowable employer contributions incurred by employer for services performed for the Project.

ARTICLE 3 CONTRACTOR’S GENERAL RESPONSIBILITIES

3.1 Contractor shall perform all services specifically allocated to it by the Contract Documents, BIM Execution Plan, “Facility Design Guidelines” as well as those services reasonably inferable from the Contract Documents as necessary for completion of the Work and the Project. Contractor agrees to perform these services using its best efforts, skills, judgments and abilities.

3.2 Contractor shall collaborate and cooperate with A/E and endeavor to further the interests of Owner and the Project. Contractor shall furnish Pre-Construction Phase Services and Construction Phase Services and complete the Project in an expeditious and economical manner consistent with the interests of Owner and in accordance with the Work Project Schedule.

3.3 Contractor shall designate a representative authorized to act on Contractor’s behalf with respect to the Project.

3.4 Contractor shall establish procedures for communication and coordination among the Project Team, Subcontractors, separate contractors, and others with respect to all aspects of the construction of the Project, and implement such procedures.

3.5 Contractor shall utilize Owner’s project management software application e-Builder® as the primary system for all project documentation through all phases of the Project.. Contractor shall follow Owner’s guidelines on the use of e-Builder®.

3.6 If Owner elects to “fast-track” or develop the Project in multiple stages, Contractor shall

organize and perform its services as appropriate to each stage. Each stage of the Project may have a unique schedule for completion and a specific AACC, at Owner's discretion.

3.7 Contractor shall identify to Owner the employees and other personnel that it will assign to the Project and provide the Monthly Salary Rate or Worker Wage Rate for each of them. Contractor shall also identify any consultants that will be performing services for the Project. After execution of this Agreement by Owner, Contractor shall not remove or replace the persons or entities assigned to the Project except with Owner's written consent, which consent shall not be unreasonably withheld. Contractor shall not assign to the Project or contract with any person or entity to which Owner has a reasonable objection. Contractor shall promptly update the list of persons and consultants if they change during the course of the Project.

3.8 The Owner's HUB Subcontracting Plan for Construction Services is available on the following website:

<http://www.tamus.edu/business/facilities-planning-construction/forms-guidelines-wage-rates/>

Contractor, as a provision of the Agreement, must comply with the requirements of the Owner's HUB policies and adhere to the HUB Subcontracting Plans submitted for Construction Phase Services. No changes to the HUB Subcontracting Plans can be made by Contractor without the prior written approval of Owner.

3.9 Contractor shall coordinate its services and work collaboratively with the A/E design team and provide cost information to the design team and the Owner at all stages of the design. It is the Contractor's responsibility to keep the design within the project AACC.

3.10 The Architect/Engineer shall utilize a Building Information Modeling (BIM) authoring software compliant with Industry Foundation Class and BIM based design processes to produce a building information model(s) (model) for this project. The Contractor shall be knowledgeable of BIM use for all phases of the design and construction process.

3.11 The Contractor shall develop a project BIM Execution Plan documenting BIM uses, analysis technologies and workflows. The BIM Execution Plan (Exhibit H) shall be submitted to the Owner within 30 days of the execution of this Agreement. A combined BIM Execution Plan from both Architect/Engineer and Contractor is also acceptable.

3.12 Participation of Contractor or its subcontractors and suppliers in contributions to the BIM process or model(s) shall not constitute the performance of design services.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 Owner has designated A/E as the Architect/Engineer for the Project.

4.2 Owner will provide the AACC and general schedule for the Project. The AACC provided by Owner will be established with due consideration for separate contingencies for changes in the Project during construction, and for other Project costs that are the responsibility of Owner. The general schedule will set forth Owner's plan for milestone dates and completion of the Project.

4.3 Owner will identify a person as its Owner's Designated Representative ("ODR") who is authorized to act on Owner's behalf with respect to the Project, including final determination of

fees and costs earned by Contractor and equitable back charges against Contractor. The ODR shall examine the documents submitted by Contractor and shall render decisions on behalf of Owner. The ODR shall have all the responsibilities and authorities allocated to him/her in the UGSC.

4.4 Owner, at its sole cost, will secure the services of existing facility surveys, testing and balancing, environmental surveys or other special consultants to develop such additional information as may be necessary for the design or construction of the Project.

4.5 Owner shall arrange and pay for materials, structural, mechanical, chemical and other laboratory tests as required by the Construction Documents.

4.6 Owner shall furnish all legal, accounting, auditing and insurance counseling services for itself as may be necessary for the Project.

4.7 Owner shall furnish required information and services and shall render approvals and decisions as expeditiously as is consistent with reasonable skill and care and the orderly progress of Contractor's services and of the Work.

4.8 Owner may designate one or more construction inspectors who shall be given access to the Work as requested or needed. The provision of inspection services by Owner shall not reduce or lessen Contractor's responsibility for the Project. Contractor is fully and solely responsible for constructing the Project in strict accordance with this Agreement.

4.9 Owner shall have the right to reject any defective Work on the Project. Should Contractor refuse or neglect to correct any such Work within a reasonable time after notice, Owner may have the Work corrected and recover all expenses incurred from Contractor on demand.

4.10 Owner shall cause A/E to provide Contractor a compact disc containing documents and data files derived from the model at review milestones for its use in performing reviews, preparing cost estimates and a GMP proposal, obtaining bids/proposals for the work and constructing the Project. Owner shall also make available to Contractor any supplemental Contract Documents such as addenda, equipment procurement packages, RFI or RFP responses and change order documentation. Contractor shall be responsible for preparing all copies of these documents needed for its use and that of any of its consultants or Subcontractors for performing reviews, preparing cost estimates and a GMP proposal, obtaining bids/proposals for the work and constructing the Project as set forth in this Agreement. Contractor shall also be responsible for maintaining a register of document distribution, and distributing documents to its consultants, Subcontractors, bidders, proposers and plan rooms.

ARTICLE 5 PRE-CONSTRUCTION PHASE SERVICES

The Pre-Construction Phase shall be deemed to commence upon the date specified in a written Notice to Proceed with Pre-Construction Phase Services issued by Owner and shall continue through completion of the Construction Documents and procurement of all major Subcontractor agreements. Contractor is not entitled to reimbursement for any costs incurred for Pre-Construction Phase Services performed before issuance of the written Notice to Proceed.

Pre-Construction Phase Services may overlap Construction Phase Services. Contractor shall perform the following Pre-Construction Phase Services:

5.1 General Coordination

- 5.1.1 Contractor's Pre-Construction Phase Services team shall attend Project Team meetings with Owner, Owner representatives, and A/E at regularly scheduled intervals throughout the Pre-Construction Phase. Frequent Project Team meetings are anticipated prior to Owner acceptance of the GMP and during completion of the Construction Documents.
- 5.1.2 Provide a preliminary evaluation of "Facility Design Guidelines", Program of Requirements and the AACC, each in terms of the other.
- 5.1.3 Review and understand the standards and requirements in Owner's Specifications and perform all services in accordance with those standards and requirements.
- 5.1.4 Visit the site and inspect the existing facilities, systems and conditions to ensure an accurate understanding of the existing conditions as required.
- 5.1.5 Participate as a member of the Project Team in the development of the Program of Requirements if such program has not been developed prior to the Effective Date of this Agreement.
- 5.1.6 Provide recommendations and information to the Project Team on: site usage and site improvements; building systems, equipment and construction feasibility; selection and availability of materials and labor; time requirements for installation and construction; assignment of responsibilities for safety precautions and programs; temporary Project facilities; equipment, materials and services for common use of Contractor and Owner's separate contractors, if any; cost factors, including costs of alternative materials or designs, preliminary budgets, and possible cost savings; recognizing and tracking the resolution of conflicts in the proposed Drawings and Specifications; methods of delivery of materials, systems, and equipment; and any other matters necessary to accomplish the Project in accordance with the Work Progress Schedule (as defined below) and the AACC. Notwithstanding the above, Contractor shall not be required to provide A/E services unless specifically required by the Contract Documents and Contractor's recommendations and information are furnished in its capacity as a Contractor.
- 5.1.7 Assist Owner in selecting and directing the services of existing facility surveys, testing and balancing, environmental surveys or other special consultants hired by Owner to develop additional information for the design or construction of the Project.
- 5.1.8 At Owner's request, attend public meetings and hearings concerning the development and schedule of the Project.

- 5.1.9 Contractor shall use all Construction Documents returned to A/E from the Subcontractor proposers.

5.2 **Constructability Program**

- 5.2.1 Implement and conduct a constructability program to identify and document Project cost and schedule savings opportunities. The constructability program shall follow accepted industry practices and be reviewed by Owner at design milestones. Whenever the term “value engineering” is used in conjunction with this Agreement or the Project, it has its commonly accepted meaning within the construction industry and does not imply the practice of professional engineering without a license. If any value engineering activities constitute the professional practice of engineering, then such activities shall be performed by an engineer licensed in Texas.
- 5.2.2 Prepare a “Constructability Report” that identifies items that, in Contractor’s opinion, may negatively impact construction of the Project. The Constructability Report shall address the overall coordination of model(s), Drawings, Specifications, details and schedules and identify discrepancies that may generate Change Orders or claims once Project construction commences. Contractor shall provide Owner with an update to the Constructability Report at every milestone meeting during the Pre-Construction Phase.
- 5.2.3 Provide and implement a system for tracking questions, resolutions, decisions, directions and other information matters that arise during the development of the model(s), Drawings and Specifications for the Project. The decision tracking system shall be in a format approved by Owner and updated by Contractor at least monthly during the Pre-Construction Phase.

5.3 **Scheduling**

- 5.3.1 Develop a Work Progress Schedule for Project Team review and Owner’s approval that coordinates and integrates activities on the Project, including Contractor’s services, A/E’s design services, the work of other consultants and suppliers, and Owner’s activities with the anticipated construction schedules for other contractors. The WPS must identify all major milestones through Project Final Completion. The WPS shall be created and maintained in accordance with Owner’s Specifications Section 01 32 00 using Owner-specified format and software.
- 5.3.2 Contractor shall update the WPS throughout the Pre-Construction and Construction Phases as described in Owner’s requirements and Specifications.
- 5.3.3 The WPS shall include other detailed schedule activities as directed by Owner including, but not limited to, Owner-managed work under separate contracts such as equipment, furniture and furnishings, telephones, project security, property protection, life-safety systems, integration with central campus monitoring systems, information and instructional technology data-transmission systems, and computer technology systems.

5.4 **Budget and Cost Consultation**

- 5.4.1 Contractor is responsible for the construction budget and for preparing and updating all procurement and Estimated Construction Costs and distributing them to the Project Team throughout the duration of the Project.
- 5.4.2 Contractor shall prepare and update an Estimated Construction Cost report at the completion of Schematic Design, Design Development, and at the fifty percent (50%) and the hundred percent (100%) completion stages of the Construction Documents phase of the Project. The GMP Proposal, when submitted, will have as its basis a current ECC report. The ECC report for Schematic Design shall be a detailed estimate organized in Construction Specifications Institute, MasterFormat 2004. The ECC reports for the Design Development and Construction Documents phases shall be detailed estimates derived from cost quantity surveys based on unit prices for labor, materials, overhead and profit, organized in Construction Specifications Institute, MasterFormat 2004 for each portion of the Work.
- 5.4.3 Contractor shall provide continuous cost consultation services throughout the duration of the Project, including identification and tracking of decisions that affect the scope or quality of the Project and providing ongoing updates of their cost and budget impact. Advise the Project Team immediately if Contractor has reason to believe that the most current ECC will exceed the AACC or not meet WPS requirements and recommend reasonable strategies for bringing the Project in line with the AACC and the WPS.
- 5.4.4 Contractor shall promptly identify all variances between estimated costs and actual costs during the Construction Phase, and shall promptly report such variances to the Project Team, in a format acceptable to Owner, along with recommendations for action, but in any event no more than two (2) business days after acquiring such information.
- 5.4.5 Should any ECC exceed or fall significantly below the approved AACC, Owner and Contractor shall negotiate changes to the Project scope, requirements or the AACC as required.

5.5 **Coordination of Design and Construction Contract Documents**

- 5.5.1 Review model(s), Drawings, Specifications and other Construction Documents as they are developed by A/E during the Schematic Design, Design Development, and Construction Documents design phases of the Project.
- 5.5.2 Consult with Owner and A/E on the selection of materials, equipment, component systems, and types of construction used on the Project. Advise Owner on site use, construction feasibility, availability of labor and materials, procurement time requirements, and construction coordination.
- 5.5.3 Advise Owner of any error, inconsistency or omission discovered in the model(s), Drawings, Specifications, and other Construction Documents.

- 5.5.4 Advise Owner on reasonable adjustments in the Project scope, quality or other options for keeping the Project cost within the AACC.
- 5.5.5 Review the model(s) and Construction Documents for compliance with all applicable laws, rules and regulations, the Contract Documents, and Owner requirements.
- 5.5.6 It is not the Contractor's responsibility to ascertain that the drawings and specifications are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations, but Contractor will report any variances which should have reasonably been discovered.

5.6 **Construction Planning and Subcontractor Buyout Strategy**

- 5.6.1 Identify equipment or material requiring extended delivery times and advise Owner on expedited procurement of those items. Advise Owner and A/E on the preparation of performance specifications and requests for technical proposals for the procurement and installation of systems and components and for the procurement of long lead items. If requested by Owner, and subject to Owner's prior written approval, issue requests for technical proposals to qualified sources and receive proposals and assist in their evaluation.
- 5.6.2 Make recommendations to the Project Team regarding organization of the Construction Documents to facilitate the bidding and awarding of construction subcontracts in a manner that promotes the interests of the Project and Owner. These recommendations may include, but are not limited to, phased or staged construction or multiple separate contracts. The recommendations shall take into consideration such factors as time of performance, type and scope of work, availability of labor and materials, overlapping trade jurisdictions, provisions for temporary facilities, comparisons of factory and on-site production costs, shipping costs, code restrictions, Owner's goals for HUB Contractor participation, and other constraints.
- 5.6.3 Review the model(s) and Construction Documents with the Project Team to eliminate areas of conflict and overlap in the work to be performed by the various Subcontractors or Owner's separate contractors.
- 5.6.4 Develop a bid/proposal package strategy in coordination with A/E that addresses the entire scope of each phase and stage of the Project. In developing the bid/proposal package strategy, Contractor shall identify all bid/proposal packages on which Contractor intends to submit a self-performance bid/proposal. The bid/proposal package strategy shall be reviewed with Owner on a regular basis and revised throughout the buyout of the Project so as to best promote the interests of the Project and Owner.
- 5.6.5 Assist Owner, A/E, Owner's other consultants, and Owner's separate contractors in obtaining all applicable LEED documentation, risk management, code, and regulatory agency reviews and approvals for the Project including, without

limitation, the Texas Higher Education Coordinating Board, the Texas Department of Licensing and Regulation, the State Fire Marshal, the local fire department, and Owner's insurance provider.

- 5.6.6 Refine, implement and monitor required HUB Subcontracting Plans to promote equal employment opportunity in the provision of goods and services to Owner for the Project.
- 5.6.7 Review the model(s) and Construction Documents to ensure that they contain adequate provision for job site areas required for construction, all temporary facilities necessary for performance of the Work, and provisions for all of the job site facilities necessary to manage, inspect, and supervise construction of the Project.
- 5.6.8 Provide an analysis of the types and quantities of labor required for the Project and review the appropriate categories of labor required for critical phases or stages. Make recommendations that minimize the adverse effects of labor shortages.
- 5.6.9 Consult with and make recommendations to Owner on the acquisition schedule for fixtures, furniture and equipment, and coordinate with Owner as may be required to meet the WPS.

5.7 Obtaining Bids/Proposals for the Project

- 5.7.1 Contractor shall publicly advertise and solicit competitive lump sum bids/proposals from trade contractors or subcontractors for the performance of all major elements of the Project other than the minor work that may be included in General Conditions. Criteria for determining the bid/ proposal that provides the best value to Owner shall be established by the Project Team and included in the request for bids or proposals. Contractor shall notify Owner in advance in writing of the date it will receive the bids/proposals.
- 5.7.2 Schedule and conduct pre-bid conferences with interested bidders/proposers, Subcontractors, material suppliers, and equipment suppliers, and record minutes of the conferences.
- 5.7.3 Contractor and Owner shall review all trade contractor or Subcontractor bids/proposals in a manner that does not disclose the contents of any bid/proposal to persons outside of the Project Team during the selection process. Based on the selection criteria included in the request for proposals, Contractor shall recommend to Owner, in a format acceptable to Owner, the bid/proposal(s) that provides the best value for the Project. Upon Owner's written concurrence with the recommendation, Contractor may negotiate the terms of the subcontract with the apparent best value bidder/proposer.
- 5.7.4 All subcontracts must be on a lump sum basis unless other payment terms are approved in writing and in advance by the Executive Director for the Office of Facilities Planning & Construction or designee. Upon Owner's concurrence in the

final terms of the subcontract, Contractor shall enter into a written subcontract for the subcontract work and upon request provide a copy to Owner. All bids/proposals shall be publicly available after award of the subcontract or within seven (7) days after the date of final selection, whichever is later.

- 5.7.5 If Contractor reviews, evaluates, and recommends to Owner a bid/proposal from a qualified trade contractor or subcontractor, but Owner requires another bid/proposal to be accepted, Owner shall compensate Contractor by a change in price, time, or Guaranteed Maximum Price for any additional cost and risk Contractor incurs because of Owner's requirement that the other bid/proposal be accepted.
- 5.7.6 Contractor may seek to self-perform portions of the Project identified for self-performance in the bid/proposal strategy. Contractor must submit a bid/proposal for the self-performance work in the same manner as all other trade contractors or Subcontractors. Owner will, at its sole discretion, determine whether Contractor's bid/proposal provides the best value for Owner, and its determination shall be final.
- 5.7.7 For scope of work bid packages typically performed by subcontractors, Construction Manager may "self-perform" such work on a cost plus fee (Not-To-Exceed 7.5%) basis subject to an agreed upon guaranteed maximum price for the "self-performed work". The Construction Manager shall bid their proposed Guaranteed Maximum Price for the work to be "self-performed" against at least three other interested trade contractors. Any subcontract for "self-performed work" will provide for payment in an amount equal to the Cost of the Work (as defined in this Agreement) and will not exceed the agreed upon subcontract guaranteed maximum price. All terms and provisions of any subcontract for "self-performed work" will be consistent with the terms and conditions of this Agreement with the exception of the agreed upon Fee percentage. All savings under any such subcontract for "self-performed work" shall be applied to reduce the Cost of the Work under this Agreement and the Guaranteed Maximum Price of this Agreement. For purposes of defining "self-performed work" subject to this contract provision, any division of Construction Manager, or any separate Construction Manager or subcontractor that is partially owned or wholly owned by the Construction Manager or any of their employees or employee's relatives will be considered a related party entity and will be subject to this provision regarding "self-performed work". No self-performed work will be allowed to be performed on a lump sum basis.
- 5.7.7 Contractor shall identify every Subcontractor it intends to use on the Project, including Subcontractors used for self-performed work, to Owner in writing, in a format acceptable to Owner, and deliver to Owner a HUB Subcontracting Plan at least ten (10) days before entering into any subcontract. Contractor shall not use any Subcontractor to which Owner has a reasonable objection. Contractor shall not be required to subcontract with any Subcontractor to which it has reasonable objection. Following Owner's acceptance of a Subcontractor, that Subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.

5.7.8 If a selected trade contractor or Subcontractor fails to execute a subcontract after being selected in accordance with this Paragraph or defaults in the performance of its work, Contractor may, in consultation with Owner and without further advertising, fulfill the subcontract requirements itself or select a replacement trade contractor or subcontractor to do so.

5.7.9 There are no third party beneficiaries of this Agreement.

5.8 **Safety**

5.8.1 In accordance with the UGSC, Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Project. The safety program shall comply with all applicable requirements of the Occupational Safety and Health Act of 1970 and all other applicable federal, state and local laws and regulations.

5.8.2 Contractor shall provide recommendations and information to Owner and A/E regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. Contractor shall verify that appropriate safety provisions are included in the Construction Documents.

ARTICLE 6 PRE-CONSTRUCTION PHASE FEE

The Pre-Construction Phase Fee is the total compensation payable to Contractor for the performance of Pre-Construction Phase Services, except for Additional Pre-Construction Phase Services approved in advance and in writing by Owner. The Pre-Construction Phase Fee shall be a lump sum amount based on the AACC established in this Agreement.

6.1 Except as specifically allowed by Owner, Contractor shall not be entitled to any increase in the Pre-Construction Phase Fee for any costs, expenses, liabilities or other obligations arising from the performance of Pre-Construction Phase Services.

6.2 Costs associated with the following items are specifically, but not exclusively, included in the establishment of the Pre-Construction Phase Fee: profit and profit sharing; general overhead; salaries and labor; housing and relocation; estimating, scheduling and information management systems and software; contract administration; office expenses; printing and copying; consulting fees; legal or accounting fees; cost of money; taxes; insurance premiums and deductibles; bond costs; purchase or rental of equipment; utilities; travel; per diem; fines or penalties; and damage awards.

6.3 If the scope of the Pre-Construction Phase Services is changed materially, the Pre-Construction Phase Fee shall be equitably adjusted. If the AACC is changed materially before acceptance of the GMP Proposal, the Pre-Construction Phase Fee shall be adjusted in writing in proportion to the change in the AACC. There shall be no adjustments in the Pre-Construction Phase Fee following acceptance of the GMP Proposal.

6.4 For Additional Pre-Construction Phase Services that are approved in advance and in writing by Owner, Contractor shall be entitled to additional compensation computed as follows:

- 6.4.1 A pre-established lump sum amount; or
- 6.4.2 The hourly cost of Contractor's employees or consultants who actually perform the Additional Services based on the employee's Worker Wage Rate or prorated Monthly Rate plus the actual cost of allowable expenses incurred in the performance of the Additional Pre-Construction Phase Services, plus an overhead and profit markup of ten percent (10%) of the total cost; or
- 6.4.3 As otherwise agreed in advance and in writing.

ARTICLE 7 GUARANTEED MAXIMUM PRICE PROPOSAL

7.1 At the conclusion of the Design Development phase the Contractor shall prepare and submit a Guaranteed Maximum Price Proposal to Owner based on the Design Development phase documents and review comments. The GMP shall be delivered to the Owner within three (3) weeks of the Design Development review meeting or a date established by the Owner. The GMP Proposal must be prepared in accordance with the guidelines established by Owner and delivered in the format specified by Owner in Exhibit "E" attached to this Agreement. Owner, at its sole option and discretion, may specify different requirements for the GMP Proposal. Contractor shall not withdraw its Guaranteed Maximum Price Proposal for ninety (90) days following submission to Owner.

7.2 In developing the GMP Proposal, Contractor shall coordinate efforts with A/E to identify qualifications, clarifications, assumptions, exclusions, value engineering and any other factors relevant to establishment of a GMP. Contractor shall review development of the GMP Proposal with Owner on an ongoing basis to address clarifications of scope and pricing, distribution of contingencies, schedule, assumptions, exclusions, and other matters relevant to the establishment of a GMP.

7.3 The GMP Proposal must include a written description of how it was derived that specifically identifies the clarifications and assumptions made by Contractor in the GMP and the monetary amounts attributable to them. The GMP Proposal shall include, without limitation, a breakdown of Contractor's estimated General Conditions Costs and estimated Cost of the Work organized by trade and Masterformat 2004; contingency amounts; the Construction Phase Fee; and the proposed Contract Time, including dates for Notice to Proceed, Substantial Completion and Final Completion. Notwithstanding the breakdown of Contractor's estimated costs, there are no line item guaranteed maximum amounts except for general conditions.

7.4 The Guaranteed Maximum Price Proposal shall allow for reasonably expected changes and refinements in the Drawings and Specifications through completion of the Construction Documents, except for material changes in scope.

7.5 The GMP Proposal shall include a Contractor's Contingency amount.

7.6 Included with its GMP Proposal, Contractor shall provide three complete, bound sets of

the drawings, specifications, plans, sketches, instructions, requirements, materials, equipment specifications and other information or documents that fully describe the Project as developed at the time of the GMP Proposal and that are relevant to the establishment of the GMP. The bound supporting documents shall be referenced in and incorporated into the GMP Proposal.

7.7 The GMP Proposal and all supporting documents shall identify and describe all items, assumptions, costs, contingencies, schedules and other matters necessary and relevant for proper execution and completion of the Work and for establishment of the GMP. The GMP Proposal and the supporting documents are complementary and, in the event of an irreconcilable conflict between or among them, the interpretation that provides for the higher quality or quantity of material and/or workmanship shall prevail over all other interpretations.

7.8 In submitting the GMP Proposal, Contractor represents that it will provide every item, system or element of performance that is identified, shown or specified in the GMP Proposal or the supporting documents, along with those necessary or ancillary materials that are reasonably inferable and equipment for their complete operating installation, unless specifically accepted in writing by Owner. Upon Owner's written acceptance of the GMP Proposal, Contractor shall not be entitled to any increase in the GMP due to the continued refinement of the Construction Documents or the absence or addition of any detail or specification that may be required in order to complete the construction of the Project as described in and reasonably inferable from the GMP Proposal or the supporting documents used to establish the GMP.

7.9 The GMP Proposal shall adopt and incorporate all of the terms and conditions of this Agreement and all attachments to this Agreement. Any proposed deviation from the terms and conditions of this Agreement must be clearly and conspicuously identified to Owner in writing and specifically accepted in writing by Owner. In the event of a conflict between any term of the GMP Proposal that was not clearly and conspicuously identified and approved by Owner and the terms of this Agreement and its attachments, the terms of the Agreement and its attachments shall control.

7.10 Owner may accept or reject the Guaranteed Maximum Price Proposal or attempt to negotiate its terms with Contractor. Upon acceptance by Owner of the GMP Proposal in writing, both parties shall execute the GMP Proposal which shall become part of this Agreement. If Owner rejects the GMP Proposal or the parties are unable or unwilling to agree on a GMP, Owner may terminate this Agreement.

7.11 Following Owner's acceptance of the GMP Proposal, Contractor shall continue to monitor the development of the Construction Documents so that, when complete, the Construction Documents adequately incorporate and resolve all qualifications, assumptions, clarifications, exclusions and value engineering issues identified in the GMP Proposal. During the Construction Documents stage, Contractor and A/E shall jointly deliver a monthly written status report to Owner describing the progress on the incorporation of all qualifications, assumptions, clarifications, exclusions, value engineering issues and all other matters relevant to the establishment of the GMP into the Construction Documents.

7.12 Contractor shall be entitled to an equitable adjustment of the GMP if it is required to pay or bear the burden of any new federal, state, or local tax, or any rate increase of an existing tax, except taxes on income, adopted through statute, court decision, written ruling, or regulation taking effect after acceptance of the GMP Proposal. This equitable adjustment does not apply to

tax increases borne solely by Subcontractors.

7.13 The parties may agree to convert the GMP to a lump sum contract amount at any time after Contractor has received bids or proposals from trade Contractors or Subcontractors for the performance of all major elements of the Project. In proposing a lump sum amount, Contractor shall consider the buyout savings, any unused contingency amounts and the trade package contracts that have not been finalized. In preparing a lump sum conversion proposal, Contractor must provide the following information:

- 7.13.1 The stage of completion of the Project;
- 7.13.2 The trade packages that have been completely bought out;
- 7.13.3 The trade packages remaining that have not been bought out;
- 7.13.4 A complete line item breakdown of the calculations used to establish a lump sum amount based on the GMP Schedule of Values;
- 7.13.5 An accounting of all savings amounts that are to be returned to Owner as part of the lump sum calculation; and
- 7.13.6 Any other Project information requested by Owner.

7.14 Contractor shall document the actual Cost of the Project at buyout as compared to the Guaranteed Maximum Price Proposal and shall report this information to Owner monthly and with Contractor's recommendation for selection of a bid/proposal for each subcontracting package.

7.15 Notwithstanding anything to the contrary herein, Contractor shall have no liability for delay or liquidated damages if the parties are unable to reach an agreement on the GMP.

ARTICLE 8 CONSTRUCTION PHASE SERVICES

The Construction Phase shall be deemed to commence upon the date specified in a written Notice to Proceed issued by Owner after approval of the Guaranteed Maximum Price Proposal and shall continue until Final Completion of all Work. Pre-Construction Phase Services may overlap Construction Phase Services. Contractor shall not incur any Subcontractor costs for construction of the Project prior to issuance by Owner of written authorization to commence such Work. Contractor shall perform the following Construction Phase Services:

8.1 Construct the Work in strict accordance with this Agreement and as required by the UGSC, Special Conditions and Owner's Specifications within the time required by the Work Progress Schedule approved by Owner.

8.2 Organize and maintain a competent, full-time staff at the Project site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor and direct progress of the Work, and further the goals of the Project Team.

8.3 Designate in writing a representative who is responsible for the day-to-day management of the Construction Phase Services. The designated representative shall be Owner's primary contact during the Construction Phase and shall be available as required for the benefit of the Project and Owner. The designated representative shall be authorized to act on behalf of and bind Contractor in all matters related to Construction Phase Services including, but not limited

to, execution of Change Orders and Applications for Payment.

8.4 Attend regularly scheduled Project progress meetings and fully advise the Project Team of the Project status including schedule, costs, quality and changes.

8.5 In addition to attending regularly scheduled Project progress meetings, Contractor shall schedule, direct and attend interim progress meetings (i.e., commissioning meetings, coordination meetings, pre-installation meetings) with other members of the Project Team as required to maintain Project progress. Contractor shall record and distribute the minutes of each meeting to each Project Team member. The minutes shall identify critical activities that require action and the dates by which each activity must be completed.

8.6 Coordinate delivery and installation of Owner-procured material and equipment.

8.7 In accordance with Owner's UGSC, provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and all other facilities and services necessary for the proper execution and completion of the Work in strict accordance with the requirements of the Construction Documents.

8.8 Obtain building permits and special permits for permanent improvements as required by law or the Construction Documents. Assist Owner or A/E in obtaining all approvals required from authorities having jurisdiction over the Project.

8.9 Coordinate, monitor and inspect the work of Subcontractors to ensure conformance with the Construction Documents.

8.10 Be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. Contractor shall keep Owner informed of the progress and quality of the Work.

8.11 Contractor shall promptly correct any defective Work at Contractor's sole expense, unless Owner specifically agrees to accept the Work in writing.

8.12 Warrant that the materials and equipment provided for the Project will be of good quality and new unless otherwise required or permitted by the Construction Documents; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the Construction Documents. Contractor shall be responsible for correcting all items that do not comply with the Construction Documents at its sole expense without cost to Owner.

8.13 In accordance with the UGSC's provisions regarding record documents and Owner's Specifications, Contractor shall maintain and deliver the required documents that describe changes or deviations from the Construction Documents that occurred during construction and that reflect the actual "Record Drawings" of the completed Work.

ARTICLE 9 CONSTRUCTION PHASE FEE

Contractor's Construction Phase Fee is the maximum amount payable to Contractor for

any cost or profit expectation incurred in the performance of the Work that is not specifically identified as being eligible for reimbursement by Owner elsewhere in this Agreement. References in the UGSC to Contractor's "overhead" and "profit" mean Contractor's Construction Phase Fee. The Construction Phase Fee includes, but is not limited to, the following items:

9.1 All profit, profit expectations and costs associated with profit sharing plans such as personnel bonuses, incentives, and rewards; company stock options; or any other like expenses of Contractor.

9.2 Salaries of Contractor's officers, project manager(s), estimators, schedulers and all other employees not stationed at the Project site and performing services directly related to the Project.

9.3 Any and all overhead, labor or general expenses of any kind unless specifically allowed under General Conditions. These costs include, but are limited to: costs for the purchase, lease, rental of or allowance for vehicles and their maintenance, radios/communication equipment, jobsite computers, software and other costs associated with the use of software programs, copiers and other business equipment, and specialized telephone systems, including cellular/digital phones, smartphones and pdas; trade or professional association dues; cost for hiring and/or relocation of any of Contractor's personnel; and travel, per diem and subsistence expense of Contractor, its officers or employees except as specifically allowed under the General Conditions. See Exhibit D for reimbursable General Conditions Cost versus non-reimbursable General Conditions Cost.

9.4 Any financial costs incurred by Contractor including the cost of capital or interest on capital, regardless of whether it is related to the Project, and costs associated with construction warranty reserves.

9.5 Any legal, accounting, professional or other similar costs incurred by Contractor, including costs incurred in connection with the prosecution or defense any dispute, mediation, arbitration, litigation or other such proceeding related to or arising from the Project.

9.6 Any Federal and/or State income and franchise taxes paid by Contractor. Any fines, penalties, sanctions or other levies assessed by any governmental body against Contractor.

9.7 Any cost arising out of a breach of this Agreement or the fault, failure or negligence of Contractor, its Subcontractors, or any person or entity for whom they may be liable. These costs include, without limitation: costs to remedy defective, rejected, or nonconforming work, materials or equipment; costs due to failure to coordinate the Work or meet WPS milestones; costs arising from Contractor's contractual indemnification obligations; liquidated or actual damages imposed by Owner for failure to complete the Work within the Contract Time; costs due to the bankruptcy or insolvency of any Subcontractor; and damage or losses to persons or property.

9.8 The cost of any and all insurance deductibles payable by Contractor and costs due to the failure of Contractor or any Subcontractor to procure and maintain insurance as and to the extent required by this Agreement.

9.9 Any and all costs that would cause the Guaranteed Maximum Price to be exceeded.

9.10 Any and all costs not specifically identified as an element of the Direct Construction Cost.

ARTICLE 10 PAYMENTS

10.1 General Requirements

10.1.1 Each Schedule of Values submitted with an Application for Payment shall include the originally established value for each work classification line item or subcontract and shall identify any revisions to the costs or cost estimates for each work classification or subcontract. The format and tracking method of the original Schedule of Values and of all updates shall be subject to approval by Owner. At all times, the estimated cost of performing the uncompleted and unpaid portion of the Work, including Contractor's overhead and profit, shall not exceed the unpaid balance of the GMP less the retainage held by Owner on Work previously completed.

10.1.2 Expenses of transportation and overnight living expenses in connection with Owner approved out-of-state travel shall be identified separately in each Application for Payment. All travel must be approved in writing and in advance by Owner to be eligible for payment.

10.1.3 Expenses specifically excluded from reimbursement include telephone charges, FAX services, alcoholic beverages, laundry service, valet service, entertainment expenses and any non-Project related items. Tips are included in the per diem rates.

10.1.4 Retainage, as specified in the UGSC Paragraph 10.3.2 will be withheld from the entire amount approved in an Application for Payment including the Cost of the Work, General Conditions, and Contractor's Construction Phase Fee. Retainage will not be withheld from payments for Pre-Construction Phase Services.

10.1.5 Owner is an agency of the State of Texas and materials and services utilized in the construction of the Project may be exempted from state and local taxes. Contractor is responsible for taking full advantage of all tax exemptions applicable to the Project. Owner will deduct from the Applications for Payment and from the Request for Final Payment any taxes paid for materials or services that were entitled to tax exemption.

10.1.6 This Agreement is subject to the assessment of liquidated damages against Contractor as set forth in Exhibit "A" attached to this Agreement. Amounts assessed as liquidated damages, and other amounts to which Owner is entitled by way of setoff or recovery, may be deducted from any moneys due Contractor.

10.1.7 Owner shall have the right to withhold from payments due Contractor such sums as are necessary to protect Owner against any loss or damage which may result from negligence by Contractor or any Subcontractor or failure of Contractor or any Subcontractor to perform their obligations under this Agreement.

10.1.8 Notwithstanding any other contractual provision to the contrary, Owner shall not

be obligated to make any payment to Contractor under any of the following circumstances:

10.1.8.1 Contractor persistently fails to perform the Work in accordance with the Contract Documents or is otherwise in material breach or default under this Agreement;

10.1.8.2 The payment request includes services that are not performed in accordance with the Construction Documents; provided, however, Owner shall pay for those services performed in accordance with the Construction Documents;

10.1.8.3 The payment request has insufficient documentation to support the amount of payment requested for Project costs; provided, however, Owner shall pay for allowable Project costs for which there is sufficient documentation;

10.1.8.4 Contractor is in violation of the Prevailing Wage requirements or has failed to make payments promptly to Subcontractors or other third parties used in connection with any services or materials for which Owner has made payment to Contractor;

10.1.8.5 If Owner, in its good faith judgment, determines that the unpaid balance of the GMP, less retainage, is not sufficient to complete the Work in accordance with the Construction Documents;

10.1.8.6 Contractor has failed to complete the Work in accordance with the Work Progress Schedule requirements or if Owner, in its good faith judgment, determines that the remaining Work will not be completed within the agreed timeframe;

10.1.8.7 Contractor is insolvent, makes a general assignment for the benefit of its creditors or otherwise seeks protection under the laws and regulations of the bankruptcy courts; or

10.1.8.8 Contractor fails to obtain, maintain or renew insurance coverage as required by this Agreement.

10.1.8.9 Contractor fails to comply with conditions set forth in the HUB Subcontracting Plan, including but not limited to the submission of the HSP - Prime Contractor Progress Assessment Report with each monthly invoice.

10.1.9 No partial payment made by Owner shall constitute, or be construed to constitute, final acceptance or approval of the work to which the partial payment relates or of the documentation provided in support of the partial payment. No partial payment made by Owner shall constitute, or be construed to constitute, a release of Contractor from any of its obligations or liabilities with respect to the Project.

10.1.10 Owner shall have the right to verify and audit the details of Contractor's billings, certificates, accountings, cost data, and statements, either before or after payment, by (1) inspecting the books and records of Contractor during normal business hours; (2)

examining any reports with respect to the Project; (3) interviewing Contractor's employees; (4) visiting the Project site; and (5) any other reasonable action. Contractor's records shall be kept on the basis of generally accepted accounting principles in accordance with cost accounting standards issued by the Federal Office of Management and Budget Cost Accounting Standards Board and organized by each Application for Payment period.

10.1.11 All payments to Contractor for Pre-Construction Phase Services and Construction Phase Services shall be by electronic direct deposit. Contractor is required to complete and submit to Owner a Vendor Direct Deposit Authorization prior to first payment request. Form can be accessed at www.window.state.tx.us/taxinfo/taxforms/74-176.pdf.

10.1.12 All payments to Contractor for Pre-Construction Phase Services and Construction Phase Services shall be accompanied by a HSP-Prime Contractor Progress Assessment Report in the form located at <http://window.state.tx.us/procurement/prog/hub/hub-forms/ProgressAssessmentReportForm.xls>

10.2 Pre-Construction Phase Payments

10.2.1 Payment for Pre-Construction Phase Services shall be made in accordance with the following schedule and upon approval by Owner:

Schematic Design Stage	15%
Design Development Stage	20%
GMP Development Stage	20%
Construction Documents Stage	40%
Subcontractor Bid/Proposal Stage	5%

10.2.2 Reimbursable Services are a part of the Pre-Construction Phase Services. These include actual not-to-exceed expenditures made by the Contractor incurred solely and directly in connection with Contractor's performance of its services hereunder for the following expenses:

10.2.2.1 Cost of printing.

~~10.2.2.2 Cost of geotechnical investigations.~~

10.2.2.3 Items agreed to by the Owner in writing.

10.2.3 Expenses not allowed for reimbursement include the cost of telephone charges, cell phone and PDA charges, FAX service, alcoholic beverages, laundry, car washes, valet service, entertainment and any non-project related items.

10.2.4 Owner shall pay a mark-up not to exceed ten percent (10%) on those reimbursable identified in 10.2.2.1 through 10.2.2.2 above. A mark-up shall not be paid on lodging, meals or travel expenses. Contractor shall submit receipts for all reimbursable services along with any reimbursement request.

10.2.5 Owner must authorize all Reimbursable Services prior to the performance of the reimbursable item. Charges for Reimbursable Services must not exceed the established category amounts unless authorization, in writing, is obtained from the Owner.

10.2.6 All payment requests for Pre-Construction Phase Services shall be submitted through e-Builder®.

10.3 Construction Phase Payments

10.3.1 Payments for Construction Phase Services shall be made as provided for in the UGSC and Owner's Specifications. All payment requests shall be submitted through e-Builder® with a Schedule of Values and include all required attachments. Payment for approved Change Orders shall be made as part of Contractor's Application for Payment. Failure to submit a Prime Contractor Progress Assessment Report form with each Application for Payment will cause rejection of the application by Owner and its return to Contractor.

10.3.1.1 Contractor's Construction Phase Fee shall be shown as a separate line item on the Schedule of Values. Payment of Contractor's Construction Phase Fee shall be made with each Application for Payment in the same proportion as the percentage completion of the Cost of the Work of the Project.

10.3.1.2 For General Conditions Costs, Contractor's Application for Payment shall be submitted on a Schedule of Values approved by the Owner and include complete copies of all receipts, invoices with check vouchers or other evidence of payment, payrolls, and any and all other evidence which Owner or its designated representatives shall deem necessary to support the amount requested. This information is subject to audit and payment for these costs is dependent on Owner's receipt of accurate and complete records of all transactions. Owner may reduce the amount requested for General Conditions Costs in any Application for Payment if Owner, in its good faith judgment, determines that the unpaid balance of the General Conditions line item in the Schedule of Values is not sufficient to fund necessary General Conditions Costs for the remainder of the Project.

10.3.1.3 Pay requests for Subcontractor work included in an Application for Payment shall not exceed the percentage of Work allocated to that Subcontractor for each respective Schedule of Values work classification which has been actually completed and shall not exceed the total value of the subcontract amount.

10.3.1.4 Contractor's Request for Final Payment shall not be made until all Work is completed and all requirements of the Contract Documents have been satisfied including, without limitation: delivery to Owner of a complete release of all liens and claims arising out of the Work; written consent of the surety to release of final payment; and an affidavit that, to the best of Contractor's information, knowledge and belief, the release includes and covers all materials and services over which Contractor has control and for which a lien could be filed and that all known debts and claims arising from the Project have been satisfied. Alternatively, Contractor may, at its sole expense, furnish a bond satisfactory to Owner to indemnify Owner against any lien arising out of the Work. If any lien is asserted against Owner after all

payments are made, Contractor shall reimburse Owner for all damages and costs Owner may incur in discharging such lien, including all court costs and reasonable attorneys' fees, and Owner shall retain all other remedies available to it at law and in equity.

10.3.1.5 Owner shall have no obligation to make Final Payment until a complete and final accounting of all the Direct Construction Cost has been submitted by Contractor and has been audited and verified by Owner or Owner's representatives.

10.3.1.6 Nothing contained herein shall require Owner to pay Contractor an aggregate amount for Construction Phase Services that exceeds the Guaranteed Maximum Price or to make any payment if, in Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price less previous payments to Contractor. The total amount of all Construction Phase payments to Contractor shall not exceed the actual verified Direct Construction Cost for the Project plus Contractor's Construction Phase Fee.

10.3.1.7 The acceptance by Contractor or Contractor's successors of Final Payment under this Agreement, shall constitute a full and complete release of Owner from any and all claims, demands, and causes of action whatsoever that Contractor, its Subcontractors, suppliers and consultants or any of their successors or assigns have or may have against Owner arising from the Project or any provision(s) of this Agreement except for those previously made in writing and identified by Contractor as unsettled at the time of the Request for Final Payment.

ARTICLE 11 DIRECT CONSTRUCTION COST

Direct Construction Cost means the sum of the amounts that Contractor actually and necessarily incurs constructing the Project in strict compliance with the Construction Documents. Direct Construction Cost includes only the cost categories set forth in this Article and does not include the Pre-Construction Phase Fees or the Construction Phase Fees unless specifically noted. References in the UGSC to adjustments in "cost" or "costs" mean the Direct Construction Cost.

General Conditions Costs

11.1 Contractor is entitled to receive payment for the actual cost of the allowable General Conditions items incurred after receipt of a Notice to Proceed with Construction from Owner through Substantial Completion of the Project, plus 30 calendar days. Contractor is not entitled to reimbursement for General Conditions Costs incurred before receipt of the Notice to Proceed. General Conditions Costs incurred after Substantial Completion, plus 60 calendar days, must be approved in advance by Owner.

Allowable General Conditions items are identified below and in Exhibit "D" attached to this Agreement. These items shall be included in the General Conditions Cost amount shown as a line item in the Guaranteed Maximum Price Proposal and as detailed on the Schedule of Values. Items not specifically included below or in Exhibit "D" will not be allowed as General Condition Costs.

11.1.1 Personnel Costs. The actual Worker Wage Rate for Contractor's hourly

employees and the Monthly Salary Rate of Contractor's salaried personnel who are identified to Owner in advance and in writing but only for the time actually stationed at the Project site with Owner's prior consent. The Project Manager's Monthly Salary Rate may be included in the General Conditions Costs only when the Project Manager is directly located on and managing the Project. All personnel costs are subject to audit to determine the actual cost of the wages, salaries and allowable employer contributions incurred by the Contractor for services performed for the Project.

- 11.1.2 Costs of long-distance telephone calls from the job-site, telegrams, postage, package delivery and courier service, hardwired internet and telephone service located on the job-site, and reasonable expenses of Contractor's jobsite office if incurred at the Project site and directly and solely in support of the Work.
- 11.1.3 Costs of materials, supplies, temporary facilities, equipment and hand tools (except those customarily owned by construction workers), supplied to the Project site by Contractor, if such items are fully consumed in the construction of the Work and are included in the list of allowable General Condition line items. Cost for used items shall be based on fair market value and may include transportation, installation, and minor maintenance costs, and removal costs. If an item is not fully consumed in the construction of the Work, its cost shall be based on actual cost of the item less its fair market salvage value.
- 11.1.4 Rental charges for temporary facilities, equipment, and hand tools (except those customarily owned by construction workers), supplied to the Project site by Contractor, provided they are included in the list of allowable General Condition line items and Owner has approved the rentals and the rental rates in advance and in writing. Rental rates may include transportation, installation, and minor maintenance costs, and removal costs. For tools, machinery or construction equipment rented directly from Contractor, the rental rate, including freight and delivery costs and all operating expenses except labor, shall be approved in advance by Owner and shall be in accordance with the "Rental Rate Blue Book for Construction Equipment" published by Penton Business Media dba Equipment Watch, latest edition, but no higher than the prevailing competitive rates for rental of similar equipment in the Project vicinity.
- 11.1.5 The aggregate rental cost of any item charged to Owner shall not exceed ninety percent (90%) of the purchase price and maintenance cost of the item. If the anticipated aggregate rental cost for an item of equipment exceeds ninety percent (90%) of the purchase and maintenance price, Contractor shall purchase the equipment and turn it over to Owner upon Final Completion of the Work or, at Owner's option, credit Owner with the fair market resale value of the item.
- 11.1.6 Permit and inspection fees that are not subject to exemption.
- 11.1.7 Premiums for insurance and bonds to the extent directly attributable to this Project.
- 11.1.8 Governmental sales and use taxes directly attributable to the General Conditions

Items that are not subject to exemption. Taxes paid on materials or services that were entitled to tax exemption will not be reimbursed by Owner as Direct Construction Costs.

11.2 Cost of the Work

Contractor is entitled to receive payment for the actual cost of the allowable Cost of the Work items incurred after receipt of Owner's written authorization to commence the Construction Phase Work through Final Completion of the Project. Contractor is not entitled to reimbursement for Cost of the Work costs incurred before receipt of Owner's written authorization. Cost of the Work includes the following:

11.2.1 Costs of materials and equipment purchased directly by Contractor and incorporated into or consumed in the performance of the Work, including transportation charges, and a reasonable and customary allowance for waste and spoilage. Payment for stored materials is subject to the UGSC.

11.2.2 Costs of site debris removal and disposal in accordance with all applicable laws and regulations if not otherwise specifically provided for under the General Conditions Costs.

11.2.3 Payments made to Subcontractors and their vendors or suppliers by Contractor for the subcontract work in accordance with the Construction Documents and the requirements of the subcontracts with the Subcontractors, vendors or suppliers.

11.2.4 Payments earned by Contractor for self-performed subcontract work, other than General Conditions work, in accordance with the Construction Documents and the terms of this Agreement and approved by Owner.

11.2.5 Testing fees borne by Contractor pursuant to the UGSC.

11.2.6 Intellectual property royalties and licenses for items specifically required by the Construction Documents which are, or will be, incorporated into the Work

11.3 Contractor's Contingency

11.3.1 The Guaranteed Maximum Price Proposal shall include a Contractor's Contingency amount to be used to fund increases in the Direct Construction Cost of the Project identified through the refinement, development and completion of the Construction Documents or procurement of the Work.

11.3.2 Any re-allocation of funds from Contractor's Contingency to cover increases in the Direct Construction Cost must be approved by Owner in advance and in writing, such approval not to be unreasonably withheld. In written requests to use Contractor's Contingency, Contractor shall provide detailed documentation of the scope of work affected and the bases for any increases in costs.

11.3.3 Contractor's Contingency is specifically not to be used for Contractor rework, or cost increases caused by lack of coordination or communication with A/E or trade

Subcontractors.

11.3.4 As the Construction Documents are finalized and the buyout of the Work progresses, Contractor's Contingency amount shall be reduced by mutual agreement of Owner and Contractor. Any balance in Contractor's Contingency fund remaining at the end of the Project shall be returned to Owner as savings.

ARTICLE 12 CONTRACT SAVINGS, REBATES & REFUNDS

12.1 If the allowable amount of the General Conditions Costs, Cost of the Work, and Contractor's Contingency is less than the amount established for each of those categories in the originally approved Guaranteed Maximum Price Proposal, the entire difference shall be credited to Owner as savings, and the final Contract Sum shall be adjusted accordingly. When buyout of the Project is at least 85% complete, Owner may recognize any savings achieved to that point by issuing a deductive change order for the saved amount.

12.2 Owner shall be entitled to deduct amounts for the following items from any Application for Payment or from the Request for Final Payment submitted by Contractor:

12.2.1 The fair market value of all tools, surplus materials, construction equipment, and temporary structures that were charged to the Work (other than rental items) but were not consumed during construction or retained by Owner. Upon completion of the Work or when no longer required, Contractor shall either credit Owner for the fair market value (as approved by Owner) for all surplus tools, construction equipment and materials retained by Contractor or, at Owner's option, use commercially reasonable efforts to sell the surplus tools, construction equipment and materials for the highest available price and credit the proceeds to Owner's account.

12.2.2 Discounts earned by Contractor through advance or prompt payments funded by Owner. Contractor shall obtain all possible trade and time discounts on bills for material furnished, and shall pay bills within the highest discount periods. Likewise, late payment fees on any vendor invoice shall not be charged to the Owner. Contractor shall purchase materials for the Project in quantities that provide the most advantageous prices to Owner.

12.2.3 Rebates, discounts, or commissions obtained by Contractor from material suppliers or Subcontractors, together with all other refunds, returns, or credits received for materials, bond premiums, insurance and sales taxes.

12.2.4 Deposits made by Owner and forfeited due to the fault of Contractor.

12.2.5 Balances remaining on Contractor's Contingency or any other identified contract savings. Owner shall be entitled to recover any net savings realized between the GMP and the buyout price for subcontracting work once the buyout is complete. During the buyout Contractor may use savings from one procurement effort to offset overages in other procurement efforts, so long as the total Cost of the Work proposed in the GMP does not increase.

12.3 Owner shall be entitled to recognize and recover 100% of any savings identified by cost

review or audit at any time, before or after Final Payment.

ARTICLE 13 OWNERSHIP AND USE OF DOCUMENTS

13.1 Drawings, specifications and other documents prepared by A/E or its consultants, or consultants retained by Owner for the Project that describe the Work to be executed by Contractor are instruments of service and shall remain the property of their authors whether the Project for which they are made is constructed or not. Contractor shall be permitted to retain one record set of the Construction Documents. All other copies of the Construction Documents shall be returned to their respective authors or suitably accounted for. Contractor and its Subcontractors are authorized to reproduce and use portions of the Construction Documents as necessary and appropriate for the execution of the Work. Contractor and its Subcontractors shall not use the Construction Documents on any other projects.

13.2 Submission or distribution of the Construction Documents to meet official regulatory requirements or for other purposes in connection with the Project shall not diminish A/E's or other author's rights.

ARTICLE 14 TIME

14.1 ***TIME LIMITS STATED ARE OF THE ESSENCE OF THIS AGREEMENT AND THE OTHER CONTRACT DOCUMENTS.***

14.2 Unless otherwise approved, Owner and Contractor shall perform their respective obligations under this Agreement as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

14.3 Prior to commencement of the Construction Phase Services and concurrently with submission of the Guaranteed Maximum Price Proposal, Contractor shall submit an up-to-date WPS for the performance of Construction Phase Services as specified. The WPS shall include reasonable periods of time for Owner's and A/E's review and approval of shop drawings and submissions and for the approval of other authorities having jurisdiction over the Project.

14.4 Contractor shall achieve Substantial Completion of the Work on or before the date agreed to in the GMP Proposal, subject to time extensions granted by Change Order.

14.5 **THE TIMES SET FORTH FOR COMPLETION OF THE WORK IN THE NOTICE TO PROCEED AND THE GMP PROPOSAL ARE ESSENTIAL ELEMENTS OF THIS AGREEMENT.**

14.6 The Construction Phase shall be deemed to commence on the date specified in a written Notice to Proceed issued by Owner after approval of the Guaranteed Maximum Price Proposal.

14.7 Fast Track/Multiple Completion Times. Owner may elect, at its option, to stage or "fast-track" portions of the Work. In such event Owner, may issue a separate written Notice to Proceed or written Change Order for each such stage. Each such stage, at Owner's sole option, may have a separate substantial completion date and a separate liquidated damages amount, in

accordance with Exhibit "A". If Owner elects to "fast-track" or develop the Project in multiple stages, Contractor shall organize and perform its services as appropriate to each stage. Each stage of the Project may have a unique schedule for completion and a specific AACC, at Owner's discretion.

ARTICLE 15 PROJECT TERMINATION AND SUSPENSION

15.1 This Agreement may be terminated during the Pre-Construction Phase by either party upon fifteen (15) days written notice should the other party fail substantially to perform in accordance with its terms through no fault of the party initiating the termination and the breach is not cured or a plan to cure the breach acceptable to the non-breaching party is not established within the fifteen (15) day period.

15.2 This Agreement may be terminated by Owner during the Pre-Construction Phase upon at least three (3) business days written notice to Contractor in the event that the Project is to be temporarily or permanently abandoned.

15.3 This Agreement may be terminated by Owner and/or CMAR at the GMP Proposal stage upon at least three (3) business days written notice to Contractor in the event that the parties are unable or unwilling to agree on a GMP Proposal.

15.4 In the event of termination that is not the fault of Contractor, Contractor shall be entitled to compensation for all services performed to the termination date provided Contractor has delivered to Owner such statements, accounts, all reports, documents and other materials as required by Owner together with all reports, documents and other materials prepared by Contractor prior to termination. Upon such payment, Owner shall have no further obligation to Contractor.

15.5 Termination of this Agreement shall not relieve Contractor or any of its employees, Subcontractors, or consultants of liability for violations of this Agreement or for any act or omission, or negligence, of Contractor related to the Project. In the event of a termination, Contractor expressly acknowledges the right of Owner to employ a substitute contractor to complete the services under this Agreement.

15.6 In the event of termination, Owner shall have the right to use any documents or other materials prepared for the Project and the ideas and designs they contain for the completion of the services described by this Agreement, for completion of the Project, or for any other purpose.

15.7 If the Project is suspended or abandoned in whole or in part for more than ninety (90) consecutive days during the Pre-Construction Phase, Contractor shall be compensated for all services performed prior to receipt of written notice from Owner of such suspension or abandonment. If the Project is resumed after being suspended for more than ninety (90) consecutive days, Contractor's compensation for Pre-Construction Services shall be equitably adjusted if such adjustment is warranted.

ARTICLE 16 PRE-EXISTING CONDITIONS & DESIGN ERRORS AND OMISSIONS

16.1 Contractor acknowledges that it has been provided unrestricted access to the existing

improvements and conditions on the Project site and that it has thoroughly investigated those conditions. Contractor's investigation will be instrumental in preparing its Guaranteed Maximum Price Proposal for the Work. Contractor shall not make or be entitled to any claim for any adjustment to the Contract Time or the Contract Sum for Pre-Construction Phase Services or for Construction Phase Services arising from Project conditions that Contractor discovered or, in the exercise of reasonable care, should have discovered in Contractor's investigation.

16.2 Contractor acknowledges that as part of its Pre-Construction Phase Services it shall participate in the development and review of the Construction Documents. Contractor's participation in the design development process will be instrumental in preparing its Guaranteed Maximum Price Proposal for the Work. Before submitting its Guaranteed Maximum Price Proposal, the Contractor shall review the drawings, specifications and other Construction Documents and notify Owner of any errors, omissions or discrepancies in the documents of which it is aware. Contractor shall not make or be entitled to any claim for any adjustment to the Contract Time or the Contract Sum for errors or omissions in the Construction Documents that Contractor discovered or, in the exercise of reasonable care, should have discovered in Contractor's Pre-Construction Phase design review process that Contractor did not bring to the attention of Owner and A/E in a timely manner. Contractor's review is made in the capacity as a contractor and not as a design professional. It is not the Contractor's responsibility to ascertain that the drawings and specifications are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations, but Contractor will report any variances which should have reasonably been discovered.

ARTICLE 17 BONDS AND INSURANCE

17.1 Upon execution of this Agreement, Contractor shall provide a security bond on the form attached as Exhibit "F" in the amount of 5% of the AACC. The surety for a security bond shall meet the same requirements as set forth for payment and performance bonds.

17.2 Upon acceptance by Owner of a Guaranteed Maximum Price Proposal, Contractor shall provide performance and payment bonds on forms prescribed by Owner and in accordance with the requirements set forth in the UGSC. The penal sum of the payment and performance bonds shall be equal to the GMP. If construction is phased or staged with different Guaranteed Maximum Prices established at different times, the penal sum of the bonds shall be increased at the start of each stage or phase based on the cumulative total value of all Guaranteed Maximum Prices in effect.

17.3 Contractor shall not commence work under this Agreement until it has obtained all required insurance and until evidence of the required insurance has been reviewed and approved by Owner. Owner's review of the insurance shall not relieve nor decrease the liability of the Contractor. Prior to commencing any work under this Agreement, Contractor shall provide evidence of the following insurance coverages:

17.3.1 Pre-Construction Phase: Employer's Liability, Workers' Compensation, Comprehensive General Liability and Comprehensive Automobile Liability in the amounts as set forth in the UGSC.

17.3.2 Construction Phase: In addition to the coverages required during the Pre-

Construction Phase, Builder's Risk and Owner's Protective Liability in the amounts as set forth in the UGSC.

- 17.3.3 Prior to commencing any construction work, Contractor shall provide evidence of Builder's Risk coverage as set forth in the UGSC, which coverage shall remain in full force and effect throughout the term of the Work and shall be increased as necessary for each separate bid package, phase, change order, or stage of construction prior to the commencement of construction for that package, phase, or stage.
- 17.3.4 Contractor shall include required insurance information in trade packages and indicate on bid/proposal forms the insurance that bidders/proposers are to include in their base proposals.
- 17.3.5 Contractor shall include the The Texas A&M University System Board of Regents for and on behalf of The Texas A&M University System and Texas A&M University Texarkana as additional insured on the Commercial General Liability policy, and the Worker's Compensation policy shall include a waiver of subrogation in favor of the Owner.

17.4 **Owner Controlled Insurance Program (OCIP)**; The Owner may elect to implement an Owner Controlled Insurance Program (OCIP). Refer to the Project Insurance specification Section 00 73 16 for additional requirements. In addition, the Construction Manager **will be required to provide** the following additional insurance coverages:

- 17.4.1 **Pre-Construction Phase**: Provide Workers' Compensation, Comprehensive General Liability and Comprehensive Automobile Liability in the amounts as set forth in the Uniform General and Supplementary Conditions.
- 17.4.2 The Owner's OCIP does not provide coverages during the Pre-Construction Phase.
- 17.4.3 **Construction Phase**: Provide Automobile Liability as set forth in the Uniform General and Supplementary Conditions.
- 17.4.4 Construction Manager shall provide the required Pre-Construction Phase insurance for the Project and additional Construction Phase insurance coverages in coordination with the Project Insurance specification.
- 17.4.5 Construction Manager's GMP Proposal shall exclude the cost of premiums for insurance coverage provided through the OCIP. The GMP Proposal shall only include the cost of premiums of all other insurance required by the Contract Documents.
- 17.4.6 The cost of premiums for any additional insurance coverage desired by the Construction Manager in excess of that required by this Agreement, the Uniform General and Supplementary Conditions, or the Contract Documents shall be borne solely by the Construction Manager out of its fees and not included in the GMP Proposal as a Direct Construction Cost.

17.4.7 Construction Manager shall include required OCIP insurance information in trade packages and indicate on proposal forms the insurance that proposers are to include and exclude in their proposals.

17.4.8 During construction, Owner may audit the Construction Manager's and Subcontractors' labor hours and certified payroll reports to determine actual insurance costs.

17.4.9 Refer to the Owner's Project Insurance specification for a complete listing of the specific coverages that Construction Manager shall exclude from proposal and contract.

17.5 Contractor shall not cause or allow any of its required insurance to be canceled nor permit any insurance to lapse during the term of this Agreement. If Contractor fails to obtain, maintain or renew any insurance required by this Agreement, Owner may obtain insurance coverage directly and recover the cost of that insurance from Contractor or deduct such cost of insurance from Contractor's fee.

17.6 Owner reserves the right to review the insurance requirements set forth in this Article during the effective period of this Agreement and to make reasonable adjustments to the insurance coverages and their limits when deemed necessary and prudent by Owner based upon changes in statutory law, court decisions, or the claims history of the industry in general and the claims history of Contractor.

17.7 Owner shall be entitled, upon request, and without expense, to receive complete copies of the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the parties or the underwriter of any of such policies. Damages caused by Contractor and not covered by insurance shall be paid by Contractor upon demand, or, to the extent of unpaid fees, shall be deducted by Owner from Contractor's fee.

17.8 The cost of premiums for any additional insurance coverage desired by Contractor in excess of that required by this Agreement, the UGSC or the other Contract Documents shall be borne solely by Contractor out of its fees and not included in the GMP Proposal as a Direct Construction Cost.

17.9 If the Guaranteed Maximum Price is increased by Change Orders by more than 5% the Contractor shall provide revised bonds and insurance that reflect the new project amount.

ARTICLE 18 DISPUTE RESOLUTION

18.1 The dispute resolution process provided in Chapter 2260, *Texas Government Code*, and the related rules adopted by the Texas Attorney General pursuant to Chapter 2260, shall be used by Owner and Contractor to attempt to resolve any claim for breach of contract made by Contractor that cannot be resolved in the ordinary course of business. Contractor shall submit written notice of a claim of breach of contract under this Chapter to the Chancellor of The Texas

A&M University System, who shall examine Contractor's claim and any counterclaim and negotiate with Contractor in an effort to resolve the claim.

18.2 Neither the occurrence of an event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Contractor, in whole or in part. Owner and Contractor agree that any periods set forth in this Agreement for notice and cure of defaults are not waived, delayed, or suspended by Chapter 2260 or this Paragraph 18.2.

18.3 It is agreed that such process is not invoked if Owner initiates the dispute by first bringing a claim against Contractor, except at Owner's sole option. If Owner makes a claim against Contractor and Contractor then makes a counterclaim against Owner as a claim under Chapter 2260 and in compliance therewith, the Owner's original claim against Contractor does not become a counterclaim and is not subject to the mandatory counterclaim provisions of Chapter 2260 of the *Texas Government Code*, except at the sole option of the Owner.

ARTICLE 19 INDEMNITY

19.1 SEE PARAGRAPH 3.3.10 OF THE UGSC FOR CONTRACTOR'S GENERAL INDEMNIFICATION OBLIGATIONS.

19.2 CONTRACTOR SHALL PROTECT AND INDEMNIFY OWNER FROM AND AGAINST ALL CLAIMS, DAMAGES, JUDGMENTS AND LOSSES ARISING FROM INFRINGEMENT OR ALLEGED INFRINGEMENT OF ANY UNITED STATES PATENT, OR COPYRIGHT THAT ARISE OUT OF ANY OF THE WORK PERFORMED BY CONTRACTOR OR THE USE BY CONTRACTOR, OR BY OWNER AT THE DIRECTION OF CONTRACTOR, OF ANY ARTICLE OR MATERIAL. UPON BECOMING AWARE OF A SUIT OR THREAT OF SUIT FOR PATENT OR COPYRIGHT INFRINGEMENT, OWNER SHALL PROMPTLY NOTIFY CONTRACTOR AND CONTRACTOR SHALL BE GIVEN FULL OPPORTUNITY TO NEGOTIATE A SETTLEMENT. CONTRACTOR DOES NOT WARRANT AGAINST INFRINGEMENT BY REASON OF OWNER'S OR A/E'S DESIGN OF ARTICLES OR THEIR USE IN COMBINATION WITH OTHER MATERIALS OR IN THE OPERATION OF ANY PROCESS. IN THE EVENT OF LITIGATION, OWNER AGREES TO COOPERATE REASONABLY WITH CONTRACTOR AND THE PARTIES SHALL BE ENTITLED, IN CONNECTION WITH ANY SUCH LITIGATION, TO BE REPRESENTED BY COUNSEL AT THEIR OWN EXPENSE.

19.3 The indemnities contained in this Agreement shall survive the termination of this Agreement for any reason whatsoever.

ARTICLE 20 SPECIAL WARRANTIES

20.1 Notwithstanding anything to the contrary contained in this Agreement, Owner and Contractor agree and acknowledge Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide construction management services. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

20.2 Contractor represents and agrees that it will perform its services in accordance with the

usual and customary standards of Contractor's profession or business and in compliance with all applicable federal, state, and municipal, laws, regulations, codes, ordinances, or orders and with those of any other body having jurisdiction over the Project. Contractor agrees to bear the full cost of correcting Contractor's negligent or improper work and services, those of its consultants and Subcontractors, and any harm caused by the negligent or improper work or services.

20.3 Contractor's duties shall not be diminished by any approval by Owner nor shall Contractor be released from any liability by any approval by Owner, it being understood that Owner is ultimately relying upon Contractor's skill and knowledge in performing the services required hereunder.

20.4 Contractor represents and agrees that all persons connected with Contractor directly in charge of its services are duly registered and/or licensed under the laws, rules and regulations of any authority having jurisdiction over the Project if such registration and/or license is required.

20.5 Contractor represents and agrees to advise Owner of anything of any nature in any drawings, specifications, plans, sketches, instructions, information, requirements, procedures, and other data supplied to Contractor (by Owner or any other party) that is, in its opinion, unsuitable, improper, or inaccurate for the purposes for which the document or data is furnished.

20.6 Contractor represents and agrees to perform its services under this Agreement in an expeditious and economical manner consistent with good business practices and the interests of Owner.

20.7 Contractor represents and agrees that there are no obligations, commitments, or impediments of any kind that will limit or prevent performance of its obligations under this Agreement.

20.8 Contractor represents and agrees that the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and to bind Contractor to its terms.

20.9 Except for the obligation of Owner to pay Contractor certain fees, costs, and expenses pursuant to the terms of this Agreement, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future affiliate of Owner or any agent, officer, director, employee, or regent of Owner, or of the members comprising The Texas A&M University System, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 21 CERTIFICATION OF NO ASBESTOS CONTAINING MATERIALS OR WORK

21.1 Contractor shall provide a certification statement, included with each materials submittal, stating that no asbestos containing materials or work is included within the scope of the proposed submittal.

21.2 Contractor shall ensure that Texas Department of State Health Services licensed individuals, consultants or companies are used for any required asbestos work including asbestos

inspection, asbestos abatement plans/specifications, asbestos abatement, asbestos project management and third-party asbestos monitoring.

21.3 Contractor shall provide at Substantial Completion, a certificate, or at Owner's election, a notarized affidavit to Owner and A/E stating that no asbestos containing materials or work was provided, installed, furnished or added to the Project.

21.4 Contractor shall take whatever measures it deems necessary to insure that all employees, suppliers, fabricators, materialmen, subcontractors, or their assigns, comply with this requirement.

21.5 A person is prohibited by law from installing Asbestos Containing Building Materials (ACBM) or ACBM replacement parts in a public building unless it is demonstrated that there is no alternative material or part (25 TAC §295.34(i)). All materials used on this Project shall be certified as non- ACBM. Contractor shall ensure compliance with the following acts from all of its Subcontractors and assigns:

21.5.1 Asbestos Hazard Emergency Response Act and the Regulations promulgated under the Act (AHERA—40 CFR 763, Subpart E);

21.5.2 National Emission Standards for Hazardous Air Pollutants (NESHAP—EPA 40 CFR 61, Subpart M, National Emission Standard for Asbestos);

21.5.3 Texas Asbestos Health Protection Rules (TAHPR—Tex. Admin. Code Title 25, Part 1, Ch. 295, Subchapter C, Asbestos Health Protection)

21.6 Every Subcontractor shall provide a notarized statement that no ACBM has been used, provided, or left on this Project.

21.7 Contractor shall obtain and review material data safety sheets (MSDS) for all building materials or replacement parts listed in ***but not limited to*** 25 TAC §295.34(j) to ensure that no ACBM is used in the Project. Contractor shall provide, in hard copy and electronic form, all necessary MSDS of all products used in the construction of the Project to the Owner, along with the certification or affidavit required in Section 21.3 above.

21.8 At Final Completion Contractor shall provide a certification statement (notarized if required by Owner) that no ACBM was used during construction of the Project.

ARTICLE 22 BUSINESS ETHICS EXPECTATION

22.01 During the course of pursuing contracts with Owner and while performing contract work in accordance with this agreement, Contractor agrees to maintain business ethics standards aimed at avoiding any impropriety or conflict of interest which could be construed to have an adverse impact on the Owner's best interests.

22.02 Contractor shall take reasonable actions to prevent any actions or conditions which could result in a conflict with Owner's best interests. These obligations shall apply to the activities of

Contractor's employees, agents, subconsultants, subconsultants' employees and other persons under their control.

Contractor's employees, agents, subconsultants (and their representatives) shall not make or offer, or cause to be made or offered, any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, substantially discounted work, or any other considerations to Owner's representatives, employees or their relatives.

Contractor's employees, agents and subconsultants (and their relatives) shall not receive or accept any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, or substantially discounted work or any other considerations from representatives of contractors, subcontractors, or material suppliers or any other individuals, organizations, or businesses receiving funds in connection with a Project.

22.03 Contractor agrees to notify Billy C. Hamilton, Executive Vice Chancellor and Chief Financial Officer for the Office of Facilities Planning & Construction within 48 hours of any instance where the Contractor becomes aware of a failure to comply with the provisions of this article.

22.04 Upon request by Owner, Contractor agrees to provide a certified Management Representation Letter executed by a Contractor representative selected by Owner in a form agreeable to Owner stating that the representative is not aware of any situations violating the business ethics expectations outlined in this Agreement or any similar potential conflict of interest situations.

22.05 Contractor agrees to include provisions similar to this Article in all contracts with subconsultants receiving more than \$25,000 in funds in connection with a Project.

ARTICLE 23 MISCELLANEOUS PROVISIONS

23.1 Assignment. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, its duties and/or the fees due to Contractor may not be assigned or delegated to a third party.

23.2 Records Requirements. Records of expenses pertaining to Additional Services and services performed on the basis of a Worker Wage Rate or Monthly Salary Rate shall be kept on the basis of generally accepted accounting principles and in accordance with cost accounting standards promulgated by the Federal Office of Management and Budget Cost Accounting Standards Board and shall be available for audit by Owner or Owner's authorized representative on reasonable notice.

23.3 Child Support Certification. A child support obligor who is more than 30 days delinquent in paying child support and a business entity in which obligor is a sole proprietor, partner, shareholder, or Owner with an Ownership interest of at least 25 percent is not eligible to receive payments from state funds under a contract to provide property, materials, or services until all arrearages have been paid or the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency. The Family Code requires the following statement:

“Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.”

23.4 Eligibility Certification. A state agency may not accept a bid or award a contract that includes proposed financial participation by a person who received compensation from the agency to participate in preparing the specifications or request for proposals on which the bid or contract is based. The Government Code requires the following statement: “Under Section 2155.004, Government Code, the vendor certifies that the individual or business entity named in this bid or contract is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.”

23.5 Franchise Tax Certification. If Contractor is a taxable entity subject to the Texas Franchise Tax (Chapter 171, *Texas Tax Code*), then Contractor certifies that it is not currently delinquent in the payment of any franchise taxes or that Contractor is exempt from the payment of franchise taxes.

23.6 Payment of Debt or Delinquency to the State. Pursuant to Section 2252.903, *Texas Government Code*, Contractor agrees that any payments owing to Contractor under this Agreement may be applied directly toward any debt or delinquency that Contractor owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full. "Debt or delinquency" means a debt, tax delinquency, student loan delinquency, or child support delinquency that results in a payment law prohibiting the comptroller from issuing a warrant or initiating an electronic funds transfer.

23.7 Entire Agreement; Modifications. This Agreement supersedes all prior agreements, written or oral, between Contractor and Owner and shall constitute the entire agreement and understanding between the parties with respect to the Project. This Agreement and each of its provisions shall be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by Contractor and Owner.

23.8 Captions. The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

23.9 Governing Law and Venue. This Agreement is construed under and in accordance with the laws of the State of Texas, and is performable in the country in which the Project is located; however, mandatory venue for all legal proceedings against Owner is to be in the county in which the primary office of the chief executive officer is located.

23.10 Waivers. No delay or omission by either party in exercising any right or power arising from non-compliance or failure of performance by the other party with any of the provisions of this Agreement shall impair or constitute a waiver of any such right or power. A waiver by either party of any covenant or condition of this Agreement shall not be construed as a waiver of any subsequent breach of that or of any other covenant or condition of this Agreement.

23.11 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

23.12 Records Availability and Retention. Records of Contractor's costs, reimbursable expenses pertaining to the Project and payments shall be available to Owner or its authorized representative during business hours and shall be retained for four (4) years after final Payment or abandonment of the Project, unless Owner otherwise instructs Contractor in writing.

23.13 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

23.14 Illegal Dumping. Contractor shall ensure that it and all of its Subcontractors and assigns prevent illegal dumping of litter in accordance with Title 5, *Texas Health and Safety Code*, Chapter 365.

23.15 Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of Contractor or Owner for whom it is intended; or sent by U.S. Mail to the last known business address of the designated representative; or transmitted by fax machine to the last known business fax number of the designated representative. Mail notices are deemed effective upon receipt or on the third business day after the date of mailing, whichever is sooner. Fax notices are deemed effective the next business day after faxing. Such notices of claims or disputes or other legal notices required by this Agreement shall be sent to the persons and at the locations set forth in Exhibit "A" attached to this Agreement.

23.16 Public Information. Contractor acknowledges that Owner is obligated to strictly comply with the Public Information Act, Chapter 552, *Texas Government Code*, in responding to any request for public information pertaining to this Agreement, as well as any other disclosure of information required by applicable Texas law.

Upon Owner's written request, Contractor will provide specified public information exchanged or created under this Agreement that is not otherwise excepted from disclosure under chapter 552, *Texas Government Code*, to Owner in a non-proprietary format acceptable to Owner. As used in this provision, "public information" has the meaning assigned Section 552.002, *Texas Government Code*, but only includes information to which Owner has a right of access.

Contractor acknowledges that Owner **may be** required to post a copy of the fully executed Agreement on its Internet website in compliance with Section 2261.253(a)(1), *Texas Government Code*.

23.17 List of Exhibits

The following exhibits are fully incorporated into this Agreement by reference:

- Ex. A Fees, Costs and Other Contract Variables
- Ex. B Uniform General and Supplementary Conditions
- Ex. C Special Conditions, Wage Rates and Owner's Specifications
- Ex. D Allowable General Conditions Line Items

- Ex. E Guaranteed Maximum Price Proposal Form
- Ex. F Security Bond
- Ex. G Personnel Titles and Monthly Rates
- Ex. H BIM Execution Plan

[SIGNATURES PROVIDED ON FOLLOWING PAGE]

CMAR BIM
03/16

Contract No. 5912
Project No. 04-3195

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement as of the day and year first above written.

BOARD OF REGENTS OF
THE TEXAS A&M UNIVERSITY SYSTEM
(THE OWNER)

BE&K BUILDING GROUP, LLC
(Construction Manager)

By *Billy Hancock*
Executive Vice Chancellor and Chief Financial Officer

Federal Tax I.D. No. 14-1912053

By *[Signature]*
(Signature)

Date 8/18/16

Matt Daniel, SENIOR VICE PRESIDENT
(Print or Type Name)

Date 8/2/2016

APPROVAL RECOMMENDED:

[Signature]
Executive Director
Office of Facilities Planning & Construction

Name(s) of individual(s), sole proprietors, partner(s), shareholder(s) or owner(s) with an ownership interest of at least 25% of the business entity executing this Contract.

Date 08.17.2016

Name: _____

APPROVED AS TO FORM:

[Signature]
General Counsel

Name: _____

Name: _____

Date 8/16/2016

Name: _____

EXHIBIT "A"
FEES, COSTS AND OTHER CONTRACT VARIABLES

1. Guaranteed Maximum Price

The anticipated Guaranteed Maximum Price for the Project at the time this Agreement is executed is:

Forty Million, Five Hundred Twenty-Five Thousand, and no/100 Dollars (\$40,525,000.00);

2. Pre-Construction Phase Fee

A. For Pre-Construction Phase Services, Owner shall pay Contractor a Pre-Construction Phase Fee in the total stipulated amount of

One Hundred Thirty-Five Thousand and no/100 Dollars (\$135,000.00);

B. Refer to Paragraph 10.2.1 for the percentages of each stage of work within the Pre-Construction Phase Fee for payment purposes;

C. For Reimbursable Services for printing, Owner shall pay Contractor

To Be Determined (\$ TBD);

3. Construction Phase Fee

A. For Construction Phase Services, based on the anticipated GMP established at the time of this Agreement, Owner shall pay Contractor a stipulated Construction Phase Fee amount of:

One Million, One Hundred Thirteen Thousand, Seven Hundred Fifty and no/100 Dollars (\$1,113,750.00);

B. If the Owner agrees to an increase or decrease in the Guaranteed Maximum Price, the Construction Phase Fee shall be equitably adjusted.

4. Time of Completion

The anticipated date for achieving Substantial Completion of the Project at the time this Agreement was executed is **August 31, 2018.**

5. Liquidated Damages

For each consecutive calendar day after the date of Substantial Completion, plus any extensions of time granted by Change Order, that the Work is not substantially

completed, Contractor shall pay to Owner, within ten (10) days following written demand, the amount of:

Seven Thousand, Five Hundred and no/100 dollars (\$7,500.00/per day)

not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that Owner will sustain for late completion and once paid shall represent owner's sole and exclusive remedy for late completion. Owner may also recover the liquidated damages from any money due or that becomes due Contractor.

The parties stipulate and agree that the actual damages sustained by Owner for late completion of the Project will be uncertain and difficult to ascertain, that calculating Owner's actual damages would be impractical, unduly burdensome, and cause unnecessary delay, and that the amount of daily liquidated damages set forth above is a reasonable estimate.

Payment of the liquidated damages does not preclude recovery by Owner of other damages or losses under other provisions of the Contract, except for claims related to delays in Substantial Completion. Owner's right to receive liquidated damages shall not affect Owner's right to terminate the Agreement as provided in the General Conditions or elsewhere in the Contract Documents, nor shall termination of the Agreement release Contractor from the obligation to pay the liquidated damages.

6. Names and Addresses for Notices:

If to Owner:

Billy C. Hamilton, Executive Vice Chancellor and Chief Financial Officer
Office of Facilities Planning & Construction
The Texas A&M University System
301 Tarrow Street, 2nd Floor
College Station, Texas 77840-7896

With Copies to:

Russ Wallace, Executive Director
Office of Facilities Planning & Construction
The Texas A&M University System
301 Tarrow Street, 2nd Floor
College Station, Texas 77840-7896

Brett McCully, Area Manager
Office of Facilities Planning & Construction
The Texas A&M University System
301 Tarrow Street, 2nd Floor
College Station, Texas 77840-7896

If to Contractor:

Matt Daniel
BE&K Building Group, LLC
4545 Post Oak Place, Suite 110
Houston, TX 77027

With Copy to:
Russ McLeod
BE&K Building Group, LLC
4545 Post Oak Place, Suite 110
Houston, TX 77027

Ken Grieco
BE&K Building Group, LLC
4545 Post Oak Place, Suite 110
Houston, TX 77027

The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

7. Party Representatives

A. The Owner's Designated Representative authorized to act in the Owner's behalf with respect to the Project is:

Brett McCully, Area Manager
Office of Facilities Planning & Construction
The Texas A&M University System
301 Tarrow Street, 2nd Floor
College Station, Texas 77840-7896

B. The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:

Matt Daniel
BE&K Building Group, LLC
4545 Post Oak Place, Suite 110
Houston, TX 77027

C. The parties may make reasonable changes in their designated representatives upon advance written notice to the other party and in accordance with Paragraph 22.15.

EXHIBIT "B"
UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS

**THE TEXAS A&M UNIVERSITY SYSTEM
Uniform General and Supplementary Conditions
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Uniform General and Supplementary Conditions For The Texas A&M University System

The Texas A&M University System has incorporated its Supplementary Conditions that apply to all A&M System and member institution construction projects into the Texas Building and Procurement Commissions' Uniform General Conditions. Material changes are indicated by the bold and italicized typeface shown here. Superseded sections of the Texas Building and Procurement Commissions' Uniform General Conditions are not included in the A&M System Uniform General and Supplementary Conditions. All users are advised to read and understand this entire document.

Article 1. Definitions

Unless the context clearly requires another meaning, the following terms have the meaning assigned herein:

- 1.1 *Architect/Engineer (A/E)* means a person registered as an architect pursuant to Tex. Occ. Code Ann., Chapter 1051, as a landscape architect pursuant to Tex. Occ. Code Ann., Chapter 1052, a person licensed as a professional engineer pursuant to Tex. Occ. Code Ann., Chapter 1001 and/or a firm employed by Owner or a design-build contractor to provide professional architectural or engineering services and to exercise overall responsibility for the design of a Project or a significant portion thereof, and to perform the contract administration responsibilities set forth in the Contract.
- 1.2 *Change Order* means a written modification of the Contract between the Owner and Contractor, signed by the Owner, the Contractor and the A/E.
- 1.3 *Change Order Proposal* means a Contractor-generated document in response to a Change Order Request (COR).
- 1.4 *Close-out documents* means the product brochures, product/equipment maintenance and operations instructions, manuals, and other documents/warranties, as-built record documents, affidavit of payment, release of lien and claim, and as may be further defined, identified, and required by the Contract Documents.
- 1.5 *Contract* means the entire agreement between the Owner and the Contractor, including all of the Contract Documents.
- 1.6 *Contract Date* is the date when the agreement between the Owner and the Contractor becomes effective.

- 1.7 *Contract Documents* means those documents identified as a component of the agreement (contract) between the Owner and the Contractor. These may include, but are not limited to, Drawings, Specifications, these Uniform General and Supplementary Conditions, Special Conditions, Change Orders, and all pre-bid and/or pre-proposal addenda.
- 1.8 *Contractor* means the individual, corporation, company, partnership, firm or other entity contracted to perform the Work, regardless of the type of construction contract used, so that the term as used herein includes a Construction Manager-at-Risk or a Design-Build firm as well as General or Prime Contractor. The Contract Documents refer to Contractor as if singular in number.
- 1.9 *Contract Sum* means the total compensation payable to the Contractor for completion of the Work in accordance with the terms of the Contract.
- 1.10 *Contract Time* means the period between the Date of Commencement (Start Date) identified in the Notice to Proceed with Construction and the Substantial Completion date identified in the Notice to Proceed or as subsequently amended by Change Order.
- 1.11 *Date of Commencement* means the date designated in the Notice to Proceed for the Contractor to commence the Work.
- 1.12 *Day* means a calendar day, unless otherwise specifically stipulated.
- 1.13 *Drawings* means that product of the A/E which graphically depicts the Work.
- 1.14 *Final Completion* means the date determined and certified by the A/E and Owner on which the Work is fully and satisfactorily complete in accordance with the Contract.
- 1.15 *Owner* means the State of Texas and any Agency of the State of Texas, acting through the responsible entity of the State of Texas, identified in the Contract as the Owner.
- 1.16 *Owner's Designated Representative (ODR)* means the individual assigned by the Owner to act on its behalf, and to undertake certain activities as specifically outlined in the Contract. The ODR is the only party authorized to direct changes to the scope, cost, or time of the Contract.
- 1.17 *Project* means all activities necessary for realization of the Work. This includes design, contract award(s), execution of the Work itself, and fulfillment of all contract and warranty obligations.

- 1.18 *Samples* mean representative physical examples of materials, equipment or workmanship, used to confirm compliance with requirements and/or to establish standards for use in execution of the Work.
- 1.19 *Schedule of Values* means the detailed breakdown of the cost of the materials, labor and equipment necessary to accomplish the Work as described in the Contract Documents, submitted by Contractor for approval by Owner and A/E.
- 1.20 *Shop Drawings* means the drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor or its agents, which detail a portion of the Work.
- 1.21 *Site* means the geographical area of the location of the Work.
- 1.22 *Special Conditions* means the documents containing terms and conditions, which may be unique to the Project. Special Conditions are a part of the Contract Documents and have precedence over these Uniform General and Supplementary Conditions.
- 1.23 *Specifications* mean the written product of the A/E that establishes the quality and/or performance of products utilized in the Work and processes to be used, including testing and verification for producing the Work.
- 1.24 *Subcontractor* means a business entity that enters into an agreement with the Contractor to perform part of the Work or to provide services, materials or equipment for use in the Work.
- 1.25 *Substantial Completion* means the date determined and certified by the Contractor, A/E and Owner when the Work or a designated portion thereof is sufficiently complete, in accordance with the Contract, so as to be operational and fit for the use intended.
- 1.26 *Unit Price Work* means Work or a portion of the Work paid for based on incremental units of measurement.
- 1.27 *Unilateral Change Order* means a Change Order issued by the Owner without the agreement of the Contractor. ***A Unilateral Change Order has the same effect as a contract modification.***
- 1.28 *Work* means the administration, procurement, materials, equipment, construction and all services necessary for the Contractor, and/or its agents, to fulfill the Contractor's obligations under the Contract.

Article 2. Laws Governing Construction

- 2.1. Environmental Regulations. The Contractor shall conduct activities in compliance with applicable laws and regulations and other requirements of the Contract relating to the environment and its protection at all times. Unless otherwise specifically determined, the Owner is responsible for obtaining and maintaining permits related to stormwater run-off. The Contractor shall conduct operations consistent with stormwater run-off permit conditions. Contractor is responsible for all items it brings to the Site, including hazardous materials, and all such items brought to the Site by its Subcontractors and suppliers, or by other entities subject to direction of the Contractor. The Contractor shall not incorporate hazardous materials into the Work without prior approval of Owner, and shall provide an affidavit attesting to such in association with the request for the Substantial Completion Inspection.
- 2.2. Wage Rates. The Contractor shall not pay less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the Owner. The specified wage rates are minimum rates only. The Owner is not bound to pay any claims for additional compensation made by any contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract. The "Prevailing Wage Schedule" is not a representation that qualified labor adequate to perform the Work is available locally at the prevailing wage rates.
- 2.2.1 Notification to Workers. The Contractor shall notify each worker, in writing, of the following as they commence work on the Contract: the worker's job classification, the established minimum wage rate requirement for that classification, as well as the worker's actual wage. The notice must be delivered to and signed in acknowledgement of receipt by the worker and must list both the wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the Owner, the Contractor shall furnish evidence of compliance with the Texas Prevailing Wage Law.
- 2.2.1.1 The Contractor shall submit a copy of each worker wage-rate notification to the ODR with the application for progress payment for the period during which the worker was engaged in activities on behalf of the Project.
- 2.2.1.2 The "Prevailing Wage Schedule" is determined by the Owner in compliance with Tex. Gov't Code, Chapter 2258. Should the Contractor at any time become aware that a particular skill or trade not reflected on the Owner's Prevailing Wage Schedule will be or is being employed in the Work, whether

by the Contractor or by a Subcontractor, the Contractor shall promptly inform the ODR of the proposed wage to be paid for the skill along with a justification for same. The Contractor is responsible for determining the most appropriate wage for a particular skill in relation to similar skills or trades identified on the Prevailing Wage Schedule. In no case shall any worker be paid less than the wage indicated for Laborers.

2.2.1.3 Penalty for Violation. The Contractor and any Subcontractor will pay to the State a penalty of sixty dollars (\$60) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule.

2.2.1.4 Complaints of Violations.

2.2.1.4.1 Owner's Determination of Good Cause. Upon receipt of information concerning a violation of Tex. Gov't Code, Chapter 2258, the Owner will, within 31 days, make an initial determination as to whether good cause exists that a violation occurred. The Owner will send documentation of the initial determination to the Contractor against whom the violation was alleged, and to the worker involved. Upon making a good-cause finding, the Owner will retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

2.2.1.4.2 If the Contractor and claimant worker reach an agreement concerning the claim, the Contractor shall promptly notify the Owner in a written document countersigned by the worker.

2.2.1.4.3 Arbitration Required. If the violation is not resolved within 14 days following initial determination by the Owner, the Contractor and the claimant worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Tex. Civ. Prac. & Rem. Code,

Chapter 171. If the Contractor and the claimant worker do not agree on an arbitrator within 10 days, after the date arbitration is required, a district court may be petitioned by any of the parties to the arbitration to appoint an arbitrator whose decision will be binding on all parties. (See Tex. Gov't Code, § 2258.053)

2.2.1.4.4 Arbitration Award. If an arbitrator assesses an award against the Contractor, the Contractor shall promptly furnish a copy of said award to the Owner. The Owner may use any amounts retained under Article 2.2.1.4.1 to pay the worker the amount as designated in the arbitration award. If the retained funds are insufficient to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor, and/or the surety to receive the amount owed, plus attorneys' fees and court costs. The Owner has no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award.

2.2.1.4.5 No Extension of Time. If the Owner's determination proves valid that good cause existed to believe a violation had occurred, the Contractor is not entitled to an extension of time for any delay arising directly or indirectly from the arbitration procedures set forth herein.

2.3. Venue for Suits. ***The venue for any suit arising from the Contract will be in a court of competent jurisdiction in Brazos County, Texas.***

2.4. Licensing of Trades. The Contractor shall comply with all applicable provisions of state law related to license requirements for skilled tradesmen, contractors, suppliers and/or laborers, as necessary to accomplish the Work. In the event the Contractor, or one of its Subcontractors, loses its license during the term of performance of the Contract, the Contractor shall promptly hire or contract with a licensed provider of the service at no additional cost to the Owner.

2.5. Royalties, Patents & Copyrights. The Contractor shall pay all royalties and license fees, defend all suits or claims for infringement of any patent rights, and shall save the Owner harmless from loss on account thereof.

- 2.6. State Sales and Use Taxes. The Owner qualifies for exemption from certain State and Local Sales and Use Taxes pursuant to the provisions of Tex. Tax Code, Chapter 151. The Contractor may claim exemption from payment of applicable State taxes by complying with such procedures as prescribed by the State Comptroller of Public Accounts. ***Contractor shall not be entitled to reimbursement for taxes paid on items that are exempt from taxation.***

Article 3. General Responsibilities of Owner and Contractor

- 3.1. Owner's General Responsibilities. The Owner is the entity identified as such in the Contract and referred to throughout the Contract Documents as if singular in number.

3.1.1 Preconstruction Conference. Prior to, or concurrent with, the issuance of the Notice to Proceed with Construction, a conference will be convened for attendance by the Owner, Contractor, A/E and appropriate Subcontractors. The purpose of the conference is to establish a working understanding among the parties as to the Work, the operational conditions at the Project Site, and general administration of the Project. Topics include communications, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records and all other matters of importance to the administration of the Project and effective communications between the project team members.

3.1.2 Owner's Designated Representative. Prior to the start of construction, Owner will identify the Owner's Designated Representative (ODR), who has the express authority to act and bind the Owner to the extent and for the purposes described in the Contract, including responsibilities for general administration of the Contract.

3.1.2.1 Unless otherwise specifically defined elsewhere in the Contract Documents, the ODR is the single point of contact between the Owner and Contractor. Notice to the ODR, unless otherwise noted, constitutes notice to the Owner under the Contract.

3.1.2.2 All directives on behalf of the Owner will be conveyed to the Contractor by the ODR in writing.

3.1.3 Owner Supplied Materials and Information.

- 3.1.3.1 The Owner will furnish to the Contractor those surveys describing the physical characteristics, legal description, limitations of the Site, site utility locations, and other information used in the preparation of the Contract Documents.
- 3.1.3.2 The Owner will provide information, equipment, or services under the Owner's control to the Contractor with reasonable promptness. ***The Owner makes no representation as to the accuracy or completeness of the site information furnished to the Contractor by the Owner, and is not responsible for any interpretations or conclusions reached by the Contractor with respect to the information.***
- 3.1.4 Availability of Lands. The Owner will furnish, as indicated in the Contract, all required rights to use the lands upon which the Work occurs. This includes rights-of-way and easements for access and such other lands that are designated for use by the Contractor. The Contractor shall comply with all Owner-identified encumbrances or restrictions specifically related to use of lands so furnished. The Owner will obtain and pay for easements for permanent structures or permanent changes in existing facilities, unless otherwise required in the Contract Documents.
- 3.1.5 Limitation on Owner's Duties.
- 3.1.5.1 The Owner will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, technologies, sequences or procedures of construction or the safety precautions and programs incident thereto. The Owner is not responsible for any failure of Contractor to comply with laws and regulations applicable to the Work. The Owner is not responsible for the failure of Contractor to perform or furnish the Work in accordance with the Contract Documents. Owner is not responsible for the acts or omissions of Contractor, or any of its Subcontractors, suppliers or of any other person or organization performing or furnishing any of the Work on behalf of the Contractor.
- 3.1.5.2 The Owner will not take any action in contravention of a design decision made by the A/E in preparation of the Contract Documents, when such actions are in conflict with statutes under which the A/E is licensed for the protection of the public health and safety.

3.2 Role of A/E. Unless specified otherwise in the Contract between the Owner and the Contractor, the A/E shall provide general administration services for the Owner during the construction phase of the Project. Written correspondence, requests for information, and Shop Drawings/submittals shall be directed to the A/E for action. The A/E has the authority to act on behalf of the Owner to the extent provided in the Contract Documents, unless otherwise modified by written instrument, which will be furnished to the Contractor by the ODR, upon request.

3.2.1 Site Visits

3.2.1.1 The A/E will make visits to the Site at intervals as provided in the A/E's contract agreement with the Owner, to observe the progress and the quality of the various aspects of Contractor's executed Work and report findings to the Owner.

3.2.1.2 The A/E has the authority to interpret Contract Documents and inspect the Work for compliance and conformance with the Contract. Except as referenced in Article 3.1.5.2, the Owner retains the sole authority to accept or reject Work and issue direction for correction, removal, or replacement of Work.

3.2.2 Clarifications and Interpretations. It may be determined that clarifications or interpretations of the Contract Documents are necessary. Upon direction by the ODR such clarifications or interpretations will be provided by the A/E consistent with the intent of the Contract Documents. The A/E will issue these clarifications with reasonable promptness to the Contractor as Architect's Supplemental Instruction (ASI) or similar instrument. If Contractor believes that such clarification or interpretation justifies an adjustment in the Contract Sum or the Contract Time, the Contractor shall so notify the Owner in accordance with the provisions of Article 11.

3.2.3 Limitations on A/E Authority. The A/E is not responsible for:

3.2.3.1 The Contractor's means, methods, techniques, sequences, procedures, safety, or programs incident to the Project nor will the A/E supervise, direct, control or have authority over the same.

3.2.3.2 The failure of Contractor to comply with laws and regulations applicable to furnishing or performing the Work.

3.2.3.3 The Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.

3.2.3.4 Acts or omissions of the Contractor, or of any other person or organization performing or furnishing any of the Work.

3.3 Contractor's General Responsibilities. The Contractor is solely responsible for implementing the Work in full compliance with all applicable laws and the Contract Documents and shall supervise and direct the Work using the best skill and attention to assure that each element of the Work conforms to the Contract requirements. The Contractor is solely responsible for all construction means, methods, techniques, safety, sequences, coordination and procedures. ***The Contractor is responsible for having visited the Site and having ascertained all pertinent local conditions such as existing subsurface concealed conditions, location, accessibility and general character of the Site or building, the character and extent of existing work, the character and extent of existing work within adjacent sites, and any other work being performed thereon at the time Contractor's bid or proposal is submitted.***

3.3.1 Project Administration. The Contractor shall provide project administration for all Subcontractors, vendors, suppliers, and others involved in implementing the Work and shall coordinate administration efforts with those of the A/E and ODR in accordance with these Uniform General and Supplementary Conditions and provisions of Division 1 Specifications, and as outlined in the Pre-construction Conference.

3.3.2 Contractor's Superintendent. The Contractor shall employ a competent resident Superintendent who will be present at the Project Site during the progress of the Work. The Superintendent is subject to the approval of the ODR. The Contractor shall not change approved Superintendents during the course of the Project without the written approval of the ODR unless the Superintendent leaves the employ of the Contractor.

3.3.3 Labor. The Contractor shall provide competent, suitably qualified personnel to survey, lay-out, and construct the Work as required by the Contract Documents, and maintain good discipline and order at the Site at all times.

3.3.4 Services, Materials, and Equipment. Unless otherwise specified, the Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other

facilities, incidentals, and services necessary for the construction, performance, testing, start-up, inspection and completion of the Work.

3.3.5 Non-Compliant Work. Should the A/E and/or the ODR identify Work as non-compliant with the Contract Documents, the ODR will communicate the finding to the Contractor and the Contractor will correct such Work at its expense. The approval of Work by either the A/E or ODR does not relieve the Contractor from the obligation to comply with all requirements of the Contract Documents.

3.3.6 Subcontractors. The Contractor shall not employ any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom the Owner may have reasonable objection. The Owner will communicate such objections in writing. The Contractor is not required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom the Contractor has reasonable objection. The Contractor will not substitute Subcontractors without the acceptance of the Owner.

3.3.6.1 All Subcontracts and supply contracts shall be consistent with and bound to the terms and conditions of the Contract Documents including provisions of the agreement between the Contractor and the Owner.

3.3.6.2 The Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor. The Contractor shall require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with Owner only through the Contractor. The Contractor shall furnish to the Owner a copy of each first-tier subcontract promptly after its execution. The Contractor agrees that the Owner has no obligation to review or approve the content of such contracts and that providing the Owner such copies in no way relieves the Contractor of any of the terms and conditions of the Contract, including, without limitation, any provisions of the Contract which require the Subcontractor to be bound to the Contractor in the same manner in which the Contractor is bound to the Owner.

3.3.7 Continuing the Work. The Contractor shall carry on the Work and adhere to the progress schedule during all disputes, disagreements or alternative resolution processes with the Owner. The Contractor

shall not delay or postpone any Work because of the pending resolution of any disputes, disagreements or processes, except as the Owner and the Contractor may agree in writing.

- 3.3.8 Cleaning. At all times, the Contractor shall keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. The Contractor shall ensure that the entire Project is thoroughly cleaned prior to requesting Substantial Completion Inspection and, again, upon completion of the Project prior to the Final Completion Inspection.
- 3.3.9 Acts and Omissions of Contractor, its Subcontractors and Employees. The Contractor is responsible for acts and omissions of its employees and all its Subcontractors, their agents and employees. The Owner may, in writing, require the Contractor to remove from the Project any of Contractor's or its Subcontractor's employees that the ODR finds to be careless, incompetent, or otherwise objectionable.
- 3.3.10 Indemnification of Owner. The Contractor covenants and agrees to FULLY INDEMNIFY and HOLD HARMLESS, the Owner and the employees, officers, Regents, volunteers, and representatives of the Owner, individually or collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the Owner directly or indirectly arising out of, resulting from or related to Contractor's activities under this Contract, including any acts or omissions of Contractor, any agent, officer, director, representative, employee, consultant or Subcontractor of Contractor, and their respective officers, agents, employees, directors and representatives while in the exercise of performance of the rights or duties under this Contract. The indemnity provided for in this paragraph does not apply to any liability resulting from the negligence of the Owner, its officers or employees, separate contractors or assigned contractors, in instances where such negligence causes personal injury, death or property damage. IN THE EVENT CONTRACTOR AND OWNER ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY WILL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, WITHOUT WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE STATE UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

- 3.3.10.1 The provisions of this indemnification are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.
- 3.3.10.2 The Contractor shall promptly advise the Owner in writing of any claim or demand against the Owner or the Contractor known to the Contractor related to or arising out of the Contractor's activities under this Contract.
- 3.3.11 Ancillary Areas. The Contractor shall operate and maintain operations and associated storage areas at the Site of the Work in accordance with the following:
- 3.3.11.1 The Contractor shall confine all Contractor operations, including storage of materials and employee parking upon the Site of the Work, to areas designated by the Owner.
- 3.3.11.2 The Contractor may erect, at its own expense, temporary buildings that will remain its property. The Contractor shall remove such buildings and associated utility service lines upon completion of the Work, unless the Contractor requests and the Owner provides written consent that it may abandon such buildings and utilities in place.
- 3.3.11.3 The Contractor shall use only established roadways or construct and use such temporary roadways as may be authorized by the Owner. The Contractor shall not allow load limits of vehicles to exceed the limits prescribed by appropriate regulations or law. The Contractor shall provide protection to road surfaces, curbs, sidewalks, trees, shrubbery, sprinkler systems, drainage structures and other like existing improvements to prevent damage, and shall repair any damage, thereto at the expense of the Contractor.
- 3.3.11.4 The Owner may restrict the Contractor's entry to the Site to specifically assigned entrances and routes.
- 3.3.12 Separate Contracts. Additional Contractor responsibilities when the Owner awards separate contracts:
- 3.3.12.1 The Owner reserves the right to award other contracts in connection with other portions of the Project under these or similar contract conditions.

3.3.12.2 The Owner reserves the right to perform operations related to the Project with the Owner's own forces.

3.3.12.3 Under a system of separate contracts, the conditions described herein continue to apply except as may be amended by Change Order.

3.3.12.4 *The Contractor shall cooperate with other contractors employed on the Project by the Owner, including providing access to the Site and project information as requested.*

Article 4. Historically Underutilized Business (HUB) Subcontracting Plan

4.1. General Description. ***The purpose of the HUB Program is to promote full and equal business opportunities for all businesses in State contracting.***

In accordance with 34 TAC §20.14(d)(1)(D)(iii), a respondent (prime contractor) may demonstrate good faith effort to utilize Texas certified HUBs for its subcontracting opportunities if the total value of the respondent's subcontracts with Texas certified HUBs meets or exceeds the statewide HUB goal or the agency specific HUB goal, whichever is higher. When a respondent uses this method to demonstrate good faith effort, the respondent must identify the HUBs with which it will subcontract. If using existing contracts with Texas certified HUBs to satisfy this requirement, only contracts that have been in place for five years or less shall qualify for meeting the HUB goal. This limitation is designed to encourage vendor rotation as recommended by the 2009 Texas Disparity Study.

The Texas A&M University System has determined that the agency's goals are higher than the State's goals. Therefore, respondents are required to use the following: 11.2% for heavy construction other than building contracts; 21.1% for all building construction, including general contractors and operative builders contracts; 21.55% for all special trade construction contracts; 32.07% for professional services contracts; 12.63% for all other services contracts; and 52.78% for commodities contracts.

4.1.1 State agencies are required by statute to make a good faith effort to assist HUBs in participating in contract awards issued by the State. 34 TAC §20.11-20.28, outline the State's policy to encourage outreach to and potential utilization of HUBs in state contracting opportunities through race, ethnic and gender neutral means.

- 4.1.2 A contractor who contracts with the State in an amount of \$100,000 or more is required to make a good faith effort to award subcontracts to HUBs in accordance with 34 TAC §20.14 by submitting a HUB Subcontracting Plan at the time of bidding and complying with the HUB Subcontracting Plan after it is accepted by the Owner and during the term of the contract.
- 4.2. Compliance with Approved HUB Subcontracting Plan. Contractor, having been awarded the Contract in part by complying with the HUB Program statute and rules, hereby covenants to continue to comply with the HUB Program as follows:
- 4.2.1 Prior to substituting a Subcontractor, promptly notify the Owner in the event a change is required for any reason to the accepted HUB Subcontracting Plan.
- 4.2.2 Conduct the good faith effort activities required and provide the Owner with necessary documentation to justify approval of a change to the approved HUB Subcontracting Plan.
- 4.2.3 Cooperate in the execution of a Change Order or such other approval of the change in the HUB Subcontracting Plan as the Contractor and Owner may agree to.
- 4.2.4 Maintain and make available to Owner upon request business records documenting compliance with the accepted HUB Subcontracting Plan.
- 4.2.5 Upon receipt of payment for performance of Work, submit to Owner a compliance report, in the format required by the Owner that demonstrates Contractor's performance of the HUB Subcontracting Plan.
- 4.2.6 Promptly and accurately explain and provide supplemental information to Owner to assist in the Owner's investigation of the Contractor's good faith effort to fulfill the HUB Subcontracting Plan and the requirements under 34 TAC §20.14.
- 4.3. Failure to Demonstrate Good Faith Effort. Upon a determination by Owner that Contractor has failed to demonstrate a good faith effort to fulfill the HUB Subcontracting Plan or any contract covenant detailed above, the Owner may, in addition to all other remedies available to it, report the failure to perform to the Texas Procurement and Support Services under its Vendor Performance and Debarment Program and may bar the Contractor from future contracting opportunities with the Owner.

Article 5. Bonds & Insurance

5.1. Construction Bonds. The Contractor is required to tender to Owner, prior to commencing the Work, performance and payment bonds, as required by Tex. Gov't Code, Chapter 2253.

5.1.1. Performance Bond. A Performance Bond is required if the Contract Sum is in excess of \$100,000. The Performance Bond is solely for the protection of the Owner. The Performance Bond is to be for the Contract Sum to guarantee the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Attorney General of Texas. The Performance Bond shall be effective through the Contractor's warranty period.

5.1.2. Payment Bond. A Payment Bond is required if the Contract Sum is in excess of \$25,000. The Payment Bond is to be for the Contract Sum and is payable to the Owner solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the Contractor or a Subcontractor. The form of the bond shall be approved by the Attorney General of Texas.

5.1.3. Bond Requirements. Each bond shall be executed by a corporate surety or sureties authorized to do business in the State of Texas and acceptable to the Owner, on the Owner's form, and in compliance with the relevant provisions of the Texas Insurance Code. If any bond is for more than 10 percent of the surety's capital and surplus, the Owner may require certification that the company has reinsured the excess portion with one or more reinsurers authorized to do business in the State. A reinsurer may not reinsure for more than 10 percent of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, the Contractor shall, within thirty (30) days after such loss, furnish a replacement bond at no added cost to the Owner.

5.1.4. Power of Attorney. Each bond shall be accompanied by a valid power-of-attorney issued by the surety company, attached to the bond, and signed and sealed with the corporate embossed seal, authorizing the attorney in fact who signs the bond to commit the surety to the terms of the bond, and stating any limit in the amount for which the attorney can issue a single bond.

5.1.5. Bond Indemnification. The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with Tex. Gov't Code, Chapter 2253. IF FOR ANY REASON A STATUTORY PAYMENT OR PERFORMANCE BOND IS NOT

HONORED BY THE SURETY, THE CONTRACTOR SHALL FULLY INDEMNIFY AND HOLD THE OWNER HARMLESS OF AND FROM ANY COSTS, LOSSES, OBLIGATIONS OR LIABILITIES IT INCURS AS A RESULT.

- 5.1.6. Furnishing Bond Information. Owner shall furnish certified copies of the Payment Bond and the related Contract to any qualified person seeking copies who complies with Tex. Gov't Code, § 2253.026.
- 5.1.7. Claims on Payment Bonds. Claims on Payment Bonds must be sent directly to the Contractor and his surety in accordance with Tex. Gov't Code § 2253.041. All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on such Contract, 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 representation by any agent or employee.
- 5.1.8. Payment Claims when Payment Bond not Required. The rights of Subcontractors regarding payment are governed by Tex. Prop. Code, §§53.231 – 53.239 when the value of the Contract between the Owner and the Contractor is less than \$25,000.00. These provisions set out the requirements for filing a valid lien on funds unpaid to the Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claim.
- 5.1.9. Sureties. Sureties shall be listed on the US Department of the Treasury's Listing of Approved Sureties stating companies holding Certificates of Authority as acceptable sureties on Federal Bonds and acceptable reinsuring companies (Department Circular 570) **and have a rating of A- or better with A.M. Best Company.**

5.2. Insurance Requirements.

The Contractor shall carry insurance in the types and amounts indicated in this Article for the duration of the Contract. The required insurance shall include coverage for Owner's property in the care, custody and control of Contractor prior to construction, during construction and during the warranty period. The insurance shall be evidenced by delivery to the Owner of certificates of insurance executed by the insurer or its authorized agent stating coverages, limits, expiration dates and compliance with all applicable required provisions. Upon request, the Owner, and/or its agents, shall be entitled to receive without expense, copies of the policies and all endorsements. The Contractor shall update all expired policies prior to

submission for monthly payment. Failure to update policies shall be reason for withholding of payment until renewal is provided to the Owner.

5.2.1 The Contractor shall provide and maintain the insurance coverage with the minimum amounts described below until the end of the warranty period unless otherwise stated in Special Conditions. Failure to maintain insurance coverage, as required, is grounds for Suspension of Work for Cause pursuant to Article 14. The Contractor will be notified of the date on which the Builder's Risk insurance policy may be terminated through Substantial Completion notices, acceptance notices and/or other means as deemed appropriate by the Owner.

5.2.2 Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas or eligible surplus lines insurers operating in accordance with the Texas Insurance Code and have a financial strength rating of A- or better and a financial strength rating of VII or better as measured by A.M. Best Company or otherwise acceptable to Owner, and shall include:

5.2.2.1 Workers' Compensation Insurance with limits as required by the Texas Workers' Compensation Act, with the policy endorsed to provide a waiver of subrogation as to the Owner, and Employer's Liability insurance of not less than:

Coverage	Limit
Statutory Benefits (Coverage A)	Statutory
Employers Liability (Coverage B)	\$1,000,000 Each Accident \$1,000,000 Disease/Employee \$1,000,000 Disease/Policy Limit

Workers' Compensation policy must include under Item 3.A. on the information page of the workers' compensation policy the state in which work is to be performed for the Owner. No 'alternative' form of insurance will be permitted

5.2.2.2 Commercial General Liability Insurance, including Independent Contractor's liability, Products and Completed Operations and Contractual Liability, covering, but not limited to, the liability assumed under the indemnification provisions of this Contract, fully insuring Contractor's (or Subcontractors) liability for bodily injury and property damage with a combined bodily injury (including death) and property damage minimum limit of:

\$1,000,000	per occurrence
\$2,000,000	general aggregate
\$1,000,000	products and completed operations aggregate
\$1,000,000	personal/advertising injury
\$300,000	damage to rented premises
\$5,000	medical payments

Coverage shall be on an "occurrence" basis.

The policy shall include coverage extended to apply to completed operations and explosion, collapse, and underground hazards. The policy shall include endorsement CG2503 Amendment-Aggregate Limits of Insurance (Per Project) or its equivalent.

- 5.2.2.3 Asbestos Abatement Liability Insurance, including coverage for liability arising from the encapsulation, removal, handling, storage, transportation, and disposal of asbestos containing materials. *This requirement applies if the Work or the Project includes asbestos containing materials.

The combined single limit for bodily injury and property damage will be a minimum of \$1,000,000 per occurrence.

*Specific Requirement for Claims-Made Form: Required period of coverage will be determined by the following formula: Continuous coverage for life of the Contract, plus one (1) year (to provide coverage for the warranty period), and an extended discovery period for a minimum of five (5) years which shall begin at the end of the warranty period.

If this Contract is for asbestos abatement only, the All-Risk Builder's Risk or All-Risk Installation Floater (e) is not required.

- 5.2.2.4 Comprehensive Automobile Liability Insurance, covering owned, hired, and non-owned vehicles, with a combined bodily injury (including death) and property damage minimum limit of \$1,000,000 per occurrence. No aggregate shall be permitted for this type of coverage.

Such insurance is to include coverage for loading and unloading hazards.

- 5.2.2.5 All Risk Builder's Risk Insurance (or All Risk Installation Floater for instances in which the Project involves solely the

installation of equipment). Coverage shall be All-Risk, including, but not limited to, Fire, Extended Coverage, Vandalism and Malicious Mischief, Flood, Earthquake, Theft and damage resulting from faulty workmanship, design or materials. If Builder's Risk, limit shall be equal to 100 percent of the Contract. If Installation Floater, limit shall be equal to 100 percent of the contract cost. The policy shall be written jointly in the names of the Owner, the Contractor, Subcontractors and, Subcontractors shall be named as additional insured. The policy shall have endorsements as follows:

5.2.2.5.1 This insurance shall be specific as to coverage and not contributing insurance with any permanent insurance maintained on the property.

5.2.2.5.2 This insurance shall not contain an occupancy clause suspending or reducing coverage should the Owner occupy, or begin beneficial occupancy before the Owner has accepted final completion.

5.2.2.5.3 Loss, if any, shall be adjusted with and made payable to the Owner as Trustee for the insureds as their interests may appear; the right of subrogation under the Builder's Risk policy shall be waived as to the Owner. The Owner shall be named as Loss Payee. For renovation projects or projects that involve portions of work contained within an existing structure, refer to Special Conditions for possible additional Builder's Risk insurance requirements.

5.2.2.6 "Umbrella" Liability Insurance. The Contractor shall obtain, pay for and maintain umbrella liability insurance during the contract term, insuring the Contractor (or Subcontractor) for an amount of not less than the amount specified in the Special Conditions that provides coverage at least as broad as and applies in excess and follows form of the primary liability coverages required hereinabove. The policy shall provide "drop down" coverage where underlying primary insurance coverage limits are insufficient or exhausted.

If the Contract is for asbestos abatement only, the "Umbrella" Excess Liability is not required.

5.2.3 Policies must include the following clauses, as applicable:

- 5.2.3.1 This insurance shall not be canceled, materially changed, or non-renewed until after thirty (30) days prior written notice has been given to the Owner.
- 5.2.3.2 It is agreed that the Contractor's insurance shall be deemed primary with respect to any insurance or self insurance carried by the Owner for liability arising out of operations under the Contract with the Owner.
- 5.2.3.3 The Owner, its officials, directors, employees, representatives, and volunteers are added as additional insureds as respects operations and activities of, or on behalf of the named insured performed under contract with the Owner. The additional insured status must cover completed operations as well. This is not applicable to the workers' compensation policy.
- 5.2.3.4 The workers' compensation and employers' liability policy will provide a waiver of subrogation in favor of the Owner.
- 5.2.4 Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall require each Subcontractor performing work under the Contract, at the Subcontractor's own expense, to maintain during the term of the Contract, the same stipulated minimum insurance including the required provisions and additional policy conditions as shown above. As an alternative, the Contractor may include its Subcontractors as additional insureds on its own coverage as prescribed under these requirements. The Contractor's certificate of insurance shall note in such event that the Subcontractors are included as additional insureds and that Contractor agrees to provide Workers' Compensation for the Subcontractors and their employees. The Contractor shall obtain and monitor the certificates of insurance from each Subcontractor in order to assure compliance with the insurance requirements. The Contractor must retain the certificates of insurance for the duration of the Contract plus 5 years and shall have the responsibility of enforcing these insurance requirements among its Subcontractors. The Owner shall be entitled, upon request and without expense, to receive copies of these certificates.
- 5.2.5 Workers' Compensation Insurance Coverage must meet the statutory requirements of Tex. Lab. Code, §401.011(44), and those specific to construction projects for public entities as required by Tex. Lab. Code, §406.096.

Article 6. Contract Documents

6.1. Drawings and Specifications

- 6.1.1 Copies Furnished. The Contractor will be furnished one (1) digital copy of Drawings and Specifications free of charge.
- 6.1.2 Ownership of Drawings and Specifications. All Drawings, Specifications and copies thereof furnished by the A/E are to remain A/E's property. These documents are not to be used on any other project, and with the exception of one contract set for each party to the Contract, are to be returned to the A/E, upon request, following completion of the Work.
- 6.1.3 Interrelation of Documents. The Contract Documents as referenced in the agreement between the Owner and the Contractor, are complimentary, and what is required by one shall be as binding as if required by all.
- 6.1.4 Resolution of Conflicts in Documents. Where conflicts may exist between and/or within the Contract Documents, the higher quality, greater quantity, more restrictive, and/or more expensive requirement ***shall be required*** and shall be the basis of Contractor pricing. The Contractor shall notify the A/E and the ODR for resolution of the issue prior to executing the work in question.
- 6.1.5 Contractor's Duty to Review Contract Documents. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to pricing or commencing the Work, the Contractor shall examine and compare the Contract Documents, information furnished by the Owner, relevant field measurements made by the Contractor and any visible or reasonably anticipated conditions at the Site affecting the Work. This duty extends throughout the construction phase prior to commencing each particular work activity and/or system installation.
- 6.1.6 Discrepancies and Omissions in Drawings and Specifications
- 6.1.6.1 The Contractor shall promptly report to the ODR and to the A/E the discovery of any apparent error, omission or inconsistency in the Contract Documents prior to execution of the Work.
- 6.1.6.2 It is recognized that the Contractor is not acting in the capacity of a licensed design professional, unless it is performing as a Design-Build firm.

- 6.1.6.3. It is further recognized that the Contractor's examination of Contract Documents is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions or inconsistencies or to ascertain compliance with applicable laws, building codes or regulations, unless it is performing as a Design-Build firm.
- 6.1.6.4 When performing as a Design-Build firm, the Contractor has sole responsibility for discrepancies, errors, and omissions in the Drawings and Specifications.
- 6.1.6.5 When performing as a Construction Manager-at-Risk, the Contractor has a shared responsibility for discovery and resolution of discrepancies, errors, and omissions in the Contract Documents. In such case, the Contractor's responsibility pertains to review, coordination, and recommendation of resolution strategies within budget constraints, but does not establish a liability for design.
- 6.1.6.6 The Contractor has no liability for errors, omissions, or inconsistencies in the Drawings and Specifications unless the Contractor knowingly failed to report a recognized problem to the Owner or the Work is executed under a Design-Build contract as outlined above. Should the Contractor fail to perform the examination and reporting obligations of these provisions, the Contractor is responsible for avoidable costs, direct, and/or consequential damages.
- 6.1.6.7 *The Owner makes no representations, express or implied, about the adequacy or accuracy of the Drawings, Specifications or other Construction Documents provided or their suitability for their intended use. Owner expressly disclaims any implied warranty that the Construction Documents are adequate, accurate or suitable for their intended use.***

6.2 Requirements for Record Documents.

The Contractor shall maintain at the Site one copy of all Drawings, Specifications, addenda, approved submittals, contract modifications, and all Project correspondence. The Contractor shall keep current and maintain Drawings and Specifications in good order with postings and markings to record actual conditions of Work and show and reference all changes made during construction. The Contractor shall provide Owner and A/E access to these documents.

- 6.2.1 The Contractor shall maintain the record set of Drawings and Specifications which reflect the "As Constructed" conditions and representations of the Work performed, whether it be directed by addendum, Change Order or otherwise. The Contractor shall make available all records prescribed herein for reference and examination by the Owner and its representatives and agents.
- 6.2.2 The Contractor shall update the "As-Constructed" Drawings and Specifications monthly prior to submission of periodic partial pay estimates. Failure to maintain such records constitutes cause for denial of a progress payment otherwise due.
- 6.2.3 Prior to requesting the Substantial Completion Inspection by the ODR and A/E, the Contractor shall furnish the ODR a complete set of the marked up "As-Constructed" set maintained at the Site and one photocopy of same. Concurrently with furnishing these record drawings, the Contractor shall furnish a preliminary copy of each operating and maintenance manual (O&M) required by the Contract Documents, for review by the A/E and the ODR.
- 6.2.4 Once determined acceptable, the Contractor shall provide to Owner mylar prints of professionally drafted "As-Constructed" drawings, along with an electronic copy on CD, "As-Constructed" specifications in bound volume(s) along with an electronic copy on CD, two sets of photocopies or prints of the mylar "As-Constructed" drawings, two sets of operating and maintenance manuals, two sets of approved submittals, and other record documents as required elsewhere in the Contract Documents. ***All electronic copies shall be provided in a format acceptable to the ODR.***

Article 7. Safety

- 7.1. General. It is the duty and responsibility of the Contractor and all of its Subcontractors to be familiar with, enforce and comply with all requirements of Public Law 91-596, 29 U.S.C. §§651 et. seq., the Occupational Safety and Health Act of 1970 (OSHA), and all amendments thereto. The Contractor shall prepare a Safety Plan specific to the Project and submit it to the ODR and A/E prior to commencing Work. In addition, the Contractor and all of its Subcontractors shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss, and erect and maintain all necessary safeguards for such safety and protection.
- 7.2. Notices. The Contractor shall provide notices as follows:

- 7.2.1 Notify owners of adjacent property including those that own or operate utility services and/or underground facilities, and utility owners, when prosecution of the Work may affect them or their facilities, and cooperate with them in the protection, removal, relocation and replacement of their facilities, and with respect to access to their facilities and/or utilities.
- 7.2.2 Coordinate the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in connection with laws and regulations. Maintain a complete file of MSDS for all materials in use on Site throughout the construction phase and make such file available to the Owner and its agents as requested.
- 7.3. Emergencies. In any emergency affecting the safety of persons or property, the Contractor shall act to minimize, mitigate, and prevent threatened damage, injury or loss.
 - 7.3.1 Have authorized agents of Contractor respond immediately upon call at anytime of day or night when circumstances warrant the presence of Contractor to protect the Work or adjacent property from damage or to take such action pertaining to the Work as may be necessary to provide for the safety of the public.
 - 7.3.2 Give the ODR and A/E prompt notice of all such events.
 - 7.3.3 If Contractor believes that any changes in the Work or variations from Contract Documents have been caused by its emergency response, promptly notify the Owner within 72 hours of the emergency response event.
 - 7.3.4 Should Contractor fail to respond, Owner is authorized to direct other forces to take action as necessary and Owner may deduct any cost of remedial action from funds otherwise due the Contractor.
- 7.4. Injuries. In the event of an incident or accident involving outside medical care for an individual on or near the Work, Contractor shall notify the ODR and other parties as may be directed within 24 hours of the event.
 - 7.4.1 Record the location of the event and the circumstances surrounding it, by using photography or other means, and gather witness statements and other documentation which describes the event.
 - 7.4.2 Supply the ODR and A/E with an incident report no later than 36 hours after the occurrence of the event. In the event of a catastrophic incident (one fatality or three workers hospitalized), barricade and

leave intact the scene of the incident until all investigations are complete. A full set of incident investigation documents, including facts, finding of cause, and remedial plans shall be provided by Contractor to Owner within one week after occurrence, unless otherwise directed by Owner's legal counsel. Contractor shall provide the ODR with written notification within one week of such catastrophic event if legal counsel delays submission of a full report.

7.5. Environmental Safety. Upon encountering any previously unknown potentially hazardous material, or other materials potentially contaminated by hazardous material, Contractor shall immediately stop work activities impacted by the discovery, secure the affected area, and notify the ODR immediately.

7.5.1 The Contractor shall bind all Subcontractors to the same duty.

7.5.2 Upon receiving such notice, the ODR will promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or extent of any environmental hazard. Upon completion of this investigation, the ODR will issue a written report to the Contractor identifying the material(s) found and indicate any necessary steps to be taken to treat, handle, transport or dispose of the material.

7.5.3 The Owner may hire third-party contractors to perform any or all such steps.

7.5.4 Should compliance with the ODR's instructions result in an increase in the Contractor's cost of performance, or delay the Work, the Owner will make an equitable adjustment to the Contract Sum and/or the Contract Time, and modify the Contract in writing accordingly.

7.6. Trenching Plan. When the Project requires excavation which either exceeds a depth of four feet, or results in any worker's upper body being positioned below grade level, the Contractor is required to submit a trenching plan to the ODR prior to commencing trenching operations. The plan is required to be prepared and sealed by a professional engineer registered in the State of Texas, and employed by the Contractor. Said engineer cannot be anyone who is otherwise either directly or indirectly engaged on this Project.

Article 8. Quality Control

8.1. Materials & Workmanship. The Contractor shall execute Work in a good and workmanlike manner in accordance with the Contract Documents. The Contractor shall develop and provide a Quality Control Plan specific to this Project and acceptable to the Owner. Where Contract Documents do not

specify quality standards, the Contractor shall complete and construct all Work in compliance with generally accepted construction industry standards. Unless otherwise specified, the Contractor shall incorporate all new materials and equipment into the Work under the Contract.

8.2. Testing

8.2.1 *Contractor Testing.* The Contractor is responsible for coordinating and paying for all routine and special tests required to confirm compliance with quality and performance requirements of the Contract Documents. This “quality control” testing shall include any particular testing required by the Specifications and the following general tests:

8.2.1.1 Any test of basic material or fabricated equipment included as part of a submittal for a required item in order to establish compliance with the Contract Documents.

8.2.1.2 Any test of basic material or fabricated equipment offered as a substitute for a specified item on which a test may be required in order to establish compliance with the Contract Documents.

8.2.1.3 Routine, preliminary, start-up, pre-functional and operational testing of building equipment and systems as necessary to confirm operational compliance with requirements of the Contract Documents.

8.2.1.4 All subsequent tests on original or replaced materials conducted as a result of prior testing failure.

8.2.2 Owner Testing. The Owner reserves the right to subject materials and systems incorporated into the Project to routine tests as may be specified or as deemed necessary by the ODR or the A/E to insure compliance with the quality and/or performance requirements of the Contract Documents and/or with laws, ordinances, rules, regulations and/or orders of any public authority having jurisdiction. The results of such “quality assurance” testing will be provided to the Contractor and, to the extent provided, the Contractor may rely on findings.

8.2.3 All testing shall be performed in accordance with standard test procedures by an accredited laboratory, or special consultant as appropriate, acceptable to the Owner. Results of all tests shall be provided promptly to the ODR, A/E and the Contractor.

8.2.4 Non-Compliance (Test Results). Should any of the tests indicate that a material and/or system does not comply with the contract

requirements, the burden of proving compliance remains with the Contractor. The tests are subject to the following conditions:

8.2.4.1 The Contractor's selected laboratory must be acceptable to the Owner.

8.2.4.2 The quality and nature of the tests must be acceptable to the Owner.

8.2.4.3 All tests must be taken in the presence of the A/E and/or ODR, or their representatives.

8.2.4.4 If tests confirm that the material/systems comply with Contract Documents, the Owner will pay the cost of the test.

8.2.4.5 If tests reveal noncompliance, the Contractor will pay the laboratory fees and costs of that particular test and all future tests of that failing Work, necessary to eventually confirm compliance with Contract Documents.

8.2.4.6 Proof of noncompliance with the Contract Documents will make the Contractor liable for any corrective action which the ODR determines appropriate, including complete removal and replacement of non-compliant work or material.

8.2.5 Notice of Testing. The Contractor shall give the ODR and the A/E timely notice of its readiness and the date arranged so the ODR and A/E may observe such inspection, testing or approval.

8.2.6 Test Samples. The Contractor is responsible for providing Samples of sufficient size for test purposes and for coordinating such tests with the Work Progress Schedule to avoid delay.

8.2.7 Covering Up Work If the Contractor covers up any Work without providing the Owner an opportunity to inspect, the Contractor shall, if requested by the ODR, uncover and recover the Work at Contractor's expense.

8.3 Submittals

8.3.1 Contractor's Submittals. The Contract shall submit with reasonable promptness consistent with the Work Project Schedule and in orderly sequence all Shop Drawings, Samples, or other information required by the Contract Documents, or subsequently required by Change Order. Prior to submitting, the Contractor shall review each submittal for compliance with the Contract Documents and certify its approval

by an approval stamp affixed to each copy. Submittal data presented without the Contractor's certification will be returned without review or comment, and any delay resulting from such certification is the Contractor's responsibility.

8.3.1.1 Within twenty-one (21) calendar days of the effective date of the Notice to Proceed with construction, the Contractor shall submit to the ODR, and the A/E, a submittal schedule/register, organized by specification section, listing all items to be furnished for review and approval by the A/E and Owner. The list shall include Shop Drawings, manufacturer's literature, certificates of compliance, materials samples, materials colors, guarantees, and all other items identified throughout the Specifications.

8.3.1.2 The Contractor shall indicate the type of item, contract requirements reference, and Contractor's scheduled dates for submitting the item along with the requested dates for approval answers from the A/E and Owner. The submittal register shall indicate the projected dates for procurement of all included items and shall be updated at least monthly with actual approval and procurement dates. The Contractor shall show and allow a minimum of thirty (30) calendar days duration after receipt by the A/E and ODR for review and approval. If re-submittal is required, allow a minimum of an additional fifteen (15) calendar days for review. Submit the updated submittal register with each request for progress payment. The Owner may establish routine review procedures and schedules for submittals at the preconstruction conference and/or elsewhere in the Contract Documents. ***Failure to update and provide the submittal schedule/register as required shall constitute cause for Owner to withhold payment otherwise due.***

8.3.1.3 The Contractor shall coordinate the submittal register with the Work Progress Schedule. Do not schedule Work requiring a submittal to begin prior to scheduling review and approval of the related submittal. The Contractor shall revise and/or update both schedules monthly to ensure consistency and current project data. The Contractor shall provide to the ODR the updated submittal register and schedule with each application for progress payment. The Contractor shall refer to the requirements for the Work Progress Schedule for inclusion of procurement activities therein. Regardless, the submittal register shall identify dates submitted and returned and shall be used to confirm status and disposition of

particular items submitted, including approval or other action taken and other information not conveniently tracked through the Work Progress Schedule.

8.3.1.4 By submitting Shop Drawings, Samples or other required information, the Contractor represents and certifies that it has determined and verified all applicable field measurements, field construction criteria, materials, catalog numbers and similar data; and has checked and coordinated each Shop Drawing and Sample with the requirements of the Work and the Contract Documents.

8.3.2 Review of Submittals. A/E and ODR review is only for conformance with the design concept and the information provided in the Contract Documents. Responses to submittals will be in writing. The approval of a separate item does not indicate approval of an assembly in which the item functions. The approval of a submittal does not relieve the Contractor of responsibility for any deviation from the requirements of the Contract unless the Contractor informs the A/E and ODR of such deviation in a clear, conspicuous, and written manner on the submittal transmittal and at the time of submission, and obtains the **A/E's and Owner's** written specific approval of the particular deviation.

8.3.3 Correction and Resubmission. The Contractor shall make any corrections required to a submittal and resubmit the required number of corrected copies promptly so as to avoid delay, until submittal approval. When applicable, the Contractor shall direct attention of the A/E and the ODR in writing to any new revisions other than the corrections requested on previous submissions.

8.3.4 Limits on Shop Drawing Approvals. The Contractor shall not commence any Work requiring a submittal until approval of the submittal. The Contractor shall construct all such work in accordance with approved submittals. Approval of Shop Drawings and Samples is not authorization to Contractor to perform extra work or changed work unless authorized through a Change Order. The A/E's and ODR's approval, if any, does not relieve Contractor from responsibility for defects in the Work resulting from errors or omissions of any kind on the submittal, regardless of any approval action.

8.3.5 No Substitutions Without Approval. The ODR and the A/E may receive and consider the Contractor's request for substitution when the Contractor agrees to reimburse the Owner for review costs and satisfies 8.3.5.1, 8.3.5.2, and 8.3.5.3 in combination with one or more

of the items in 8.3.5.4 through 8.3.5.11 of the following conditions, as determined by the Owner. If the Contractor does not satisfy these conditions, the ODR and A/E will return the request without action except to record noncompliance with these requirements. The Owner will not consider the request if the Contractor cannot provide the product or method because of failure to pursue the Work promptly or coordinate activities properly.

- 8.3.5.1 The Contract Documents do not require extensive revisions.
- 8.3.5.2 Proposed changes are in keeping with the general intent of the Contract Documents and the design intent of the A/E and do not result in an increase in cost to the Owner.
- 8.3.5.3 The request is timely, fully documented, and properly submitted.
- 8.3.5.4 The Contractor cannot provide the specified product, assembly or method of construction within the Contract Time.
- 8.3.5.5 The request directly relates to an "or-equal" clause or similar language in the Contract Documents.
- 8.3.5.6 The request directly relates to a "product design standard" or "performance standard" clause in the Contract Documents.
- 8.3.5.7 The requested substitution offers the Owner a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities the Owner must assume.
- 8.3.5.8 The specified product or method of construction cannot receive necessary approval by an authority having jurisdiction, and the ODR can approve the requested substitution.
- 8.3.5.9 The Contractor cannot provide the specified product, assembly or method of construction in a manner that is compatible with other materials and the Contractor certifies that the substitution will overcome the incompatibility.
- 8.3.5.10 The Contractor cannot coordinate the specified product, assembly or method of construction with other materials

and the Contractor certifies it can coordinate the proposed substitution.

8.3.5.11 The specified product, assembly or method of construction cannot provide a warranty required by the Contract Documents and the Contractor certifies that the proposed substitution provides the required warranty.

8.3.6 Unauthorized Substitutions at Contractor's Risk. The Contractor is financially responsible for any additional costs or delays resulting from using materials, equipment or fixtures other than those specified. The Contractor shall reimburse the Owner for any increased design or contract administration costs resulting from such unauthorized substitutions.

8.4 Field Mock-up.

8.4.1 Mock-ups shall be constructed prior to commencement of a specified scope of work to confirm acceptable workmanship.

8.4.1.1 As a minimum, field mock-ups shall be constructed for roofing systems, exterior veneer/finish systems, glazing systems, and any other Work requiring a mock-up as identified throughout the Contract Documents. Mock-ups for systems not part of the project scope shall not be required.

8.4.1.2 Mock-ups may be incorporated into the Work if allowed by the Contract Documents and if acceptable to the ODR. If mock-ups are freestanding, they shall remain in place until otherwise directed by the Owner.

8.4.1.3 The Contractor shall include field mock-ups in their Work Progress Schedule and shall notify the ODR and A/E of readiness for review sufficiently in advance to coordinate review without delay.

8.5 Inspection During Construction.

8.5.1 The Contractor shall provide sufficient, safe, and proper facilities, including equipment, as necessary for safe access at all reasonable times for observation and/or inspection of the Work by the Owner and its agents.

8.5.2 The Contractor shall not cover up any work with finishing materials or other building components prior to providing the Owner and its agents an opportunity to perform an inspection of the Work.

8.5.2.1 Should corrections of the Work be required for approval, the Contractor shall not cover up corrected Work until the Owner indicates approval.

8.5.2.2 The Contractor shall provide notification of at least five (5) working days or otherwise as mutually agreed, to the ODR of the anticipated need for a cover-up inspection. Should the ODR fail to make the necessary inspection within the agreed period, the Contractor may proceed with cover up Work, but is not relieved of responsibility for Work to comply with requirements of the Contract Documents.

Article 9. Construction Schedules

9.1. Contract Time. TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT. The Contract Time is the time between the dates indicated in the Notice to Proceed for the Date of Commencement (Start Date) and for achieving Substantial Completion. The Contract Time can be modified only by Change Order. Failure to achieve Substantial Completion within the Contract Time, and Final Completion within thirty (30) days following Substantial Completion or as otherwise agreed to in writing will cause damage to the Owner and may subject the Contractor to Liquidated Damages as provided in Article 9.11.

9.2. Notice to Proceed. The Owner will issue a Notice to Proceed which shall state the dates for beginning Work (the Date of Commencement) and for achieving Substantial Completion and Final Completion of the Work.

9.3. Work Progress Schedule. Refer to Special Conditions and Division 1 General Administration Specifications for additional schedule requirements. Unless indicated otherwise in those documents, Contractor shall submit to the ODR and the A/E its initial Work Progress Schedule for the Work in relation to the entire Project not later than twenty-one (21) days after the effective date of the Notice to Proceed. Unless otherwise indicated in the Contract Documents, the Work Progress Schedule shall be based upon a computerized Critical Path Method (CPM) with full reporting capability. This initial schedule shall indicate the dates for starting and completing the various aspects required to complete the Work, including mobilization, procurement, installation, testing, inspection, and acceptance of all the Work of the Contract. When acceptable to the Owner, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the contract duration.

9.3.1 Schedule Requirements. The Contractor shall submit an electronic and a paper copy of the initial Work Progress Schedule reflecting

accurate and reliable representations of the planned progress of the Work, the Work to date if any, and of the Contractor's actual plans for its completion. The Contractor shall organize and provide adequate detail so the Work Progress Schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.

9.3.1.1 The Contractor shall re-submit initial Schedule as required to address review comments from A/E and ODR until such Schedule is accepted as the Baseline Schedule.

9.3.1.2 Submittal of a schedule, schedule revision or schedule update constitutes the Contractor's representation to the Owner of the accurate depiction of all progress to date and that the Contractor will follow the schedule as submitted in performing the Work.

9.3.2 Schedule Updates. The Contractor shall update the Work Progress Schedule and the Submittal Schedule monthly, as a minimum, to reflect progress to date and current plans for completing the Work, and submit a paper and electronic copy of the update to the A/E and ODR as directed. The Owner has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. The Contractor shall show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. The Contractor may revise the Progress Schedule logic only with the Owner's concurrence when in the Contractor's judgment it becomes necessary for the management of the Work. The Contractor shall identify all proposed changes to the schedule logic to the Owner and to the A/E via an Executive Summary accompanying the updated schedule for review prior to implementation of revisions.

9.3.3 The Work Progress Schedule is for the Contractor's use in managing the Work, and submittal of the Schedule and successive updates or revisions, is for the information of the Owner and to demonstrate that the Contractor has complied with requirements for planning the Work. The Owner's acceptance of a schedule, schedule update or revision, constitutes the Owner's agreement to coordinate its own activities with the Contractor's activities as shown on the schedule.

9.3.3.1 Acceptance of the Work Progress Schedule, or an update and/or revision thereto does not indicate any approval of the Contractor's proposed sequences and duration.

9.3.3.2 Acceptance of a Work Progress Schedule update or revision indicating early or late completion does not constitute the Owner's consent, alter the terms of the Contract, or waive either the Contractor's responsibility for timely completion or the Owner's right to damages for the Contractor's failure to do so.

9.3.3.3 The Contractor's scheduled dates for completion of any activity or the entire Work do not constitute a change in terms of the Contract. Change Orders are the only method of modifying the completion date(s) and Contract Time.

9.4. Ownership of Float. Unless indicated otherwise in the Contract Documents, the Contractor shall develop the Work Progress Schedule and its execution plan to provide a minimum of 10 percent total float at the project level at acceptance of the Baseline Schedule. Float time contained in the Work Progress Schedule is not for the exclusive benefit of the Contractor or the Owner, but belongs to the Project and may be consumed by either party as needed on a first-used basis.

9.5. Completion of Work. The Contractor is accountable for completing the Work in the time stated in the Contract, or as otherwise amended by Change Order.

9.5.1 If, in the judgment of the Owner, the work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to insure timely completion of the entire Work or a separable portion thereof, the Contractor, when so informed by the Owner, shall immediately take action to increase the rate of work placement by:

9.5.1.1 An increase in working forces.

9.5.1.2 An increase in equipment or tools.

9.5.1.3 An increase in hours of work or number of shifts.

9.5.1.4 Expediting delivery of materials.

9.5.1.5 Other action proposed if acceptable to Owner.

9.5.2 Within ten (10) calendar days after such notice from the ODR, the Contractor shall notify the ODR in writing of the specific measures taken and/or planned to increase the rate of progress. The Contractor shall include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating the Contractor's plan for achieving timely completion of the

Project. Should the ODR deem the plan of action inadequate, the Contractor shall take additional steps or make adjustments as necessary to its plan of action until it meets with the ODR's approval.

9.6 Modification of the Contract Time

9.6.1 Delays and extension of time as hereinafter described are valid only if executed in accordance with provisions set forth in Article 11.

9.6.2 When a delay defined herein as excusable prevents the Contractor from completing the Work within the Contract Time, the Contractor is entitled to an extension of time. The Owner will make an equitable adjustment and extend the number of calendar days lost because of excusable delay, as measured by the Contractor's progress schedule. All extensions of time will be granted in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which only consume float without delaying the project completion date.

9.6.2.1 "A Weather Day" is a day on which the Contractor's current schedule indicates Work is to be done, and on which inclement weather and related site conditions prevent the Contractor from performing seven continuous hours of Work between the hours of 7:00 a.m. and 6:00 p.m. Weather days are excusable non-compensatory delays. When weather conditions at the Site prevent Work from proceeding, the Contractor shall immediately notify the ODR for confirmation of the conditions. At the end of each calendar month, the Contractor shall submit to the ODR and A/E a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Based on confirmation by the ODR, any time extension granted will be issued by Change Order **for those weather days during that month which exceed the number expected, as shown in the Rainfall Table located in Special Conditions**. If the Contractor and Owner cannot agree on the time extension, the Owner may issue a Unilateral Change Order for a fair and reasonable time extension.

9.6.2.2 Excusable Delay. The Contractor is entitled to an equitable adjustment of time, issued via Change Order, for delays caused by the following:

9.6.2.2.1 Errors, omissions and imperfections in design which the A/E corrects by means of changes in the Drawings and Specifications.

- 9.6.2.2.2 Unanticipated physical conditions at the Site which the A/E corrects by means of changes to the Drawings and Specifications or for which the ODR directs changes in the Work identified in the Contract Documents.
- 9.6.2.2.3 Changes in the Work that affect activities identified in the Contractor's schedule as "critical" to completion of the entire Work, if such changes are ordered by the ODR or the A/E.
- 9.6.2.2.4 Suspension of Work for unexpected natural events (sometimes called "acts of God"), civil unrest, strikes or other events which are not within the reasonable control of the Contractor.
- 9.6.2.2.5 Suspension of Work for convenience of the ODR, which prevents Contractor from completing the Work within the Contract Time.

9.6.3 The Contractor's relief in the event of such delays is the time impact to the critical path as determined by analysis of the Contractor's schedule. In the event that the Contractor incurs additional direct costs because of the delay, they are to be determined pursuant to the provisions of Article 11.

9.7 No Damages for Delay. *The Contractor has no claim for monetary damages for delay or hindrances to the Work from any cause, including without limitation any act or omission of the Owner.*

9.8 Concurrent Delay. When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable, the Contractor may not be entitled to a time extension for the period of concurrent delay.

9.9 Other Time Extension Requests. Time extensions requested in association with changes to the Work directed or requested by the Owner shall be included with the Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by paragraph 9.6.2.1 above. If the Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, it shall give the ODR written notice, stating the nature of the delay and the activities potentially affected, within five (5) calendar days after the onset of the event or circumstance giving rise to the delay. The Contractor shall provide sufficient written evidence to document the delay. In the case

of a continuing cause of delay, only one **notice of delay** is necessary. The Contractor shall state claims for extensions of time in numbers of whole or half calendar days.

9.9.1 Within ten (10) calendar days after the cessation of the delay, the Contractor shall formalize its request for extension of time in writing to include a full analysis of the impact of the delay on the Work Progress Schedule and substantiation of the excusable nature of the delay. All changes to the Contract Time or made as a result of such claims is by Change Order, as set forth in Article 11.

9.9.2 No extension of time releases the Contractor or the Surety furnishing a performance or payment bond from any obligations under the Contract or such bond. Those obligations remain in full force until the discharge of the Contract.

9.9.3 Contents of Time Extension Requests. The Contractor shall provide with each time extension request a quantitative demonstration of the impact of the delay on project completion time, based on the Work Progress Schedule. The Contractor shall include with Time Extension Requests a reasonably detailed narrative setting forth:

9.9.3.1 The nature of the delay and its cause; the basis of the Contractor's claim of entitlement to a time extension.

9.9.3.2 Documentation of the actual impacts of the claimed delay on the critical path indicated in the Contractor's Work Progress Schedule, and any concurrent delays.

9.9.3.3 Description and documentation of steps taken by the Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule.

9.9.4 Owner's Response. The Owner will respond to the Time Extension Request by providing to the Contractor written notice of the number of days granted, if any, and giving its reason if this number differs from the number of days requested by the Contractor.

9.9.4.1 The Owner will not grant time extensions for delays that do not affect the Contract Completion Date.

9.9.4.2 The Owner will respond to each properly submitted Time Extension Request within fifteen (15) calendar days following receipt. If the Owner cannot reasonably make a determination about the Contractor's entitlement to a time

extension within that time, the Owner will notify the Contractor in writing. Unless otherwise agreed by the Contractor, the Owner has no more than fifteen (15) additional calendar days to prepare a final response. If the Owner fails to respond within forty-five (45) calendar days from the date the Time Extension Request is received, the Contractor is entitled to a time extension in the amount requested.

9.10 Failure to Complete Work Within the Contract Time. **TIME IS OF THE ESSENCE OF THIS CONTRACT.** The Contractor's failure to substantially complete the Work within the Contract Time or to achieve Final Completion as required will cause damage to the Owner. These damages are liquidated by agreement of the Contractor and the Owner, as set forth in Article 9.11 below.

9.11 Liquidated Damages. ***For each consecutive calendar day after the date of Substantial Completion, plus any extensions of time granted by Change Order, that the Work is not substantially completed, Contractor shall pay to Owner, within ten (10) days following written demand, an amount determined by the following schedule:***

AACC		Liquidated Damages
<u>From</u>	<u>To</u>	<u>per day</u>
\$1,000,000	\$14,999,999.99	\$ 2,500
\$15,000,000	\$29,999,999.99	\$ 5,000
\$30,000,000	\$44,999,999.99	\$ 7,500
\$45,000,000	\$59,999,999.99	\$10,000
\$60,000,000	\$69,999,999.99	\$12,500
\$70,000,000	\$79,999,999.99	\$15,000
\$80,000,000	\$99,999,999.99	\$17,500
\$100,000,000 and over		\$20,000

not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that Owner will sustain for late completion. Owner may also recover the liquidated damages from any money due or that becomes due Contractor. The amount of liquidated damages may be adjusted by Owner in Special Conditions.

The parties stipulate and agree that the actual damages sustained by Owner for late completion of the Project will be uncertain and difficult to ascertain, that calculating Owner's actual damages would be impractical, unduly burdensome, and cause unnecessary delay, and that the amount of daily liquidated damages set forth above is a reasonable estimate.

Payment of the liquidated damages does not preclude recovery by Owner of other damages or losses under other provisions of the Contract, except for claims related to delays in Substantial Completion or Final Completion. Owner's right to receive liquidated damages shall not affect Owner's right to terminate the Contract as provided in these UGSC or elsewhere in the Contract Documents, nor shall termination of the Contract release Contractor from the obligation to pay the liquidated damages.

Article 10. Payments

10.1. Schedule of Values. The Contractor shall submit to the ODR and the A/E for acceptance a Schedule of Values, or Work Breakdown, accurately itemizing material and labor for the various classifications of the Work based on the organization of the specification sections and using the same activity names and terms as the Work Progress Schedule. The accepted Schedule of Values will be the basis for the progress payments under the Contract.

10.1.1 No progress payments will be made prior to receipt and acceptance of the Schedule of Values, provided in such detail as required by the ODR, and submitted not less than twenty-one calendar (21) days prior to the first request for payment. The Schedule of Values shall follow the order of trade divisions of the Specifications and include costs for general conditions, fees, contingencies, and Owner cash allowances, if applicable, so that the sum of the items will equal the Contract Sum. As appropriate, the Contractor shall assign labor and/or material values to each item, the subtotal thereof equaling the value of the Work in place when complete.

10.1.2 The Contractor shall retain a copy of all worksheets used in preparation of its bid or proposal, supported by a notarized statement that the worksheets are true and complete copies of the documents used to prepare the bid or proposal, and. make the worksheets available to the ODR at the time of Contract execution. Thereafter the Contractor shall grant the Owner during normal business hours access to said notarized copy of worksheets at any time during the period commencing upon execution of the Contract and ending one year after final payment.

10.2. Progress Payments. The Contractor will receive periodic progress payments for Work performed, materials in place, suitably stored on site, or as otherwise agreed to by the Owner and the Contractor. Payment is not due until receipt by the ODR or his designee of a correct and complete Pay Application in electronic and/or hard copy format as set forth in Special

Conditions or Division 1 Specifications, and certified by the A/E. Progress payments are made provisionally and do not constitute acceptance of Work not in accordance with the Contract Documents. The Owner will not process progress payment applications for Change Order work until all parties execute the Change Order.

10.2.1 Preliminary Pay Worksheet. Once each month that a progress payment is to be requested, the Contractor shall submit to the A/E and the ODR a complete, clean copy of a preliminary pay worksheet or Preliminary Pay Application, to include the following:

10.2.1.1 The Contractor's estimate of the amount of Work performed, labor furnished and materials incorporated into the Work, using the established Schedule of Values.

10.2.1.2 An updated Work Progress Schedule including the Executive Summary and all required schedule reports.

10.2.1.3 HUB Subcontracting Plan reports.

10.2.1.4 Such additional documentation as Owner may require as set forth elsewhere in the Contract Documents.

10.2.2 Contractor's Application for Progress Payment. As soon as practicable, but in no event later than seven days after receipt of the Preliminary Pay Worksheet, the A/E and ODR will meet with the Contractor to review the Preliminary Pay Worksheet and to observe the condition of the Work. Based on this review, the ODR and the A/E may require modifications to the Preliminary Pay Worksheet prior to the submittal of an application for progress payment, and will promptly notify the Contractor of revisions necessary for approval. As soon as practicable, the Contractor shall submit its Invoice on the appropriate and completed form, reflecting the required modifications to the Schedule of Values required by the A/E and/or ODR. The Contractor shall attach all additional documentation required by the ODR and/or A/E, as well as an affidavit affirming that all payrolls, bills for labor, materials, equipment, subcontracted work and other indebtedness connected with the Contractor's invoice are paid or will be paid within the time specified in Tex. Gov't Code, Chapter 2251. No invoice is complete unless it fully reflects all required modifications, and attaches all required documentation including the Contractor's affidavit.

10.2.3 Certification by A/E. Within five days or earlier following the A/E's receipt of the Contractor's formal invoice, the A/E will review the application for progress payment for completeness, and forward to

the ODR. The A/E will certify that the application is complete and payable, or that it is incomplete, stating in particular what is missing. If the Invoice is incomplete, the Contractor shall make the required corrections and resubmit the Invoice for processing.

10.3 Owner's Duty to Pay. The Owner has no duty to pay the Contractor except on receipt by the ODR of: 1) a complete Invoice certified by the A/E, and 2) the Contractor's updated Work Progress Schedule, and 3) confirmation that the Contractor's as-built documentation at the Site is kept current.

10.3.1 Payment for stored materials and/or equipment confirmed by the Owner and A/E to be on-site or otherwise properly stored is limited to 85 percent of the invoice price or 85 percent of the scheduled value for the materials or equipment, whichever is less.

10.3.2 Retainage. The Owner will withhold from each progress payment, as retainage, 5 percent of the total earned amount, or the amount authorized by law. Retainage is managed in conformance with Tex. Gov't Code, Chapter 2252, Government Code, subchapter B.

10.3.2.1 The Contractor shall provide written consent of its Surety for any request for reduction or release of retainage.

10.3.2.2 At least sixty-five (65) percent of the total Contract must be completed before the Owner can consider a retainage reduction or release.

10.3.3 Price Reduction to Cover Loss. The Owner may reduce any Periodic Invoice, or application for Progress Payment, prior to payment to the extent necessary to protect the Owner from loss on account of actions of the Contractor including, but not limited to:

10.3.3.1 Defective or incomplete Work not remedied.

10.3.3.2 Damage to Work of a separate Contractor.

10.3.3.3 Failure to maintain scheduled progress or reasonable evidence that the Work will not be completed within the Contract Time.

10.3.3.4 Persistent failure to carry out the Work in accordance with the Contract Documents.

10.3.3.5 Reasonable evidence that the Work cannot be completed for the unpaid portion of the Contract Sum.

- 10.3.3.6 Assessment of fines for violations of Prevailing Wage Rate law; or
- 10.3.3.7 Failure to include the appropriate amount of retainage for that periodic progress payment.
- 10.3.4 Title to all material and Work covered by progress payments transfers to the Owner upon payment.
 - 10.3.4.1 Transfer of title to Owner does not relieve the Contractor of the sole responsibility for the care and protection of materials and Work upon which payments have been made until final acceptance of the entire Work, or the restoration of any damaged Work, or waive the right of the Owner to require the fulfillment of all the terms of the Contract.
- 10.4 Progress payments to the Contractor do not release the Contractor or its surety from any obligations under the Contract.
 - 10.4.1 Upon the Owner's request, the Contractor shall furnish manifest proof of the status of Subcontractor's accounts in a form acceptable to the Owner.
 - 10.4.2 Pay estimate certificates must be signed by a corporate officer or a representative duly authorized by the Contractor.
 - 10.4.3 The Contractor shall provide copies of bills of lading, invoices, delivery receipts or other evidence of the location and value of such materials in requesting payment for materials.
 - 10.4.4 For purposes of Tex. Gov't Code § 2251.021(a)(2), the date the performance of service is complete is the date when the Owner's representative approves the application for payment.
- 10.5 Off-Site Storage. With prior approval by the Owner and in the event Contractor elects to store materials at an off-site location, abide by the following conditions, unless otherwise agreed to in writing by the Owner.
 - 10.5.1 Store materials in a Bonded Commercial Warehouse.
 - 10.5.2 Provide separate Insurance Coverage adequate not only to cover materials while in storage, but also in transit from the off-site storage areas to the Project Site. Copies of duly authenticated certificates of insurance, made out to insure the Owner must be filed with the Owner's representative.

- 10.5.3 Inspection by Owner's representative is allowed at any time. The Owner's Inspectors must be satisfied with the security, control, maintenance, and preservation measures.
- 10.5.4 Materials for this Project are physically separated and marked for the Project in a sectioned-off area. Only materials which have been approved through the submittal process are to be considered for payment.
- 10.5.5 Owner reserves the right to reject materials at any time prior to final acceptance of the complete Project if they do not meet Contract requirements regardless of any previous progress payment made.
- 10.5.6 With each monthly payment estimate, submit a report to the ODR, A/E, and Inspector listing the quantities of materials already paid for and still stored in the off-site location.
- 10.5.7 Make warehouse records, receipts and invoices available to Owner's representatives, upon request, to verify the quantities and their disposition.
- 10.5.8 In the event of Contract termination or default by Contractor, the items in storage off-site, upon which payment has been made, will be promptly turned over to Owner or Owner's agents at a location near the jobsite as directed by the ODR. The full provisions of performance and payment bonds on this Project cover the materials off-site in every respect as though they were stored on the Project Site.

Article 11. Changes

- 11.1. Change Orders. A Change Order issued after execution of the Contract is a written order to the Contractor, signed by the ODR, the Contractor, and the A/E, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time can only be changed by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum and/or the Contract Time. The ODR may issue written authorization for the Contractor to proceed with work of a Change Order in advance of final execution by all parties. ***In the absence of an agreement with the Contractor on a Change Order, the Owner may issue a Unilateral Change Order that will have the full force and effect of a contract modification. The issuance of a Unilateral Change Order does not prejudice the Contractor's rights to make claims or to appeal disputed matters under terms of the Contract.***

- 11.1.1 The Owner, without invalidating the Contract, ***and without prior approval of the surety***, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, and the Contract Sum and the Contract Time will be adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the Contract, an equitable adjustment shall be made and confirmed in writing in a Change Order.
- 11.1.2 It is recognized by the parties hereto and agreed by them that the Drawings and Specifications may not be complete or free from errors, omissions and imperfections or that they may require changes or additions in order for the Work to be completed to the satisfaction of Owner and that, accordingly, it is the express intention of the parties, notwithstanding any other provisions in this Contract, that any errors, omissions or imperfections in such Drawings and Specifications, or any changes in or additions to same or to the Work ordered by Owner and any resulting delays in the Work or increases in Contractor's costs and expenses, shall not constitute or give rise to any claim, demand or cause of action of any nature whatsoever in favor of Contractor, whether for breach of contract, *quantum meruit*, or otherwise; provided, however, that Owner shall be liable to Contractor for the sum stated to be due Contractor in any Change Order approved and signed by both parties, it being agreed hereby that such sum, together with any extension of time contained in said Change Order, shall constitute full compensation to Contractor for all costs, expenses and damages to Contractor, whether direct, consequential or otherwise in any wise incident to, arising out of, or resulting directly or indirectly from the work performed by Contractor under such Change Order.
- 11.1.3 Procedures for administration of Change Orders shall be established by the Owner and stated elsewhere in the Contract Documents.
- 11.1.4 Except as provided above, no order, oral statement, or direction of the Owner or his duly appointed representative shall be treated as a change under this article or entitle the Contractor to an adjustment.
- 11.1.5 The Contractor agrees that the Owner or any of its duly authorized representatives shall have access and the right to examine any directly pertinent books, documents, papers, and records of the Contractor. Further, the Contractor agrees to include in all its subcontracts a provision to the effect that the Subcontractor agrees that the Owner or any of its duly authorized representatives shall

have access to and the right to examine any directly pertinent books, documents, papers and records of such Subcontractor relating to any claim arising from this Contract, whether or not the Subcontractor is a party to the claim. The period of access and examination described herein which relates to appeals under the Disputes article of the Contract, litigation, or the settlement of claims arising out of the performance of the Contract shall continue until final disposition of such claims, appeals or litigation.

11.2 Unit Prices. If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a Change Order that application of the agreed unit prices to the quantities of work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted as provided in the Special Conditions or as agreed to by the parties and incorporated into the Change Order.

11.3 Claims for Additional Costs

11.3.1 If the Contractor wishes to make a claim for an increase in the Contract Sum not related to a requested change, it shall give the Owner and the A/E written notice thereof within twenty-one (21) days after the occurrence of the event giving rise to such claim, but, in any case before proceeding to execute the work considered to give rise to the additional cost or time, except in an emergency endangering life or property in which case the Contractor shall act in accordance with Article 7.2.1. No such claim shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined as set forth under Article 15. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

11.3.2 If the Contractor claims that additional cost is involved because of, but not limited to: 1) any written interpretation of the Contract Documents, 2) any order by the Owner to stop the Work pursuant to Article 14 where the Contractor was not at fault, or 3) any written order for a minor change in the Work issued pursuant to Article 11.4, the Contractor shall make such claim as provided in Article 11.3.1.

11.3.3 Should the Contractor or its Subcontractors fail to call attention of the A/E to obvious discrepancies or omissions in the Bid/Proposal Documents during the pre-bid/pre-proposal period, but claim additional costs for corrective work after contract award, the Owner may assume intent to circumvent competitive bidding for necessary corrective work. In such case, the Owner may choose to let a separate contract for the corrective work, or issue a Unilateral

Change Order to require performance by the Contractor. Claims for time extensions or for extra cost resulting from delayed notice of contract document discrepancies or omissions will not be considered by the Owner.

- 11.4. Minor Changes. The A/E, with concurrence of the ODR, will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time. Such changes shall be effected by written order which the Contractor shall carry out promptly and record on as-built record documents.
- 11.5. Concealed Site Conditions. If, in the performance of the Contract, subsurface, latent or concealed conditions at the Site are found to be materially different from the information included in the bid/proposal documents, or if unknown conditions of an unusual nature are discovered differing materially from the conditions usually inherent in work of the character shown and specified, the ODR and the A/E shall be notified in writing of such conditions before they are disturbed. Upon such notice, or upon its own observation of such conditions, the A/E, with the approval of the ODR, will promptly make such changes in the Drawings and Specifications as they deem necessary to conform to the different conditions, and any increase or decrease in the cost of the Work, or in the time within which the Work is to be completed, resulting from such changes will be adjusted by Change Order, subject to the prior approval of the ODR.
- 11.6. Extension of Time. All Changes to the Contract Time shall be made as a consequence of requests as required under Article 9.6, and as documented by Change Order as provided under Article 11.1.
- 11.7 Administration of Change Orders. All changes in the Contract shall be administered in accordance with procedures approved by the Owner, and when required make use of such electronic information management system(s) as the Owner may employ.
- 11.7.1 Routine changes in the Contract shall be formally initiated by the **ODR, Contractor or** A/E by means of a contract change form detailing requirements of the proposed change for pricing by the Contractor. This action may be preceded by communications between the Contractor, A/E and ODR concerning the need and nature of the change, but such communications shall not constitute a basis for beginning the proposed Work by the Contractor. Except for emergency conditions described below, approval of the Contractor's cost proposal by the Owner will be required for authorization to proceed with the Work being changed. The Owner will not be responsible for the cost of work changed without prior approval and the Contractor may be required to remove work so installed.

- 11.7.2 All proposed costs for change order work must be supported by itemized accounting of material, equipment and associated itemized installation costs in sufficient detail, following the outline and organization of the established Schedule of Values, to permit analysis by the A/E and ODR using current estimating guides and/or practices. Photocopies of Subcontractor and vendor proposals shall be furnished unless specifically waived by the ODR. Contractor shall provide written response to a Contract Revision within twenty-one (21) calendar days of receipt.
- 11.7.3 Any unexpected circumstance which necessitates an immediate change in order to avoid a delay in progress of the Work may be expedited by **written** communication and authorization between the Contractor and Owner. A limited scope not-to-exceed estimate of cost and time will be requested prior to authorizing Work to proceed. Should the estimate be impractical for any reason, the ODR may authorize the use of detailed cost records of such Work to establish and confirm the actual costs and time for documentation in a formal Change Order.
- 11.7.4 Emergency changes to save life or property may be initiated by the Contractor alone (see Article 7.3) with the claimed cost and/or time of such work to be fully documented as to necessity and detail of the reported costs and/or time.
- 11.7.5 The method of incorporating approved change orders into the parameters of the accepted Schedule of Values must be coordinated and administered in a manner acceptable to the ODR.
- 11.8 Pricing Change Order Work. The amounts that the Contractor and/or its Subcontractors add to a Contract Change for profit and overhead will also be considered by the Owner before approval is given and a Change Order issued. The amounts established hereinafter are the maximums that are acceptable to the Owner.
- 11.8.1 For work performed by its forces, the Contractor will be allowed its actual costs for materials, **equipment charges**, the total amount of wages paid for labor, the total cost of Federal Old Age Benefit (Social Security Tax) and for Worker's Compensation and Comprehensive General Liability Insurance, plus Bond cost if the change results in an increase in the Bond premium paid by the Contractor. To the total of the above costs, the Contractor will be allowed to add a percentage as noted below to cover overhead and profit combined. Overhead shall be considered to include insurance other than mentioned above, field and office supervisors and

assistants, including safety and scheduling personnel, use of small tools, incidental job burdens and general home office expenses, and no separate allowance will be made therefore. Allowable percentages for overhead and profit on changes will not exceed 15 percent if the total of self-performed work is less than or equal to \$10,000, 10 percent if the total of self-performed work is between \$10,000 and \$20,000 and 7.5 percent if the total of self-performed work is over \$20,000, for any specific change priced.

11.8.2 For subcontracted Work each affected Subcontractor shall figure its costs, overhead and profit as described above for Contractor's work, all subcontractor costs shall be combined, and to that total subcontractor cost the Contractor will be allowed to add a maximum mark-up of 10 percent if the total of all subcontracted work is less than or equal to \$10,000, 7.5 percent if the total of all subcontracted work is between \$10,000 and \$20,000 and 5 percent if the total of all subcontractor work is over \$20,000.

11.8.3 On changes involving both additions and deletions, percentages for overhead and profit will be allowed only on the net addition. The Owner does not accept and will not pay for additional contract cost identified as indirect, consequential, or as damages caused by delay.

11.8.4 On contracts based on a Guaranteed Maximum Price (GMP), the Construction Manager-at-Risk or Design Build Firm shall NOT be entitled to a percentage mark-up on any change order work unless the Change Order increases the Guaranteed Maximum Price.

Article 12. Project Completion and Acceptance

12.1. Closing Inspections

12.1.1 Substantial Completion Inspection. When the Contractor considers the entire Work or part thereof Substantially Complete, it shall notify the ODR in writing that the Work will be ready for Substantial Completion Inspection on a specific date. The Contractor shall include with this notice the Contractor's Punchlist to indicate that it has previously inspected all the Work associated with the request for inspection, has corrected items where possible, and includes all items scheduled for completion or correction prior to final inspection. The failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. If any of the items on this list prevents the facility from being used as intended, the Contractor shall not request a Substantial Completion Inspection. The Owner and its

representatives will review the list of items and schedule the requested inspection, or inform the Contractor in writing that such an inspection is premature because the Work is not sufficiently advanced or conditions are not as represented on the Contractor's list.

12.1.1.1 Prior to the Substantial Completion Inspection, the Contractor shall furnish a copy of its marked-up As-Built Drawings and a preliminary copy of each instructional manual, maintenance and operating manual, parts catalog, wiring diagrams, spare parts, specified written warranties and like publications or parts for all installed equipment, systems and like items. Delivery of these items is a prerequisite for requesting the Substantial Completion Inspection.

12.1.1.2 On the date requested by Contractor, or as mutually agreed upon pending the status of the open items list, the A/E, ODR, the Contractor and other Owner representatives as determined by the Owner, will jointly attend the Substantial Completion Inspection, which shall be conducted by the ODR or their delegate. If the ODR determines that the Work is Substantially Complete, the ODR will issue a Certificate of Substantial Completion to be signed by the A/E, Owner and Contractor, establishing the date of Substantial Completion, **and identifying responsibilities for security, maintenance, and insurance**. A/E will provide with this certificate a list of punchlist items (the Pre-Final Punchlist) for completion prior to final inspection. This list may include items in addition to those on the Contractor's punchlist, which the inspection team deems necessary to correct or complete prior to Final Inspection. If the Owner occupies the facility upon determination of Substantial Completion, the Contractor shall complete all corrective Work at the convenience of the Owner, without disruption to Owner's use of the facility for its intended purposes.

12.1.2 Final Inspection. The Contractor shall complete the list of items identified on the Pre-Final Punchlist prior to requesting a Final Inspection. Unless otherwise specified, or otherwise agreed in writing by the parties as documented on the Certificate of Substantial Completion, the Contractor shall complete and/or correct all Work within thirty (30) days of the Substantial Completion date. Upon completion of the Pre-Final Punchlist work, the Contractor shall give written notice to the ODR and A/E that the Work will be ready for

Final Inspection on a specific date. The Contractor shall accompany this notice with a copy of the updated Pre-Final Punchlist indicating resolution of all items. On the date specified or as soon thereafter as is practicable, the ODR, A/E and the Contractor will inspect the Work. The A/E will submit to the Contractor a Final Punchlist of open items that the inspection team requires corrected or completed before final acceptance of the Work.

12.1.2.1 The Contractor must correct or complete all items on the Final Punchlist before requesting Final Payment. Unless otherwise agreed to in writing by the parties, complete this work within seven (7) days of receiving the Final Punchlist. Upon completion of the Final Punchlist, the Contractor shall notify the A/E and ODR in writing stating the disposition of each Final Punchlist item. The A/E, Owner and Contractor shall promptly inspect the completed items. When the Final Punchlist is complete, and the Contract is fully satisfied according to the Contract Documents the ODR will issue a certificate establishing the date of Final Completion. Completion of all Work is a condition precedent to the Contractor's right to receive Final Payment.

12.1.3 Annotation. Any certificate issued under this Article may be annotated to indicate that it is not applicable to specified portions of the Work, or that it is subject to any limitation as determined by the Owner.

12.1.4 Purpose of Inspection. Inspection is for determining the completion of the Work, and does not relieve the Contractor of its overall responsibility for completing the Work in a good and competent fashion, in compliance with the Contract. Work accepted with incomplete punchlist items or failure of the Owner or other parties to identify Work that does not comply with the Contract Documents or is defective in operation or workmanship does not constitute a waiver of the Owner's rights under the Contract or relieve the Contractor of its responsibility for performance or warranties.

12.1.5 Additional Inspections

12.1.5.1 If the Owner's inspection team determines that the Work is not Substantially Complete at the Substantial Completion Inspection, the ODR or A/E will give the Contractor written notice listing cause(s) of the rejection. The ODR will set a time for completion of incomplete or defective work. The Contractor must complete or correct all work so designated

prior to requesting a second Substantial Completion Inspection.

12.1.5.2 If the Owner's inspection team determines that the Work is not complete at the Final Inspection, the ODR or the A/E will give the Contractor written notice listing the cause(s) of the rejection. The ODR will set a time for completion of incomplete or defective work. The Contractor shall complete or correct all Work so designated prior to again requesting a Final Inspection.

12.1.5.3 The Contract contemplates three (3) comprehensive inspections: the Substantial Completion Inspection, the Final Completion Inspection, and the Inspection of Completed Final Punchlist Items. The cost to the Owner of additional inspections resulting from the Work not being ready for one or more of these inspections is the responsibility of the Contractor. The Owner may issue a Unilateral Change Order deducting these costs from Final Payment. Upon the Contractor's written request, the Owner will furnish documentation of any costs so deducted. Work added to the Contract by Change Order after Substantial Completion Inspection is not corrective work for purposes of determining timely completion, or assessing the cost of additional inspections.

12.1.6 Phased Completion. The Contract may provide, or project conditions may warrant, as determined by the ODR, that designated elements or parts of the Work be completed in phases. Where phased completion is required or specifically agreed to by the parties, the provisions of the Contract related to Closing Inspections, Occupancy and Acceptance apply independently to each designated element or part of the Work. For all other purposes, unless otherwise agreed by the parties in writing, Substantial Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Substantial Completion certificate. Final Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Final Completion certificate.

12.2 Owner's Right of Occupancy. The Owner may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Should the Owner wish to use or occupy the Work, or part thereof, prior to Substantial Completion, the ODR will notify the Contractor in writing. Work performed on the premises by third parties on the Owner's behalf does not constitute occupation or use of the Work by the Owner for purposes of this Article. All Work performed by the Contractor after

occupancy, whether in part or in whole, shall be at the convenience of the Owner so as to not disrupt Owner's use of, or access to, occupied areas of the Project.

12.3 Acceptance & Payment

12.3.1 Request for Final Payment. Following the certified completion of all Work, including all punch list items, cleanup, and the delivery of record documents, the Contractor shall submit a certified Application for Final Payment. The Contractor must include in the Application of Final Payment all sums held as retainage and forward to the A/E and the ODR for review and approval.

12.3.2 Final Payment Documentation. The Contractor shall submit, prior to or with the Application for Final Payment, final copies of all Close-Out Documents, maintenance and operating instructions, guarantees and warranties, certificates, record documents and all other items required by the Contract. The Contractor shall submit Consent of Surety to Final Payment and an affidavit that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work, except as specifically noted, are paid, will be paid, or otherwise satisfied within the period of time required by Tex. Gov't Code, Chapter 2251. The Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims and liens arising out of the Contract. The Contractor may not subsequently submit a claim on behalf of a Subcontractor or vendor unless the Contractor's affidavit notes that claim as an exception.

12.3.3 A/E Approval. The A/E will review a submitted Application for Final Payment promptly but in no event later than ten (10) days after its receipt. Prior to the expiration of this deadline, the A/E will either 1) return the Application for Final Payment to Contractor with corrections for action and resubmission or 2) accept it, note its approval and send to Owner.

12.3.4 Offsets and Deductions. The Owner may deduct from the Final Payment all sums due from the Contractor. If the Certificate of Final Completion notes any Work remaining, incomplete, or any defects not remedied, the Owner may deduct the cost of remedying such deficiencies from the Final Payment. On such deductions, the Owner will identify each deduction, the amount, and the explanation of the deduction on or by the 21st day after Owner's receipt of an approved Application for Final Payment. Such offsets and deductions shall be incorporated via a final Change Order, including a Unilateral Change Order as may be applicable.

12.3.5 Final Payment Due. Final Payment is due and payable by the Owner, subject to all allowable offsets and deductions, on the 31st day following the Owner's approval of the final Application for Payment. If the Contractor disputes any amount deducted by the Owner, the Contractor shall give notice of the dispute on or before the thirtieth (30th) day following receipt of Final Payment. Failure to do so will bar any subsequent claim for payment of amounts deducted.

12.3.6 Effect of Final Payment. Final Payment constitutes a waiver of all claims by the Owner, relating to the condition of the Work except those arising from:

12.3.6.1 Faulty or defective Work appearing after Substantial Completion (latent defects); and/or

12.3.6.2 Failure of the Work to comply with the requirements of the Contract Documents; and/or

12.3.6.3 Terms of any warranties required by the Contract, or implied by law; and/or

12.3.6.4 Claims arising from personal injury or property damage to third parties.

12.3.7 Waiver of Claims. Final payment constitutes a waiver of all claims and liens by the Contractor except those specifically identified in writing and submitted to the ODR prior to the application for Final Payment.

12.3.8 Effect on Warranty. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

Article 13. Warranty and Guarantee

13.1. Contractor's General Warranty and Guarantee. Contractor warrants to the Owner that all Work is executed in accordance with the Contract, complete in all parts and in accordance with approved practices and customs, and of the best finish and workmanship. The Contractor further warrants that unless otherwise specified, all materials and equipment incorporated in the Work under the Contract are new. The Owner may, at its option, agree in writing to waive any failure of the Work to conform to the Contract, and to accept a reduction in the Contract Sum for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, the Contractor's obligation to perform and complete the Work in

accordance with the Contract Documents is absolute and is not waived by any inspection or observation by the Owner, A/E or others, by making any progress payment or final payment, by the use or occupancy of the Work or any portion thereof by the Owner, at any time, or by any repair or correction of such defect made by the Owner.

13.2. Warranty Period. Except as may be otherwise specified or agreed, the Contractor shall repair all defects in materials, equipment, or workmanship appearing within one year from the date of Substantial Completion of the Work. If Substantial Completion occurs by phase, then the warranty period for that particular Work begins on the date of such occurrence, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work.

13.3 Limits on Warranty. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

13.3.1 Modification or improper maintenance or operation by persons other than Contractor, Subcontractors, or any other individual or entity for whom Contractor is responsible, unless Owner is compelled to undertake maintenance or operation due to the neglect of the Contractor.

13.3.2 Normal wear and tear under normal usage after acceptance of the Work by the Owner.

13.4 Events Not Affecting Warranty. Contractor's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

13.4.1 Observations by Owner and/or A/E;

13.4.2 Recommendation to pay any progress or final payment by A/E;

13.4.3 The issuance of a Certificate of Substantial Completion or any payment by Owner to Contractor under the Contract Documents;

13.4.4 Use or occupancy of the Work or any part thereof by Owner;

13.4.5 Any acceptance by Owner or any failure to do so;

13.4.6 Any review of a Shop Drawing or Sample submittal; or

13.4.7 Any inspection, test or approval by others.

13.5 Separate Warranties. If a particular piece of equipment or component of the Work for which the Contract requires a separate warranty is placed in continuous service before Substantial Completion, the Warranty Period for that equipment or component will not begin until Substantial Completion, regardless of any warranty agreements in place between suppliers and/or Subcontractors and the Contractor. The ODR will certify the date of service commencement in the Certificate of Substantial Completion.

13.5.1 In addition to the Contractor's warranty and duty to repair, the Contractor expressly assumes all warranty obligations required under the Contract for specific building components, systems and equipment.

13.5.2 The Contractor may satisfy any such obligation by obtaining and assigning to the Owner a complying warranty from a manufacturer, supplier, or Subcontractor. Where an assigned warranty is tendered and accepted by the Owner which does not fully comply with the requirements of the Contract, the Contractor remains liable to the Owner on all elements of the required warranty not provided by the assigned warranty.

13.6 Correction of Defects. Upon receipt of written notice from the Owner, or any agent of the Owner designated as responsible for management of the Warranty Period, of the discovery of a defect, the Contractor shall promptly remedy the defect(s), and provide written notice to the Owner and designated agent indicating action taken. In case of emergency where delay would cause serious risk of loss or damage to the Owner, or if the Contractor fails to remedy within 30 days, or within another period agreed to in writing, the Owner may correct the defect and be reimbursed the cost of remedying the defect from the Contractor or its Surety.

13.7 Certification of No Asbestos Containing Materials or Work. The Contractor shall ensure compliance with the Asbestos Hazard Emergency Response Act (AHERA-40 CFR 763-99 (7)) from all Subcontractors and materials suppliers, and shall provide a notarized certification to the Owner that all equipment and materials used in fulfillment of its contract responsibilities are non-Asbestos Containing Building Materials (ACBM). This certification must be provided no later than the Contractor's application for Final Payment.

Article 14. Suspension and Termination

14.1 Suspension of Work for Cause. The Owner may, at any time without prior notice, suspend all or any part of the Work, if after reasonable observation and/or investigation, the Owner determines it is necessary to do so to

prevent or correct any condition of the Work, which constitutes an immediate safety hazard, or which may reasonably be expected to impair the integrity, usefulness or longevity of the Work when completed.

14.1.1 The Owner will give the Contractor a written notice of suspension for cause, setting forth the reason for the suspension and identifying the Work suspended. Upon receipt of such notice, the Contractor shall immediately stop the Work so identified. As soon as practicable following the issuance of such a notice, the Owner will initiate and complete a further investigation of the circumstances giving rise to the suspension, and issue a written determination of the findings.

14.1.2 If it is confirmed that the cause was within the control of the Contractor, the Contractor will not be entitled to an extension of time or any compensation for delay resulting from the suspension. If the cause is determined not to have been within the control of the Contractor, and the suspension has prevented the Contractor from completing the Work within the Contract Time, the suspension is an Excusable Delay and a Time Extension will be granted through a Change Order.

14.1.3 Suspension of work under this provision will be no longer than is reasonably necessary to remedy the conditions giving rise to the suspension.

14.2 Suspension of Work for Owner's Convenience. Upon seven (7) calendar days written notice to the Contractor, the Owner may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to thirty days for its own convenience. The Owner will give the Contractor a written notice of suspension for convenience, which sets forth the number of suspension days for which the Work, or any portion of it, will be suspended and the date on which the suspension of Work will cease. When a suspension prevents the Contractor from completing the Work within the Contract Time, it is an Excusable Delay. A notice of suspension for convenience may be modified by the Owner at any time on seven (7) calendar days written notice to the Contractor. If the Owner suspends the Work for its convenience for more than sixty (60) consecutive calendar days, the Contractor may elect to terminate the Contract pursuant to the provisions of the Contract.

14.3 Termination by Owner for Cause.

14.3.1 The Owner may, without prejudice to any right or remedy, terminate the employment of the Contractor and take possession of the Site and of all materials, equipment, tools, construction equipment and

machinery thereon owned by the Contractor, under any of the following circumstances:

- 14.3.1.1 Persistent or repeated failure or refusal, except during complete or partial suspensions of work authorized under the Contract, to supply enough properly skilled workmen or proper materials; and/or
 - 14.3.1.2 Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, including the ODR; and/or
 - 14.3.1.3 Persistent failure to prosecute the Work in accordance with the Contract, and to insure its completion within the time, or any approved extension thereof, specified in this Contract; and/or
 - 14.3.1.4 Failure to remedy defective work condemned by the ODR; and/or
 - 14.3.1.5 Failure to pay Subcontractors, laborers, and material suppliers pursuant to Tex. Gov't Code Chapter 2251; and/or
 - 14.3.1.6 Persistent endangerment to the safety of laborers or of the Work; and/or
 - 14.3.1.7 Failure to supply or maintain statutory bonds or to maintain required insurance, pursuant to the Contract; and/or
 - 14.3.1.8 Any material breach of the Contract; and/or
 - 14.3.1.9 The Contractor's insolvency, bankruptcy, or demonstrated financial inability to perform the Work.
- 14.3.2 Failure by the Owner to exercise the right to terminate in any instance is not a waiver of the right to do so in any other instance.
- 14.3.3 Should the Owner decide to terminate the employment of the Contractor under the provisions of Article 14.3.1, it will provide to the Contractor and its Surety thirty (30) days prior written notice.
- 14.3.4 Should the Contractor or its Surety, after having received notice of termination, remedy to the satisfaction of the Owner the condition(s) upon which the notice of termination was based, the notice of

termination shall be rescinded in writing by the Owner. If so rescinded, the Work may continue without an extension of time.

14.3.5 If the Contractor or its Surety fails to remedy the condition(s) to the satisfaction of the Owner within thirty (30) days following receipt of notice, the Owner may ***immediately terminate the Contract, make arrangements*** for completion of the Work, and deduct the cost of completion from the unpaid Contract Sum.

14.3.5.1 Cost of completion includes additional Owner costs such as A/E services, the cost of other consultants, and contract administration.

14.3.5.2 The Owner will make no further payment to the Contractor or its Surety until all costs of completing the Work are paid. If the unpaid balance of the Contract Sum exceeds the costs of administering and finishing the Work, the Contractor will receive the excess funds. If such costs exceed the unpaid balance, the Contractor or its Surety will pay the difference to the Owner.

14.3.5.3 This obligation for payment survives the termination of the Contract.

14.3.5.4 The Owner reserves the right in termination for cause to take assignment of all contracts between the Contractor and its Subcontractors, vendors and suppliers. The ODR will promptly notify the Contractor of the contracts the Owner elects to assume. Upon receipt of such notice, the Contractor shall promptly take all steps necessary to effect such assignment.

14.4 Termination for Convenience of Owner. The Owner reserves the right, without breach, to terminate the Contract prior to, or during the performance of the Work, for any reason. Upon such an occurrence, the following shall apply:

14.4.1 The Owner will immediately notify the Contractor and the A/E in writing, specifying the reason for and the effective date of contract termination. Such notice may also contain instructions necessary for the protection, storage or decommissioning of incomplete work or systems, and for safety.

14.4.2 Upon receipt of the notice of termination, the Contractor shall immediately proceed with the following obligations, regardless of any

delay in determining or adjusting any amounts due at that point in the Contract:

14.4.2.1 Stop all work.

14.4.2.2 Place no further subcontracts or orders for materials or service.

14.4.2.3 Terminate all subcontracts.

14.4.2.4 Cancel all materials and equipment orders as applicable.

14.4.2.5 Take action that is necessary to protect and preserve all property related to this Contract which is in the possession of the Contractor.

14.4.3 When the Contract is terminated for the Owner's convenience, the Contractor may recover from the Owner payment for all Work executed ***before the notice of termination along with the actual and reasonable cost of any additional work required to secure the Project and property related to the Contract following the notice of termination. The Contractor will not be entitled to recover any other costs or damages arising from the termination for convenience of the Owner including, but not limited to, claims for lost business opportunities.***

14.5 Termination By Contractor. If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon thirty (30) additional days' written notice to the ODR, terminate the Contract and recover from the Owner payment for all Work executed ***before the work stoppage along with the actual and reasonable cost of securing the Project and property related to the Contract during the period of work stoppage. The Contractor will not be entitled to recover any other costs or damages arising from the work stoppage including, but not limited to, claims for lost business opportunities.*** If the cause of the work stoppage is removed prior to the end of the thirty (30) day notice period, the Contractor may not terminate the Contract ***but may be entitled to an equitable adjustment in the Contract Sum and Contract Time.***

14.6 Settlement on Termination. When the Contract is terminated for any reason, at any time prior to 180 days after the effective date of termination,

the Contractor shall submit a final termination settlement proposal to the Owner based upon recoverable costs as provided under the Contract. If the Contractor fails to submit the proposal within the time allowed, the Owner may determine the amount due to the Contractor because of the termination and pay the determined amount to the Contractor.

Article 15. Dispute Resolution

15.1 Unresolved Contractor Disputes. The dispute resolution process provided for in Tex. Gov't Code, Chapter 2260, shall be used by the Owner and the Contractor to attempt to resolve any claim for breach of contract made by the Contractor, that is not resolved under procedures described throughout these Uniform General and Supplementary Conditions, or Special Conditions of the Contract.

15.2 Alternative Dispute Resolution Process. The Owner may establish a dispute resolution process to be utilized in advance of that outlined in Tex. Gov't Code, Chapter 2260.

15.3 Nothing in the Contract shall prevent or be construed as a waiver of Owner's right to seek redress on any disputed matter in a court of competent jurisdiction.

15.4 Nothing in the Contract shall waive or be construed to waive the state's sovereign immunity.

Article 16. Miscellaneous

16.1 Special Conditions. When the Work contemplated by the Owner is of such a character that the foregoing Uniform General and Supplementary Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Special Conditions. Special Conditions shall relate to a particular project and be peculiar to that project but shall not weaken the character or intent of the Uniform General and Supplementary Conditions.

16.2 Federally Funded Projects. On Federally funded projects, the Owner may waive, suspend or modify any Article in these Uniform General and Supplementary Conditions which conflicts with any Federal statute, rule, regulation or procedure, where such waiver, suspension or modification is essential to receipt by the Owner of such Federal funds for the Project. In the case of any project wholly financed by Federal funds, any standards required by the enabling Federal statute, or any Federal rules, regulations or procedures adopted pursuant thereto, shall be controlling.

16.3 Internet-based Project Management Systems. At its option, the Owner may administer its design and construction management through an Internet-based management system. In such cases, the Contractor shall conduct communication through this media and perform all project related functions utilizing this database system. This includes correspondence, submittals, requests for information, vouchers or payment requests and processing, amendment, change orders and other administrative activities.

16.3.1 Accessibility and Administration.

16.3.1.1 When used, the Owner will make the software accessible via the Internet to all project team members.

16.3.1.2 The Owner shall administer the software.

16.3.2 Training. When used, the Owner shall provide training to the project team members.

16.4 Public Information. Contractor acknowledges that Owner is obligated to strictly comply with the Public Information Act, Chapter 552, *Texas Government Code*, in responding to any request for public information pertaining to this Agreement, as well as any other disclosure of information required by applicable Texas law.

Upon Owner's written request, Contractor will provide specified public information exchanged or created under this Agreement that is not otherwise excepted from disclosure under chapter 552, Texas Government Code, to Owner in a non-proprietary format acceptable to Owner. As used in this provision, "public information" has the meaning assigned Section 552.002, *Texas Government Code*, but only includes information to which Owner has a right of access.

Contractor acknowledges that Owner may be required to post a copy of the fully executed Agreement on its Internet website in compliance with Section 2261.253(a)(1), *Texas Government Code*.

END OF UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS

EXHIBIT "C"
SPECIAL CONDITIONS, WAGE RATES AND OWNER'S SPECIFICATIONS

SPECIAL CONDITIONS

The following supplements modify, change, delete from or add to the “UNIFORM GENERAL AND SUPPLEMENTARY CONDITIONS,” of The Texas A&M University System. Where any Article of the Uniform General Conditions or Supplemental Uniform General Conditions is modified or any paragraph or clause thereof is modified or deleted by these supplements, the unaltered conditions of the article, paragraph, sub-paragraph or clause shall remain in effect.

Article 2 Laws Governing Construction

2.2.1.2.1 Prevailing Wage Schedules

The rates of pay for some classifications which prevail in the locality of this Project are included at the end of these Special Conditions. Contributions by a worker toward retirement plans, health insurance, apprentice programs, etc., are part of the worker's pay; contributions by the employer are not. Contractors shall identify, briefly describe, and request a predetermination of rates for crafts (or apprentice programs) not included in the following Wage Predetermination. Such request shall be made within 15 days after contract award to the Assistant Director, Facilities Planning & Construction, The Texas A&M University System, phone number 979-458-7000.

2.2.1.2.2 Apprenticeship Program

Apprentices who are enrolled in a federally certified apprenticeship program may be used at the percentage rates of the journeyman scale stipulated in their apprenticeship agreement.

2.7 Legal Restrictions on Specific Activities

2.7.2 Asbestos Removal:

If, in the process of performing the Work, the Contractor suspects that asbestos has been found, the Owner shall be notified immediately. The Owner shall cause the suspicious material to be tested and, if found to be asbestos, will be responsible for its removal. It will be the Contractor's responsibility to protect its workers and other persons by regulating access to the affected area.

2.7.3 Endangered Species

2.7.3.1 No activity is authorized that is likely to jeopardize the continued existence of a threatened or endangered species as listed or proposed for listing under the Federal Endangered Species Act (ESA), and/or the State of Texas Parks and Wildlife Code on Endangered Species, or to destroy or adversely modify the habitat of such species. The Owner has previously coordinated with the appropriate agencies and has determined that there is no known occurrence of threatened or endangered species at the project site.

2.7.3.2 If a threatened or endangered species is encountered during construction, the Contractor shall immediately cease work in the area of the encounter and notify the Owner, who will immediately implement actions in accordance with endangered species act and applicable State statutes. These actions shall include reporting the encounter to the Texas Parks and Wildlife Department, and obtaining any necessary approvals or permits to enable the work to continue. The Contractor shall not resume work in the area of the encounter until authorized to do so by the ODR.

2.9 Underground Utilities

2.9.1 In accordance with State Law, all persons performing Work requiring digging or ground penetration are required to call 811 in advance and provide detailed information regarding planned Work. Notification shall occur not earlier than the 14th day prior to the date excavation is to begin or later than 48 hours before the excavation is to begin, excluding weekends and holidays. Additional information can be found at <http://www.texas811.org>

2.9.1.1 Routine Utility Locate Request Procedure:

2.9.1.1.1 The locate requestor is responsible to clearly mark the site perimeter to be excavated or penetrated, by using water-based white paint and/or white flags, prior to calling Texas 811.

2.9.1.1.2 Call 811 to request a utility locate. After clearly marking the site perimeter where locate will be performed, requestor must have the [Texas 811 Utility Locate Required Information](#) form completed and available.

2.9.1.1.3 The utility locator(s) will mark buried lines with paint and/or flags within the marked excavation perimeter. Utility flag colors are red for electric, orange for telecom, yellow for fuel gas, green for sanitary sewer, and blue for all other water systems.

2.9.1.1.4 The requestor shall not commence any digging, excavation, or ground penetration for at least two full working days (48 hours, excluding weekends and holidays) after the locate request is made.

2.9.1.1.5 If digging, excavation, or ground penetration must be performed more than 14 days after the initial locate is performed, then the requestor/excavator must request another locate at least 48 hours (excluding weekends and holidays) in advance of ground penetration so the locate markings can be refreshed.

Article 3. General Responsibilities of the Owner & Contractor

3.3 Contractor's General Responsibilities.

Delete Paragraph 3.3.2 "Contractor's Superintendent" and replace with the following:

3.3.2 Contractor's Personnel: As a minimum the Contractor's on-site personnel shall consist

of the following and shall be in attendance at the site during the progress of the Work.

- 3.3.2.1 The Contractor shall employ a full-time Project Manager. The Project Manager shall be satisfactory to the Owner and shall not be changed without approval of the Owner at least fourteen (14) days prior to the change unless the Project Manager leaves the employment of the Contractor. The Project Manager shall have authority to act on the Contractor's behalf. All communications with the Project Manager shall be as binding as if given to the Contractor. All verbal communications shall be confirmed in writing.
- 3.3.2.2 The Contractor shall employ a full-time Superintendent for the project. The Superintendent shall be satisfactory to the Owner and shall not be changed without approval of the Owner at least fourteen (14) days prior to the change unless the Superintendent leaves the employment of the Contractor.
- 3.3.2.3 The Contractor shall employ a full-time Project Scheduler/Expediter on-site to provide the project team with complete scheduling information; expediting and status of material delivery; shop drawing and other submittal status and request for information status. The Project Scheduler/Expediter shall be experienced with the CPM scheduling software proposed by the Contractor and have project experience of similar scope and size.
- 3.3.2.4 The Contractor shall employ full-time Project Engineers as determined by the Contractor for proper execution of the Work and to meet the conditions of the Contract Documents.
- 3.3.2.5 Quality Control Program: The Contractor shall establish a Quality Control Program that shall include two full-time Quality Control Supervisors (QCS), one for Architectural/Structural, and one for Mechanical, Plumbing and Electrical work, for all Architectural, Mechanical, Plumbing and Electrical work. The QCS will assist the Owner's representative in the verification of the materials and installation of the Work. The Contractor shall be responsible for Quality Control and the Owner will provide Quality Assurance. The QCS shall not have less than 10 years experience with projects of similar size and scope.

Article 5. Bonds and Insurance

Owner's Controlled Insurance Program.

Owner currently intends to implement an Rolling Owner Controlled Insurance Program ("OCIP") (consistent with the Owner's requirements for such insurance) during the construction of the Project (such program shall be referred to herein as the "ROCIP"). The purpose of the ROCIP will be to provide consistent coverage and adequate limits of insurance, a comprehensive safety program, and consistent claims management for all enrolled subcontractors and subordinate contractors.

It is currently anticipated that any ROCIP coverage implemented for the Project shall consist of

Workers Compensation, Employers Liability, General Liability, and Excess/Umbrella Liability, with such coverage terms and limits consistent with (or exceeding) the minimum coverage terms and limits as required of the Contractor in these Additional/Supplemental Insurance Requirements; provided, however, such coverage shall be for “**On-Site Exposures**” only. **No off-site exposures will be covered under such program.**

If a ROCIP is implemented, then Contractor and all subcontractors (of every tier) will be required to participate as determined by Owner. Further, if a ROCIP is implemented, each subcontractor shall be responsible for notifying any lower tier subordinate contractors that a ROCIP is being utilized for the Project and for supplying all requested information available to such subcontractor. Each subcontractor shall submit each bid without the cost for such insurance. For bids obtained prior to the implementation of the ROCIP, each subcontractor shall separately itemize the cost for such coverage which shall be deducted from the subcontract price in the event a ROCIP is timely implemented. Owner shall have the responsibility for reviewing any such itemization for accuracy.

Contractor and all subcontractors, including all subordinate subcontractors, shall carry and maintain general liability and workers compensation coverage for offsite activities and automobile liability insurance coverage consistent with the requirements, including the minimum primary limits, set forth above in these Additional/Supplemental Insurance Requirements.

In addition, those insurance requirements set forth above in these Additional/Supplemental Insurance Requirements shall, where applicable, apply to the insurance coverage under the ROCIP, including, but not limited to the requirement that Contractor and each such enrolled subcontractor and subordinate subcontractor must provide evidence of insurance as outlined above.

The premium cost for any ROCIP coverage shall be paid directly by Owner and shall not be a Reimbursable Construction Cost under the Agreement. To the extent any ECC or any applicable GMP includes premium costs for coverages furnished under the ROCIP as estimated Reimbursable Construction Cost, such estimated costs shall be deducted from such estimated Reimbursable Conditions Costs upon implementation of the ROCIP, and the ECC and/or applicable GMP shall be reduced to reflect the deducted costs.

The Owner shall be a **Named Insured** with regard to any implemented ROCIP coverage. Those parties required to be named as Additional Insureds under the Additional/Supplemental Insurance Requirements set forth above or to be indemnified by Contractor under the Agreement or the UGSC (as revised herein) shall be added as Additional Insureds with regard to any ROCIP coverage implemented.

Contractor has the right to review the ROCIP Policy, Program, and Manuals.

The parties recognize that some portions of the Work may commence with regard to discreet construction packages prior to the Owner procuring the coverages under the ROCIP; in that event, Contractor shall procure such insurance as may be reasonably appropriate for these activities and approved by the Owner and shall be entitled to payment for this coverage at such rates as provided Article 11 of the Agreement or as otherwise provided in the respective

agreement authorizing the performance of the Work under such discreet construction packages.

5.2.2.2 Additional Insurance is required as follows:

5.2.2.5 Insert the following at beginning of paragraph:

The Owner reserves the right to extend coverage for builder’s risk insurance for the project at its sole discretion. Contractor shall provide builder’s risk insurance cost for the project. The Owner may accept the builder’s risk program submitted by Contractor or may choose to place it under its own builder’s risk program.

If Owner chooses to place project under its own builder’s risk program delete remainder of paragraph 5.2.2.5 and replace with the following:

All Risk Builder’s Risk Insurance will be provided by the Owner. Coverage shall be All-Risk, including, but not limited to, Fire, Extended Coverage, Vandalism and Malicious Mischief, Flood, Earthquake, Theft and damage resulting from faulty workmanship, design or materials. The Builder’s Risk policy limit shall be equal to 100 percent of the Contract. The policy shall be written in the name of the Owner. The policy shall have endorsements as follows:

Delete paragraph 5.2.2.5.3 and replace with the following:

5.2.2.5.3 Loss, if any, shall be adjusted with and made payable to the Owner as Trustee for the insureds as their interests may appear. Owner, General Contractor and all subcontractors hereby mutually waive their rights of recovery against one another with respect to losses covered under the builder’s risk policy and shall provide mutual waivers of subrogation with regard to losses covered by the builder’s risk insurance. It is hereby agreed and understood that said waivers apply even if the contractor’s negligence causes a covered loss, and regardless of the extent of that contractor’s insurable interest in the covered property. The Owner and Contractor shall be named as Loss Payee. For renovation projects or projects that involve portions of work contained within an existing structure, refer to Special Conditions for possible additional Builder’s Risk insurance requirements.

Article 9. Construction Schedule

9.6.2.1.1 Rainfall Table

The number of weather days expected for each month during the term of this Contract is compiled by the State Climatologist, based on U.S. Weather Bureau records. The number of weather days shown in the Rainfall Table for the first and last months of the Contract will be prorated in determining the total number of weather days expected during the term of this Contract.

Tarleton State University

January 3 May 6 September 4

February	3	June	4	October	4
March	3	July	3	November	3
April	5	August	4	December	3

9.6.2.2.6 Unanticipated asbestos material, hazardous material, archeological artifacts, or endangered species are discovered on a part of the construction site where Contractor is performing his work.

Article 10. Payments

10.1.3 Each line item on the Schedule of Values and subsequent Change Orders shall be coded with one of the following category codes:

<u>CODE</u>	<u>CATEGORY</u>
001	General Condition Items
002	Demolition
003	Asbestos Abatement
004	Parking Lots & Driveways
005	Paved Area - Non Parking
006	Sidewalks & Paved Walk Areas
007	Streets or Roads - (includes curbs & gutters)
008	Electrical Distribution (Site) - (includes elec. lines, equipment & site lighting)
009	Telephone Distribution - (includes site lines other than fiber optic phone lines)
010	Fiber Optics - (all site fiber optic lines including fiber optic phone lines)
011	Natural Gas Lines (Site)
012	Water Distribution (Site) - (includes heated & chilled water & steam lines)
013	Sanitary & Storm Sewers (Site)
014	Fences and Gates (other than temporary)
015	Landscaping
016	Irrigation System
017	Retaining Walls & Mow Strips
018	Improvements - General (Site) - (includes benches, monuments, statues, markers)
019	Tunnels (Utility)
020	Tunnels (Other)
021	Septic Systems
022	Golf Course Facilities
023	Stadiums
024	Outdoor Swimming Pools and Tennis Courts
025	Athletic Fields & Recreation Areas (Intramural, Track & Field, Practice Fields)
026	Fountains
027	Plazas and Pavilions for Bus Stops
028	Fire Field Training Areas
029	Paths and Trails (Bicycle, Jogging)
030	Airport Runways/Strip/Taxiways/Aprons
031	Seawalls/Bulkheads/Piers/Broadwalks
032	Non-Componentized Building & Building Improvements (\$100,000 - \$999,999)

055 Infrastructure & Infrastructure Improvements (chillers serving multiple buildings)

Plus the following 11 component categories for EACH building with a cost of \$1,000,000 or greater.

NOTE: If the project includes construction of only one building, the following category codes should be used, however, if a second building is included in the project the category codes should be 201.0 through 211.0, and if a third building is included the codes should be 301.0 - 311.0, etc.

- 101 Building Shell
- 102 Roof Coverings
- 103 Elevator System
- 104 Floor Coverings
- 105 Interior Finishes
- 106 HVAC System
- 107 Plumbing System
- 108 Electrical and Lighting System
- 109 Fire Protection System
- 110 Fixed Equipment Assets
- 111 Miscellaneous Construction Features
- 146 Sprinkler System
- 152 Security System
- 153 Network Cabling/Telephone

Componentization Descriptions:

Code

- 101.0 Building shell: the exterior walls, foundation, floors and roof structural system and decking. The walls consist of the wall layers starting with the exterior building skin and ending at the inner thermal layer;
- 102.0 Roof Coverings: includes the covering material used to establish the water barrier on the building's roof deck. The roof covering starts with the first membrane above the roof decking materials including the urethane layer, coating, shingles, films, metal panels, clay tiles and all materials installed above the roof deck;
- 103.0 Elevator system: comprised of the elevator and escalator conveyance systems including controls;
- 104.0 Floor Coverings: includes carpet, ceramic tile, stone, terrazzo, vinyl tile, wood, laminate and linoleum floor coverings, and other types of floor coverings and all padding and barrier sheeting installed above the concrete slab or wooden deck;
- 105.0 Interior finishes: all walls, partitions, ceiling and millwork that are inside the building shell walls. This will include but not limited to, all framework, interior doors, interior windows, sheet rock, paneling, paint and any other wall and ceiling coverings;
- 106.0 HVAC: includes the chillers, condensers, exhaust fans and coil units, heating strips, chilled/heating water supply and return piping, air ducts, registers, climate

- control panels and all circuitry connected to the power supply panel within the perimeter of the building;
- 107.0 Plumbing system: all piping, drains, fixtures, and associated equipment within the perimeter of the building used for moving domestic water, other fluid gases, compressed air or sewage;
- 108.0 Electrical and lighting systems: all telecommunication and alarm wiring, lighting fixtures, electrical conduit, wire, cables, circuits, switches and controls within the perimeter of the building;
- 109.0 Fire protection system: comprised of the piping, sprinkler heads and controls (Circuitry for fire detection, alarms, and warning devices are included in “Electrical”);
- 110.0 Fixed equipment assets: is any equipment other than equipment comprised of the HVAC system, electrical system, fire protection system, plumbing system of elevator system that is installed and permanently attached to some part of the building’s structure;
- 111.0 Miscellaneous construction features: any building component that does not fit into one of the other ten categories.
- 146.0 Sprinkler System: Building interior
- 152.0 Security System: Installed within building, not easily removed.
- 153.0 Network Cabling/Telephone: Installed within building, not easily removed (not fiber optics)

Article 13. Warranty and Guarantee

- 13.2.1 Specific requirements for warranties and guarantees to include parts, labor, and other costs are noted in various sections of the technical specifications. Warranties and guarantees are required for, but not limited to, the following:

Membrane Waterproofing.....	2 years
Urethane Roofing System	10 years
Joint Sealers	2 years
Insulated Glass	5 years
Aluminum Doors & Frames.....	3 years
Wood & Plastic Faced Doors.....	Life of installation
Upward Acting Doors	5 years
Mirror Glazing	5 years
Window Wall System	2 years
Access Flooring.....	5 years
Dampproofing	2 years
Water Repellant Coating.....	5 years
Sheet Metal & Flashing.....	2 years
Roof Hatches.....	2 years
Door Closers	5 years
Metal Windows	2 years
Curtain Wall/Skylights.....	2 years
Fixed Seating.....	10 years
Carpet	15 years

Chalkboard Surfaces	50 years
Dock Lift	2 years
Prefabricated Environmental Box	10 years
Environmental Box Refrigeration Systems and Controls.....	2 years
Air Conditioning and Refrigeration Systems	2 years
HVAC Controls.....	2 years
Variable Speed Controllers	3 years

Until receipt of these guarantees, final inspection will not be conducted nor final payment released.

- 13.8. Service Contracts. The Contractor shall, prior to completion of the Work, deliver to the Owner service contracts for equipment furnished and/or installed by the Contractor in connection with the Work. Specific requirements for service contracts are noted in various sections of the technical specifications. Service contracts are required for, but not limited to, the following:

Elevators

Until receipt of these contracts, where applicable, final payment will not be released.

16.4 Business Ethics Expectations

During the course of pursuing contracts with Owner and while performing contract work in accordance with this agreement, Contractor agrees to maintain business ethics standards aimed at avoiding any impropriety or conflict of interest which could be construed to have an adverse impact on the Owner's best interests.

Contractor shall take reasonable actions to prevent any actions or conditions which could result in a conflict with Owner's best interests. These obligations shall apply to the activities of Contractor's employees, agents, subconsultants, subconsultants' employees and other persons under their control.

Contractor's employees, agents, subconsultants (and their representatives) shall not make or offer, or cause to be made or offered, any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, substantially discounted work, or any other considerations to Owner's representatives, employees or their relatives.

Contractor's employees, agents and subconsultants (and their relatives) shall not receive or accept any cash payments, commissions, employment, gifts valued at \$50 dollars or more, entertainment, free travel, loans, free work, or substantially discounted work or any other considerations from representatives of contractors, subcontractors, or material suppliers or any other individuals, organizations, or businesses receiving funds in connection with a Project.

Contractor agrees to notify Phillip Ray, Vice Chancellor for Business Affairs for The Texas A&M University System within 48 hours of any instance where the Contractor becomes aware of a failure to comply with the provisions of this article.

Upon request by Owner, Contractor agrees to provide a certified Management Representation Letter executed by a Contractor representative selected by Owner in a form agreeable to Owner stating that the representative is not aware of any situations violating the business ethics expectations outlined in this Agreement or any similar potential conflict of interest situations.

Contractor agrees to include provisions similar to this Article in all contracts with subconsultants receiving more than \$25,000 in funds in connection with a Project.



TEXAS A&M UNIVERSITY SYSTEM
301 Tarrow Street, 2nd Floor
College Station, Texas 77840

Minimum Prevailing Wage Rate
County: Bowie
Revised: 10/07/14

CLASSIFICATION	RATE	NOTES
Acoustic Ceiling Installer	9.74	
Asbestos Abatement Worker	10.41	
Carpenter	12.14	
Concrete – Pour and Finish	11.49	
Crane Operator	19.30	
Driver	9.39	
Drywall Installer	9.07	
Electrician – Journeyman	15.81	
Electrician – Apprentice	9.73	
Elevator Mechanic – Journeyman	43.68	
Elevator Mechanic – Apprentice	38.34	
Fire Protection – Controls	10.67	
Fire Protection – Pipefitter	16.09	
Formwork Builder	9.43	
Glazier	11.40	
HVAC – Journeyman	15.63	
HVAC – Apprentice	9.89	
HVAC – Controls	12.59	
Insulator	10.01	
Ironworker	11.75	
Laborer/Helper	8.87	
Mason	10.56	
Equipment Operator – Light	9.67	
Equipment Operator – Heavy	9.79	
Painter	8.50	
Pipefitter – Journeyman	20.25	
Pipefitter - Apprentice	11.83	
Plasterer	11.41	
Plumber – Journeyman	20.00	
Plumber – Apprentice	12.07	
Reinforcing Steel Worker	9.00	
Roofer	13.21	
Stone Mason	12.17	
Terrazzo Installer	8.14	
Tile Setter	11.74	
Waterproofer	11.24	

Note: Listed minimum prevailing wage rate is the base hourly wage rate including fringes.

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Work covered by Contract Documents.
- B. Contract Method.
- C. Starting Work.
- D. Work by Others.
- E. Contractor's Use of Premises.
- F. Owner Occupancy.

1.02 WORK COVERED BY CONTRACT DOCUMENTS:

- A. The Work of this Contract comprises the general construction of a 103,000 GSF new facility to house the College of Engineering and Technology located on the Tarleton State University campus for the Board of Regents of The Texas A&M University System.
- B. The Drawings and Specifications do not necessarily indicate or describe all Work required for completion of Project.
- C. The Contract Documents describe the essential elements sufficiently to determine the scope of the Project.
- D. Provide all items required for complete operating systems including items not necessarily shown in these Contract Documents, but that can be reasonably inferred as being required for a complete operating system.
- E. The Drawings and Specifications indicate the basic quality of material and quality of construction required for the entire Project.

1.03 CONTRACT METHOD:

- A. Construct the Work under a GMP contract.

1.04 STARTING WORK:

- A. The Contractor shall not start work until the Notice to Proceed has been issued and all insurance certificates have been reviewed and accepted by The Texas A&M University System.

- 1. The Contractor shall furnish the required Insurance Certificates to the

Contract Compliance Coordinator. (UGSC, Article 5).

2. The Contractor shall notify the ODR prior to commencing any Work.

1.05 WORK BY OTHERS (see UGSC 3.3.12):

- A. Contractor shall cooperate and coordinate its Work with Work provided under other contracts. Separate Contracts will include, but not necessarily be limited to the following:

1. Owner's Testing Laboratory Services (Quality Assurance).
2. Owner's independent HVAC balancing, testing and adjusting.
3. Owner's commissioning agent.
4. Owner's movable furnishings.
5. Owner supplied equipment.
6. N.I.C. (Not In Contract) Work.

1.06 CONTRACTOR'S USE OF PREMISES (see UGSC 3.1.4 and 3.3.11):

- A. Contractor shall have complete and exclusive use of premises within the construction limits indicated on the Drawings, for execution of Work.

1. Where it is necessary for the Contractor to use portions of existing buildings and/or grounds for operations, such use shall be strictly in accordance with requirements and approval of the Owner. Contractor shall provide proper and safe access to the Owner occupied areas at all times.
2. All interruptions of mechanical and electrical underground services shall be only at such time and for the lengths of time as approved by Owner. Where modifications to existing facilities or utility services are required, Contractor shall organize its work in order that inconvenience to the Owner is minimized. Give a minimum fourteen (14) days notice to ODR prior to interruption of services.
3. Unless otherwise indicated or specified, or unless otherwise directed by the Owner; water, gas, lighting, power and telephone conduits and wires, sewer lines, and other surface and subsurface structures and lines, shall be maintained by Contractor and shall not be disturbed, disconnected or damaged by the Contractor during progress of Work. Should Contractor in performance of the Work disturb, disconnect or damage any of the above, any cost arising from such disturbance or in replacing or repair shall be borne by the Contractor.

- B. Contractor shall:

1. Not unreasonably encumber the Project site with materials and equipment.
2. Not load structure with weight that will endanger the structure.
3. Assume full responsibility for protection and safekeeping of stored

- materials.
- 4. Move stored materials which interfere with operations of Owner and other contractors.
- 5. Obtain and pay for use of additional storage land work areas needed for operations.

C. Upon receipt of notice that the Contractor is ready to commence the Work, Owner will make the Project site available to the Contractor to execute the Work.

D. The Contractor shall coordinate use of the premises with the ODR and must comply with the Owner's requirements concerning the Contractor's operations and use of the premises, parking, loading and unloading.

1.07 OWNER OCCUPANCY (see UGSC 12.2)

A. The Owner will occupy the area surrounding the Project site during the entire period of construction for the conduct of its normal operations. The Contractor shall cooperate with ODR in all construction operations to minimize conflict, and to facilitate the Owner's usage.

B. The Contractor shall at all times conduct its operations to ensure the least inconvenience to the general public.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Identification of Alternates.
- B. Description of Alternates.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Divisions 2 through 35: Specific sections could be affected by any Alternate.

1.03 IDENTIFICATION OF ALTERNATES:

- A. Alternates will be selected at the option of Owner. Alternates accepted by Owner for incorporation into the Work are identified in the Contract.
- B. Coordinate related Work and modify surrounding Work as required to complete the Work, including changes required by each Alternate, designated in the Contract.

1.04 DESCRIPTION OF ALTERNATES: *[Project Manager working with A/E to include complete description of alternates]*

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements for product options and substitution procedures.
- B. Material and product options.
- C. Substitutions.
- D. Coordination.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination
- C. Section 01 33 00 - Submittal Procedures
- D. Section 01 60 00 - Product Requirements.
- E. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL:

- A. In addition to Uniform General and Supplementary Conditions, Article 8 (UGSC 8.3.5), comply with product option and substitution requirements specified in this Section.

1.04 MATERIAL AND PRODUCT OPTIONS:

- A. Materials and Products Specified by Reference Standards, by Performance, or by Description Only: Any product meeting specified requirements.
- B. Materials and Products Specified by Naming Products of One or More Manufacturers with a Provision for an Equivalent Product: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.
- C. Materials and Products Specified by Naming Products of Several Manufacturers Meeting Specifications: Submit one of the products listed which complies with specified requirements or submit a request for substitution for a product of manufacturer not specifically named which complies with specified requirements.

1.05 SUBSTITUTIONS (UGSC 8.3.5)

- A. Within sixty (60) days after date of Owner's Notice to Proceed, A/E will consider requests from Contractor for substitutions. Subsequently, substitutions will be considered only when a material or product becomes unavailable due to no fault of Contractor or as follows:

1. Lockouts,
 2. Strikes,
 3. Bankruptcy,
 4. Discontinuation of product,
 5. Proven shortage,
 6. Other similar occurrences.
- B. Each proposed substitution of materials or products for that one specified is a representation by Contractor that it has personally investigated the substitution and determined that the proposed substitution is equivalent or superior to that specified in quality, durability and serviceability, design, appearance, function, finish, performance, and of size and weight which will permit installation in spaces provided and allow adequate service access. Additionally, Contractor agrees that it will provide and/or do the following:
1. Same warranty on substitution as for specified product or material,
 2. Coordinate installation and make other changes that may be required for Work to be complete in all respects,
 3. Waive claims for additional costs which may subsequently become apparent,
 4. Verify that proposed materials and products comply with applicable building codes and governing regulations and, where applicable, has approval of governing authorities having jurisdiction.
- C. The A/E will review requests from Contractor for substitutions with the ODR. Contractor shall not purchase or install substitute materials and products without written approval. The A/E will give written notice to Contractor and the ODR of acceptance or rejection within a reasonable time.
- D. Document each request for substitution with complete data substantiating compliance of proposed substitution with Contract Documents. As appropriate include:
1. Reason for the proposed substitution,
 2. Change in Contract Sum and Contract Time, if any,
 3. Effect on WPS and completion date,
 4. Changes in details and construction of related work required due to substitution,
 5. Drawings and samples,
 6. Product identification and description,
 7. Performance and test data,
 8. Itemized comparison of the qualities of the proposed substitution to the product specified including durability, serviceability, design, appearance, function, finish, performance, size and space limitations, vibration, noise, and weight,
 9. Availability of maintenance service, source and interchangeability of parts or components,
 10. Additional information as requested.

- E. In the event of credit change in the cost, the Owner shall receive all benefit of the reduction in cost of the proposed substitution. Credit shall be established prior to final approval of the proposed substitution and will be adjusted by Change Order.
- F. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, without having been reviewed and approved by Contractor, or when acceptance will require substantial revision of Contract Documents without additional compensation to A/E.
- G. In the event that the Contractor or Subcontractor has neglected to place an order for specified materials and products to meet the WPS, specified requirements, color schemes or other similar provisions, such failure or neglect shall not be considered as legitimate grounds for an extension of completion time nor shall arbitrary substitutions be considered to meet completion date.
- H. Only one request for substitutions will be considered for each product. When substitutions are not accepted, the Contractor shall provide specified product.
- I. Should substitution be accepted, and substitution subsequently is defective or otherwise unsatisfactory, replace defective material with specified material at no cost to Owner.

1.06 COORDINATION:

- A. When a specified, optional, specified by reference standard, or proposed substitution item of equipment or material is submitted which requires minor changes or additions to the designed structure, finishes or to mechanical and/or electrical services due to its requirements being different from those shown on the Contract Documents, itemize the changes required and attach to submittal. Do not proceed with changes without written approval from the A/E.
- B. Contractor shall make adjustments and changes required to coordinate Work for installation of optional materials and products, approved substitutions and materials and products specified by reference standards without additional costs to Owner or A/E.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

PART I - GENERAL

1.01 SECTION INCLUDES:

- A. The Uniform General and Supplementary Conditions (UGSC) specify that the Owner through the Owner's Designated Representative (ODR) can modify the construction contract.

1.02 CONTRACT CHANGES:

- A. UGSC, Article 11 states that the Owner may order changes in the Work within the general scope of the Contract, consisting of additions, deletions or other changes. Changes to the contract will be accomplished through e-Builder utilizing a construction change order approval process.
 - 1. The construction change order approval process can be started by either the ODR or the Contractor. After a Change Order is approved, the Contractor can add the work to the schedule of values.
 - 2. The Contractor shall record the actual material and labor cost of the proposed work utilizing the supplied Form C-15 (Adjustment for Changes in Work) along with all supporting documentation. (A Microsoft Excel copy of Form C-15 can be found in e-Builder documents module, folder 02.09 GC COs) The cost breakdown shall consist of labor and materials. Materials shall be itemized by easily identifiable components such as linear footage, square footage, cubic yardage, pounds, etc. All subcontractor pricing shall be broken down using the same format. If the Contractor requests a time extension for the work, adequate justification must be provided to validate the impact on the construction schedule (refer to UGC Article 9 and Section 01 32 00). Any bond and insurance cost shall be accompanied by documentation supporting the cost from the bonding and insurance companies. If the labor rate represents overtime or premium time that shall be included in the documentation along with documentation that the rates were preapproved by the ODR.
 - 3. The Owner and A/E will review the Contractor's cost and time proposals and make a decision whether to proceed, void, or negotiate all or certain items with the Contractor. If a price cannot be agreed to the ODR may require the Contractor to proceed with the change on a time and materials basis. The Contractor shall document all costs daily using Form C-14 (A Microsoft Excel copy of Form C-14 can be found in e-Builder documents module, folder 02.09 GC COs) along with all supporting documentation. Profit and overhead shall not be included on the C-14. When the work is

completed the daily C-14s shall be consolidated into C-15s to calculate profit and overhead.

4. When an action is taken by an actor, the e-Builder process will automatically notify the next actor in the process by email. When the process is complete the Contractor will be notified of the action by email.
5. The ODR can also issue a Unilateral Change Order (UGSC 1.28 and 11.1) to increase or decrease the contract amount.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Payment requests.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 77 00 - Closeout Procedures.

1.03 PAYMENT REQUESTS:

- A. Progress payments will be accomplished through e-Builder utilizing a payment application approval process.
- B. At the earliest convenient time and not less than 21 days prior to the first payment request, the Contractor shall develop a Schedule of Values (SOV), utilizing a supplied form, to reflect the value of the categories of work (A Microsoft Excel copy of the SOV template can be found in e-Builder documents module, folder 02.10 GC Pay Apps). The breakdown shall follow the trade divisions of the specifications and shall be itemized by submittal, floor, area, elevation or other building systems, as a minimum. The breakdown shall include a labor and material breakdown for each activity and be of such detail as may be required by the Owner and/or Architect, but in general shall limit each line item to less than \$100,000, or as approved by the Owner. If more than one building is involved, the breakdown shall be by building as well. Each construction line item in the SOV shall also contain a componentization code as identified in Special Conditions. At any time during the project an Excel copy of the latest SOV shall be made available upon request by the ODR.
 - 1. The initial SOV shall be submitted to the ODR for review and approval. It is, therefore, recommended that this schedule be prepared and submitted as soon as possible to prevent delay of the initial payment to the Contractor.
 - 2. The ODR's review of the SOV is to assure that the breakdown is in sufficient detail to meet the above requirements and to assure that reasonable dollar values are assigned to the various items of work.
- C. The progress payment application approval process can be started by the contractor. The process routes the payment application through all review and

approval steps.

All required supplemental information is indicated by a red asterisk. Only one file can be uploaded into each field. The naming convention for supplemental information is indicated when hovering over the blue circle next to the attachment name. When the payment application is first submitted by the contractor the process routes back to the contractor. This step allows for the contractor to incrementally complete the request and for the A/E and ODR to review the request and observe the conditions of the Work. When the review is complete the Contractor must submit the process again.

1. Progress payments will not be approved if the job site record drawings are not up to date and posted (UGSC 6.2). Payments will also not be approved if other periodic requirements are not completed.
 2. Historically Underutilized Business Progress Reports will be prepared and submitted with the pay request each month (UGSC, Article 4). Pay requests will not be approved without this completed form.
 3. All approved Change Orders shall be added to the Schedule of Values in the same level of detail (by unique componentization code) as all other items of work.
- D. Contractor shall base each application for payment on value of work installed, and materials and equipment suitably stored at Site. Materials and equipment suitably stored off site in an insured or bonded warehouse may be included, if approved in writing by ODR. See UGSC 10.5 for additional requirements when requesting payment for materials stored off site.
- E. Payment for Stored Materials: The ODR shall be the sole authority for approval (proof of insurance or bond will be required).
1. Where the Schedule of Values separates items into labor amounts and material amounts, payment will be made for materials delivered and suitably stored on Site provided said material is required for installation according to the Contractor's Work Progress Schedule (WPS).

Invoices for stored materials will be submitted when required by the ODR. Stored material invoices will be accepted only after an approved shop drawing or sample has been received by the ODR.

Invoices for stored materials will only be considered when they exceed five hundred dollars (\$500) for each individual item. There will be no invoices accepted that contain tools, or expendable materials.

Invoices will only be considered that are referenced to the materials in the

SOV. Invoices that are not legible will not be considered for payment.

All stored materials will be checked by the Project Superintendent and verified by the ODR before being incorporated into the payment application.

2. Materials stored at an off-site location which are eligible for inclusion on progress payments are defined as finished goods made specifically for the Project, provided said material is required for installation according to the Contractor's WPS. Raw materials, work in progress at fabrication plants, and commodity items readily available for purchase are not eligible for inclusion in Contractor's Application for Payment.
3. Payment will be made under following provisions:
 - a. Items are listed separately on Application for Payment.
 - b. Include with Application for Payment:
 - (1) Paid receipts showing Contractor is unconditional owner.
 - (2) Fully executed Transfer of Title on photocopy of form provided herein.
 - (3) Location where materials are stored if off site, and method used to store.
 - (4) Identify items in offsite storage as property of Owner and furnish description of identification method.
 - (5) Inventory of items and methods used to verify inventory, including Contractor's certification that quantities have been received in good order.
 - (6) Proof of insurance for materials stored off site, in Owner's name.
 - (7) Proof of transportation arranged for delivery of material stored off site.
 - (8) Material delivered and stored on site or off site needs to parallel WPS.
 - c. ODR reserves right to verify storage by physical inspection at any time.
 - d. Payment does not relieve Contractor's obligations to protect, transport and install materials.
 - e. Title of materials upon which partial payments are made shall transfer to Owner. Partial payment does not constitute acceptance by ODR nor a waiver of any right or claim by ODR. Any costs incurred by Owner shall be paid by Contractor.

F. Final Payment Application (see UGSC 12.3): Administrative actions and submittals must precede or coincide with submittal of Contractor's final payment application.

1. Complete project closeout requirements specification in Section 01 77 00

and 01 78 00.

2. A final Change Order will be prepared if required, reflecting approval adjustments to Contract Sum not previously made by Change Orders.
3. After final acceptance of the work, the Contractor shall submit their final payment application in the same manner as a progress payment application and indicating that it is the final payment application. When Federal Funds or other grant funds are included, approval of that agency may also be required.

G. Cash Flow Schedule: A Cash Flow Schedule will be required within 21 days after approval of the SOV. This schedule shall show monthly payment requirements for the duration of the Contract. The schedule shall include a graphic analysis showing anticipated total completed to date accounts versus actual completed to date amounts. This Cash Flow Schedule is required to be updated monthly and submitted with each payment application.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Coordination of Contract Work.
- B. Correspondence.
- C. Meetings.
- D. Coordination of Submittals.
- E. Coordination of Contract Closeout.
- F. Coordination with Local Personnel.

1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions Article 3
- B. Section 01 11 00 - Summary of Work.
- C. Section 01 25 00 - Substitutions Procedures.
- D. Section 01 31 50 - Project Meetings.
- E. Section 01 32 00 - Construction Progress Documentation
- F. Section 01 33 00 - Submittal Procedures
- G. Section 01 60 00 - Product Requirements.
- H. Section 01 73 50 - Cutting and Patching.
- I. Section 01 77 00 - Closeout Procedures.
- J. Section 01 78 00 - Closeout Submittals.
- K. All Divisions of Facility Services Subgroup

1.03 COORDINATION, GENERAL:

- A. Coordinate all portions of the Work under the Contract. Require each Subcontractor to coordinate their portion of the Work and provide their requirements for coordination of their Work with other related Work. (UGSC 3.3.6)

Contractor shall 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 its 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.

- B. Coordinate mechanical and electrical Work with that of other trades in order that

various components of systems are installed at proper time, fit available space, and allow proper service access to those requiring maintenance, including equipment specified in other Divisions.

- C. Coordinate Work of sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- D. Coordinate use of Project space and sequence of installation of mechanical, plumbing, and electrical Work which is indicated diagrammatically on Drawings. Follow routings shown for pipes, ducts, and conduits as closely as practicable, with proper allowance for available physical space; make runs parallel with lines of building. Utilize space efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- E. In finished areas, except as otherwise shown, conceal pipes, ducts, conduit, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements. Provide escutcheon plates at penetrations through finished walls and ceilings with finish appropriate to adjacent finished surface.
- F. Coordination Drawings: Before materials are fabricated or installation of the Work, prepare coordination drawings (Section 01 34 00). Prepare drawings including plans, elevations, sections, and details as required to clearly define relationships between all building trades including HVAC, Electrical, Plumbing, Fire Sprinkler Systems and the structural components of the building such as ceilings, beams, columns, walls and floors. The drawings shall clearly define locations of sleeves, floor penetrations, Plumbing and HVAC piping, ductwork, equipment, light fixtures, electrical and control wiring conduits, panels, and their relationship to building structural components.
 - 1. In preparation of the coordination drawings the Contractor is required to hold coordination meetings with all trades providing the above Work for each building level and each mechanical and electrical room.
 - 2. Resolve conflicts between trades and prepare composite coordination drawings and upload to e-Builder for review by A/E and ODR. Allow sufficient time for review, in accordance with submittal procedures, prior to proceeding with fabricated or installation of the Work.
 - a. Prepare CAD coordination drawings to 3/8" = 1'0" scale for each floor level and for each mechanical and electrical room. The drawings shall indicate all work items located on each level shown on the drawing with the work items indicated by the following colors:

Building and structural components	black
HVAC ductwork and diffusers	dark green

HVAC piping	blue
Fire sprinkler piping and heads	red
Electrical conduits and equipment	orange
Domestic cold and hot water piping	brown
Plumbing storm and sanitary drain	purple
Plumbing gas piping	light green

- b. All piping and ductwork larger than 2½” in diameter shall be drawn two line; smaller piping and ductwork shall be drawn double thickness single line.
- c. Show access space around equipment as directed by Specifications.
- d. The superintendent for each trade and the Contractor shall sign the drawing indicating that he has reviewed the drawing for accuracy.

3. When conflicts cannot be resolved, Contractor shall request clarification from the A/E prior to proceeding with that portion of the Work affected by such conflicts or discrepancies. Prepare interference Drawings to scale and include plans, elevations, sections, and other details as required to clearly define the conflict between the various systems and other components of the building such as beams, columns, and walls, and to indicate the Contractor's proposed solution.

G. Remove and relocate items which are installed without regard to proper access, as directed by the A/E and ODR, at no additional cost to the Owner.

1.04 CORRESPONDENCE:

Correspondence relating to this Project should occur within e-Builder. Correspondence outside of e-Builder must show the Project name, Project number and Contract number and be uploaded to e-Builder.

1.05 MEETINGS:

A. In addition to project meetings specified in Section 01 31 50, hold coordination meetings and pre-installation conferences with appropriate personnel to assure coordination of Work.

1.06 COORDINATION OF SUBMITTALS:

A. Schedule and coordinate submittals specified in Sections 01 25 00, 01 32 00, 01 33 00, and 01 78 00 and other Sections of Divisions 2 through 35.

B. Coordinate requests for substitutions to assure compatibility of space, of operating

elements, and effect on Work of other sections.

1.07 COORDINATION OF CONTRACT CLOSEOUT:

- A. Coordinate completion and cleanup of Work of separate sections in preparation for Substantial Completion.
- B. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

1.08 COORDINATION WITH LOCAL PERSONNEL:

- A. Problems concerning traffic, parking or blocking streets must be referred to the appropriate campus personnel. Confine truck route egress and exit to Site as indicated on Drawings. Coordination is to be through the ODR.
- B. Any exterior problems, including the moving of utilities is to be referred to the campus facilities department. Coordination is to be through the ODR.
- C. The scheduling of utility outages must be coordinated with the campus facilities department at least fourteen (14) days in advance. This coordination is to be arranged through the ODR.

1.09 PROTECTION:

- A. Contractor shall assume responsibility for initiation and maintenance of protective requirements specified in Section 01 50 00, Temporary Facilities and Controls.

1.10 REPAIR OF DAMAGE:

- A. Damage: Restore accidental or careless damage to the Work to a condition as good as or better than existed before work was commenced and at no cost to the Owner.

1.11 SECURITY:

- A. Conform to requirements of public laws, ordinances and regulations and requirements of insurance carriers concerning security of Site while Work is in progress as well as when it has been suspended, if this occurs.

1.12 RECORD DOCUMENTS:

- A. Maintain project record documents at Site. Refer to Section 01 78 00 for requirements.

1.13 CONSTRUCTION LOADING:

- A. General: Concrete slabs on grade and suspended floors have not been designed for heavy loading.
- B. Slabs On Grade: Do not subject 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.
- C. Suspended Floors: Do not subject suspended slabs to construction loads beyond 40 pounds per square foot unless adequately shored. Such shoring shall be designed for the Contractor by a registered (Texas) Structural Engineer, who shall certify prior to imposing construction loads on slabs, that the shoring as installed conforms with the shoring as designed. Submit three prints, for record only, of the shoring drawings to the A/E, signed by the Contractor's design engineer.

1.14 SPECIAL REQUIREMENTS:

- A. Existing Utilities: Schedule shut downs if needed in order to minimize inconvenience to Owner. Notify ODR in writing fourteen (14) days in advance of any anticipated shutdowns. Utility shutdowns will only be scheduled at a time mutually agreeable to the Owner and Contractor.
- B. Existing Valves and Switchgear: Owner will be responsible for opening and closing all valves and switches on all utility services. This will be done by campus facilities department personnel without cost, except when overtime work is required.
- C. Damaged Utilities and Services: When existing utilities are damaged, campus facilities department shall make repairs or permit Contractor to make repairs under supervision of facilities department personnel. If repairs are to utilities shown on Contract Documents, all costs or repairs incurred by Owner will be borne by Contractor.
- D. No additional compensation will be made to Contractor for reasons of premium time, after hours, overtime or for inefficiency of operation.
- E. Parking: Restricted to areas indicated on Drawings for Contractor's use. Contractor shall make arrangements and pay for any additional parking required off Project site.
- F. Deliveries and Removals: All deliveries of construction material, equipment, supplies, and similar operations, and removals shall be performed only in areas designated and approved by ODR.

- G. Circulation: Confine construction operations to designated areas avoiding any interruption of vehicular circulation to existing facilities. Should these requirements become unavoidable, submit a request to ODR in writing at least two weeks prior to anticipated interruption, stating predicted time, location and duration of interruption.
- H. Construction Scheduling: The Work shall be conducted in such a way as to cause a minimum of interference with the use of adjacent existing facilities during regular school and/or work hours.
- I. Noise Control: The Contractor shall execute the Work in this Contract as quietly as practical to avoid unnecessary disturbances.
 - 1. Any complaints duly registered by Owner of unacceptable noise levels shall be cause for use of special precautions and methods of operation by Contractor to reduce noises to acceptable levels at no additional cost to the Owner.
 - 2. The ODR shall be sole judge of tolerability of noise levels.
- J. Dust Control: Control all dust, to Owner's satisfaction, in working area and involved portions of the Project Site including access roads or drives.

PART 2 – PRODUCTS

NOT USED

PART 3 – PRODUCTS

NOT USED

END OF SECTION

SECTION 01 31 26

ELECTRONIC COMMUNICATIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Project Management Communications.

1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions
- B. All Section of Division 1 – General Requirement.

1.03 GENERAL:

- A. Project Management Communications: The Contractor and Architect/Engineer shall use the Internet web based project management communications tool, E-Builder[®] software, and protocols included in that software during this project. E-Builder shall be the primary project management tool on the project. The use of project management communications as herein described does not replace or change any contractual responsibilities of the participants.

Project management communications is available through E-Builder[®] as provided by "e-Builder[®]" in the form and manner required by the Owner.

The project communications database is on-line and fully functional. User registration, electronic and computer equipment, and Internet connections are the responsibility of each project participant. The sharing of user accounts is prohibited.

- B. Training: Owner will provide a group training session. Users are required to attend the scheduled training sessions they are assigned to; requests for specific scheduled classes will be on a first come first served basis for available spaces. Companies may also obtain group training from E-Builder at their own expense, please contact E-Builder[®] for availability and cost.
- C. Support: E-Builder[®] will provide on-going support through on-line help files.
- D. Project Archive: Upon project completion or at intervals during the project, all project related documents and forms can be archived by e-Builder for a minimal fee if the contractor or consultants would like a copy of all the documents, processes and workflow form data. All legal rights in any discovery process are retained.

- E. Copyrights and Ownership: Nothing in this specification or the subsequent communications supersedes the parties' obligations and rights for copyright or document ownership as established by the Contract Documents. The use of CAD and BIM files, processes or design information distributed in this system is intended only for the project specified herein.
- F. Purpose: The intent of using E-Builder® is to improve project work efforts by promoting timely initial communications and responses. Secondly, to reduce the number of paper documents while providing improved record keeping by creation of electronic document files.
- G. Authorized Users: Access to the web site will be by individuals who are licensed users.
 - 1. Contractor shall determine number of user licenses required.
 - 2. Individuals shall be responsible for the proper use of their passwords and access to data as agents of the company in which they are employed.
- H. Owner's Administrative Users: Administrative users have access and control of user licenses and all posted items. DO NOT POST PRIVATE OR YOUR COMPANY CONFIDENTIAL ITEMS IN THE DATABASE! Improper or abusive language toward any party or repeated posting of items intended to deceive or disrupt the work of the project will not be tolerated and will result in deletion of the offensive items and revocation of user license at the sole discretion of the Administrative User(s).
- I. Communications: The use of fax, email and courier communication for this project is discouraged in favor of using E-Builder® to send messages. Communication functions are as follows:
 - 1. Documents, comments, drawings and other records posted to the system shall remain for the project record. The authorship time and date shall be recorded for each document submitted to the system. Submitting a new document or record with a unique ID, authorship, and time stamp shall be the method used to make modifications or corrections.
 - 2. The system shall make it easy to identify revised or superseded documents and their predecessors.
 - 3. Server or Client side software enhancements during the life of the project shall not alter or restrict the content of data published by the system. System upgrades shall not affect access to older documents or software.
 - 4. The system shall provide a method for communication of documents. Documents shall allow security group assignment to respect the

contractual parties' communication except for Administrative Users. DO NOT POST PRIVATE OR YOUR COMPANY CONFIDENTIAL ITEMS IN THE DATABASE!

5. Documents of various types shall be logically related to one another and discoverable. For example, requests for information, daily field reports, supplemental sketches and photographs shall be capable of reference as related records.
6. The system shall be capable of generating reports for work in progress, and logs for each document type. Summary reports generated by the system shall be available for team members.
7. Document distribution to project members shall be accomplished both within the extranet system and via email as appropriate. Project document distribution to parties outside of the project communication system shall be accomplished by secure email of outgoing documents and attachments, readable by a standard email client.
8. Required Document Types:
 - a. RFI, Request for Information response.
 - b. Submittals review, including record numbering by drawing and specification section.
 - c. Transmittals, including record of documents & materials delivered in hard copy.
 - d. Meeting Minutes.
 - e. Review Comments.
 - f. A/E Field Observation Reports.
 - g. Payment Applications
 - h. Construction Photographs.
 - i. Drawings.
 - j. Supplemental Sketches.
 - k. Schedules.
 - l. Specifications.
 - m. Punch list
 - n. Commissioning Issues
 - o. Contract Changes
 - p. Architectural Supplemental Instructions.

All information provided in e-Builder shall be the original information or data. The use of "see attached" and attaching another company form is not allowed.

- J. Record Keeping: Except for paper documents, which require original signatures, all documents shall be submitted by transmission in electronic form to the E-

Builder® web site by licensed users.

1. The Owner and his representatives, the Architect and his consultants, and the Contractor and his sub-contractors and suppliers at every tier shall respond to documents received in electronic form on the web site, and consider them as if received in paper document form.
 2. The Owner and his representatives, the Architect and his consultants, and the Contractor and his sub-contractors and suppliers at every tier reserves the right to and shall reply or respond by transmissions in electronic form on the web site to documents actually received in paper document form.
 3. The Owner and his representatives, the Architect and his consultants, and the Contractor and his sub-contractors and suppliers at every tier reserves the right to and shall copy any paper document into electronic form and make same available on the web site.
- K. Minimum Equipment and Internet Connection: In addition to other requirements specified in this Section, the Owner and his representatives, the Architect and his consultants, and the Contractor and his sub-contractors and suppliers at every tier required to have a user license(s) shall be responsible for the following:
1. Providing suitable computer systems for each licensed user at the users normal work location with high-speed Internet access, i.e. DSL, local cable company's Internet connection, or T1 connection.
 2. Each of the above referenced computer systems shall have the following minimum system and software requirements.
 - a. Desktop configuration (Laptop configurations are similar and should be equal to or exceed desktop system.)
Operating System: Windows 7 or newer
Internet Browser: Internet Explorer, Firefox, Safari, Chrome
Minimum Recommend Connection Speed: 256K or above
Processor Speed: 1 Gigahertz and above
RAM: 512 mb
Adobe Acrobat Reader
Microsoft Office Suite or equivalent

PART 2 – PRODUCTS
NOT USED

PART 3 – PRODUCTS
NOT USED

END OF SECTION

SECTION 01 31 50

PROJECT MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Project Meeting Information.
- B. Pre-Construction Meeting.
- C. Progress Meetings.
- D. Pre-Installation Meetings.
- E. Lockset Hardware/Key Conference.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures
- C. Section 01 32 00 - Construction Progress Documentation
- D. Section 01 33 00 - Submittal Procedures
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 73 50 - Cutting and Patching.
- G. Section 01 77 00 - Closeout Procedures.
- H. Section 01 78 00 - Closeout Submittals.

1.03 GENERAL:

- A. Contractors, Subcontractors and suppliers representatives attending the meetings/conferences of this section shall be qualified and authorized to act on behalf of the entity each represents.
- B. Contractor shall comply with the following meeting requirements during performance of the Contract.
 - 1. Arrangements: Arrange for a convenient, comfortable room in which to conduct the progress meetings, furnished as necessary to accommodate the people involved and to accomplish the purpose of the meeting. Owner will provide the room for the pre-construction meeting.
 - 2. Notices: All project meetings shall be on the e-Builder calendar at least seven (7) days in advance of the meeting date.
 - 3. Records: Minutes of all project meetings shall be kept in e-Builder and available to all concerned within four (4) days after the adjournment of the meeting.
 - 4. Schedule Updating: Immediately following each progress meeting, where revisions to the Work Progress Schedule (WPS) have been made or recognized, revise the progress schedule. Reissue revised colored copies of the WPS concurrently with minutes of each meeting.

1.04 PRE-CONSTRUCTION CONFERENCE (see UGSC 3.1.1):

- A. Chairman: The meeting will be presided over by the ODR.

B. Attendance: The following persons will be expected to attend:

1. Owner's Representatives.
Project Manager
User Coordinator
Physical Plant representative
2. A/E's Construction Administrator.
3. A/E's Consultants for Mechanical, Electrical and Structural Engineering.
4. A/E's special consultants as maybe required.
5. Contractor's General Superintendent and Project Manager.
6. Major Subcontractors including at least those for mechanical, plumbing and electrical work.

C. Agenda: Subjects shall include, but are not limited to the following:

1. Distribution of submittals. Refer to Sections 01 33 00 & 01 34 00.
2. Sequence of critical work.
3. Relation and coordination by the Contractor.
4. Designation of responsible personnel.
5. Processing of Change Orders.
6. Distribution of Construction Documents.
7. Access to Work to permit inspection.
8. Maintaining project Record Documents.
9. Use of the premises, access to the Site, office and storage areas, and Owner's requirements.
10. Major equipment deliveries and priorities.
11. Safety and first aid procedure.
12. Security procedures.
13. Housekeeping procedures.
14. Additional subjects as requested by the Owner, the Architect/Engineer or the Contractor.
15. List of major Subcontractors and suppliers.

1.05 PROGRESS MEETINGS:

A. Chairman: Contractor's Project Manager or Project Superintendent shall preside over the meeting; prepare agenda and record minutes in e-Builder.

B. Attendance: The following persons will be expected to attend:

1. Owner's Representatives.
Project Manager
User Coordinator
Physical Plant representative
2. Architect/Engineer's Construction Administrator.
3. Architect/Engineer's Consultants for mechanical, electrical and structural engineering until excused from attendance.
4. A/E's special consultants as maybe required.
5. Contractor's General Superintendent, Project Superintendent and Project Manager.

6. Subcontractors who have work in progress.
 7. Subcontractor who will start work within the next month.
 8. Others as requested by ODR, A/E, or Contractor.
- C. Agenda: The Contractor will provide an agenda including but not necessarily limited to the following items:
1. Present a brief narrative of construction progress since the last monthly meeting containing:
 - a. General description of work performed.
 - b. Expectation of meeting scheduled dates.
 - c. Description of current or anticipated delaying factors or problems, if any.
 2. Review the updated WPS and present a schedule analysis.
 3. Review the Submittal Schedule/Log.
 4. Review the COR Log.
 5. Review of Requests for Information.
 6. Review of project Record Documents.
 7. Review/approval of the Progress Payment.
 8. General discussion: Other outstanding/current business.
- D. Review of Pre-Installation Meetings
- E. Number of Meetings: A minimum of one progress meeting shall be held each month. Other weekly or biweekly progress meetings shall be held as determined by the ODR and shall cover those subjects as required by the ODR.

1.06 PRE-INSTALLATION MEETINGS:

- A. Provide a list of all pre-installation meetings anticipated.
- B. Convene a pre-installation meeting at the Project field office prior to commencing any work.
- C. Require attendance of entities directly affecting, or affected by, work of Section.
- D. Notify A/E and ODR ten (10) days in advance of meeting date.
- E. Contractor shall prepare agenda, preside at meeting and record minutes in e-Builder.
- F. Review conditions of installation, preparation and installation procedures, and coordination with related work. Review submittals for all Work to be installed.
- G. The Contractor shall maintain an adequate inspection system and perform such inspection to insure that the work called for by this contract conforms to the contract specifications and requirements.
- H. The Contractor shall maintain complete inspection records and make them available to the ODR.

I. Subcontractor foreman or project manager are required to attend this meeting.

1.07 LOCKSET HARDWARE/KEY CONFERENCE:

A key conference shall be conducted after approval of hardware submittal prior to the ordering of lock hardware. The Contractor shall, in conjunction with the ODR, A/E, User Coordinator and campus facilities department representative, establish a date for the key conference to be held. A key conference is required to review the function of the locks and to insure that all security requirements of the Using Agency will be met.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 32 00

CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Work Progress Schedule (WPS).
- B. Daily reports.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 31 00 - Project Management and Coordination.
- C. Section 01 33 00 - Submittal Procedures.
- D. Section 01 77 00 - Closeout Procedures.

1.03 WORK PROGRESS SCHEDULE (see UGSC 9.3):

Coordination: Comply with Uniform General and Supplementary Conditions, Article 9. Coordinate both the listing and timing of reports and other activities required by provisions of this Section and other Sections, so as to provide consistency and logical coordination between the reports. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to all parties involved in the Work including the A/E and the Owner. In particular, provide close coordination of the WPS, contract price breakdown, listing of subcontracts, schedule of submittals, progress reports, and payment requests.

- A. Initial Work Progress Schedule: Submit a bar-chart type progress schedule within ten (10) calendar days after receipt of Notice to Proceed. On this schedule, indicate a time bar for each major category or unit of work to be performed at the Site, properly sequenced and coordinated with other elements of work. Show completion of the activity sufficiently in advance of the date established for completion of the Work. Under no circumstances will construction operations begin other than initial mobilization until the preliminary Work Progress Schedule is submitted.
- B. Work Progress Schedule: Within thirty (30) calendar days after the receipt of the notice to proceed, submit a comprehensive Work Progress Schedule (WPS). This schedule shall address and include all comments received from the ODR and the A/E that were in reference to the preliminary Work Progress Schedule.

- 1. General: The Work Progress Schedule shall be in accordance with the Precedence Diagramming Method (PDM) consisting of a time scaled diagram and related computer generated analysis reports.

2. **Work Progress Schedule:** Based on development of the preliminary WPS and whatever updating and feedback may have occurred during project start-up, secure commitments for performing major elements of the Work. Submit a comprehensive WPS indicating, by stage-coded symbols, a time bar for each major category or unit of work to be performed at the Site; include minor elements of work which are involved in overall sequencing of the Work. Contractor shall identify all critical items, in red ink. Arrange schedule to graphically show the major sequences of Work necessary for the completion of related elements of Work. Prepare and maintain the schedule on either a sheet of sufficient size or a series of sheets showing required data clearly for the entire Construction Time. Provide monthly updates in color, graphically and digitally to the ODR.
3. **Area Separations:** Arrange the WPS with separations between buildings and floors as approved by the ODR.
4. **Network Diagram:** Activities shown on the WPS shall be categorized and described as follows:
 - a. Each individual construction activity.
 - b. A concise description of the work.
 - c. An activity duration shall not exceed 20 work days. Durations of greater than 20 work days are acceptable for non-construction activities or as required by the type of construction activity.
 - d. Each activity shall be coded with an activity code or hammock that relates that activity to an item on the Schedule of Values.
 - e. Each activity shall be coded with an activity code that relates that activity to a phase or building. This subdivision of the Project shall be mutually agreed upon between the ODR and the Contractor.
 - f. Items requiring fabrication and delivery longer than 180 days.
 - g. Times anticipated for shutdown and tying-in to existing services. Note: This does not serve as an official request to the ODR and each individual request for an outage shall be submitted in writing fourteen (14) calendar days prior to the anticipated outage, as described in Section 01 31 00 Project Management and Coordination. An integrated schedule containing all of the above categories, or individual schedules for each of the above categories, or both, shall be as required by the A/E and/or the ODR.
 - h. After Substantial Completion the Contractor shall show the following activities as a minimum:
 1. Completion of pre-final punchlist (Suggested duration 30

days minimum).

2. Final inspection (Suggested duration 5 days).
3. The above activities are to be Finish to Start.

i. The WPS shall show the following Major Milestone Target Finish Dates:

1. Completion of main structure foundation piers or footings.
2. First or ground floor slab complete.
3. Structure top out.
4. Building dry-in or enclosed. This is defined as the roof, exterior walls, exterior windows and openings closed in.
5. Start of conditioned air. This is defined as the building is ready to hold environmental conditions.
6. Any Early Occupancy required by the Contract.
7. Project phases as outlined in the Construction Documents.
8. Permanent Power Required
9. Other milestones as appropriate to the Project.

j. Application of Major Milestones Requirement:

1. The Major Milestone Target Finish Dates identified above are to allow for periodic assessment of critical points of delivery in the construction process. If the Work progresses behind the WPS to the extent that a Major Milestone Target is missed, the ODR may retain sufficient funds, otherwise due to the Contractor, to provide for the assessment of Liquidated Damages in the event that the lost time is not regained. There will be no such additional retainage of funds, provided the published Major Milestone Target Finish Dates are maintained throughout the life of the project.
2. In the event that a Major Milestone Target Finish Date has not been met according to the approved schedule, then an assessment equal to the number of days beyond the scheduled date, multiplied by the contractual liquidated damage amount will be withheld as additional retainage (see UGSC 10.3.2 and 10.3.3) from the current progress payment. The Contractor shall consider this action by the ODR as Notice under UGSC 9.5 and shall increase the rate of Work placement accordingly.
3. Contractor is expected to implement a recovery action plan that re-establishes the original project progress schedule within thirty (30) calendar days of the missed milestone target date.
4. Actions taken that restore the progress schedule within

this 30 day work cycle will entitle the Contractor to recover the assessed additional retainage amount for that occurrence.

5. Beyond thirty (30) calendar days, no reimbursement will be made and a deductive Change Order will be issued.
6. All costs to recover lost time will be borne solely by the contractor.

k. The WPS shall also show as a minimum the following activities:

1. Permanent power energized.
2. Required inspections such as: above ceiling inspections, wall inspections and pre-final inspections.
3. Sufficient time to correct the items listed in the above inspections.
4. Chilled and heating water required.

l. Each activity shall be represented by a graphical horizontal line, as follows:

1. Each line clearly and briefly described.
2. Estimated duration.
3. Early start, late start, early finish, late finish, actual start and actual finish.
4. Each activity shall have its own number.
5. Each activity, except for start and finish activities shall have at least one preceding and succeeding activity and each may have more than one.
6. Line shall be drawn to the length as dictated by the item scale to indicate the activity's duration including both target duration and percent complete to date.
7. Each activity shall be placed at its proper calendar location as determined by the time scale.
8. Float shall be shown in its proper time scale for all activities. Float on specific activities shall be defined as the late finish date minus the early finish date. Total Float shall be the Contract Time less the duration of the critical path, or the amount of time non-critical activities can be delayed without causing the Contract Time to be exceeded.
9. The path of critical activities shall be illustrated or accented in red, thereby easily distinguished from non-critical activities. There should only be one defined critical path.
10. Milestones or intermediate completion dates shall be clearly shown.

11. Substantial Completion Date on the WPS shall coincide with time of completion indicated in the Contract Documents.
 12. The duration of each activity shall be shown in work days and include anticipated days lost due to inclement weather based on the Rainfall Table in Special Conditions 9.6.2.1.1.
 13. Upon review and acceptance of the WPS by the A/E and the ODR, the target bars shall be locked showing comparison between anticipated schedule and actual schedule.
 14. The original schedule shall be saved as the baseline schedule and each monthly update shall be saved as a different name or version.
5. Submittals: Submit two (2) color copies each of the Network Diagram and/or bar chart and two (2) copies each of the computer generated reports to the A/E and to the ODR. Also submit a digital copy of the WPS to the ODR. The ODR and A/E will request revisions, if necessary, and return to the Contractor.
 6. Distribution: Following the initial submittal to and response by the A/E and ODR, print and distribute WPS to A/E, ODR, the principal subcontractors, suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. Post copies in the project meeting room and temporary field office. When revisions are made, distribute updated issues to the same entities and post updated issues in the same locations. Delete entities from distribution when they have completed their assigned Work and are no longer involved in performance of scheduled Work.
 - a. As major revisions are made during construction, distribute current issues to the same entities listed above and make postings accordingly.
 7. Reports: Computer generated printouts with data regarding each activity shown on the Network Diagram shall include the following:
 - a. Description of the activity.
 - b. Activity number.
 - c. Duration.
 - d. Early start, late start, early finish, late finish, actual start and actual finish dates.
 - e. Float.
 - f. Show dates as calendar dates.
 - g. Target start and target finish dates.

8. Report format shall be sorted in accordance with following format with “a” being the highest priority:
 - a. List of activities in ascending order according to activity number.
 - b. List of activities by amount of total float with activities having lowest float listed first, followed by activities with next lowest float.
 - c. List activities by early start date.

9. Submit two (2) color copies each of the updated WPS to the ODR and the A/E and an electronic copy (current/active version) to the ODR at the Monthly Progress Meeting each month, illustrating the following:
 - a. Show progress on all active items.
 - b. Show actual completed Work as contrasted to estimated Work (i.e. target bar schedule).
 - c. Show critical path activities marked to distinguish them from non-critical path activities.
 - d. Show target bars from the baseline schedule.

10. Submit a detailed, written analysis describing deviations from the previous month's schedule as follows:
 - a. Description of the critical path with changes from the previous month.
 - b. Changes in the network diagram and logic from the previous month.
 - c. Addition/deletion of activities.
 - d. Activities not finishing on the late finish date, the reason for the delay, the impact on the project and corrections to the project timeline.
 - e. Activities impacting meeting the Contract completion date and the reason and the corrective measures taken to correct the situation.
 - f. Any other items deviating from or impacting the WPS in relation to the previous month's WPS which would have an adverse effect on the Project.
 - g. Change Orders causing modifications in the Work which affect the duration, start or finish date of activities to the extent that the critical path is changed.

Note: Each of the above items shall be addressed monthly in this report.

11. Revisions to the schedule, including those created by Change Orders, shall

be made at no cost to the Owner.

12. Time Extensions: Contract time extensions will not be granted unless a Change Order causes either of the following:
 - a. An increase in the duration of the Critical Path.
 - b. The available float of a non-critical activity is consumed causing the activity to become critical and thereby altering the critical path.
13. Time extensions shall be limited to the duration of the revised critical path less the Contract Time.
14. Project Summary Schedule: A summary project bar chart schedule shall be submitted monthly. The summary activities will match the construction items found on the Schedule of Values. The recommended method of producing this schedule is through the use of hammock activities. All of the underlying construction activities should be linked to a hammock activity and the scheduled value for that item should be loaded onto the hammock activity. The monthly submittal of this schedule should include the originally submitted schedule as a target schedule and the current status of that activity. In addition a cost weighted plan versus actual overall project progress curve should be submitted. Immediately after the WPS has been accepted by the ODR a projected cash flow chart shall also be developed from this target schedule and transmitted to the ODR. This cash flow chart shall show graphically projected total billings versus actual total billings. This chart shall be updated monthly and submitted along with the Payment Application. It is a requirement for approval of the Payment Application.
15. Work Progress Schedules should use one of the following scheduling software: Primavera or Microsoft Project. No substitutions will be allowed unless approved by the owner. The scheduling system utilized shall be compatible with Windows XP operating system or later.

1.04 DAILY REPORTS:

- A. Prepare a daily report in e-Builder, recording the following information concerning events at the Site:
 1. List of Subcontractors at the Site with a brief description of the work being performed.
 2. Approximate count of personnel at the Site.
 3. High/low temperatures, general weather conditions.
 4. Accidents (refer to accident reports).
 5. Meetings and significant decisions.

6. Unusual events (refer to special reports).
7. Stoppages, delays, shortages, losses.
8. Meter readings and similar recordings, as required.
9. Emergency procedures, field orders.
10. Orders/requests by governing authorities.
11. Visitors.
12. Services connected, disconnected.
13. Equipment or system test and/or start-ups.
14. Partial completions, occupancies.
15. Status of long lead items that affect the critical path.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements.
- B. List of proposed subcontractors and suppliers.
- C. List of proposed materials.
- D. Field mock-ups and field samples
- E. Color schedules
- F. Brick selection.
- G. Precast architectural concrete and cut stone approvals.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 31 00 – Project Management and Coordination
- D. Section 01 32 00 - Construction Progress Documentation.
- E. Section 01 60 00 - Product Requirements.
- F. Section 01 77 00 - Closeout Procedures.
- G. All Divisions of Facility Services Subgroup - Additional submittal requirements

1.03 GENERAL REQUIREMENTS (see UGSC 8.3):

- A. General: As indicated in UGSC 8.3.1.1 prepare a complete submittal register in e-Builder within twenty-one (21) days after the effective date of the Notice to Proceed with construction. The submittal register shall contain the submittal title, description, specification section and submittal category at a minimum. The entire review and approval process for all submittals with the exception of physical samples and colors shall occur in e-Builder. Correlate this submittal register with the listing of subcontractors and with the "list of materials" as specified in the Contract Documents.
- B. If the project includes multiple buildings then include the building number in the filename of submittals specific to a building. During the review and approval process for submittals do not change the file names for any attached files. E-Builder versions each file as notations and/or changes are made.
- C. The Contractor shall submit to the A/E for review all shop drawings, product data, samples and other submittals for all items required in the Technical Sections of the Specifications and for all items proposed for use in the Work. Do not combine submittals for specified work with requests for substitutions. Submit

requests for substitutions in accordance with Section 01 25 00. Individual submittals from the submittal register shall be grouped into submittal packages before forwarding to the A/E for review.

- D. The Contractor shall review and stamp approval and submit, with reasonable promptness and in orderly sequence, all shop drawings, product data and samples required.
- E. Submit shop drawings, product data and samples far enough in advance to allow ample time for A/E's review, resubmittal if required, and fabrication without creating any delay in the Work, or the work of any other contractor or subcontractor. No extensions of contract time will be authorized because of failure to submit submittal enough in advance to permit processing including resubmittals.
 - 1. Make all submittals a minimum of thirty (30) days prior to needed return date.
 - 2. Allow more review time for requests of substitutions.
- F. Submittal Content Requirements:
 - 1. Shop drawings shall be completely detailed and dimensioned with types, sizes, and gauges of materials noted. Where shop coat of paint is required on materials, brand name, and chemical content shall be noted on the drawings.
 - 2. Shop drawings shall be neatly, accurately, and legibly drawn, noted and referenced.
 - 3. Each item contained in the submittal shall be clearly referenced and noted establishing the item's location in the finished work.
 - 4. Member and item designations shall be the same as those used on the A/E's drawings, except that, where the A/E's has used the same designation for more than one member or item, the Contractor may add a suffix to the designation to differentiate between these members.
 - 5. Where published standard exist (such as ACI Standard 315 Details and Detailing of Concrete Reinforcement), these shall be followed in the preparation of shop drawings. Where no such standards are published by the industry or trade concerned, the shop drawings shall be prepared in a suitable form acceptable to the A/E.
- G. Submittal Format Requirements:
 - 1. Submittal Preparation: Mark each submittal with a permanent label or title block, as appropriate, for identification with the following information on the label or title block for proper processing and recording of action taken.
 - a. Title of submittal and date submitted.

- b. Sheet number and number of sheets included (as applicable). Number drawings consecutively.
 - c. Project Name, Project Number, and location of Project.
 - d. Name of Architect and Architect's Project Number.
 - e. Name of Contractor, subcontractor, fabricator supplier, and manufacturer, as appropriate.
 - f. Name of drawing and scale (as applicable).
 - g. Name and date of each revision.
 - h. Cross reference to A/E's Drawings and Specification Sections, as appropriate.
 - i. Provide a space on the label or adjacent to title block for the Contractor's review and approval markings, and appropriate space for the Architect's or Engineer's "Action" stamp.
 - j. Name of each item on each sheet submitted and indicate its location in the Project Work.
2. Submittal Numbering: When importing a submittal register e-Builder will automatically number each submittal in order they are entered. When individual submittals are added to a submittal package e-Builder will automatically number each package, the contractor shall identify the package specification section and e-Builder will automatically number the package version.

H. Contractor Duties and Responsibilities:

1. Coordinate requirements for submission of each shop drawing, product data and sample as required to properly execute the Work and as necessary to maintain satisfactory progress of the Work in accordance with the WPS and Submittal Schedule.
2. Review shop drawings, product data, and samples prior to submission to A/E. By submitting shop drawings, product data, and samples, Contractor represents that it has verified field measurements, field construction criteria, catalog numbers and similar data, and has coordinated each submittal with requirements of the Work and of the Contract Documents. Contractor's responsibility for errors and omissions in submittals is not relieved by A/E's review of submittals. Submittals received from sources other than Contractor will be returned to sender without A/E's review "action".
3. Contractor shall certify by stamped, signed, and dated notation on each submittal that "Submittal is in compliance with requirements of Contract Documents without deviation." Submittals without Contractor's stamp and submittals which, in A/E's or ODR's opinion, are incomplete, contain numerous errors, have not been checked, or have been checked only superficially, will be returned without disposition. Delays resulting there from shall be Contractor's responsibility.
4. Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by A/E's review of shop

drawings, product data, and samples unless Contractor has specifically informed the A/E in writing of such deviation at time of submission and A/E has given written acceptance to the specific deviation.

5. Contractor shall direct specific attention, in writing or on resubmitted shop drawings, product data or samples, to revisions other than those requested by A/E on previous submittals.
6. Contractor shall give prompt written notice to A/E of inability to comply with exceptions noted on the returned submittals or if unsatisfactory results are anticipated. Document specific reasons for inability to comply or specific unsatisfactory results that are anticipated. Propose substitution to comply with intent of the Contract Documents and produce satisfactory results in accordance with the substitution requirements of Section 01 25 00.
7. No portion of the Work requiring submission of a shop drawing, product data or sample shall be commenced until submittal has been reviewed with "Approved" or "Approved as Noted" status by A/E.
8. All portions of the Work shall be in accordance with approved submittals.

I. Architect's and Engineer's Action (UGSC 8.3.2):

1. Upon receipt of submittals requiring review, the A/E will review submittals and return them to the Contractor with results of the review indicated as follows:
 - Approved: Submittal has been reviewed for the limited purpose of checking for conformance information given and design concept expressed in the Contract Documents and no exceptions are taken; Contractor may proceed with work represented in submittal, provided no deviation to Contract Documents.
 - Approved as Noted: Submittal has been reviewed as stated above and certain exceptions are noted on the submittal. Contractor may proceed with work represented in submittal, unless otherwise noted.
 - Revise and Resubmit: Submittal has been reviewed as stated above, Contractor may not proceed with work represented in submittal, and submittal is not acceptable.
 - Rejected: Submittal has been reviewed as stated above; work represented in submittal has not been accepted.

J. Shop Drawings:

1. Definition: The term Shop Drawings refers to original drawings prepared by the Contractor, Subcontractor, supplier, fabricator or distributor illustrating a portion of the Work including fabrication drawings, manufacturing drawings, erection drawings, setting drawings, patterns, coordination drawings, schedules, design mix formulas, Contractor's engineering calculations, and layout drawings including ceiling layouts if different from the Contract Documents. Do not submit Contract

- Documents for Shop Drawings.
2. Sheet Size: Prepare drawings on minimum 8-1/2" x 11" to maximum 30" x 42" sheets.
 3. Submit shop drawings in PDF electronic file format.
 4. Contractor shall also develop and coordinate shop drawings into building information model
 3. Content: Shop Drawings shall include, but not be limited to the following:
 - a. The size thickness of members.
 - b. The method of anchoring and securing parts.
 - c. The quantity and location of each item.
 - d. Other pertinent data necessary to show the work to be done, where, and how it is to be done.
 - e. Materials and finishes.
 - f. How item fits to abutting work and requirements for related construction.
 - g. Required connections.
 - h. Overall size and weight.
 - i. Clearances and tolerances.
 - j. Verification of field conditions prior to fabrication.
 - k. Coordination of Shop Drawings and data with requirements for related construction.

K. Product Data:

1. Definition: Manufacturer's standard product specifications, installation instructions, rough-in diagrams and templates, standard wiring diagrams, printed performance and operational range diagrams, mill reports, operating and maintenance manuals, color charts, data sheets, brochures, drawings and diagrams, and other standard illustrative and descriptive data to clearly identify pertinent data, models and materials, uses, limitations, actual dimensions and clearances required, and technical performance data including wiring diagrams and controls. Specific item must be identified on catalog cut sheets.
2. Mark out information not applicable to this Project and supplement standard product data to show compliance with requirements.

L. Samples:

1. Definition: Samples include:
 - a. Partial sections of manufactured or fabricated work.
 - b. Small cuts or containers of materials.
 - c. Complete units of repetitively-used materials.
 - d. Swatches showing full range of color, texture and pattern.
 - e. Color range sets.
 - f. Units of work to be used for independent inspection and testing.

- g. Units of work to be used as a standard to judge materials and workmanship.
2. Provide samples for items where specified and for items requiring a choice of color, texture or finish. Samples shall illustrate the materials and workmanship and establish standards by which to judge the completed work.
3. Typical office samples shall be approximately 12" square or 12" long unless otherwise noted and shall clearly illustrate the applicable function, corners, joints, related parts, attachment devices, specified finish and full range of colors. Full size approved samples may be incorporated into the Work unless otherwise noted.

1.04 LIST OF PROPOSED SUBCONTRACTORS AND SUPPLIERS:

- A. General: Not later than sixty (60) days after award of Contract, submit the names of Subcontractors and material suppliers tabulated by each portion of the Work, in addition to the requirements set forth in UGSC 3.3.6.2. Performance or non-performance of any Subcontractor or material supplier will not relieve the Contractor of its responsibility for Work as called for in the Contract Documents.

1.05 LIST OF PROPOSED MATERIALS:

- A. Submit list of materials within forty-five (45) days after issuance of Notice to Proceed in accordance with UGSC 8.3.
- B. Materials List: Submit a list of the following types of materials proposed for installation:
 1. Material(s) not specified. (Refer to Section 01 25 00, Substitution Procedures).
 2. Material(s) selected from a Specification naming more than one manufacturer or supplier.
 3. Material(s) selected to conform to a reference specification when no manufacturer has been named.
- C. It will be assumed that materials omitted from the list will be furnished as specified when only one manufacturer has been specified. When more than one manufacturer has been named or when reference specifications have been used the A/E's selection will govern.
- D. The list shall be complete and tabulated by, each Specification section and/or portion of the Work. Include name of manufacturer of each material. For materials specified by reference standards, also include the following with the listing of each such product:
 1. Address of manufacturer.

2. Trade name.
3. Model or catalogue designation.
4. Manufacturer's data, including performance and test data and referenced standards.

1.06 FIELD MOCK-UPS AND FIELD SAMPLES (UGSC 8.4):

- A. The Contractor shall erect and maintain mock-ups and field samples as required by the various sections of the specifications. Mock-ups and field samples are required for, but not limited to the following:
 1. Concrete sidewalk finishes.
 2. Exterior face brick wall complete with required tooled mortar, sealants, related stonework, windows, glazing, roofing systems, flashings and other related exterior building materials. (see UGSC 8.4.1.1)
- B. Field samples and job site mock-ups shall be erected at the Project Site at a mutually agreed location. Contractor shall request approval for location on which to construct mock-up of field sample prior to proceeding. Each field sample or mock-up shall be complete and illustrate the range of finish and workmanship required in the completed Work and will be used by A/E and ODR, upon approval, as a standard to judge subsequent work.
- C. Where several mock-ups of alternate construction techniques or finishes are required and prepared, each shall be labeled for clear identification indicating base construction finish material, special techniques used and where important for duplication of effect line pressures, grit classification, lengths of exposure, surface preparation, undercoats, strength of reagents, etc.
- D. Contractor shall request review of mock-up or field sample upon completion prior to proceeding with actual construction work.
- E. Contractor shall protect mock-up or field samples from damage, dirt and discoloration after A/E's and Owner's approval. Retain on the job as a standard reference for materials, workmanship and appearance until removal is authorized. Do not alter, move or destroy mock-up or field sample until so authorized. Remove and dispose of mock-up only after approval is given by the ODR.

1.07 COLOR SCHEDULES:

- A. After receipt of all samples, A/E will present to the ODR a proposed comprehensive color schedule for review and approval.
 1. Once approved, the colorboard will be sent to and kept at the job site for reference. A second set of approved colors, in a 3-ring binder, will be provided to FPC Interior Designer by the A/E. A copy of the color finish

schedule compiled after the colors are approved must be provided to the ODR.

2. The Contractor must insure that required submittals for all items requiring color selection are accomplished in a timely manner. The A/E cannot prepare the colorboard for approval by the ODR until all items requiring color selection have been submitted.
- B. The approved color schedule will then be released to the Contractor for ordering materials.
 - C. No color selection will be released until all colors are approved in the comprehensive color schedule. Any "early" selections requested, and acted upon by the Contractor, shall be at its own risk and understanding that material of color differing from the approved color schedule will be rejected.
 - D. If the Contractor is unable to submit all exterior color selections/samples within sixty (60) days or all interior color selections/samples within ninety (90) days after "Notice to Proceed", the A/E may proceed with preparation of the color schedule using the color selections of a specified product. The Contractor shall be required to match the selected colors at no additional cost to the Owner of the specified product selected by the A/E.

1.08 BRICK SELECTION

Brick selection is a very important item from the Owner's perspective and timely submittals by the Contractor are important to prevent delay.

1.09 PRECAST ARCHITECTURAL CONCRETE AND CUT STONE APPROVALS (if applicable)

Contract may require a project sample of precast architectural concrete or cut stone to be constructed. After the project sample is erected, the ODR will arrange for appropriate personnel to inspect and approve the sample.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Reference Requirements.
- B. Governing Regulations and Authorities.
- C. Definitions

1.02 REFERENCE REQUIREMENTS:

- A. Materials, equipment and operations specified by reference to published standards and specifications of a technical society, trade association, or other agency standard, shall comply with the requirements of the current edition of the listed document that is in effect on the issue date of the Specifications or Addendum page making reference thereto, unless otherwise specified. Make copies of referenced documents available at site, as the ODR or A/E may request.
- B. No provision of a reference standard, specification, manual, or code shall change the duties and responsibilities of the Owner, the Contractor, the A/E and their consultants, their agents and employees from those duties and responsibilities set forth in the Contract Documents.
- C. Acronyms for names of technical societies, associations, and agencies referenced in the Contract Documents shall be interpreted as follows:

AA Aluminum Association
900 19th St., NW, Suite 300; Washington, DC 20006;
202-862-5100
www.aluminum.org

AABC Associated Air Balance Council
1518 K Street, NW, Suite 503; Washington, DC 20005
202-737-0202
www.aabchq.com

AAMA American Architectural Manufacturers Association
1827 Walden Office Square, Ste 550; Schaumburg, IL 60173-4268
847-303-5664
www.aamanet.org

ANLA American Nursery & Landscape Association

1000 Vermont Ave., NW, Ste 300; Washington, DC 20005-4914
202-789-2900
www.anla.org

- ACI American Concrete Institute
38800 Country Club Drive; Farmington Hills, MI, 48331;
248-848-3700
www.concrete.org
- ACIL American Council of Independent Laboratories
1629 K Street, NW, Suite 400; Washington, DC 20006-1633
202-887-5872
www.acil.org
- ADC Air Diffusion Council
1000 E. Woodfield Road, Suite 102; Schaumburg, IL 60173-5921
847-706-6750
www.flexibleduct.org
- AGC Associated General Contractors of America
333 John Carlyle Street, Suite 200; Alexandria, VA 22314
703-548-3118
www.agc.org
- AIA America Institute of Architects
1735 New York Avenue, NW; Washington DC 20006
202-626-7300
www.aia.org
- AIC American Institute of Constructors
466 94th Avenue North; St. Petersburg, FL 33702
727-578-0317
www.aicnet.org
- AISC American Institute of Steel Construction, Inc.
One East Wacker Drive, Suite 3100; Chicago, IL 60601-2001
312-670-2400
www.aisc.org
- AISI American Iron and Steel Institute
1140 Connecticut Avenue, Suite 705; Washington, DC 20036
202-452-7100
www.steel.org
- AMCA Air Movement and Control Association
30 West University Drive; Arlington Heights, IL 60004-1893

847-394-0150
www.amca.org

ANSI American National Standards Institute
1819 L. Street, NW, 6th Floor; Washington, DC 20036
202-293-8020
www.ansi.org

APA American Plywood Association
P.O. Box 11700; Tacoma, WA 98411-0700
253-565-6600
www.apawood.org

ARI Air Conditioning and Refrigeration Institute
4100 North Fairfax Drive, Suite 200; Arlington, VA 22203
703-524-8800
www.ari.org

ASHRAE American Society of Heating, Refrigerating &
Air Conditioning Engineers, Inc.
1791 Tullie Circle, NE; Atlanta, GA 30329
404-636-8400
www.ashrae.org

ASME American Society of Mechanical Engineers
3 Park Avenue; New York, NY 10016
212-591-7000
www.asme.org

ASTM American Society for Testing and Materials
100 Barr Harbor Drive; West Conshohocken, PA 19428-2959
610-832-9500
www.astm.org

AWI Architectural Woodwork Institute
1952 Isaac Newton Square West; Reston, VA 20190
703-733-0600
www.awinet.org

AWPA American Wood Preservers' Association
P.O. Box 388; Selma, Alabama 36702-0388
www.awpa.com

AWS American Welding Society, Inc.
550 Le Jeune Road, NW; Miami, FL 33126
305-443-9353

www.aws.org

AWWA American Water Works Association
6666 West Quincy Avenue; Denver, CO 80235
303-794-7711
www.awwa.org

BHMA Builders' Hardware Manufacturers Association
355 Lexington Ave., 17th Floor; New York, NY 10017
212-297-2122
www.buildershardware.com

BIA Brick Institute of America
11490 Commerce Park Drive, Suite 300; Reston, VA 20191
703-620-0010
www.bia.org

BICSI Building Industry Consulting Services International
8610 Hidden River Parkway; Tampa, FL 33637
800-242-7405
www.bicsi.org

CPA Composite Panel Association
18922 Premiere Court; Gaithersburg, MD 20879
301-670-0604
www.pbmdf.com

CPSC Consumer Product Safety Commission
National Injury Information Clearinghouse
4330 East-West Hwy.; Bethesda, MD 20814-4408
301-504-6816
www.cpsc.gov

CRSI Concrete Reinforcing Steel Institute
933 Plum Grove Road; Schaumburg, IL 60173-4758
847-517-1200
www.crsi.org

DHI Door and Hardware Institute
14150 Newbrook Drive, Suite 200; Chantilly, VA 20151-2223
703-222-2010
www.dhi.org

FM Factory Mutual Engineering and Research Organization
1151 Boston-Providence Turnpike; Norwood, MA 02062-5001
781-762-4300

FS Federal Specification (General Services Administration) Specifications Unit (WFSIS)

GA Gypsum Association
810 First Street, NE, Suite 510; Washington, DC 20002
202-289-5440
www.gypsum.org

IEEE Institute of Electrical and Electronics Engineers
445 Hoes Lane; Piscataway, NJ 08854
732-981-0660
www.ieee.org

IESNA Illuminating Engineering Society of North America
120 Wall Street, Floor 17; New York, NY 10005
212-248-5000
www.iesna.org

IGCC Insulating Glass Certification Council
c/o ETL Testing Labs, P.O. Box 9, Henderson Harbor, NY 13651
315-646-2234
www.igcc.org

ILI Indiana Limestone Institute of America
400 Stone City Bank Building, Bedford, IN 47421
812-275-4426
www.iliai.com

LPI Lightning Protection Institute
3335 N. Arlington Hts. Road, Suite E; Arlington Hts., IL 60004
847-577-7200
www.lightning.org

MIL Military Standardization Documents (U.S. Dept. of Defense)

MSS Manufacturers Standardization Society of the Valve and Fittings Industry
127 Park Street, NE; Vienna, VA 22180-4602
703-281-6613
www.mss-hq.com

NAAMM National Association of Architectural Metal Manufacturers
8 South Michigan Avenue, Suite 1000; Chicago, IL 60603
312-332-0405
www.naamm.org

NCMA National Concrete Masonry Association
13750 Sunrise Valley Drive; Herndon, VA 20171-4662
703-713-1900
www.ncma.org

NEC National Electric Code (by NFPA)

NEI National Elevator Industry, Inc.
1677 County Route 64, P.O. Box 838; Salem, NY 12865-0838
518-854-3100
www.neii.org

NEMA National Electrical Manufacturers Association
1300 North 17th Street; Rosslyn, VA 22209
703-841-3200
www.nema.org

NFPA National Fire Protection Association
One Batterymarch Park; Quincy, MA 02269-9101
617-770-3000
www.nfpa.org

NIST National Institute of Standards and Technology
(formerly National Bureau of Standards; U.S. Dept. of Commerce)
Gaithersburg, MD 20899-3460
301-975-6478
www.nist.gov

NPCA National Paint and Coatings Association
1500 Rhode Island Ave., NW; Washington, DC 20005
202-462-6272
www.paint.org

NRCA National Roofing Contractors Association
10255 W. Higgins Road, Suite 600; Rosemont, IL 60018-5607
847-299-9070
www.nrca.net

NSF National Sanitation Foundation
P.O. Box 130140, 789 N. Dixboro Rd; Ann Arbor, MI 48113-0140
734-769-8010
www.nsf.org

NTMA The National Terrazzo and Mosaic Association, Inc.
201 N. Maple Avenue, Suite 208; Purcellville, VA 20132

800-323-9736
www.ntma.com

NWWDA National Wood Window and Door Association (formerly NWMA)
1400 E. Touhy Avenue #G54; Des Plaines, IL 60018
708-299-1286
www.nwwda.org

OSHA Occupational Safety & Health Administration
200 Constitution Avenue, NW; Washington, DC 20210
www.osha.gov

PCA Portland Cement Association
5420 Old Orchard Road; Skokie, IL 60077
847-966-6200
www.portcement.org

PCI Precast/Prestressed Concrete Institute
209 W. Jackson Blvd, Suite 500.; Chicago, IL 60606-6938
312-786-0300
www.pci.org

PS Product Standard of NBS (U.S. Department of Commerce)

RFCI Resilient Floor Covering Institute
401 E. Jefferson Street, Suite 102; Rockville, MD 20850
301-340-8580
www.rfci.com

RIS Redwood Inspection Service (Grading Rules)
405 Enfrente Drive, Suite 200; Novato, CA 94949
415-382-0662

SDI Steel Deck Institute
P.O. Box 25; Fox River Grove, IL 60021
847-458-4647
www.sdi.org

SDI Steel Door Institute
30200 Detroit Road; Cleveland, OH 44145-1967
440-899-0010
www.steeldoor.org

SIGMA Sealed Insulating Glass Manufacturers Association
401 N. Michigan Avenue, Suite 2400; Chicago, IL 60611
312-644-6610

SMACNA	Sheet Metal & Air Conditioning Contractors National Association, Inc. 4201 Lafayette Center Drive; Chantilly, VA 20151-1209 703-803-2980 www.smacna.org
SPIB	Southern Pine Inspection Bureau (Grading Rules) 4709 Scenic Highway, Pensacola, FL 32504-9094 850-434-2611 www.spib.org
SSPC	The Society for Protective Coatings 40 24 th Street, 6 th Floor; Pittsburgh, PA 15222-4656 877-281-7772 www.sspc.org
TCA	Tile Council of America, Inc. 100 Clemson Research Blvd.; Anderson, SC 29625 864-646-8453 www.tileusa.com
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance 2500 Wilson Blvd., Suite 300; Arlington, VA 22201 703-907-7700 www.tiaonline.org
UL	Underwriter's Laboratories 333 Pfingsten Road; Northbrook, IL 60062 847-272-8800 www.ul.com
WWPA	Western Wood Products Association 522 SW 5 th Avenue, Suite 500; Portland, OR 97204-2122 503-224-3930 www.wwpa.org

1.03 GOVERNING REGULATIONS/AUTHORITIES:

- A. The A/E has contacted the appropriate authorities having jurisdiction for the listed regulations and codes to obtain information for preparation of the Contract Documents. The Contractor may contact authorities having jurisdiction directly for information and decisions having bearing on the Work.

1. Life Safety Code, NFPA 101, edition approved by State Fire Marshall, and all referenced codes.
2. International Building Code, edition matching Life Safety Code, International Code Council, Inc., (for all items not covered by Life Safety Code).
3. Other applicable National Fire Codes, NFPA.
4. State Energy Conservation Design Standard (ASHRAE 90.1), edition approved by State Energy Conservation Office (SECO).
5. State Energy Conservation Office (SECO) Suggested Water Efficiency Guidelines for Buildings and Equipment at Texas State Facilities.
6. Other applicable ASHRAE Standards
7. International Plumbing Code and International Mechanical Code, edition matching building code, International Code Council, Inc.
8. Building Service Piping, ASME/ANSI B31.9.
9. Applicable ANSI, ASTM and ASME codes and standards
10. Applicable OSHA, EPA and Texas Commission on Environmental Quality (TCEQ) regulations
11. Texas Accessibility Standards (TAS), Texas Department of Licensing and Regulations, Architectural Barriers Act, Ch. 469, Government Code.
12. Americans with Disabilities Act, Public Law 101-336, July 26, 1990
13. Safety Code for Elevators and Escalators, ASME A17.1 & A17.3.
14. TIA/EIA Standards.
15. FM Global Standards for Roof Systems and Fire Protection Systems

1.04 DEFINITIONS:

- A. Require and Similar Words: As needed to complete the Work and as directed by A/E, unless stated otherwise.
- B. Perform: Contractor, at its expense, shall perform operations necessary to complete the Work, including furnishing of necessary labor, tools and equipment, and further including furnishing and installing of materials indicated, specified or required to complete such performance.
- C. Provide: Contractor, at its expense, shall furnish and install the Work complete in place and ready for use, including furnishing of necessary labor, materials, tools, equipment and transportation. Definitions apply same to future, present and past tenses, except word "provide" may mean "contingent upon" where such is context.
- D. Other Acceptable Manufacture, Equal, Or Equal, Equivalent and Words of Similar Import: It shall be understood such words are followed by expression "in opinion of A/E" unless stated otherwise.

- E. Acceptable, Acceptance or Words of Similar Import: Acceptance or similar import of A/E is intended unless stated otherwise.
- F. At No Extra Cost to Owner, With No Extra Compensation to Contractor, at Contractor's Expense or Terms of Similar Import: Such terms shall be understood to mean that Contractor shall perform or provide specified products, materials or operations of the Work at no increase to Contract Sum stated in executed Contract.
- G. NIC: Work which is not being performed or provided as part of Contract; term shall mean "Not In This Contract" or "Not a Part of the Work to be Performed or Provided by Contractor." "NIC" work is indicated as an aid to Contractor in scheduling the amount of time and materials necessary for completion of Contract.
- H. Indicated: The term "indicated" is a cross-reference to graphics, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- I. Directed, Requested or Similar Words: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by the ODR, A/E," "requested by the ODR, A/E," and similar directions by the ODR and A/E. However, no such implied meaning will be interpreted to extend Owner's and A/E's responsibility into Contractor's area of construction supervision.
- J. Approve: Where used in conjunction with Owner's and A/E's response to submittals, requests, applications, inquiries, reports and claims by Contractor, the meaning of the term "approved" will be held to limitations of Owner's and A/E's responsibilities and duties specified in General Conditions. In no case will "approval" by Owner and/or A/E be interpreted as a release of Contractor from responsibilities to fulfill requirements of Contract Documents.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 43 00

QUALITY ASSURANCE

PART I - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Owner's Quality Assurance Testing.
- B. Below Grade Inspections.
- C. Concrete Inspections.
- D. Wall Closure and Above Ceiling Inspections.
- E. Pre-final Inspection.
- F. Final Inspection
- G. Final Acceptance
- H. One Year Inspection.

1.02 RELATED SECTIONS:

- A. Section 01 33 00 - Submittal Procedures

1.03 GENERAL REQUIREMENTS FOR OWNERS QUALITY ASSURANCE TESTING (UGSC 8.2.2):

- A. The Owner will employ a testing laboratory and/or geotechnical engineering service to perform quality assurance tests and to transmit copies of test reports to Contractor. Sampling and testing that the Owner may require is specified in this section and in the various technical sections requiring quality assurance testing. Cooperate with Owner's testing laboratory personnel, provide access to the Work, to manufacturer's and fabricator's operations, furnish incidental labor and facilities, and samples for test and inspections, as specified.
 - 1. Employment of testing laboratory to perform quality assurance tests is for benefit of Owner in confirming that performance and quality of the Work is in conformance with the Contract Documents.
 - 2. Employment of a testing laboratory by Owner in no way relieves Contractor's obligation to perform the Work in accordance with Contract Documents.
 - 3. Owner's testing laboratory shall not be the same as Contractor's testing laboratory used for design and certification testing unless otherwise acceptable to the A/E and Owner.
 - 4. Where the terms "Inspector" and "Laboratory" are used, they mean and refer to an officially designated and accredited inspector of the testing laboratory engaged by the Owner.
 - 5. The testing firm shall make all inspections and perform all tests in accordance with the rules and regulations of the building code, local

authorities, the Specifications of the ASTM and these Contract Documents.

6. Commercial Testing Laboratories: In general, all Contracts awarded by The Texas A&M University System will require that testing not performed by the Contractor (i.e., hydrostatic testing of piping) or by the A/E (i.e., spot checking of air flow by the Engineer) will be performed by a commercial testing laboratory selected by the Owner. The cost of such commercial testing will be paid directly by The Texas A&M University System through the Area Manager, FPC. Retesting will also be paid by the Owner, but will be reinvoiced at cost to the Contractor. All test reports shall be uploaded to e-Builder. Employment of the testing laboratory is for the benefit of the Owner for confirming that performance and quality of the Work is in conformance with the Contract Documents.
7. The engagement of a testing laboratory by the Owner in no way relieves the Contractor of its responsibility, for full compliance of the Contract. The Contractor remains liable for the quality of the materials, products/equipment installed, and satisfactory work performance.

B. Owner's quality assurance testing and sampling may include the following testing and other services to ensure Contract performance.

1. Compacted Fill and Backfill: Perform field density tests.
2. Footing Subgrades: Perform tests and visual comparisons of footing subgrades to verify design bearing capacities.

C. Limits of Testing Laboratory Authority: Laboratory is not authorized to:

1. Approve or reject any portion of the Work.
2. Perform any duties of the Contractor and Subcontractors.
3. Revoke, alter, relax, expand, or release any requirement of the Contract Documents or to approve or accept any portion of the Work, except where such approval is specifically called for in the Specifications.
4. Laboratory technicians do not act as foremen, or perform other duties for Contractor. Work will be checked as it progresses, but failure to detect any defective work or materials shall not, in any way, prevent later rejection when such defect(s) are discovered.

1.04 QUALIFICATIONS:

A. Laboratory Qualifications and Procedures:

1. Meet "Recommended Requirements for Independent Laboratory Qualification," latest edition published by American Council of Independent Laboratories. Testing firms shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in

Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."

2. Testing firms shall each be insured against errors and omissions by a professional liability insurance policy having a limit of liability not less than \$500,000.00.
3. The inspection and testing services of the testing firm shall be under the direction of a Registered Engineer licensed in the State of Texas and having at least five years engineering experience in inspection and testing of construction materials.
4. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
5. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection. Include memorandum of remedies of deficiencies reported by this inspection.
6. Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to National Bureau of Standards.
7. Tests and inspections shall be conducted in accordance with specified requirements and if not specified, in accordance with applicable standards of the American Society for Testing and Materials and other recognized authorities, as approved.
8. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified ASW Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector.

1.05 BELOW GRADE INSPECTIONS (UGSC 8.2.7)

- A. Before the covering or backfilling of any improvement below grade, cover up inspections will be conducted to see that all items meet the plans and specs. Only after all the deficiencies have been corrected will the Contractor be allowed to install any backfill.

1.06 CONCRETE INSPECTIONS

- A. Before the placing of any cast-in-place concrete structure, an inspection will be conducted to see that all items meet the intent of the plans or specs. Only after all the deficiencies have been corrected will the Contractor be allowed to proceed.

1.07 WALL CLOSURE/ABOVE-CEILING INSPECTIONS (UGSC 8.2.7)

- A. Before the installation of any ceiling or the closing of walls and chases, an inspection will be conducted to see that all items fully meet the plans and specs before being covered. Only after all the deficiencies have been corrected will the

Contractor be allowed to install the ceiling or close-up the wall.

- B. As a minimum, the following should be in place before an above-ceiling inspection is scheduled:
 - 1. All light fixtures installed and working;
 - 2. All plumbing installed and insulation complete;
 - 3. All rigid and flexible ducts installed;
 - 4. All required valve identification tags installed;
 - 5. All air devices installed and connected;
 - 6. All controlled air tubing installed; and
 - 7. The ceiling support structure installed.
- C. Walls and chases will be inspected to verify the presence of blocking and bridging, and to verify electrical conduit and boxes are installed and supported properly.
- D. Those in attendance at these inspections shall include the A/E, selected personnel from the FPC, the General Contractor, plumbing, electrical and mechanical subcontractors and representatives from campus facilities department or Using Agency.
- E. A minimum of fourteen (14) days notice shall be given to the ODR prior to these inspections.

1.08 A/E AND PROJECT INSPECTOR'S SUBSTANTIAL COMPLETION INSPECTION (UGSC 12.1.1)

- A. When the Contractor feels that the Work is complete and ready for the Owner's use, it will notify the A/E and the ODR in writing fourteen (14) days prior to the date that the Work is anticipated to be complete and ready for a Substantial Completion Inspection. The A/E, along with representatives of FPC, User Coordinator, and members of the campus facilities department will make a detailed inspection of all Work included in the Contract and the A/E will furnish to the Contractor a list of incomplete items. When all these items have been completed by the Contractor, the A/E and the ODR will be notified that all items of the Substantial Completion Inspection have been completed.

1.09 FINAL INSPECTION AND ACCEPTANCE (UGSC 12.1.2)

- A. Upon verification by the A/E and the ODR that the deficiencies found during the Substantial Completion Inspection have been corrected, and the Work is ready for Final Inspection and Acceptance, the ODR will, within ten (10) calendar days after receiving written verification by the A/E, make a Final Inspection. When the Work is found acceptable under the Contract Documents without any exceptions and the Contract is fully performed, then final payment will be made to the Contractor. Those in attendance at the Final Inspection will include the A/E, representatives of FPC, campus facilities department and User Coordinator.

1.10 FINAL ACCEPTANCE (12.3)

- A. When the Work is fully complete, FPC will issue a Report of Final Acceptance.

1.11 ONE YEAR INSPECTION

- A. All Contracts awarded by The Texas A&M University System contain a one (1) year workmanship and material guarantee as stated in Uniform General and Supplementary Conditions, Articles 13.2 and 13.5. Campus facilities department is responsible for administering any warranty issues. Prior to the expiration of the one year warranty FPC will establish a date for a warranty inspection to be attended by A/E, representatives of FPC, campus facilities department and User Coordinator.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

3.01 PIER DRILLING OPERATION

- A. Provide services herein specified.
- B. A representative of the soils testing laboratory shall make continuous inspections to determine that proper bearing stratum is obtained and utilized for bearing and that shafts as are properly clean and dry before pouring concrete.
- C. Soils testing laboratory shall furnish complete pier log showing the diameter, top and bottom elevations of each pier, casing required or not required, bell size, actual penetration into bearing stratum, elevation of top of bearing stratum, and volume of concrete used.
- D. Request probe holes when deemed necessary to confirm safe bearing capacity.

3.02 REINFORCING STEEL MECHANICAL SPLICES

- A. Visually inspect and report on the completed condition of each mechanical splice of reinforcing steel.
- B. Each mechanical splice shall be visually inspected to ensure compliance with building code and the manufacturer's published criteria for acceptable completed splices.
- C. Special emphasis shall be placed on inspection of the end preparation of each bar to be spliced, as required by the building code.
- D. Submit copies of manufacturer's published criteria for acceptable completed splices prior to observing mechanical splices.

- E. Reports on each mechanical splice shall indicate location of the splice, size of bars spliced, and acceptability or rejection of splice. Reasons for rejection shall be shown on each report.

3.03 CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES

- A. Inspect all concrete reinforcing steel prior to placing of concrete for compliance with Contract Documents and approved shop drawings. All instances of noncompliance with Contract Documents and approved shop drawings shall be immediately brought to the attention of the Contractor for correction and then, if uncorrected, reported to the A/E.
- B. Observe and Report on the Following:
 - 1. Number and size of bars.
 - 2. Bending and lengths of bars.
 - 3. Splicing.
 - 4. Clearance to forms including chair heights.
 - 5. Clearance between bars or spacing.
 - 6. Rust, form oil, and other contamination.
 - 7. Grade of steel.
 - 8. Securing, tying, and chairing of bars.
 - 9. Excessive congestion or reinforcing steel.
 - 10. Installation of anchor bolts and placement of concrete around such bolts.
 - 11. Fabrication of embedded metal assemblies, including visual inspection of all welds.
 - 12. Visually inspect studs and deformed bar anchors on embedded assemblies for compliance with Contract Documents. Check number, spacing and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud or bar, such stud or bar shall be struck with a hammer and bent 15 degrees off perpendicular and then bent back into position. Anchors failing this test shall be replaced.

3.04 CONCRETE INSPECTION AND TESTING

- A. Receive and evaluate all proposed concrete mix designs submitted by the Contractor. If the mix designs comply with the Drawings and Specifications, the laboratory shall submit a letter to the A/E certifying compliance. Mix designs not complying with the Drawings and Specifications shall be returned by the laboratory as unacceptable.
- B. Secure composite samples of concrete at the jobsite in accordance with ASTM C 172.
- C. Mold and cure three specimens from each sample in accordance with ASTM C

31. Supervise the curing and protection provided (by others) for test specimens in the field, and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
- D. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at seven days for information.
 - E. Make one strength test (three cylinders) for each 100 cubic yards or fraction thereof, of each mix design of concrete placed in any one day.
 - F. Make one slump test for each set of cylinders following the procedural requirements of ASTM C 243 and ASTM C 172. Make additional slump tests whenever the consistency of concrete appears to vary. Do not permit placement of concrete having a measured slump outside the limits given on the Drawings, except when approved by the A/E. Slump tests corresponding to samples from which strength tests are made shall be reported with the strength test results. Other slump tests need not be reported.
 - G. Determine total air content of air entrained normal-weight concrete sample for each strength test in accordance with ASTM C 231.
 - H. Determine temperature of concrete sample for each strength test.
 - I. The testing agency shall furnish and maintain a competent inspector at the mixing plant at the start of each day's mixing. The inspector shall examine concrete materials for compliance with Specifications and approved mix design, weighing and measuring devices, proportioning and mixing of materials, the water and cement content of each batch, the general operation of the plant and the transportation of concrete to the jobsite. The inspector shall verify that the amount of free surface moisture contained in the fine and coarse aggregate has been properly accounted for in the concrete mixing to achieve the required consistency and water cement ratio.
 - J. The testing laboratory shall monitor the addition of water to the concrete at the jobsite and the length of time the concrete is allowed to remain in the truck before placement. The personnel shall compare the mixture with the criteria on the approved mix design and report any significant deviation to the A/E, ODR, Contractor and concrete supplier. Do not permit the addition of water which will exceed the maximum water/cement ratio for the mix as given on the approved mix design.
 - K. Observe the placing of all concrete, except non-structural slabs-on-grade and sitework. Observe and report on placing method, consolidation, cold joints, length of drop, and displacement of reinforcement. Report deficiencies to the Contractor immediately for corrective action. Inspections may be reduced to a

periodic basis when all procedures have been deemed satisfactory by the laboratory.

L. The testing laboratory shall certify each delivery ticket indicating class of concrete delivered (or poured), amount of water added and the time at which the cement and aggregate was dispensed into the truck, and the time at which the concrete was discharged from the truck.

M. Evaluation and Acceptance:

1. If the measured slump, or air content of air entrained concrete, falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed to meet the requirements of the specifications, and shall not be used in the structure.
2. The strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutive strength test results are equal to, or exceed specified strength and no individual test result (average of two cylinders) is below specified strength by more than 500 psi.
3. Completed concrete work will be accepted when the requirements of "Specifications for Structural Concrete for Buildings," ACI 301, Chapter 18, have been met.

N. Concrete Test Reports:

1. Reports shall be made and uploaded immediately after the respective tests or inspections are made.
2. Where reports indicate deviations from the Contract Documents, they shall also include a determination of the probable cause of the deviation and, where applicable, a recommendation for corrective action.
3. Whenever the testing laboratory recognizes a trend of decreasing quality in the concrete due to changing seasons, conditions of curing, or other cause; this shall be brought to the attention of the A/E and the ODR, along with a recommendation for corrective action to be taken before the materials fall below the requirements of these Specifications.

O. Comply with ACI 311, "ACI Manual of Concrete Inspection".

P. Inspect the application of curing compound and monitor all curing conditions to assure compliance with specification requirements. Report curing deficiencies to the Contractor immediately and submit a written report to the A/E and the ODR.

3.05 POST-TENSIONING OF CONCRETE

A. Verify certification of calibration of jacking equipment used in post-tensioning operations.

- B. Observe and report on placement and anchorage of tendons immediately prior to concreting.
- C. Provide a Registered Professional Engineer experienced in post-tension operations to observe and report on the placement, post-tensioning and elongation measurement of each tendon.
- D. The Contractor shall log and submit detailed reports of the stressing and elongation of each tendon. The laboratory representative shall observe the recording of information by the Contractor and make such spot checks as are necessary to verify the accuracy of the post-tensioning reports.
- E. Receive and review final stressing and elongation reports prepared by the Contractor. Compare the actual and required elongation of each tendon and the actual and required load on each tendon. Grant permission to cut the tails of tendons which are within specified tolerance, unless otherwise noted on the Drawings, and submit reports of those which are not within specified tolerance along with recommended corrective action, to the Architect for further evaluation. Forward a copy of all stressing reports to the Architect for record.
- F. Observe and report on grouting of tendons noted to be bonded.

3.06 MASONRY

- A. Inspection:
 - 1. Provide a qualified inspector to inspect all structural masonry work on a periodic basis. Masonry requiring inspection includes load bearing walls and other grouted and reinforced masonry shown on the Drawings. Inspect the Work in progress at least once for each 5000 square feet of wall laid, but not less than once each day, to check compliance with the Contract Documents and applicable building code.
 - 2. Inspect the following:
 - a. Preparation of masonry prisms for testing.
 - b. Placement of reinforcing
 - c. Grout spaces (prior to grouting and prior to closing cleanouts, if any).
 - d. Mortar mixing operations.
 - e. Bedding of mortar for each type of unit and placing of units.
 - f. Grouting operations.
 - g. Condition of units before laying for excessive absorption.
 - 3. Provide a report of each inspection.
- B. Field Compressive Test for Mortar:

1. Secure composite samples of mortar at the jobsite in accordance with ASTM C 780.
2. Mold and cure three cube specimens in accordance with ASTM C 109 and ASTM C 780. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The specimens shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 780.
3. Test specimens in accordance with ASTM C 780. Two specimens shall be tested in 28 days for acceptance and one shall be tested at 7 days for information.
4. Make one strength test (three cubes) for each 5000 square feet of wall area.

C. Field Compressive Tests for Grout:

1. Secure composite samples of grout at the jobsite in accordance with ASTM C 172.
2. Mold and cure three, 3" x 6", cylindrical specimens from each sample in accordance with ASTM C 31. Supervise the curing protection provided (by others) for test specimens in the field and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
3. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one specimen shall be tested at 7 days for information.
4. Make one strength test (three cylinders) for each 10 cubic yards of grout poured but not less than one strength test for each 5000 square feet of wall area.

D. Prism Tests:

1. Prism tests are required for load bearing brick masonry only.
2. Make prism tests in advance of operations using materials under same conditions, and with same bonding arrangement, as for structure. In building prisms, moisture content of unit at time of laying, consistency of mortar and width and thickness of mortar joints shall be same as used in the structure.
3. Cure and test prisms in accordance with applicable provisions of ASTM E 447. Test five specimens of each type of masonry unit before delivering material to jobsite and submit results for approval. During construction, test three specimens of each type of masonry unit for each 5000 square feet of wall placed.
4. The standard age of test specimens is 28 days, but 7 day tests may be used, provided relation between 7 day and 28 day strengths is established by test

for materials used.

5. Build brick prisms one brick width and length in plan and five bricks high, using full bed joints as specified. Compute ultimate compressive strength by dividing ultimate load by gross area of masonry units.
6. Build prisms on job using same materials and methods as for wall construction. Store prisms in a place where they will be undisturbed for 2 days and have approximately same curing conditions as wall construction. After 2 days, transport to laboratory in a manner which will not disturb mortar bond and then cure and test as set forth under ASTM E 447.
7. When the average strength of a set of prisms falls below the specified compressive strength, the masonry corresponding to the test shall be deemed unacceptable. In such case, notify the Architect and Contractor immediately.

E. Absorption Tests:

1. Perform a field test of water absorption on three representative clay units, at least once for each 5000 square feet of wall, before laying.
2. The field test shall consist of drawing a 1 inch diameter circle with a wax pencil (the diameter of a quarter). Place 20 drops of water from a medicine dropper in rapid succession within the circle. If all of the water is absorbed into the brick in less than 90 seconds, the units are too dry and should be prewetted.

3.07 STRUCTURAL STEEL

A. Inspect all structural steel during fabrication and during and after erection for conformance with Contract Documents and Shop Drawings. Any cases of insufficient bracing or guying, or other unsafe conditions shall be immediately called to attention of the Contractor and reported to A/E and the ODR.

B. Shop Inspection:

1. Examination of all steel for straightness and alignment.
2. Examination of all fabricated pieces and checking of same with erection plans and detail drawings.
3. Visual examination of welding.
4. Ultrasonic testing of all full penetration welds.
5. Examination of galvanizing.
6. Examination of installation of shop welded shear studs.
7. Examination of shop painting.

C. Field Inspection:

1. Proper erection of all pieces.
2. Proper installation of all bolts.

3. Plumbness of structure and proper bracing.
 4. Proper field painting.
 5. Visual examination of all field welding.
 6. Inspect all shop fabricated members, upon their arrival at the jobsite, for defects incurred during transit and handling.
- D. Qualifications of Welders: Fabricator and erector shall provide the testing laboratory with names of welders to be employed to work, together with certification that each of these welders has passed qualification tests within the last year using procedures covered in the American Welding Society "Structural Welding Code - Steel," latest edition. Verify all welder qualifications.
- E. Inspections of shop and field welding shall be "verification inspection," in accordance with the AWS Structural Welding Code and as follows:
1. Visually inspect the welding of all shop fabricated members and note the location of all cover plates, connectors, bearing stiffeners, splices, and fillet welds for proper return around ends and check for seams, folds and delaminations.
 2. Warped or out-of-plumb connectors shall be reported prior to any further welding.
 3. Ultrasonically test all penetration welds in accordance with ASTM # 164.
 4. Surfaces to be welded and all filler metal shall be carefully inspected. Surface preparations, fit-up and cleanliness of surface shall be noted. Electrodes shall be checked for size, type and condition.
 5. Welds shall be sound, clean metal, free of slag inclusions and porosity. Filler metal shall be completely fused with base metal and shall completely penetrate the joint. Root passes shall be checked for penetration from the back side of joint. Welds showing inclusions, porosity, lack of fusion, incomplete penetration or uneven contour (sagging or overlaps) shall be ordered gouged out and rewelded. Welds showing any undercut shall have a small stringer bead ordered to be run in along the toe of undercut using a smaller diameter electrode than that which made the original weld. No craters shall be left in welds. Any welding defects, including porosity, fusion and undercuts in excess of that allowed, shall be cause for rejection. Where craters occur, the inspector shall order them to be filled out with weld metal.
 6. The inspector shall check that all welds have been marked with the welder's symbol. The inspector shall mark the welds requiring repairs and shall make a reinspection. The inspector shall maintain a written record of all welds. Work completed and inspected shall receive an identification mark by the inspector. Unacceptable material and work shall be identified by the word "reject" or "repair" marked directly on the material.
 7. The testing agency shall advise the ODR and the A/E of any shop and/or field conditions which, in its opinion, may require further tests and examination by means other than those specified. Such further tests and

- examinations shall be performed as authorized by the ODR and the A/E.
8. The Owner reserves the right to use ultrasonic or radiographic inspection to verify the adequacy of all welds. Testing procedures and acceptance criteria shall be as specified in AWS D1.1.

F. Inspection of bolted construction shall be in accordance with AISC Specification for Structural Steel Buildings and as follows:

1. All bolts shall be visually inspected to ensure that the plies have been brought into snug contact.

G. Inspection of stud field welding shall be in accordance with the AWS Structural Welding Code, latest edition and as follows:

1. A minimum of two shear studs shall be welded at the start of each production period in order to determine proper generator, control unit, and stud welder setting. These studs shall be capable of being bent 45 degrees from vertical without weld failure.
2. Visually inspect studs for compliance with contract documents. Check number, spacing, and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud, such stud shall be struck with a hammer and bent 15 degrees off perpendicular to the nearest end of the beam. Studs failing under this test shall be replaced.

3.08 EXPANSION BOLT INSTALLATION

- A. Inspect the drilling of each hole and installation of each expansion bolt for compliance with the Contract Documents and shop drawings.
- B. Verify the installation torque for each expansion bolt for compliance with manufacturer's installation instructions.

3.09 METAL FLOOR DECK

- A. Field inspection shall consist of the following:
 1. Checking types, gauges and finishes for conformance with Contract Documents and Shops Drawings.
 2. Examination for proper erection of all metal deck, fastenings, reinforcing of holes, deck reinforcing, miscellaneous deck supports, hanger tabs, shear studs, deck closures, painting or other coating.
 3. Certification of welders.
 4. Field welded shear studs used to fasten metal floor decking to supporting steel shall be inspected and tested as described in the paragraph addressing structural steel.

3.10 METAL ROOF DECK

- A. Field inspection shall consist of the following:
1. Checking types, gauges, and finishes for conformance with Contract Documents and Shop Drawings.
 2. Examination for proper erection of all metal deck, including fastenings at supports and side laps, reinforcing of holes, and miscellaneous deck supports.
 3. Certification of welders.
 4. Visual inspection of at least 25 percent of all welds.

END OF SECTION

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements and Qualifications for Contractor's Testing Laboratory Services.
- B. Submittals.
- C. Reference Standards.

1.02 RELATED SECTIONS:

- A. Section 01 33 00 - Submittal Procedures

1.03 GENERAL REQUIREMENTS FOR CONTRACTOR'S LABORATORY SERVICES (UGSC 8.2):

- A. Contractor's Design and Certification Testing: Provide services of an independent testing laboratory or facility acceptable to the A/E and the ODR to perform design and certification testing services.
 - 1. Submit written description of testing laboratory giving qualifications of personnel, laboratory facilities and equipment, and other information as may be requested by A/E and ODR.
 - 2. Contractor's testing laboratory shall not be the same as Owner's testing laboratory used for quality assurance testing unless otherwise acceptable to the A/E and ODR.
- B. Contractor's design testing and certification testing includes:
 - 1. Earthwork: Identify suitable soil material at borrow material location, sampling soil material, and testing of soil material samples.
 - 2. Performing certified welding procedure qualification and requalification testing specified.
 - 3. Testing of materials when mill certificates are unavailable.
 - 4. Additional testing when source of material is changed after initial tests have been performed.
 - 5. Other testing required by other Sections of the Specifications.

1.04 QUALIFICATIONS:

- A. Laboratory Qualifications and Procedures:

1. Meet "Recommended Requirements for Independent Laboratory Qualification," latest edition published by American Council of Independent Laboratories. Testing firms shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."
 2. Testing firms shall each be insured against errors and omissions by a professional liability insurance policy having a limit of liability not less than \$500,000.00.
 3. The inspection and testing services of the testing firm shall be under the direction of a Registered Engineer licensed in the State of Texas and having at least five years engineering experience in inspection and testing of construction materials.
 4. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
 5. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection. Include memorandum of remedies of deficiencies reported by this inspection.
 6. Testing Equipment: Calibrated at reasonable intervals by devices of accuracy traceable to National Bureau of Standards.
 7. Tests and inspections shall be conducted in accordance with specified requirements and if not specified, in accordance with applicable standards of the American Society for Testing and Materials and other recognized authorities, as approved.
 8. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified ASW Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector.
- B. Laboratory Duties: Cooperate with A/E, ODR and Contractor. Upon notice, provide qualified personnel to perform required tests and inspections. In performing tests and inspections, Laboratory shall:
1. Comply with specified standards. Comply with building code requirements for "Special Inspection" whether or not such inspections are specified herein.
 2. Ascertain compliance of materials with requirements of Contract Documents. If the material furnished and/or work performed fails to meet requirements of Contract Documents, laboratory inspector shall promptly notify the Contractor, A/E and the ODR of such failure.

3. Promptly notify ODR, Contractor and A/E of observed irregularities or deficiencies in the Work.
4. A representative of the Owner's testing laboratory, who has reviewed and is familiar with the Project and Specifications, shall participate in all preconstruction conferences. The testing firm shall coordinate material testing and inspection requirements with the Contractor and its Subcontractors consistent with the planned construction schedule. The laboratory personnel shall attend, throughout the course of the Project, such conferences as may be required or requested to address quality control issues.
5. Laboratory personnel shall inspect and/or test materials, assemblies, specimens, and work performed, including design mixes, methods and techniques and furnish report(s) to the A/E and the ODR of the progress thereof.

C. Contractor's Responsibilities:

1. Cooperate with laboratory personnel, provide access to the Work, and to manufacturer's and fabricator's operations wherever the Work is in preparation or progress.
2. Secure and deliver to the laboratory, without cost to Owner, adequate quantities of representative samples of materials proposed to be used and which require testing.
3. Furnish Incidental Labor and Facilities:
 - a. To provide access to work to be tested.
 - b. To obtain and handle samples at the Project Site or at the source of the product to be tested.
 - c. To facilitate inspections and tests. Furnish such labor as required to assist laboratory personnel in obtaining and handling samples at the Project Site.
 - d. For safe storage and curing of concrete test cylinders at Project Site and other test samples as required for field curing by ASTM C31.
4. Costs of tests, samples, and mock-ups of substitute material, where the substitution is requested by the Contractor and the tests are necessary in the opinion of the A/E to establish equality with specified items, shall be borne by the Contractor.
5. Costs of tests, samples, and mock-ups performed solely for the benefit or convenience of the Contractor shall be borne by the Contractor.
6. Notify laboratory sufficiently in advance of construction operations to allow laboratory to make assignment of personnel and scheduling of tests to complete any required checks or tests.
7. Owner's testing laboratory will conduct additional tests at Contractor's expense when initial quality control testing indicates work is defective or does not conform to requirements. Materials and workmanship not meeting the required standards or performance obligations are to be

removed and replaced. Replacement and subsequent testing shall be at the expense of the Contractor.

8. Furnish concrete mix designs, in accordance with ACI 301, made by an independent testing laboratory or qualified concrete supplier. When mix designs by an independent testing laboratory are required, the laboratory shall be selected by the Contractor, approved by the A/E and ODR, and paid by the Contractor.
9. Obtain required inspections or approvals of the building official when required. All inspection requests and notifications required by the building code are the responsibility of the Contractor.
10. Provide current welder certifications for each welder to be employed.
11. Furnish fabrication/erection inspection and testing of all welds in accordance with AWS D1.1, Chapter 6.
12. Prequalification of all welding procedures to be used in executing the Work.

1.05 SUBMITTALS:

- A. General: Testing laboratory shall promptly submit written report of each and every test and inspection. Each report shall include:
 1. Date issued.
 2. Project title and number.
 3. Testing laboratory name, address, and telephone number.
 4. Name and signature of laboratory personnel.
 5. Date and time of sampling or inspection.
 6. Record of temperature and weather conditions.
 7. Identification of product and Specification section.
 8. Date of test.
 9. Location of sample or test in the Project.
 10. Type of inspection or test.
 11. Results of tests and observation regarding compliance with Contract Documents.
 12. Interpretation of test results, when requested by Architect.
- B. State in report all details of each inspection and test. Indicate compliance or noncompliance with requirements of the Contract Documents. Also state in report any and all unsatisfactory conditions.
- C. In addition to furnishing a written report, notify the A/E, the ODR and the Contractor verbally of any uncorrected conditions or failures to comply with the requirements of the Contract Documents.
- D. At completion of each trade or branch of the Work requiring inspecting and testing, submit a final certificate attesting to satisfactory completion of the Work and full compliance with requirements of Contract Documents.

- E. Upon completion of building, testing laboratory shall furnish, to ODR and A/E, statement that all required tests and inspections were made in accordance with requirements of Contract Documents.

1.06 REFERENCED STANDARDS

- A. The latest edition of all standards references in this section shall apply, unless noted otherwise. In case of conflict between these Contract Documents and a referenced standard, the Contract Documents shall govern. In case of conflict between these Contract Documents and the building code, the more stringent shall govern.

PART 2 – PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS
(UGSC 3.3.4 & 3.3.11)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements.
- B. Temporary Utilities and Services
- C. Construction Aids
- D. Barriers and Enclosures.
- E. Security.
- F. Parking, Access Roads and Traffic
- G. Temporary Controls.
- H. Project Identification and Signs
- I. Field Offices and Sheds

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 74 00 - Cleaning.
- C. Section 01 77 00 - Closeout Procedures

1.03 GENERAL REQUIREMENTS:

- A. Contractor shall provide all construction facilities and temporary controls specified in this Section and as necessary for the proper and expeditious prosecution of the Work.
- B. Contractor shall make or have made and pay all charges for all connections to and distribution from existing services and sources of supply.
- C. Requirements of service and utility companies relating to the Work shall be ascertained by Contractor. Comply with all requirements, including those relating to continued protection and maintenance until completion of Work.
- D. Materials and construction for construction facilities and temporary controls may be new or used, must be adequate in capacity for required usage, and must not create unsafe conditions. Comply with requirements of federal, state and local authorities having jurisdiction.
- E. Construction facilities and temporary controls shall be maintained by Contractor in usable condition at all times until completion of Work or when their removal is authorized by the A/E or the ODR.

- F. Relocate temporary services and facilities as required by progress of construction, by storage or work requirements, to accommodate legitimate requirements of the Owner and other contractors employed at the Site, and when directed by the ODR.
- G. When any portions of permanent systems are in operating condition, that part of the system may be used for construction purposes provided that the Contractor:
 - 1. Obtains the ODR's approval,
 - 2. Assumes full responsibility for the system used,
 - 3. Pays all costs for operation, maintenance, cleaning, and restoration of the system to as new condition,
 - 4. Operates the system under the supervision of the Subcontractor responsible for system installation and ultimate performance, and provided that such use does not affect specified warranty.
- H. Completely remove temporary services and facilities when their use is no longer required and/or at completion of Project, when directed by the ODR.
- I. Clean and repair damage caused by temporary services and facilities to new condition for new Work and to a condition as good as or better than existed prior to start of Work for existing construction, services, and facilities.

1.04 TEMPORARY UTILITIES AND SERVICES:

- A. General: Arrange and pay for connections, materials and appurtenances required to provide temporary utilities and services.
- B. Payment: Pay the cost of services used (gas, water, sanitary sewer, chilled water, heating water, steam and electricity) monthly. When charges are made to a Contractor for Owner-furnished utilities, it is suggested the charges be examined promptly and either pay the amount or notify the ODR, if discrepancies are found. Final payment to the Contractor will not be processed until all utility bills are paid.
- C. Temporary Utilities and Services: The Contractor shall provide for the following temporary utilities and services for proper execution and protection of the Work. *[Project Manager and Physical Plant will determine method of billing for Chilled and Heating Water.]*
 - 1. Utility Rate Schedule: The following rates shall be charged to the Contractor. *[Project Manager to adjust these rates with input from Physical Plant]*

Costs & Fees for Utility Services

<u>UTILITY SERVICE</u>	<u>UNIT RATE</u>	<u>MINIMUM MONTHLY CHARGE</u>
Electricity	\$0.077 per kWh	\$25
Domestic Cold Water	\$1.33 per MGAL	\$15
Sanitary Waste	\$3.41 per MGAL (100% water usage)	\$15
Chilled Water (Cooling)	\$0.152 per square foot cooled area/month	NA
Heating Hot Water (Heating)	\$0.089 per square foot heated area/month	NA

Late Payment Fee of 1% of any past due balances in each monthly billing period shall be charged for accounts 30 days past due.

2. Chilled and Heating Water metered rate schedule.

Chilled Water - \$5.75 MMBTU
Heating Water - \$5.65 MMBTU

Each building service for this project will receive meters for measurement of chilled water and heating water BTU usage. These meters will be furnished and installed by the automatic temperature controls Subcontractor under Division 15 as Work under this Contract. These meters will be removed and turned over to the ODR when no longer required.

In the event that the Owner assumes the use (Early Occupancy) of one building or a part of a building or the Site, the Owner will assume responsibility for that portion of all utility costs on a prorated square foot basis as determined by the ODR.

- D. Temporary Electrical Service: *[Project Manager to adjust this section with input from Physical Plant]*
 1. Contractor shall install all temporary electrical wiring, lamps, including meter pole and meter loop, for temporary lighting and power required to perform the Work of this Contract. The Physical Plant will furnish the electrical meter.
 2. Install and maintain temporary electrical systems in accordance with the current edition of the National Electric Code and OSHA.
 3. The Owner will extend a 200 ampere, 120/208 volt, three phase or 120/240, single phase service to the Project Site and will make connection to the Contractor furnished, pole mounted, meter loop at no cost to Contractor.
 4. Electric power in excess of 200 amperes and at other voltages may be obtained from the Owner when required for special construction equipment. Contractor shall make application to Owner and if approval is granted, pay all charges incurred for installation and removal of this

additional electrical service. Meters, transformers and all necessary wiring is the responsibility of Contractor.

5. ***[Procedures for each campus shall be determined by the Physical Plant]***

The ODR shall notify the Physical Plant Department when and where the Contractor needs temporary electric service.

5.1. The Physical Plant prepares an estimate for providing the temporary service, up to the maximum service stipulated in the Contract (normally 3 phase, 200 amp). If the Contractor wishes a larger service, the Physical Plant Department prepares an estimate for service above that required by the CONTRACT. This estimate for a larger service is given to the Contractor and ODR.

5.2. The Contractor submits a letter to the Construction Project Inspector requesting that temporary electric service be installed; stating that the Contractor will pay for electricity usage at the rate stipulated in the CONTRACT; stating that the Contractor will pay for a larger service (if any); stating the price quoted for a larger service by the Physical Plant Department; and, provide a billing address.

5.3. A Work Request, with the Contractor's letter, will be submitted to the Physical Plant Department.

5.4. **Explanatory Notes:** Three or four weeks may be needed for the Physical Plant to obtain the necessary pricing and materials. Requests for temporary service should be made by the Contractor as soon as possible to prevent delays. The Contractor should order sufficient power to support all phases of the Project. To add power capacity at a later date can be expensive and will be at the Contractor's expense.

The cost of the service (normally 3 phase, 200 amp) required by the Contract is paid from project funds and not by the Contractor. The Contractor is responsible only for additional costs to provide a larger service.

Unmetered electricity usage by the Contractor from any Owner may incur a minimum \$50 charge per day.

E. Temporary Water: Procedures for requesting temporary water service. ***[Project Manager to adjust this section with input from Physical Plant]***

1. The Contractor submits a letter to the ODR. The letter must request that a water meter be installed; states that the Contractor will pay for water usage at the rate stipulated in the Contract, and provide a billing address.

2. A Work Request, with the Contractor's letter, will be submitted to the Physical Plant Department. If the meter must be relocated at a later date to accommodate construction operations, the Contractor notifies the ODR, who coordinates directly with the Physical Plant.

3. **Explanatory Notes:** The cost of the meter, a one time charge of \$100, is paid from project funds and not by the Contractor. The Contractor is

responsible for all other costs of installing the temporary water system, including taps into existing lines and additional water meters. All connections to existing lines must be coordinated through the ODR with the Physical Plant. Any change in water meter location must be done by the Physical Plant.

4. Unmetered water usage by the Contractor from any University source may incur a minimum \$50 charge per day.
- F. Temporary Gas Service: Temporary gas piping, if required for heating and testing, shall be provided by Contractor. Contractor shall make arrangements with gas supplier for service.
- G. Temporary Heat and Ventilation: Provide temporary heat and ventilation, including installation, maintenance, operation and removal of systems, and costs of fuel, to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified minimum conditions for installation of materials, for making necessary tests, and to protect materials and finishes from damage due to temperature and humidity.
1. For not less than seven (7) days prior to drywall erection and during application and taping operations, provide sufficient heat to maintain building temperature of not less than 55 deg. F., while maintaining adequate ventilation for drying of taping compounds.
 2. Before wood doors and any millwork are delivered to the building, for not less than 5 days prior to installing wood, and throughout the placing of this finish and other finishing operations such as painting, provide sufficient heat to maintain building temperature at 65 deg. F.
 3. Provide ventilation of enclosed areas to cure materials, control humidity, and prevent accumulations of dust, fumes, vapors and gas.
- H. Temporary Telephone Service: Provide and maintain telephone service with a minimum of one direct line instrument in the Contractor's field office. The Contractor shall pay for costs of installation, maintenance and removal and service charges for local calls. Toll charges shall be paid by party who places the call, except toll calls made by Owner's and the A/E's personnel related to project business shall be paid for by Contractor. Refer to 1.11 of this Section for the ODR requirements.
- I. Temporary Toilets and Sanitation: Provide, service, clean, and maintain sanitary conveniences with proper enclosures, in conformance with requirements of local laws and ordinances governing such installations. Post notices, take such precautions as may be necessary, and do cleaning necessary to keep the building and the premises in a sanitary condition. From start of the Work, provide suitable temporary toilets and enclosures for the use of the workmen on the Project. Maintain these facilities in a sanitary condition. Use of Owner's existing toilet facilities will not be permitted.

- J. Temporary Fire Protection: Construction practices, including cutting and welding, and fire protection during construction shall be in accordance with applicable requirements of federal, state, and local authorities having jurisdiction. Provide prominently located multi-purpose portable fire extinguishers, with at least one in each wing on each floor.
1. Gasoline and other flammable liquids shall be stored in Underwriter's Laboratories listed safety containers. Storage shall not be permitted within the building.
 2. Do not light fires of any kind in or about the premises. The use of salamanders is prohibited.
 3. Schedule the Work so that the permanent fire protection system is installed and made operable at the earliest possible date. At such time, the Contractor shall furnish sufficient hose to provide adequate coverage of each floor.
 4. All tarpaulins that may be used for any purpose during the construction of the Work shall be made of material which is resistant to fire, water, and weather.
- K. Elevators: Temporary use of elevators will be permitted only if acceptable to the ODR and elevator installer. Prior to such approved temporary use, provide the following:
1. Arrange and pay for necessary approvals, elevator manufacturer's acceptance, and temporary use permits.
 2. Install temporary protection over hoistway entrances and doors, car doors and frames, car front returns and enclosures so that elevator work will be without damage at completion of Project. Repair or replace damaged work prior to Final Inspection.
 3. Provide and pay for power, operators, necessary signaling and safety devices, lights and other equipment, temporary protection and enclosures required for safe elevator operation.
 4. After temporary elevator use is discontinued, remove temporary protections and enclosures.
 5. Refer to appropriate section in Division 14 of these Specifications for additional requirements.

1.05 CONSTRUCTION AIDS:

- A. Material and Personnel Hoists: The Contractor shall provide material hoists as required for normal use by all trades, without charge. The Contractor shall also provide a personnel hoist for the transportation of all workmen as required for normal use, without charge.
1. Employ qualified, skilled operators for the material and personnel hoists.

2. Provide all necessary guards, signals, safety devices, required for safe operation, and suitable runways from hoists to each floor level and roof.
3. The construction and operation of the hoists shall conform to all applicable requirements for the American Standard Safety Code for Building, the "Manual of Accident Prevention in Construction" of the AGC, and shall be approved by the insurance underwriters.

B. Temporary Stairs, Ladders, Scaffolds, Runways, and Similar Facilities:

1. Provide and maintain all temporary equipment and construction such as temporary stairs, ladders, ramps, scaffolds, hoists, runways, derricks, chutes, and similar facilities as necessary for the proper execution of the Work. Derricks, cranes, and similar facilities shall comply with local airport restrictions.
2. Provide temporary protective treads, handrails, and wall coverings at stairways.
3. Scaffolding shall be furnished, installed, maintained, and removed as necessary for proper execution of the Work and shall be erected on the side of the wall on which facing work occurs. Scaffolding shall not be built into any finish facing material.

1.06 BARRIERS AND ENCLOSURES:

- A. General: Construct temporary barricades, warning signs, hazard and warning lights, walks, passage-ways, and similar temporary barriers and enclosures that are necessary to protect persons and property from hazards or damage due to construction operations, and required by university, city, state or federal laws, ordinances or codes.
- B. Construction Fences: Contractor shall furnish and install construction fences and gates within the "limits of construction", prior to beginning of the Work so as to maintain area free of unauthorized personnel and which includes Project working area and storage locations allocated by the Owner to the Contractor. Keep adjacent property free from disturbance, dust, and noise as much as feasible.
- C. Non-Movable Fences: Fencing and gates shall be minimum 6'-0" high, new material, chain link fabric tightly stretched between line posts (1-5/8" O.D. galvanized iron) at not more than 10 foot centers. Tree protection posts shall be on 8 foot centers. Posts in earthen areas shall be plumbed and aligned, and firmly anchored in the ground at least 24" deep. Corner and gate posts (2-3/4" O.D. galvanized iron) shall have line posts within 6' and braced using clamps at posts. Posts that are machine pounded must be cut off flush and level at top. Gates shall be substantially constructed of materials similar to fence, equipped with hinges of adequate size and strength for operation and to maintain the gate level. Provide security chain and padlock at each gate with 2 keys furnished to the ODR. In sensitive and high visibility areas, and where noted on the Drawings, install

redwood slats vertically in the fence fabric to reduce public view of unsightly areas. Fence posts in permanently paved and sidewalk areas shall be set in 4" thick concrete bases, 24" square or 30" round.

- D. Movable Fences: Fences that need to be moved frequently for access to the Site or to be movable tree protection shall be 6' high posts, using 5" non-climb wire fabric, 12.5 gauge galvanized wire, 2" wide x 4" high openings, attached to posts set in concrete within an old tire to prevent post bases from marring pavements and sidewalks.
- E. Tree and Plant Protection: Provide barricades, fences, and guards as necessary to prevent damage to existing trees and shrubs indicated to remain including, but not limited to, the following construction operations:
1. Compaction of root area by equipment or material storage,
 2. Trunk damage by moving equipment, material storage, nailing or bolting,
 3. Strangling by tying ropes or guy wires to trunks or large branches,
 4. Poisoning by pouring solvents, gas, paint and other toxic materials on or around trees and roots,
 5. Cutting roots by excavating, ditching and similar operations,
 6. Damaging branches by improper pruning; notify the ODR for required pruning,
 7. Drought damage from failure to water or by cutting or changing normal drainage pattern past roots,
 8. Changes in soil pH factor by disposal of lime and other alkali based materials such as plaster, concrete, mortar and grout,
 9. Machine excavating within the drip line of trees; conduct all excavating within drip line by hand. Do not cut roots 1-1/2" in diameter and over.
- F. Tree Damage: When trees other than those indicated or approved for removal are destroyed, killed or badly damaged as a result of construction operations, the Contract Sum will be reduced by the amount determined from the following International Shade Tree Conference formula: $D \times D \times 0.7854 \times \28.00 , where D is the diameter of the trunk measured 12" above grade.
- G. Fence Maintenance and Removal: All fencing and gates shall be maintained deep, straight and level, having a neat and uniform appearance during the construction period and upon completion, before acceptance of the Work, shall be removed from the Site and post hole filled to original condition.
- H. Temporary Enclosures and Protection:
1. Provide temporary weather-tight enclosure at exterior walls for successive areas of the building as work progresses, as necessary to provide

acceptable working conditions, provide weather protection for interior materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.

2. Temporary Partition and Ceiling Enclosures: Framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.
 - a. Close joints between sheet materials, and seal edges and intersections with existing surfaces, to prevent penetration of dust or moisture.
 - b. Provide temporary doors with self-closing hardware and padlocks as required for security.
 - c. Provide removable portions of enclosures as necessary for work and for handling of materials.
3. Protection of Installed Work: Provide protection for installed Work so that it will be without damage at time of acceptance by the ODR. Control traffic to minimize damage. Provide protective coverings at walls, projections, jambs, sills and soffits of openings. Protect finish floors and stairs from traffic, movement of heavy objects, storage and similar construction operations. Prohibit traffic and storage on waterproofed and roofed surfaces, on lawn and landscaped areas.
 - a. Concrete, cement, mortar, grout, sludge, plaster and similar materials shall not be placed in or washed down storm and sanitary sewers, plumbing lines or fixtures.
4. Protect improvements on Owner's and adjoining properties.
 - I. Site: Unless otherwise specified or directed, carefully protect existing walks, lawns, other buildings, and other work on Site, whether specifically indicated on the Drawings or not. Damaged areas of curbs, walks and paving will not be permitted to be patched; remove entire section between expansion joints in which the damage occurs and replace with construction to match existing adjacent work.
 - J. The Contractor is responsible for damage to the Work and injury to persons due to failure of barriers and enclosure of the Work to adequately protect it; and wherever evidence is found of such damage, the Owner may order the Work so damaged to be immediately removed and replaced by the Contractor. All costs and expenses for such occurrences shall be the responsibility of the Contractor at no additional expense to Owner. The Contractor's responsibility for maintenance of barriers and enclosure of the Work, shall not cease until the Project has been completed and is accepted by the Owner.

1.07 SECURITY:

- A. The Contractor shall provide a security program and facilities to protect the Work, existing facilities, and Owner's operations from unauthorized entry, vandalism,

and theft. Coordinate with Owner's security program. Project security within "limits of construction" is Contractor's responsibility.

1.08 PARKING, ACCESS ROADS AND TRAFFIC (UGSC 3.3.11.1):

- A. Parking: Parking for workmen employed on the Site may be provided within construction limits or at a remote location, if needed, to the extent that space for that purpose may be available without interference with the activities related to performance of the Work. On campus parking, other than within construction limits, shall only be as approved by the ODR. Contractor shall pay all associated parking fees.
 - 1. Reserved Parking: Allocate four (4) spaces convenient to the Project offices for use of the Owner and the A/E.
- B. Provide temporary roads as required to bring vehicles onto the Site. Restore paving used for construction operations to new condition prior to acceptance of Work by Owner.
 - 1. Restrict vehicles from doing unnecessary damage to the Site and any existing paving.
 - 2. Restore all new or existing improvements damaged by this Work to original condition, as acceptable to Owner or other parties having jurisdiction.
- C. Traffic Control: Prior to start of Work, examine construction vehicle routing, and establish safeguards and procedures necessary to carry out the Work. In addition, be responsible for and observe the following:
 - 1. Be responsible for controlling construction traffic within and adjacent to the Site.
 - 2. Provide all entrances, lifts and safeguards required or necessary to the progress of the Work, and effectively control such traffic to provide minimum hazard to the Work and all persons.
 - 3. Route all construction equipment, trucks, and similar vehicles on existing public streets to and from the Site as approved by the ODR or as indicated on the Drawings.
 - 4. Construct and maintain temporary walks for pedestrians. Keep streets adjacent to the Site open to vehicular and pedestrian traffic.
 - 5. Maintain constant access for police, fire and ambulance service.
 - 6. Provide and maintain for proper control of traffic and safety:
 - a. All necessary barricades, suitable and sufficient lights, reflectors, and danger signals,
 - b. Warning and closure signs, directional, and detour signs,

- c. All traffic control devices furnished and installed in compliance with the Texas Manual on Uniform Traffic Control Devices as prepared by the State Department of Highways and Public Transportation.
- 7. The Contractor shall provide on a 24 hour basis for all restricted and dangerous conditions existing on or adjacent to the Site:
 - a. For nighttime safety illuminate barricades, danger signals, warning signs and obstructions,
 - b. Keep warning lights burning from sunset until sunrise.

1.09 TEMPORARY CONTROLS:

- A. Cleaning During Construction: Contractor at all times shall keep the premises free from accumulation of waste materials and rubbish caused by operations for the Work. Provide a collection can at each area used for eating. Pick up garbage daily. Keep Project Site free of garbage, trash, vermin and rodent infestation. Contractor, by agreement, shall require each Subcontractor to collect and deposit waste and rubbish caused by Subcontractor operations at pre-designated location. Clean interior areas prior to start of finish Work. Maintain areas free of dust and other contaminants during finishing operations.
- B. Noise Control: In and around occupied areas, minimize use of noise producing equipment. Work with noise-producing is subject, at all times, to the ODR's approval of entire procedure. Use only on a scheduled basis as agreed with the ODR prior to start of Construction operations.
- C. Water Control: Provide methods to control surface water to prevent damage to the Project and adjoining properties. Control fill, grade and ditch to direct surface drainage away from excavations, pits, tunnels and other construction areas. Direct drainage to proper runoff.
 - 1. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.
 - 2. Dispose of drainage water in a manner to prevent flooding, erosion or other damage to any portion of Site or to adjoining areas.
 - 3. Refer to the appropriate section in Division 2 of these Specifications for TPDES requirements.
- D. Pollution Control:
 - 1. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious or hazardous substances from construction operations.
 - 2. Provide equipment, personnel and perform emergency measures required

to contain any spillages, and to remove contaminated soil or liquids. Excavate and dispose of contaminated earth off site and replace with suitable compacted fill and topsoil.

3. Take special measures to prevent harmful substances from entering public waters. Prevent disposal of wastes, effluents, chemicals or other such substances adjacent to streams or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants. Prevent toxic concentrations of chemicals. Prevent harmful dispersal of pollutants into atmosphere.

E. Erosion Control:

1. Plan and execute construction and earthwork by methods sufficient to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation in accordance with the Texas Commission on Environmental Quality SWPPP as submitted and approved.
 - a. Hold areas of bare soil exposed at one time to minimum.
 - b. Provide temporary control measures such as berms, dikes, and drains.
2. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
3. Periodically inspect earthwork to detect any evidence of start of erosion, apply corrective measures as required to control erosion.

F. Dust Control: Provide positive methods and apply dust control materials to minimize raising dust from construction operations and provide positive means to prevent air-borne dust from dispersing into atmosphere. Continuously clean all public and private streets, parking lots, and drive ways to assure that no rock or sediment is tracked off the Project Site.

1.10 PROJECT IDENTIFICATION AND SIGNS:

A. Provide one construction sign shown on Contract Drawings and as specified below. No other signs may be installed anywhere on the Site (except delivery route signs deemed necessary by the ODR), including signs advertising the sale of salvage.

1. Face Size: 4'-0" wide x 8'-0" high x 3/4" thick, located approximately 3'-0" above grade.
2. Sign Faces: New 3/4" exterior grade medium density overlay plywood.
3. Location of Sign, and Layout: By the A/E.
4. Sign faces shall be painted a white background color. All lettering shall be accomplished by a professional sign painter and shall be in Helvetica

Medium style, upper and lower case, in black color and shall include, but not be limited to the following information:

- (1) Project Name.
- (2) Architect's Name.
- (3) General Contractor's Name.

1.11 FIELD OFFICES AND SHEDS:

- A. The Contractor shall provide its own field office and storage sheds on the Site and shall maintain until removal upon completion of the Work.
1. Provide weathertight construction office for Contractor with sufficient light, heating, air conditioning, ventilation, and insulated roof. General arrangement, construction, and equipment for office shall be reviewed with the A/E and approved by the ODR prior to starting construction. Provide adequate tables, plan racks, desk chairs, file cabinets of sufficient capacity to accommodate a copy of submittals and correspondence concerning the Project, and non-pay telephone.
 2. ODR Office: In a separate field office, provide a minimum of 672 sq. ft. with a minimum dimension of 12 feet for the exclusive use of the ODR and the A/E. Minimum interior finish shall be 1/4" gum on fir plywood, good on one side for walls and ceiling, with vinyl composition tile floor. Walls, floor and ceiling shall be insulated with full thickness batt insulation. Exterior doors shall have locks with one key for each occupant. All exterior doors and windows shall also be secured with approved burglar type bars. General arrangement, construction and equipping of office must meet with the approval of the ODR. The office shall be equipped with the following:
 - a. Separate Direct Line Telephone: Contractor shall pay for installation, maintenance, removal and all charges for use of three (3) telephone lines including project related long distance calls. The telephone lines shall remain until the full completion of the Work and shall be removed when directed by the ODR. These lines will be used for telephone/FAX and a computer line out. Contractor shall also arrange for and pay for an internet provider service for the exclusive use of the owner. Contractor shall provide a minimum of three (3) instruments which are capable of handling two lines each. Where available provide high speed internet service in lieu of one (1) standard phone line.
 - b. Provide DSL high speed internet service with dual-band wireless N router with four ports.
 - c. Heating, Ventilating and Cooling shall be accomplished through a central type unit that shall maintain 70 degrees F while heating and 75 degrees F while cooling. Maintenance and filter changes shall

- be by the Contractor.
- d. Contractor shall provide a laser facsimile machine for the exclusive use of the ODR including service and printer cartridges.
 - e. Two (2) each office desks: 30" x 60" minimum size with swivel chairs.
 - f. Layout Counter: 30" x 60" minimum size with drafting stool.
 - g. Filing Cabinet: Two (2) four drawer legal size with lock.
 - h. Plan Rack: One plan rack to hold minimum of (12) 30" x 42" sets of drawings. Rack shall be equal to a Safco Mobile Stand SAF 5026 with plan clamps.
 - i. Lighting shall be of sufficient quantity to provide for proper office atmosphere.
 - j. Convenience Outlets: A minimum of two duplex convenience outlets per office.
 - k. Window: Operable windows minimum equal in size to 10% of the floor area, located to provide view to construction area.
 - l. Waste Baskets: Four (4).
 - m. Shelving: Six feet of 10" deep shelving.
 - n. Maintenance: Keep office weather-tight, warm, cool, comfortable, and swept clean and remove refuse twice weekly. Provide soap, paper towels, toilet paper.
 - o. Provide within Owner's Field Office, a toilet room with door and one (1) lavatory equipped with hot water and one (1) water closet.
 - p. Provide electric water cooler with bottled water and appropriate service.
 - q. Provide two (2) each 30 inch by 72 inch folding tables with ten (10) each folding chairs..
3. Provide and maintain suitable, substantial, weather-tight storage facilities of acceptable appearance in which to store materials which would be damaged by the weather. Storage space shall be of sufficient size to hold all such materials required on Site at one time, and if the storage space is outside the building, it shall have floors raised at least 6" above the ground on heavy joists or sleepers. Provide fenced areas for storage of materials and workmen's parking of the sizes and of locations designated on the drawings. Should the Contractor require additional storage area beyond that indicated on the Site, Contractor shall arrange for such storage facilities off-campus, at no additional cost to the Owner. Contractor may use areas within the immediate construction area for storage only with the approval of the ODR. However, such approval will not be given if such storage encumbers the working space, loads the structure prematurely, or exceeds the design live load for the specified area of the structure.
 4. Building materials, Contractor's equipment and similar items necessary for prosecution of the Work may be stored on the premises, the placing and handling of same shall be such that they can be inspected at all times.

5. When any area in the building is used for a storeroom, shop or similar use, the Contractor shall be responsible for repairs, patching, and cleaning arising from such use. All such replacement costs and expenses shall be borne by Contractor at no additional expense to Owner.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General Requirements.
- B. Manufacturer's Instructions
- C. Transportation and Handling.
- D. Storage and Protection.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitution Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 33 00 - Submittal Procedures: List of Materials.
- E. Section 01 50 00 - Temporary Facilities and Controls: Material Storage Facilities.
- F. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL REQUIREMENTS:

- A. In addition to Uniform General and Supplementary Conditions, Article 8 (UGSC 8.1), Contractor shall use materials and equipment that are:
 - 1. New, unless otherwise specified, and that are of good quality, free from faults and defects, and in conformance with the requirements of the Contract Documents.
 - 2. Suitable for use and function intended.
 - 3. Corresponding in quality to related materials in the absence of a complete specification.
 - 4. Of quality appearance where exposed to view.
 - 5. Of one manufacturer or source for the same specific purpose, with uniform appearance and physical properties.
 - 6. Interchangeable and be the same, when required to be supplied in quantity.
 - 7. Free of name, trade mark, or other insignia which is intended to identify the manufacturer, vendor, or other source(s) which is surface applied or affixed to any manufactured articles, materials, and items of equipment in any public area or similar locations within the Project. Any manufactured articles, materials, and items of equipment which bears evidence that an insignia, name, or trade mark has been removed shall not be used. Code required labels, such as Underwriters Laboratory labels, and other identification required by the Contract Documents are accepted.

- B. Product Color, Texture, or Pattern Selection: No work requiring the A/E's review for color, texture and pattern selection shall be fabricated, delivered or installed prior to review and selection by the A/E.
1. Contractor shall select products of a named manufacturer that complies with the specified requirements and submit the full range of available colors, textures, patterns, including custom colors, textures and patterns for the A/E's selection. All subsequently approved products of other manufacturers are approved contingent upon availability of equivalent colors, textures, and patterns available to the A/E for selection.
 2. When "match existing color" is indicated or specified, Contractor shall, in addition to material and construction requirements specified elsewhere, match existing color, texture, and pattern in every respect, as approved by the A/E.
 3. When materials have a natural range of color, texture, and pattern such as natural stone, brick, tile, anodized aluminum finish and other exposed materials and finishes, the Contractor shall submit required number of sets of ranges of color, texture, and pattern, including representative naturally occurring defects as appropriate, for the A/E's review. All work fabricated and installed shall be within range of samples approved by the A/E. In addition, Contractor shall refer selection of raw materials containing defects within limits of the A/E's approved range of samples, to the A/E to provide distribution of such throughout required work so as to avoid patterns and concentrations of such defects.
- C. Source Limitations: To the fullest extent possible, provide products of the same generic kind, from a single source, for each item of the Work.
1. When specified products are available from only sources that do not or cannot produce an adequate quantity to complete Project requirements in a timely manner, consult with the A/E for a determination of what product qualities are most important before proceeding. The A/E will designate those qualities, such as visual, structural, durability, or compatibility, that are most important. When Architect's determination has been made, select products from those sources that produce products that possess the most important qualities, to fullest extent possible.
- D. Compatibility of Options: Where product options are permitted, select products that are compatible with other products to be incorporated into the Work, including products previously selected.

1.04 MANUFACTURER'S INSTRUCTIONS:

- A. Install products in accordance with manufacturer's printed instructions. Obtain and distribute copies of such instructions to installer, including one copy to the A/E and one to the ODR. Maintain one set of complete instructions at the Site

during installation and until completion.

- B. Manufactured articles, materials, and items of equipment shall be handled, stored, applied, installed, connected, erected, used, cleaned, adjusted, conditioned, and protected in accordance with manufacturer's printed instructions and specifications for the Project conditions indicated, within manufacturer's published limitations, and requirements specified.
- C. Should any manufactured articles, materials, and items of equipment be found to be damaged, deteriorated, or otherwise contrary to the requirements of the Contract Documents, remove and replace such damaged or deteriorated articles, materials, and items of equipment, no matter in what stage of completion and replace with new materials.
- D. Should Project conditions or specified requirements be in conflict with manufacturer's instructions, request written clarification from the A/E before proceeding. Do not proceed with work without clear instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.
- E. Keep a copy of material safety data sheets for all products used in the Work, at Contractor's field office.

1.05 TRANSPORTATION AND HANDLING (UGSC 3.3.4):

- A. Arrange deliveries of materials and products in accordance with Construction Progress Schedule.
- B. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- D. Promptly inspect shipments to ensure that products comply with requirements of the Contract Documents and approved submittals, that quantities are correct, and products are undamaged.

1.06 STORAGE AND PROTECTION:

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products, including factory-finished items and similar work, in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions. Comply with applicable laws, ordinances and regulations for protective storage of potentially dangerous materials.

- B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- C. Store loose granular materials on solid surfaces in a well-drained area and prevent mixing with foreign matter.
- D. Arrange storage to provide access for inspection at all times. Periodically inspect to assure products are free from damage or deterioration, and are maintained under required conditions.
- E. At end of each day's work, cover new work likely to be damaged. Provide substantial coverings necessary to protect installed products from damage, traffic, and subsequent construction operations. Refer to Section 01 50 00 for additional requirements, including removal of temporary protections.
- F. Contractor shall provide inspection of Subcontractor's material for compliance with submittals on proper storage.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

SECTION 01 72 50

FIELD ENGINEERING
(UGSC 6.1.5)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Performance requirements.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 78 00 - Closeout Submittals.

1.03 PERFORMANCE REQUIREMENTS:

- A. General: Provide and pay for field engineering services including survey, layout, civil, structural or other licensed professional engineering services specified, or required to execute the Work.

PART 2 – PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 PREPARATION:

- A. Verify locations of survey control points prior to starting Work.
- B. Verify all dimensions and compare to existing conditions prior to laying out the Work. Promptly notify the A/E of discrepancies discovered. Extra compensation will not be allowed because of differences between actual measurements and indicated dimensions.

3.02 SURVEY AND LAYOUT REQUIREMENTS:

- A. Establish a minimum of two (2) permanent bench marks on the Site, referenced to data established by survey control points. Record locations, with horizontal and vertical data, on Project record documents. Data to be verified by licensed surveyor.
- B. Locate and protect control points prior to starting site work, and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice by ODR.

2. Report to A/E and ODR when any reference point is lost or approval destroyed, or requires relocation because of necessary changes in grades or locations.
 3. Require surveyor to replace Project control points which may be lost or destroyed. Establish replacements based on original survey control.
 4. Maintain a complete, accurate log of all control and survey Work as it progresses.
- C. Establish adequate and clearly defined reference lines and levels required for execution of Work; locate and lay out, by instrumentation and similar appropriate means, controlling lines and levels required for the various trades.
- D. From time to time verify layouts by the same methods.
- E. Underground Obstructions:
1. Pipelines, existing underground installations and underground structures in vicinity of Work are diagrammatically shown on Drawings according to best information available. Accuracy of information is not warranted.
 2. Verify location of underground pipe lines, conduits and structures with Owner and by prospecting in advance of excavation.
 3. Repair damage to existing utilities made during construction process as part of Work to satisfaction of Owner.

3.03 SURVEY:

- A. On completion of foundation walls and major site improvements, prepare survey by licensed surveyor showing dimensions, locations, angles, and elevations of construction.

END OF SECTION

SECTION 01 73 50

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Submittals required.
- B. Materials required.
- C. Procedures for cutting and patching.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 25 00 - Substitutions Procedures.
- C. Section 01 31 00 - Project Management and Coordination.
- D. Section 01 60 00 - Product Requirements.
- E. Other Technical Sections:
 - 1. Cutting and patching required being performed incidental to Work of the Section.
 - 2. Advance notification to trades responsible for Work of other Sections
 - 3. Coordination of trades responsible for Work of other Sections.

1.03 SUBMITTALS:

- A. Submit written request sufficiently in advance to allow ODR and A/E time to adequately review and make a determination of approval of cutting, drilling, or alteration which affects:
 - 1. Work of Owner or any separate Contractor.
 - 2. Structural value or integrity of any element of Project.
 - 3. Integrity or effectiveness of weather-exposed or moisture-resistant elements or systems.
 - 4. Efficiency, operational life, maintenance, or safety of Project equipment elements.
 - 5. Visual qualities of sight-exposed elements.
 - 6. Damage to existing Work or utilities.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected Work.
 - 3. Necessity for cutting, drilling, alteration, or excavation.
 - 4. Effect on Work of Owner or any separate Contractor, or on structural or

- weatherproof integrity of Project.
5. Description of proposed Work:
 - a. Scope of cutting, patching, alteration or excavation.
 - b. Trades who will perform the Work.
 - c. Products proposed to be used.
 - d. Extent of refinishing to be done.
 6. Alternative to cutting, drilling, patching, and excavation.
 7. Written permission of separate contractors who's work is affected.
 8. Date and time Work will be performed.

PART 2 - PRODUCTS

2.01 MATERIALS:

- A. Provide materials and procedures required for original installation.
- B. For any change in materials, submit request for substitution under provision of Section 01 25 00 - Substitution Procedures.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Field Conditions: Check and verify Contract Documents and field conditions before proceeding with Work. If there are any questions regarding these or other coordination questions, the Contractor is responsible for obtaining clarification from the A/E before proceeding with Work or related Work in question.
- B. Execute cutting, drilling, and patching, including excavation and fill as required to complete the Work, and to:
 1. Fit the several parts together, to integrate with other Work.
 2. Uncover Work to install ill-timed Work.
 3. Remove and replace defective and non-conforming Work.
 4. Remove samples of installed Work for testing.
 5. Provide openings in elements of Work for penetrations of mechanical and electrical work.
 6. Uncover Work to allow for A/E's and ODR's observation of Work which has been covered prior to observation by A/E and ODR.

3.02 INSPECTION:

- A. Inspection: Carefully examine the premises to determine the extent of Work and the condition under which it must be done, including elements subject to movement or damage during cutting, patching, excavating and backfilling. No extra payments will be allowed for claims for additional work that could have

been determined or anticipated by such inspection. After uncovering Work, inspect conditions affecting installation of new products.

- B. Beginning of cutting, drilling, or patching means acceptance of existing conditions.

3.03 PREPARATION:

- A. Preparation Prior to Cutting: Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of Work. 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.
- B. Protection: Provide barricades, coverings, fences, supports, and similar temporary protections necessary to protect persons and property from injury or damage as a result of Work of this Section. Confine operations to required limits and take reasonable precautions to protect remainder of property from damage.
- C. Dust Control: Control dust resulting from cutting and patching to prevent the spread of dust to adjacent occupied areas and to avoid creation of a nuisance in the adjacent surrounding area. Use of water will be permitted as indicated. Provide drop cloths or other suitable barriers to prevent dust from traveling to adjacent areas. Seal off return air registers or other mechanical systems to prevent dust from entering such systems.

3.04 PERFORMANCE:

- A. Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- B. Employ original installer to perform cutting and patching for weather-exposed, moisture-resistant elements, sight-exposed surfaces, and to preserve Owner's warranties and bonds for Work of this Contract and related work of other contracts.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools are not allowed without prior written approval by the ODR.
- D. Restore Work which has been cut or removed using new products in accordance with requirements of Contract Documents.
- E. Fit and seal interior Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Fit and seal for watertightness all penetrations through exterior envelope and through slabs.
- F. At penetrations of fire-rated wall, ceiling, or floor construction, completely seal

all voids with fire stopping and sealant material, full thickness of the construction element to provide a smoke seal and penetration rating equivalent to adjacent rated construction. Refer to appropriate sections of Division 7 in these Specifications for requirements.

- G. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for an assembly, refinish entire unit as follows:
1. Walls: From floor to ceiling and between the nearest corner. New gypsum board construction meeting existing construction in same plane shall be flush with no visible joint showing,
 2. Ceiling: The complete surface,
 3. Floor: The complete surface unless otherwise shown or unless a matching patch in applied finishes can be made acceptable to A/E and ODR,
 4. Openings: The entire unit including frame,
 5. Painted Cabinets: The entire painted surface,
 6. Transparent Finish Cabinets: Finish new surfaces to match existing,
 7. Base: Between the nearest corners.
- H. Excavation: Refer to appropriate sections of these Specifications.
- I. Damage: Restore accidental or careless damage to Work to a condition as good as or better than existed before Work was commenced and at no additional cost to the Owner.

END OF SECTION

SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. General requirements for cleaning.
- B. Materials for cleaning.
- C. Procedures for cleaning.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 33 00 - Submittal Procedures.
- C. Section 01 50 00 - Temporary Facilities and Controls.
- D. Section 01 77 00 - Closeout Procedures.

1.03 GENERAL REQUIREMENTS:

- A. General: In addition to Uniform General and Supplementary Conditions, Article 3 (UGSC 3.3.8), provide progress and final cleaning as specified in this section.
- B. Progress Cleaning: Keep premises and public properties free from accumulations of waste, debris and rubbish, caused by operations. Maintain Project in accord with State and local safety, health, and insurance standards.
- C. Final Cleaning: At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces of building and Project Site, including crawl spaces; leave Project clean and ready for occupancy.
- D. Final Inspection: Prior to final inspection, clean all surfaces and remove all debris from project.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS:

- A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 - EXECUTION

3.01 CLEANING:

- A. In addition to removal of debris and cleaning specified in other sections, clean interior and exterior exposed-to-view surfaces affected by Work of this Contract.
- B. Hazards Control: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
- C. Clean permanent filters of ventilating equipment and replace disposable filters when units have been operated during construction; in addition, clean ducts, blowers, and coils when units have been operated without filters during construction.
- D. Remove waste, debris, and surplus materials from site. Clean paving areas, walks, drives and streets in the vicinity of the building; remove mud, rubbish, waste, stains, spills, and foreign substances from paved areas and sweep clean. Immediately clean any mud tracked out of the construction area to adjacent drives and streets by vehicles and equipment.
- E. Keep the entire construction area clean and at least weekly conduct a general clean-up operation.
- F. Keep grass/weeds cut at all times within the limits of construction; maximum time interval in growing season is two weeks.
- G. Periodically inspect, tighten and realign construction/tree protection fencing.
- H. Do not burn or bury rubbish and waste materials on the Project site.
- I. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm, sanitary drains or into the soil.
- J. Do not dispose of rubbish and wastes into streams or waterways.
- K. Do not dispose of excess concrete on the Project Site or campus.
- L. Wet down rubbish and waste to subdue dust and prevent it from blowing.
- M. Provide on Site containers for collection of waste, debris and rubbish. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Do not fence, block, cover, and otherwise make inaccessible, for Owner's use, any waste containers located inside or outside

construction limits.

- N. Remove temporary protection and labels not required to remain.
- O. Just prior to painting and similar finishing operations, clean interior areas ready to receive finish, and continue cleaning as needed, until building is ready for Substantial Completion.
- P. Disposal: Remove waste materials, debris and rubbish from the Project Site and provide for legal disposal at a Texas Department of Health (TDH) permitted solid waste facility. In hauling material from the Project Site, Contractor shall prevent debris from dropping from vehicles and littering the campus or area streets and roads. Contractor shall promptly remove any debris which falls from vehicles.

3.02 FINAL CLEANING

- A. Employ experienced workmen or professional cleaners and perform cleaning in accordance with manufacturer's written recommendations, using products approved by the manufacturer for material being cleaned.
- B. Prior to final inspection and the Owner's acceptance of the Work, perform final cleaning of all areas of the building and Project Site, performing all operations specified in the various Sections of Project Specifications. Final cleaning operations include, but are not limited to:
 - 1. Remove waste, debris, and surplus materials of any nature from Site. Clean paving areas in the vicinity of the building; remove stains, spills, and foreign substances from paved areas and sweep paved areas clean and rake clean other surfaces of grounds,
 - 2. Broom cleaning of all exposed concrete floors,
 - 3. Cleaning all stonework,
 - 4. Cleaning all exposed painted and unpainted metals,
 - 5. Cleaning all architectural woodwork,
 - 6. Cleaning all doors and polish hardware; removing excess paint and stains,
 - 7. Cleaning all glass areas, exterior and interior,
 - 8. Cleaning all storefront framing and doors, and glazed wall system members, exterior and interior,
 - 9. Cleaning all walls and floors,
 - 10. Cleaning of resilient flooring, ready for waxing by this contract,
 - 11. Vacuum all carpeted floors,
 - 12. Cleaning all toilet partitions, fixtures, and accessories,
 - 13. Cleaning all exposed surfaces of light fixtures, including removal of construction dust, paint overspray, finger prints, and similar soiling from light fixture bodies, reflectors, and both sides of light fixture lenses,
 - 14. Removing and disposing of all temporary protections,
 - 15. Repair, patch and touch-up marred surfaces to match adjacent surfaces,

16. Prior to Final Completion, inspect exposed interior and exterior surfaces and work areas to verify that entire work is clean.
- C. Clean finishes free of dust, stains, films, and other foreign substances.
- D. Clean transparent and glossy materials to a polished condition; remove foreign substances. Polish reflective surfaces to a clear shine.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES
(UGSC 12.3)

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Instruction of using personnel.
- B. Submittals.

1.02 RELATED SECTIONS:

- A. Section 01 11 00 - Summary of Work.
- B. Section 01 32 00 - Construction Progress Documentation.
- C. Section 01 33 00 - Submittal Procedures.
- D. Section 01 50 00 - Temporary Facilities and Controls.
- E. Section 01 74 00 - Cleaning.
- F. Section 01 78 00 - Closeout Submittals

1.03 INSTRUCTION OF USING PERSONNEL:

- A. The Contractor will provide demonstrations; conduct training and familiarization sessions for physical plant/User personnel on the mechanical and electrical systems in the facility prior to Substantial Completion inspection. Arrangements for these instruction periods shall be made by the ODR. Operation and maintenance manuals must be available and used during this training period. Refer to Section 01 78 00 for requirements of operating and maintenance manuals.

1.04 SUBMITTALS:

- A. Refer to Section 01 29 00 - Payment Procedures for required administrative action and submittals which must precede or coincide with Contractor's final payment application. Contractor shall deliver these submittals to A/E for transmittal to Owner, properly executed, in one package, prior to the request for final payment.
- B. Final Completion (UGSC 12.1.5.3): Submit written request for Final Completion inspection and the following:
 - 1. Certification that Work is complete and Owner has full access and use of completed work, Contract Documents have been reviewed, and systems and equipment have been tested, are operational and User personnel have received proper instruction and training on equipment and systems.
 - 2. Copy of list of items to be completed or corrected from Substantial

- Completion Inspection, with each item initialed and showing date completed.
3. Evidence of compliance with requirements of governing authorities:
 - a. Certificates of occupancy.
 - b. Certificates of final inspection for elevator, plumbing, mechanical, fire protection, electrical, and other systems required by governing authorities.
 4. List of all Subcontractors and material suppliers and product description. Provide name, address, and complete phone number:
 - a. Product manufacturer.
 - b. Installer (Subcontractor).
 - c. Local representative.
 - d. Local source of supply for parts and replacement.
 5. Submit test/adjust/balance records; start-up performance reports, and other information relevant to Owner's occupancy.
 6. Clean-up: Refer to Section 01 74 00 for requirements.
 7. Deliver all special tools and keys in relation to project equipment and devices to ODR.
 8. Instruction Logs for Instruction of Owner's Operating Personnel: Refer to Section 01 78 00 for requirements.
 9. Warranties: Refer to Section 01 78 00 for requirements.
 10. Keys, Keying Schedule, and Changeover of Locks: Refer to appropriate section in Division 8 of these Specifications for requirements.
 11. Spare Parts and Maintenance Material: Refer to appropriate Sections in this Specification for requirements.
 12. List of Contractor's incomplete work, recognized as exceptions to Owner's Certificate of Final Acceptance.
 13. Certificate of Insurance for Products and Completed Operations.
 14. Final Application for Payment.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 78 00

CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Operating and maintenance manuals
- B. Maintenance instruction.
- C. Maintenance materials.
- D. Warranties.
- E. Project record documents.

1.02 RELATED SECTIONS:

- A. Uniform General and Supplementary Conditions, Article 13 - Warranty & Guarantee.
- B. Section 01 33 00 - Submittal Procedures.
- C. Section 01 77 00 - Closeout Procedures.
- D. Section 01 78 20 – COBie Specification.
- E. Individual Specification Sections: Special Project Warranties

1.03 OPERATING AND MAINTENANCE MANUALS (UGSC 12.3.2):

A. FORMAT:

1. Prepare prior to final inspection one (1) set of operating and maintenance data, containing data bound in commercial quality 3-ring binders with plastic covers. Minimum binder size 2". Also, provide three (3) digital copies on DVD, or other portable electronic media, of all operating and maintenance manuals in Adobe Acrobat format which are indexed and searchable. Files in the digital version shall be in folders and named so that the digital version follows the format of the printed version.
2. Cover: Identify each volume, front cover and spine, with type or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS", name of Project, Project No., location, Contractor, date of Substantial Completion and Volume Number.
3. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Specification. Include Tab for each section number, systems and equipment number.
4. The work covered by these manuals will not be accepted nor will the Final Inspection and Acceptance be conducted until the ODR has received the manuals. The A/E will check for compliance with the specifications and furnish the approved copies to the ODR, who will make distribution. ***Payment will be withheld unless O&M Manuals submitted are in accordance with this***

specification.

5. Data shall also follow the COBie format.

B. CONTENTS, EACH VOLUME:

1. Arrange typewritten table of contents for each volume, in systematic order:
2. A list of each product required to be included with name, address and telephone number of:
 - a. Subcontractor or installer.
 - b. Maintenance contractor, as appropriate.
 - c. Local source of supply for parts and replacement.
3. Identifying each product by product name and other identifying symbols.
4. Product Data:
 - a. Include only those sheets which are pertinent to specific product with product clearly identified.
 - b. Delete references to inapplicable information.
5. Drawings:
 - a. Supplement product data with drawings as necessary to clearly illustrate relations of component parts of equipment and systems and control and flow diagrams.
 - b. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.
6. Written Text: As required to supplement product data for particular installation to provide logical sequence of instructions for each procedure.
7. Miscellaneous Data:
 - a. Furnish copy of each warranty, bond and service contract issued.
 - b. Furnish proper procedures in event of failure and instances which might affect validity of warranties or bonds.
 - c. Furnish photos of name plate data for all major mechanical equipment including valves 4" in diameter and above.
 - d. Furnish GPS coordinates of hand holes, valves, vaults, and other equipment located on site outside of the building foundation.

C. MANUAL FOR MATERIALS AND FINISHES:

1. Architectural Products, Applied Materials, and Finishes:
 - a. Provide manufacturer's data giving full information on product:
 - (1). Catalog number, size and composition.
 - (2). Color and texture designations.
 - (3). Information required for re-ordering special manufactured products.
 - b. Provide instructions for care and maintenance including:
 - (1). Manufacturer's recommendation for types of cleaning agents and methods.
 - (2). Cautions against cleaning agents and methods which are

detrimental to product.

(3). Recommended schedule for cleaning and maintenance.

- c. Provide a summary listing of all exterior and interior colors.
2. Additional Requirements: Refer to respective Specification Sections.
3. Prepare one (1) set containing data bound in commercial quality 3-ring binders with plastic covers. Minimum binder size 2". Also, provide three (3) digital copies on DVD, or other portable electronic media, of manuals in Adobe Acrobat format which are indexed and searchable. Files in the digital version shall be in folders and named so that the digital version follows the format of the printed version.

D. MANUAL FOR EQUIPMENT AND SYSTEMS:

1. Each Type of Equipment and System:
 - a. Provide description of unit and component parts including:
 - (1). Function, normal operating characteristics and limiting conditions.
 - (2). Performance curves, engineering data and tests.
 - (3). Complete nomenclature and catalog number of replaceable parts.
 - (4). Dimensional drawing.
 - (5). Serial number.
 - (6). Warranty information.
 - (7). Replacement cost.
 - b. Operating Procedures: Include the following.
 - (1). Start-up, break-in, 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: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing and checking instructions.
 - d. Provide servicing and lubrication schedule including list of lubricants required.
 - e. Include manufacturer's printed operating and maintenance instructions.
 - f. Describe sequence of operation by control manufacturer.
 - g. Include original manufacturer's parts list, price lists, illustrations, assembly drawings and diagrams required for maintenance, predicted life of parts subject to wear and items recommended to be stocked as spare parts.
 - h. Include control diagrams by controls manufacturer.
 - i. Coordinate drawings and color coded piping diagrams.

- j. Schedule valve tag numbers with location and function of each valve.
 - k. Include water treatment procedures and tests.
2. Each Electric and Electronic System:
- a. Provide description of system and component parts including:
 - (1). Function, normal operating characteristics and limiting conditions.
 - (2). Performance curves, engineering data and tests.
 - (3). Complete nomenclature and catalog number of replaceable parts.
 - b. Panelboard Circuit Directories: Provide electrical service characteristics, controls and communications.
 - c. Include color coded wiring diagrams.
 - d. Operating Procedures: Include start-up, break-in, and routine and normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
 - e. Maintenance Procedures: Include routine procedures and guide for trouble-shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
 - f. Include manufacturer's printed operating and maintenance instructions.
 - g. Provide list of original manufacturer's spare parts, manufacturer's current prices and recommended quantities to be maintained in storage.
 - h. Electrical coordination study.
 - i. Special systems wiring diagrams.
3. Include warning of detrimental maintenance practices.
4. Prepare and include additional data when need for such data becomes apparent during instruction of Owner's personnel or as required under pertinent Specification Sections.
5. Prepare one (1) set containing data bound in commercial quality 3-ring binders with plastic covers. Minimum binder size 2". Also, provide three (3) digital copies on DVD, or other portable electronic media, of manuals in Adobe Acrobat format which are indexed and searchable. Files in the digital version shall be in folders and named so that the digital version follows the format of the printed version.

E. SUBMITTALS:

- 1. Submit completed manuals to A/E for review and transmittal to ODR thirty plus (30+) days prior to Substantial Completion Inspection.
- 2. Submittal of operating and maintenance manuals shall be prior to instruction of Owner's operating and maintenance personnel.

1.04 MAINTENANCE INSTRUCTION:

A. SUBMITTALS:

1. Submit preliminary copy of "Instruction of Owner's Operating and Maintenance Personnel" report for each system or item requiring instruction, on photocopy of form provided herein, at least 60 days prior to instruction date.
2. Submit fully completed forms upon completion of all instruction.

B. QUALITY ASSURANCE:

1. Instruction shall be done by personnel trained and experienced in maintenance of described products and operation of described equipment and systems, and familiar with requirements of this Section.

C. SCHEDULING:

1. Do not perform instruction until systems and equipment have been inspected and approved.
2. Complete all instruction prior to Substantial Completion.

D. INSTRUCTION OF OWNER'S PERSONNEL:

1. Instruct Owner's designated personnel in operation and maintenance of systems and equipment. Use Operating and Maintenance Data specified in this section as basis for instruction.
2. Furnish specialized tools required to operate and maintain systems and equipment for Owner's use.
3. Provide level of instruction commensurate with system or item requiring instruction. Some items may require multiple training sessions at different times due to Owner's 24 hours per day operation.
4. Explain contents and use of Operation and Maintenance Data.
5. Explain operating sequences as follows:
 - a. Show location and operation of switches, valves and other such devices used to start, stop and adjust systems.
 - b. Explain use of flow diagrams, operating sequence diagrams and other such devices.
 - c. Demonstrate operation through complete cycles and full range of operation through all modes, including testing and adjusting relevant to operation.
6. Explain use of control equipment, including temperature settings, switch modes, available adjustments, reading of gauges, and functions that must be serviced by factory-authorized representatives.
7. Explain trouble-shooting procedures; demonstrate problems which commonly occur, and their resolution, and note procedures which must be performed by factory authorized personnel.

8. Explain maintenance procedures and requirements, including items requiring periodic maintenance. Demonstrate preventive maintenance procedures and recommended maintenance intervals. Demonstrate other maintenance procedures not part of periodic maintenance program. Identify maintenance materials to be used.

1.05 MAINTENANCE MATERIALS

A. GENERAL:

1. Assemble spare parts and maintenance materials as required in individual Specification Sections. Deliver in clean packaging identified with manufacturer's name, trade name, stock number, size, color, and other similar information identifying products. Identify building and location in building where item is used or with what it is used. Include name, address and telephone number of local supplier.
2. Deliver to ODR, prior to Final Inspection, at a location within three (3) miles of Project Site as directed by ODR. Include a letter of transmittal with delivery with a copy to A/E listing materials provided.

1.06 WARRANTIES

A. WARRANTY SUBMITTAL (UGSC 13.1 & 13.5):

1. Warranty Format: Assemble warranties executed by respective manufacturers, suppliers, subcontractors and Contractor as follows:
 - a. Size: 8-1/2" x 11". Punch sheets for 3-ring binder; fold larger sheets to fit into durable binders.
 - b. Cover: Identify each packet with type or printed title "WARRANTIES". List title of Project and name of Contractor.
 - c. Table of Contents: Neatly typed, using table of contents of Project Specification as format.
 - d. Procedures to be followed in case of failure.
 - e. Quantity: Provide one (1) set. Also, provide three (3) digital copies on cd-rom or DVD, or other portable media, of all operating and maintenance manuals in Adobe Acrobat format
2. Warranty Forms: Except as otherwise specified, Contractor shall execute in duplicate on Contractor's letterhead, the Project Warranty for General Construction and special Warranties required by various Specification Sections, on the warranty forms which follow at end of this Section.
3. Warranty Effective Date:
 - a. For portions of Work accepted by Owner prior to Final Completion: Date of Substantial Completion and Early Occupancy.
 - b. For portions of Work accepted by Owner at Final Completion: Date of Substantial Completion or Final Completion whichever occurs sooner.

B. PREPARATION:

1. Obtain warranties and guarantees, executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten (10) days after completion of the applicable item or work. Except for items put into service with Owner's permission, warranty begins with date of Substantial Completion in accordance with Uniform General and Supplementary Conditions, Article 13.
2. Verify that documents comply with requirements of Contract Documents, are in form approved by Owner, contain full information. As a minimum, each warranty shall contain:
 - a. Name and location of Project.
 - b. Name and address of Contractor.
 - c. Product or work item.
 - d. Scope of warranty.
 - e. Date of beginning and duration of correction period for warranty.
3. Retain warranties until time specified for submittal.

C. TIME OF SUBMITTALS:

1. For equipment or component parts of equipment put into service with Owner's permission, submit documents within ten (10) days after acceptance.
2. Make other submittals within ten (10) days after Date of Substantial Completion, prior to Final Application for Payment.

D. SCHEDULE OF SUBMITTALS:

1. Refer to Sections 01 33 00 and 01 34 00 for Schedule of Submittals.

E. WARRANTY ADMINISTRATION

1. A representative of the User (usually the Physical Plant Director) will be the Owner's point of contact for all warranty work. When disagreements develop between the Warranty Administrator and the Warrantor, the Director, Office of Facilities Planning and Construction will act for the User.

1.07 PROJECT RECORD DOCUMENTS (UGSC 6.2)

A. GENERAL:

1. Maintain at the Site for the Owner one record copy of:
 - a. Drawings,
 - b. Specifications,
 - c. Addenda,
 - d. Change Orders and other modifications to the Contract,
 - e. A/E's field orders and other written instruction,
 - f. Approved shop drawings, product data, and samples,

- g. Field test records,
 - h. Other records required throughout construction by ODR.
2. Maintenance of Record Documents and Samples:
- a. Store documents and samples in Contractor's field office apart from documents used for construction. Provide files and racks for storage of documents. Provide locked cabinet or secure storage space for samples.
 - b. File documents and samples in accordance with Drawing Index and Specification Table of Contents.
 - c. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
 - d. Make documents and samples available at all times for inspection by A/E and ODR.
 - e. Record Prints will be reviewed monthly by the ODR and A/E. This will be a requirement for issuance of a Certificate for Payment.
3. In accordance with the provisions of the UGSC (as revised herein) regarding record documents, any Special Conditions included in Exhibit "C", and Owner's Specifications, Contractor shall maintain and deliver the required documents that describe changes or deviations from the Contract Documents that occurred during construction and that reflect the actual "as-constructed conditions" of the completed Work. Consistent with the foregoing, Contractor shall revise the Specifications, Model(s) and Drawings derived from the Model(s) upon Final Completion of the construction, to incorporate all requests for information, A/E's supplemental instructions, Change Orders and field conditions. The Contractor shall label the revised Drawings and Specifications as "As-Constructed Drawings" and "As-Constructed Specifications".

B. RECORDING:

- 1. Label each document and each sheet of the record drawing set as constructed, "As Constructed" in stamped or printed letters (per UGSC 6.2.2).
- 2. Record information concurrently with construction progress. Make entries within 24 hours after receipt of information. Do not cover-up items required to be shown on Project Record Documents until recorded.
- 3. Utilize skilled draftspersons to make neat legible notations on record documents to record actual construction as follows:
 - a. Location of underground utilities and appurtenances covered by construction, referenced by an elevation and dimension to visible and accessible features of structure.
 - b. Location of internal utilities and appurtenances covered by construction, referenced by elevation and dimension to visible and accessible features of structure.
 - c. Indicate field changes of dimension and detail, changes made by field order or Change Order, and details not on Contract Drawings.
 - d. Record actual CFM rating in each space on Mechanical Drawings.
 - e. In Specifications and Addenda, record manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed, changes made by Change Order, approved substitution,

or other modification, and other matters not originally specified.

4. Entries: Clearly describe change by note and by graphic line, as required. Date all entries. Call attention to entry by "cloud" around area or areas affected. In event of overlapping changes, use different color for each change.
5. ODR and A/E will review Record Set monthly. If documents are not being maintained concurrently with construction progress, Owner may withhold progress payments until documents are made current.

C. SUBMITTAL:

1. Prior to Final inspection and as a prerequisite to Final Payment, submit Record Document drawings, including mechanical, electrical and plumbing installations, and other installations as specified in Contract Specifications, to A/E for permanent Project File.
2. Documents shall be submitted at one time with transmittal letter containing date, Project title, Contractor's name and address, itemized list of documents, and signature of Contractor. The Contractor's signature acknowledges that the documents have been reviewed and that they represent a true and accurate record of the work installed.
3. As-Constructed Specifications: Provide three (3) electronic sets of As-Constructed Specifications on disc type media or portable drive in PDF and MS Word format.
4. As-Constructed Drawings: Provide three (3) electronic sets of As-Constructed Drawings on disc type media or portable drive in DWG and PDF format.
5. As-Constructed Model(s): Provide three (3) electronic sets of all Models on disc type media or portable drive in native and IFC file format.
6. Label all media indicating the project name and project number as well as an index file listing the contents on the media.
7. All electronic documents shall be named according to Facility Design Guidelines.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

INSTRUCTION OF OWNER'S OPERATING PERSONNEL

PROJECT: _____

Project No. _____

Contract No. _____

SYSTEM OR EQUIPMENT: _____

PRELIMINARY INFORMATION:

A. To be completed by Contractor:

1. Proposed dates of instruction: _____ to _____

2. Representative performing instruction: _____

3. Number of hours required: _____

B. To be completed by Owner:

1. Owner's personnel to be instructed:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

INSTRUCTION LOG:

Date	No. of Hours	Materials Covered	Instructor's Initials	Owner's Rep. Initials	Comments
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Total Hours: _____ Date Instruction Completed: _____

Owner's Representative: _____

Instructor: _____

PROJECT WARRANTY FOR GENERAL CONSTRUCTION

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed general construction work on the following project:

Contract No. _____ Project No. _____

For _____(Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said Work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said Work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20_____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all Work that may prove defective in workmanship or materials together with all other Work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such Work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and we will pay the costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this __ day of _____, 20_____, for Contractor by _____

(Signature)

_____ as its _____.
(Typed Name) (Title)

SPECIAL WARRANTY FOR _____

WHEREAS, _____(Contractor),

Address _____

Telephone () _____ has performed _____

work on the following project: _____

Contract No. _____ Project No. _____

For _____(Owner),

Address _____, and,

WHEREAS, Contractor has agreed to warrant said Work to be new, unless otherwise specified in the Contract Documents, and that all Work is of good quality, free from faults and defects, and in accordance with the Contract Documents.

NOW THEREFORE, Contractor hereby warrants said Work in accordance with terms hereof, complying with terms of Contract with Owner dated _____, 20____, that:

Contractor agrees to repair or replace to the satisfaction of the Owner all Work that may prove defective in workmanship or materials together with all other Work which may be damaged or displaced in so doing, except for abuse, modifications not executed by Contractor, insufficient maintenance, improper operation, or normal wear and tear under normal usage.

All repairs or replacements shall have a correction period for such Work equal to the original correction period as herein stated, dated from the final acceptance of repairs or replacement.

CORRECTION PERIOD FOR THE WORK: STARTING _____, TERMINATING _____.

In the event of our failure to comply with the above mentioned conditions within a reasonable time after being notified in writing, we agree to hereby authorize the Owner to proceed to have defects repaired and made good at our expense, and we will pay costs and charges therefore immediately upon demand.

IN WITNESS THEREOF, this instrument has been duly executed this ___ day of _____, 20__

for Contractor by _____
(Signature)

_____ as its _____
_____.
(Typed Name) (Title)

And has been countersigned in accordance with terms and conditions, for

Installer by: _____
(Signature) (Typed Name)

as its _____.
(Title)

Name of Firm _____

Address _____

Section 01 78 20

Construction Operations Building Information Exchange (COBie)

Part 1 - General

1.01. References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. International Standards Organization

1. ISO/PAS 16739: Industry Foundation Classes
2. buildingSMART
3. FM Handover MVD: Facility Management Handover Model View Definition

B. buildingSMART alliance

1. COBie: Construction-Operations Building information exchange (most current version)
2. SPie: Specifiers' Properties information exchange

C. Whole Building Design Guide

1. Product Guide Listing of Required SPie Product Properties

D. COBie Checker

1. bimServices: COBie checker (http://www.aec3.com/6/6_04.htm)

1.02. Submission of Building Information

A. The consultant/vendor shall provide all building information submittals required elsewhere in the contract using the COBie format. This information includes but is not limited to:

1. Drawings, graphics, sketches, shop and installation drawings, submittals, as-built drawings, and all material typically contained in operation and maintenance manuals.
2. All scheduled, installed, or tagged materials, products, and equipment.
3. Operations and maintenance information.

B. The consultant/vendor is responsible for the full aggregation, coordination, and input of such information that is provided by designers, design consultants, contractors, subcontractors, suppliers, commissioning agents, and/or manufacturer's as is applicable to the specific type of deliverable to be formatted using this COBie specification.

C. Submit in accordance with requirements outlined within this section as well as the following:

1. The Texas A&M University System Uniform and Supplementary Conditions per project manual.
2. Section 01 00 00 Job Requirements per project manual.
3. Section 01 33 00 Submittal Procedures per project manual.
4. The Texas A&M University System: Facility Design Guidelines.

5. The Texas A&M University System: Building Information Data Collection Using COBie Format document.
6. The Texas A&M University System: COBie Responsibility Matrix.
7. The Texas A&M University System: THECB Room Codes.

D. Package Quality

1. Three (3) duplicate electronic media copies of the electronic COBie formatted data and ancillary documentation shall be provided. These copies shall include the MS Excel file, as well as PDFs of the Excel spreadsheets, and of all the associated submittals referenced in the COBie formatted spreadsheets.
2. The technology used for the data transmission shall be selected to ensure that the data is provided on one single "disk" or "drive."
 - a. The contractor shall provide data on either disk-based (CD or DVD) or portable hard drive media.
 - b. Provide a printed label that shall be affixed to the media or the media sleeve. The label shall list the following information:
 - i. Name of the project.
 - ii. Project location.
 - iii. Project number.
 - iv. A/E company.
 - v. Contractor company.
 - vi. Commissioning agent company.
 - vii. Title of submission.
 - viii. To ensure that any problems with the data or media can be easily resolved the label shall also include the name and contact information of the individual who produced the final data disk.
 - ix. Provide a Table of Contents insert for the media cover.

E. Package Content

1. While the COBie specification provides a data model and associated software implementation covering the entire facility life-cycle. Individual COBie formatted deliverables for a given project will be limited according to the following requirements:
 - a. COBie formatted files may only refer to a single facility or building.
 - b. If more than one facility or building is being constructed as part of the same contract, the contractor shall provide a separate COBie formatted file for each facility using the building asset number as an identifier.
 - c. COBie formatted files will only be required to provide that portion of the facility or building's life-cycle information that are within the scope of the project.
 - d. COBie formatted files are expected to be linked to the referenced documents.

- i. All COBie submissions must provide copies of all linked documents in, at a minimum, Portable Document Format (PDF).
 - ii. All image files shall be provided in “jpg” format as well as PDF.
2. A PDF file containing a COBie compliance checking report indicating that no internal consistence errors have been identified in the COBie file and that the file is of “adequate” or better quality.

F. Changes to Submittals

1. The contractor is required to integrate any and all changes made to the submittal documents prior to substantial completion.
2. Changes, additions, or revisions required by the Contracting Officer for final acceptance of submitted data, shall be submitted by the Contractor within 30 calendar days of the notification of this change requirement.
3. Changes due to commissioning (Cx) and mechanical system testing and balancing (TAB) reports shall be incorporated into the COBie formatted data set by the contractor.

G. Review and Approval

1. The vendor/consultant shall verify compliance of the COBie formatted file using either manual methods and/or referenced COBie checking software. The use of COBie compliant software and/or automated checking software does not eliminate the possibility that failure to follow software system instructions may provide incorrect COBie deliverables.
2. The vendor/consultant shall check all COBie formatted files prior to submission, regardless of the source of those files. The vendor/consultant shall submit a brief report with each COBie deliverable indicating steps taken to verify compliance with the COBie format.
3. The vendor/consultant is responsible to correct all errors found in the COBie formatted file regardless of the source of those errors. Submit corrected COBie files within fifteen (15) days of the rejection of a COBie submittal.

1.03. Information Types Required

- A. Unique identifiers are required (email and name) on all records in all worksheets, except Attributes and Coordinates where the name and applicable named object taken together shall be unique.
- B. To ensure compatibility between COBie information and design information the vendor/consultant shall ensure that unique COBie names are provided.
- C. If unique names must be added or modified for COBie compliance, the vendor/consultant shall update the design documents to reflect these unique names.
- D. Unique identifies shall not contain commas, nor non-printing characters.

- E. Contact identifiers shall be valid email addresses.
- F. All internal references must be valid.
- G. All references to external documents must be complete.
- H. All required fields shall be provided. Those fields identified as required for the purpose of correctly transmitting the COBie formatted file, that are not required as part of a specific project deliverable, shall contain the text "n/a".

I. COBie Data Collection

- 1. The vendor/consultant shall submit a COBie formatted file containing, at a minimum, the following worksheets.
 - a. Contact Worksheet.
 - i. The Texas A&M University System. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 - 1. Area Manager
 - 2. Architectural Project Manager
 - 3. Construction Phase Project Manager
 - 4. Inspectors
 - 5. Engineers
 - ii. System Member. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 - 1. Project Representative
 - 2. Any other key personnel
 - iii. Architect contact information. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 - 1. Principal in Charge
 - 2. Project Manager
 - 3. Project Architect
 - 4. Construction Phase Administrator (if different from above)
 - iv. Engineer/consultant contact information. Provide, at a minimum, contact information for each of the following engineers: Surveyor, Structural, Civil (if used), Mechanical, Electrical, Plumbing, Landscape Architect (if used), and any specialty consultant. Provide, at a minimum, contact information for each of the following personnel within each organization. Provide additional worksheet rows for any additional key personnel.
 - 1. Principal in Charge

2. Project Manager
3. Project Engineer
4. Construction Phase Administrator (if different from above)
5. Construction Phase Inspectors (if different from above)
- v. Provide contact information for the Commissioning Agent. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Principal in Charge
 2. Project Manager
 3. Project Engineer
- vi. CM/Contractor contact information. Provide, at a minimum, contact information for each of the following personnel. Provide additional worksheet rows for any additional key personnel.
 1. Project Executive
 2. Project Manager
 3. Superintendant
 4. Project Engineer
- vii. Subcontractor Contact Information. Provide, at a minimum, contact information for each of the following personnel for each subcontractor providing specific submittal documents. Provide additional worksheet rows for any additional key personnel.
 1. Ensure that the corresponding subcontractor is listed as the contact for each submittal package.
 2. Project Executive
 3. Project Manager
 4. Project Foreman
- viii. Manufacturer Contact Information.
 1. Provide additional Contact Worksheet rows for the manufacturers of all approved submittals.
 2. Ensure this contact information is referenced in the Manufacturer column of the Type Worksheet.
- ix. Parts and Warranty Contacts. Contact information for all replacement parts companies and warranty guarantors shall be listed in the Contact worksheet.
- b. Facility Worksheet.
 - i. Only one (1) record shall be provided per file.

- ii. If the contractor is delivering COBie formatted data on multiple buildings, provide one file for each building using the building asset number as an identifier.
- c. Floor Worksheet.
 - i. Provide one record for each named floor.
 - ii. At a minimum buildings must include a minimum of the following:
 - 1. One (1) record for the roof
 - 2. One (1) record for the site
 - 3. One (1) record for the first floor
- d. Space Worksheet.
 - i. Provide one record for each named space.
 - ii. All spaces must be classified by function using the Texas Higher Education Coordinating Board (THECB) room codes.
 - iii. Spaces with distinct functional areas may be subdivided.
 - iv. The following minimum set of attributes must be shall be provide for each space:
 - 1. Useable ceiling height
 - 2. Gross area
 - 3. Net area
 - v. Room Tag. If the contractor has installed room number signage in the building that differs from that listed on the design drawings, then the contractor shall provide the room signage designation.
- e. Type Worksheet.
 - i. One record is required for each type of scheduled architectural element listed in the design.
 - ii. One record is required for each of the scheduled architectural elements listed below with an attached MS Excel worksheet or PDF of the related schedule.
 - 1. Door and frame schedule.
 - 2. Door hardware schedule.
 - 3. Window and frame schedule.
 - iii. One record is required for each type of scheduled material, product, or equipment element listed in the design. All types of scheduled architectural, mechanical, electrical, and plumbing items shall be included.
 - iv. Fixed Assets. The contractor shall list the direct cost of replacement and expected service life, as provided from the manufacturer, for all assets identified as fixed assets under the Type worksheet.
 - v. Provide the following:

1. Manufacturer
2. Model Number
3. Warranty information
- vi. Equipment Assets. The contractor shall identify the replacement cost of each type of material, product, and equipment listed.
- vii. Products and Equipment Attributes. The contractor shall confirm that manufacturer's product data attributes are referenced all Type and Component Attributes.
- f. Component Worksheet.
 - i. One record is required for each individual component named in architectural schedules as listed in the design.
 - ii. One record is required for each individual component named in all design schedules listed in plans and specifications.
 - iii. Manufacturer Information in Component Worksheet. Information on the worksheet related to Manufacturer, Model Number, and warranty information.
 - iv. Installed Material, Products, and Equipment. For all installed material, products, and equipment identified in the Component Worksheet the contractor shall:
 1. Verify the location of the item
 2. Provide serial number, the item has a manufacturer's name plate
 3. Provide a tag number if the item has been tagged during the construction process
 4. Identify installation date.
 - v. Bar Codes. The code numbers of all Bar Coded items shall be included in the Component Worksheet.
 - vi. Products and Equipment Attributes. The contractor shall confirm that manufacturer's product data attributes are referenced all Type and Component Attributes.
- g. Attribute Worksheet.
 - i. The following minimum set of attributes must be shall be provide for each space:
 1. Floor finish
 2. Wall finish
 3. Ceiling finish
 - ii. The minimum set of properties required for all type worksheet rows shall be the properties found in the Specifiers' Properties information exchange (SPie) specification. contractors shall refer to the Product Guide of the Whole Building

Design Guide to identify the minimum SPie properties that must appear for each row of product Types.

- iii. Attribute Worksheet. The minimum set of properties required for all installed products shall be the properties found in the Specifiers' Properties information exchange (SPie) specification. The Contractor shall refer to the Product Guide of the Whole Building Design Guide to identify the minimum SPie properties that must appear for each row of product Types. Designer provided SPie data must be updated during this deliverable to reflect installed product properties.
 - iv. One record is required for each type of scheduled material, product, or equipment element listed in the design. All types of scheduled architectural, mechanical, electrical, and plumbing items shall be included.
 - v. Warranty Information. In COBie manufacturer parts and labor warranties are conferred against product types. If warranty terms for individual components differ from the warranty of the Type, then the contractor shall include Attribute records for all warranty data properties for individual components.
- h. Connection Worksheet.
- i. The contractor shall identify the logical connections between all the following system components:
 1. Mechanical
 2. Electrical
 3. Plumbing
 - ii. A minimum of one occurrence of all such Components in the Connection worksheet shall be required.
- i. Document Worksheet.
- i. The contractor shall provide an electronic version of the construction submittal register in the Document worksheet.
 1. Reflect how the contractor is to provide the submittals.
 2. All documents required to be provided by the construction contractor shall be identified by setting the "Stage" of the submittal to "Requirement."
 3. Submittals remaining to be Approved. All submittals not yet approved will remain listed in the Documents worksheet. These submittals shall be identified by setting the "Stage" of the submittal to "Required."
 - ii. Approved Submittals.
 1. All approved electronic submittal files shall be linked to the Document worksheet.
 2. Approved documents shall be identified by setting the "Stage" of the submittal to "Approved."

3. The contractor shall provide an electronic copy of all approved submittals in formats as specified previously in this specification.
- iii. Final Approved Submittals and Documents. The contractor shall verify that the following literature has been provided as linked documents referenced in the COBie Documents Worksheet:
 1. Manufacturer literature.
 2. Shop and installation drawings.
 3. Any other submittal documents.
- iv. Replacement Parts Diagrams. If the manufacturer provides replacement parts information in document format, the contractor shall identify the document in the Document worksheet and shall use the worksheet to identify the associated product type. (See also Spare Worksheet.)
- j. Spare Worksheet.
 - i. Detailed Parts Set. If the manufacturer provides an electronic catalog of replacement parts those parts may be individually identified within the optional "Set Number" and "Part Number" columns of the Spare worksheet. (See also Document Worksheet.)
- k. Job Worksheet. The contractor shall provide the following plans for individual components, types of components, and systems in the Job worksheet.
 - i. Operating Instructions:
 1. The contractor shall enter the operating instructions in the COBie Jobs worksheet.
 2. Where needed, the contractor shall extract operating plans from the documentation provided by manufacturers' literature.
 3. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
 4. The following types of information shall be provided in these plans:
 - a. Operator Prestart. Include procedures required to install, set up, and prepare each system for use.
 - b. Startup, Shutdown, and Post-Shutdown Procedures. Provide narrative description for Startup, Shutdown and Post-shutdown operating procedures including the control sequence for each procedure.
 - c. Normal Operations. Provide narrative description of Normal Operating Procedures. Include Control Diagrams with data to explain operation and control of systems and specific equipment.

- d. Operator Service Requirements. Include instructions for services to be performed by the operator such as lubrication, adjustment, calibrations, inspection, and recording gage readings.
 - e. Operating Instructions. Includes specific instructions, procedures, and illustrations for operation of the installed Components and features of each Type and System.
5. Preventive Maintenance.
- a. Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair for the installed model and features of each system.
 - b. Include potential environmental and indoor air quality impacts of recommended maintenance procedures and materials.
 - c. The contractor shall enter the Preventative Maintenance Schedules in the COBie Jobs worksheet.
 - d. Where needed, the contractor shall extract these schedules from manufacturer's literature.
 - e. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
6. Emergency Operations.
- a. Include Emergency Procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment.
 - b. Include Emergency Shutdown Instructions for fire, explosion, spills, or other foreseeable contingencies.
 - c. Provide guidance and procedures for emergency operation of all utility systems including required valve positions, valve locations and zones or portions of systems controlled.
 - d. Where needed, the contractor shall extract these emergency operations plans from manufacturers' literature.
 - e. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
7. Troubleshooting Instructions.
- a. Include Troubleshooting Instructions to allow permit the expected failure modes of building service systems.

- b. The contractor shall include Troubleshooting Instructions for the following minimum set of systems:
 - i. Alarm Systems
 - ii. Conveying Systems
 - iii. Cooling Systems
 - iv. Elevator Systems
 - v. Damping Systems
 - vi. Emergency Power Generation Systems
 - vii. Fire Suppression Systems
 - viii. Heating Systems
 - ix. Ventilation Systems.
 - c. Where needed, the contractor shall extract the Troubleshooting Instructions from manufacturer's literature.
 - d. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
8. Safety Instructions.
- a. Include Specific Safety Instructions that describe the procedures needed to overcome hazards associated with any of the equipment or systems in the facility.
 - b. Where needed, the contractor shall extract the Safety Instructions from manufacturer's literature.
 - c. Jobs for specific equipment and job type may be listed in either as series of steps using Prior column, listed in paragraph format in the Description column.
9. Coordinates. The contractor shall update the space coordinates to reflect as-built conditions.
- a. Provide sufficient coordinates to locate the corners of the facility.
 - b. Provide sufficient coordinates to locate key components located out side the building within the project site. At a minimum this shall include the following items:
 - i. Valves.
 - ii. Communications hand holes and vaults.
 - iii. Utility vaults.
 - iv. Utility poles.
 - v. Man holes.
 - vi. Light poles.

- vii. Removable covers to underground utility duct banks.
- viii. Ground mounted transformers.
- ix. Ground mounted cooling towers.
- x. Irrigation controls and valves.
- xi. Conduit ends installed for future use.
- xii. Water collection cisterns located above and/or below grade.
- xiii. Utility meters.
- xiv. Fire suppression related items. Including but not limited to fire hydrants, post indicator valves, and fire department connection (FDC).
- xv. The capped end of utility lines installed with intent of future expansion and growth.

EXHIBIT "D"
ALLOWABLE GENERAL CONDITION LINE ITEMS

On-Site Project Management Staff

Persons as identified in the approved Guaranteed Maximum Price proposal
Out-of-State Project Specific Travel*

Bonds and Insurance

Builder's Risk Insurance
General Liability Insurance
Contractor Payment and Performance Bonds
Other Project Insurance as Required by Contract

Temporary Project Utilities

Temporary Toilets
Temporary Fire Protection
Dumpsters
Project Electricity and Water
Fencing, Covered Walkways and Barricades
Monthly Telephone /Internet Service (Field Offices Only, No Cell Phones, PDAs or wireless internet)
Telephone / Internet System Installation (Field Offices Only, No Cell Phones or PDAs)
Temporary Water Distribution and Meters (Field Offices Only)
Temporary Electrical Distribution and Meters (Field Offices Only)
Site Erosion Control (BMP) and Project Entrance(s)

Field Offices & Office Supplies

Partnering Costs	First Aid Supplies
Job Photos/Videos	Reprographic Services
Project Specific Signage	Monthly Office Supplies
Postage/Special Shipping	Remote Parking Expenses
Project Record Drawings	Project Reference Manuals
Project Milestone Event(s)*	Move-In/Out and Office Setup
Employee Identification System	Drinking Water and Accessories
Small Tools and Storage Trailers	Office Clean-Up/Janitorial Services
Monthly Office Trailer Rental Costs	Security System/Watchman
Safety Material and Equipment	

* Specific justification and all estimated costs shall be submitted and approved by the Owner prior to any travel or event.

EXHIBIT "E"
GUARANTEED MAXIMUM PRICE (GMP) PROPOSAL

The Construction Manager hereby submits to The Board of Regents of The Texas A&M University System, pursuant to the provisions of Article 7 of the Agreement by and between the Board of Regents of The Texas A&M University System and Construction Manager the following Guaranteed Maximum Price Proposal for the Applied Science Building, Project No. 04-3195, based on Plans and Specifications dated [Date on Drawings Month Day, Year].

1. A not-to-exceed amount for the Cost of the Work pursuant to the Agreement:
(\$ _____)
(In Numerals)

2. A not-to-exceed amount for the General Conditions Costs pursuant to the Agreement:
(\$ _____)
(In Numerals)

3. A not-to-exceed amount for the Construction Manager's Contingency pursuant to the Agreement:
(\$ _____)
(In Numerals)

4. A lump sum amount for Contractor's Construction Phase Fee, pursuant to the Agreement is:
(\$ _____)
(In Numerals)

5. TOTAL OF ITEMS 1 THROUGH 4
This amount is the Guaranteed Maximum Price (GMP) which the Contractor hereby guarantees to the Owner for constructing the Applied Science Building, Tarleton State University, Stephenville, Texas, Project No. 04-3195 complete in place and operational. All attached breakdowns shall total this GMP amount:
(\$ _____)
(In Numerals)

6. CONSTRUCTION TIME:
The undersigned agrees to complete all Work in the following number of calendar days from the Notice to Proceed:
(_____)
(In Numerals)

This GMP Proposal will not be withdrawn for a period of ninety (90) days from the date of receipt of this offer by the Owner.

The Contractor further agrees to pay, as Liquidated Damages, the sum of **\$7,500.00** per calendar day for failure to complete the work within the contracted time in accordance with the Construction Manager at Risk Agreement between Owner and Contractor.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Proposal.

BE&K BUILDING GROUP, LLC
(Construction Manager)

BOARD OF REGENTS OF
THE TEXAS A&M UNIVERSITY SYSTEM
(THE OWNER)

Federal Tax I.D. No. _____

By _____
(Signature)

(Print or Type Name)

Date _____

Name(s) of individual(s), sole proprietors,
partner(s), shareholder(s) or owner(s) with an
ownership interest of at least 25% of the
business entity executing this Contract.

Name: _____

Name: _____

Name: _____

Name: _____

By _____
Executive Vice Chancellor and Chief Financial
Officer

Date _____

APPROVAL RECOMMENDED:

Executive Director
Office of Facilities Planning & Construction

Date _____

APPROVED AS TO FORM:

General Counsel

Date _____

EXHIBIT "F"
SECURITY BOND

Surety Bond No. _____

STATE OF TEXAS §

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF _____ §

That we, _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto The Board of Regents of The Texas A&M University System as Obligee in the penal sum of Five Percent (5%) of _____ (\$ _____), the Amount Available for the Construction Contract (AACC) for the Project defined herein below, for payment whereof the said Principal and Surety bind themselves, their heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Whereas the Principal has executed a contract with Obligee dated _____, _____ (the "Contract"), for _____, Project No. _____ (the "Project").

NOW THEREFORE, the condition of this obligation is such that, if the aforesaid Principal shall execute a Guaranteed Maximum Price Proposal acceptable to all parties, the said Principal will, within the time required by the Contract, give Performance and Payment Bonds, as required by the Contract, to secure the performance of the terms and conditions of the Contract, then this obligation to be void; otherwise the Principal and Surety will pay to the Obligee the difference in money between the amount of the Guaranteed Maximum Price Proposal of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder exceed the penal sum hereof.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several seals this _____ day of _____ in the year _____, the name and corporate seal of each corporate party being hereto affixed, and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

(SEAL)

Principal

ATTEST:

By: _____

By: _____

(Typed Name and Title)

(Typed Name and Title)

(SEAL)

Surety

ATTEST:

By: _____

By: _____

(Typed Name and Title)

(Typed Name and Title)

EXHIBIT "G"
PERSONNEL TITLES AND MONTHLY RATES

The Construction Manager for this project will assemble the following information from its assigned staff or any subcontractor team members associated with the project. The categories of personnel indicated should be edited to include only those expected to be actually working on this project. When preparing this schedule, you are expected to adhere to the position classifications and titles presented to the greatest extent possible. Additional listings and/or position classifications may be added as needed or required by the project.

<u>Firm/Position Classification</u>	<u>Monthly Salary Rate</u>
Construction Manager – BE&K Building Group	
Project Executive	\$24,166.00
Project Manager	\$19,737.00
Pre-Construction Manager	\$21,750.00
Cost Estimator	\$16,312.00
Superintendent	\$17,724.00
Project Scheduler/Expediter	\$7,528.00
Quality Control (AE & Structural)	\$11,199.00
Quality Control (MEP)	\$12,347.00
Project Engineer	\$8,203.00

EXHIBIT "H"
BIM Execution Plan

DEVELOPED BY
(Name and Company)

PROJECT INFORMATION

The intent of this BIM Execution Plan is to provide a framework that will let the owner, design team, and contractor deploy building information modeling (BIM) technology and best practices on this project faster and more cost-effectively. If the delivery method is competitive sealed proposal then the contractor will be included in this Execution Plan at a later date. This plan delineates roles and responsibilities of each party, the detail and scope of information to be shared, relevant business processes and supporting software.

To successfully implement Building Information Modeling (BIM) on a project, the project team has developed this detailed BIM Project Execution Plan. The BIM Project Execution Plan defines uses for BIM on the project (e.g. design authoring, cost estimating, and design coordination), along with a detailed design of the process for executing BIM throughout the project lifecycle.

Project Name:
Project Number:
Brief Project Description:

Additional Project Information:

Construction Delivery Method:

Project Schedule/Phases/Milestones:

Include BIM milestones, pre-design activities, major design reviews, stakeholder reviews, and any other major events which occur during the project lifecycle.

Project Phase/Milestone	Estimated Start Date	Estimated Completion Date	Project Stakeholders Involved
Schematic Design			
Design Development			
Construction Documents			
Facility Data Review			
Construction			

BIM AND FACILITY DATA REQUIREMENT

Describe the methods to be used to fulfill the data requirements described in the Facility Design Guidelines.

BIM AND DATA QUALITY CONTROL

Describe the strategy to control the quality of the model(s) and the checks to be performed to assure quality.

Checks	Definition	Responsible Party	Software	Frequency
Visual Check	Ensure there are no unintended model components and the design intent has been followed			
Interference Check	Detect problems in the model where two building components are clashing including soft and hard			
Standards Check	Ensure that the BIM and CADD Standard have been followed (fonts, dimensions, line styles, levels/layers, etc.)			
Model Integrity Checks	Describe the QC validation process used to ensure that the Project Facility Data set has no undefined, incorrectly defined or duplicated elements and the reporting process on non-compliant elements and corrective action plans			
Other				

MODEL STRUCTURE

File Naming Structure

File Name Formatting	
Architectural Model	
Structural Model	
Mechanical Model	
Plumbing Model	
Fire Sprinkler Model	
Electrical Model	

Model Structure

Describe and diagram how the model is separated (building, floor, zone, area and/or discipline).

Measurement and Coordinate System

Describe the measurement system and coordinate system used.

Model Accuracy and Tolerances

Models should include all appropriate dimensioning as needed for design intent, analysis, and construction. Level of detail and included model elements are provided in the Information Exchange Worksheet.

Phase	Discipline	Tolerance
Design Documents		ACCURATE TO +/- [#] OF ACTUAL SIZE AND LOCATION
Shop Drawings		ACCURATE TO +/- [#] OF ACTUAL SIZE AND LOCATION
		ACCURATE TO +/- [#] OF ACTUAL SIZE AND LOCATION

PROJECT DELIVERABLES

In this section, list the BIM deliverables for the project and the format in which the information will be delivered.

BIM Submittal Item	Stage	Approximate Due Date	Format	Notes

ATTACHMENTS

List any supporting information and attach.